

year. Those which headed the list were textiles with 110, rice and cereals 64, lumber 49, soy and "miso" 36. Federation of these guilds numbered 28.

Industrial Guilds At the end of 1934 the number of Industrial Guilds was 481 representing 60 kinds of enterprises, a gain of 137 in number and 8 in kind as compared with the previous year. Cotton textiles head the list with 98, silk textiles come next with 50 followed by ceramics with 32 and wood manufacture with 30, etc. There were 32 federations of these guilds.

Commercial Guilds In the same year the Commercial Guilds numbered 590, representing 35 kinds of com-

modities, a gain of 325 in number and 1 in kind, as compared with the previous year. Foodstuff leads the rest with 72, followed by clothings with 50 and cereals with 43.

Export Guilds In the same period, the number of Export Guilds was 40 representing 12 kinds of commodities, a loss of 5 in number, while the number of kind remained stationary.

Chambers of Commerce and Industry At the end of 1934 there were 101 Chambers of Commerce and Industry in Japan, with the total membership of 3,558 elected by 126,250 voters, an increase of 4 in the number of chambers, 123 in members and 15,720 in votes.

CHAPTER XI

FOREIGN TRADE

History of Development

Four Periods Japan's foreign trade for the last 70 years can be divided into four periods, namely, 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; and the fourth, the period following the World War. In the early part of the Meiji Era Japan's foreign trade was insignificant, mostly being done through foreign firms, but several Japanese trading concerns were soon founded, among them being the Mitsui Busan Kaisha, established in 1876, the Osaka Gumi, Morimura Gumi, Kansai Boyeki Shokai and others. The Yokohama Specie Bank was founded in 1880 to serve as a monetary organ for traders engaged in foreign trade. The Nippon Yusen Kaisha and Osaka Shosen Kaisha were established in 1875 and 1874 respectively to carry on overseas marine transportation. The Tokyo Marine Insurance Company was founded in 1878. Thus important organizations for foreign trade were brought into being. During this first period Japan's economic conditions were primitive and her pursuits mostly agricultural. Her export volume between the first year of Meiji, 1868, and the 18th year was small—an average of one yen of exports per head of population. The import value was about the same. Even in 1893 the export and import totals were not more than ¥80,000,000 each. The Sino-Japanese War was an

epoch in the national destiny of Japan. Foreign trade received a great fillip and considerable development was made. In 1894, when the war broke out between Japan and China, exports and imports were each more than ¥100,000,000, and in 1903, the end of the second period, exports amounted to ¥289,000,000 and imports ¥317,000,000.

The Navigation Law The navigation encouragement law was promulgated in 1896 and this accelerated the inauguration of overseas navigation by Japanese shipping companies. In connection with a revised tariff policy export duties were abolished and import duties on industrial materials were either abolished or reduced. Bar silver (Japan did not become a gold standard country until 1897) experienced a sharp drop before and after the War and the export trade was greatly stimulated thereby. In 1899, as a result of repeated efforts of the Government over many years, the trade conventions with foreign Powers were revised and the foreign settlement system for foreigners was replaced by one of mixed residence. Until 1887, about 87 per cent. of Japan's export trade and 88 per cent. of her import trade was handled by foreign merchants. In 1900, the foreigners' transactions in exports were 63 per cent. and Japanese transactions 37 per cent., the former's import transactions had decreased to 61 per cent. and Japanese transaction increased to 39 per cent. There was an excess of imports for every year of the period (1894-1903). The Russo-Japanese War imparted a far greater

impetus to the country's foreign trade than the Sino-Japanese War, the trade sphere was widened still further. Foreign capital flowed into the country for investment. Exports attained the ¥300,000,000 mark in 1904, and in 1913 they reached ¥632,000,000 and imports amounted to ¥729,000,000. One of the noteworthy events during the period was that the treaty revision of 1899 was further revised in 1901, the result being that Japan acquired perfect tariff autonomy, and was able to establish the foundation of a protective tariff policy. Industrial development resulted. In 1901, exports that went through foreign merchants were only 48 per cent., while those through Japanese merchants were 52 per cent., and imports handled by the former in the same year were 36 per cent., while those by Japanese were 64 per cent.—a complete reversal of conditions that had existed during the early reign of Meiji.

The World War The greatest efforts on economic circles of Japan, qualitatively and quantitatively, resulted from the World War. Between 1914 and 1918, when the War was going on, Japanese economy and finance went through a sweeping change for the better and the unprecedented business boom lasted until March, 1920, when a great reaction took place. The suspension of imports into Japan by the War prompted the country to become self-sufficient in various lines of industry. Heavy demands for stores came in rapid succession from European countries. Japan became one of the principal countries of export to China, the South Seas and India, taking the place of Europe and America. The export activities and trade markets for Japanese commodities were considerably enlarged, increasing in proportion to the length of the war. Exports which totalled only

¥600,000,000 in 1914, the first year of the fourth period of the trade development of Japan, went above ¥1,100,000,000 in 1916, and in 1919 the amount exceeded ¥2,098,000,000, setting an all-time record. Imports which in 1914 were less than ¥600,000,000, increased to more than ¥1,000,000,000, in 1917 and finally reached ¥2,336,000,000 in 1920. Special mention must be made that for four years from 1916 to 1918, Japan witnessed a great excess of exports. The combined export excess for the period totalled ¥1,408,000,000. This trade prosperity naturally stimulated the shipping business. With the continued favourable trade balance, an influx of gold into Japan took place. For the seven years from 1915 to 1922 the influx of gold amounted to ¥1,180,000,000, and in addition Japan came to hold an enormous amount of specie abroad. The amount held by the Government and the Bank of Japan at the end of 1920 was ¥2,178,000,000, a record high amount for Japan. When the armistice was concluded in 1918, the heavy demand for munitions came to an end, and with the gradual restoration of European industries to their former conditions, the collapse of the Russian market through the Revolution, the exhaustion of European countries and the consequent sinking purchasing power, Japan's export trade turned for the worse during the latter half of 1920. The 1920 reaction threw Japanese economy into a great panic. Exports for 1921 made a sudden and substantial decrease to the ¥1,000,000,000 mark from the record level of ¥2,098,000,000 for 1919. Imports also went off remarkably. To make matters worse, trade reverted to the adverse balance of import excess after 1919, the largest adverse balance being in 1924 and 1925 consequent on the great Kanto earthquake and fire of 1923. Imports

for 1924 totalled ¥2,400,000,000, going above the previous record of ¥2,336,000,000 for 1920, and in 1925 the amount attained the considerable height of ¥2,500,000,000. This remarkable gain was due to heavy imports of materials needed for reconstruction work after the earthquake and fire. The Government exempted these imports from tariff duties. Due to the adverse trade balance, specie accumulated by Japan during the War boom was taken back by foreign countries. During the last 64 years, from 1868, the first year of Meiji, to 1932, only 20 years have seen an excess of exports over imports and the remaining 44 years have experienced an excess of imports over exports.

The Trade Returns The annual foreign trade figures from 1897 to 1934, taken from the Ministry of Finance reports and excluding the foreign trade of Korea and Formosa, follow. It may be added that the values of exports prior to 1904 represent the price at ports of destination, and those for that year and subsequent years, the price and packing charges. The values of imports prior to 1899 represent the original price only and those for that year and subsequent years, the cost, packing charges, freight, insurance and all other incidental expenses incurred up to the time of the arrival at the port of destination.

Year	Exports	Imports	Total	Excess of Imports over exports
(In ¥ 1,000)				
1897	163,135	219,300	382,435	56,165
1898	165,753	277,592	443,345	111,749
1899	214,929	220,401	435,331	5,472
1900	204,429	287,261	491,691	82,231
1901	252,349	255,816	508,165	3,467
1902	258,308	271,731	530,034	13,429
1903	289,592	317,135	606,727	27,543
1904	319,200	371,360	690,560	52,160
1905	321,533	488,538	810,071	167,004
1906	423,754	418,784	842,538	4,970

(Export exc.)

Year	Exports	Imports	Total	Excess of Imports over exports
(In ¥ 1,000)				
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	447,453	512,895	961,239	65,441
1912	526,991	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	708,306	532,449	1,240,756	175,857
(Export exc.)				
1916	1,127,468	756,427	1,883,896	371,040
(Export exc.)				
1917	1,503,005	1,035,511	2,538,516	567,494
(Export exc.)				
1918	1,962,100	1,663,143	3,625,244	298,956
(Export exc.)				
1919	2,098,872	2,173,459	4,272,332	74,587
1920	1,948,394	2,386,174	4,334,568	387,780
1921	1,252,837	1,014,154	2,266,992	238,683
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	2,305,539	2,572,657	4,878,247	267,068
1926	2,004,727	2,377,484	4,382,212	372,756
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	2,232,601	4,404,525	60,677
1935	2,499,072	2,472,235	4,971,307	26,837

(Export exc.)

TOTAL VALUE OF EXPORTS AND IMPORTS OF GOLD AND SILVER BULLION AND SPECIE

Year	Exports	Imports	Excess of Exports over Imports	Excess of Imports over Exports
(In ¥ 1,000)				
1897	19,219	81,466	—	62,247
1898	86,987	42,563	44,237	—
1899	11,178	20,163	—	8,985
1900	55,707	11,517	45,189	—
1901	14,049	10,960	3,088	—
1902	2,028	32,161	—	30,132
1903	19,001	27,807	—	8,806
1904	107,795	33,946	73,849	—
1905	19,354	31,506	—	15,152
1906	25,784	47,211	—	21,426
1907	18,759	8,256	10,503	—
1908	3,772	17,544	—	13,772
1909	6,584	79,587	—	73,003
1910	25,175	17,671	7,504	—
1911	24,333	6,168	18,230	—

FOREIGN TRADE

	Exports	Imports	Excess of Exports over Imports	Excess of Imports over Exports	1922	2,180	1,672	508	—
					1923	5,465	196	5,269	—
					1924	6	4,109	—	4,103
					1925	22,305	173	22,132	—
					1926	35,897	1,628	34,269	—
					1927	49,680	8,515	41,165	—
					1928	3,436	2,696	740	—
					1929	3,490	613	2,877	—
					1930	311,007	9,636	301,371	—
					1931	421,400	11,177	410,223	—
					1932	121,878	140	121,738	—
					1933	28,608	125	28,483	—
					1934	13,924	331	13,594	—
					1935	225,405	142	225,263	—

VALUE OF CHIEF COMMODITIES EXPORTED

	1930	1931	1932	1933	1934	1935
			(In ¥ 1,000)			
Rice and Paddy	6,570	15,879	4,786	2,123	8,420	5,225
Green tea	8,243	8,047	7,987	8,250	8,497	9,179
Tangles and sliced tangles	3,164	1,293	2,013	1,293	2,363	3,297
Cuttlefish, dried	3,246	1,348	1,138	2,344	3,751	—
Isinglass, Vegetable	3,833	3,415	3,165	3,198	3,215	4,261
Mushrooms, dried	1,702	1,292	1,041	1,498	2,363	3,311
Mandarin oranges	2,116	1,251	1,579	2,388	3,471	3,096
Refined sugar	26,734	14,862	7,797	14,909	13,531	17,576
Saké	2,290	1,794	3,206	2,901	3,585	3,276
Beer	3,439	3,034	4,835	7,684	5,535	5,870
Furs	2,257	1,633	2,663	3,071	3,023	3,642
Camphor	3,109	2,944	3,541	4,445	4,603	5,039
Menthol crystal	3,475	2,984	3,689	5,283	4,556	5,400
Fish oil and Whale oil	7,961	1,943	3,233	2,628	3,806	6,893
Vegetable wax	1,870	1,154	1,177	1,139	1,258	1,444
Waste silk	3,862	466	219	216	647	877
Raw silk	416,646	355,833	332,366	390,901	286,793	337,032
Cotton yarn	15,032	8,510	21,546	15,712	23,484	35,873
Silk tissue (Habutai)	15,543	6,532	6,833	6,822	5,314	9,844
Imitation nankeens undyed (gray and bleached)	3,564	420	2,166	3,720	5,475	4,913
Cotton Crêpe (gray and bleached and others)	4,412	3,435	3,369	5,157	7,583	4,282
Cotton flannel (gray, bleached and others)	14,257	7,754	10,097	11,456	12,393	8,960
Shirtings, gray and sheetings	87,448	51,241	63,035	70,657	90,762	18,493
T. Cloth (gray, bleached and others)	7,323	4,960	6,485	7,507	10,069	4,077
Drills and Jeans (gray, bleached and others)	58,773	24,606	34,096	48,458	55,702	—
Silk handkerchiefs	2,356	1,630	1,402	2,464	4,307	3,952
Towels, cotton	3,539	2,576	3,823	9,686	11,275	12,101
Carpets and Carpetings	2,931	2,820	3,202	5,924	5,841	7,615
Cotton undershirts and drawers, knit	23,846	16,478	20,733	31,190	31,843	32,980
European-style clothing	676	557	666	1,177	1,875	2,512
Paper, European-style and Japanese	27,559	20,995	14,021	17,687	20,650	23,084
Coal	21,783	15,008	13,450	14,158	10,325	9,721
Iron manufactures	14,065	10,246	14,192	26,897	35,276	37,503
Porcelain and Earthenware	27,171	19,307	22,937	35,634	41,877	42,734
Looking Glasses and Mirrors	1,618	908	1,306	2,226	2,645	3,572
Clocks, hanging and standing	1,462	689	920	2,091	3,221	3,399
Shooks	5,106	3,224	3,304	4,506	5,779	5,011
Portland cement	10,066	9,089	8,545	7,394	8,038	8,081
Straw-plaits	1,594	917	1,357	2,758	1,595	1,212

TRADE IN 1930-1935

	1930	1931	1932	1933	1934	1935
			(In ¥ 1,000)			
Mats and Mattings for floors	1,416	942	1,278	1,944	2,560	—
Lamps and parts thereof	8,127	7,784	12,753	15,863	15,696	16,747
Lacquered-ware	1,428	1,061	1,195	2,371	2,570	2,513
Umbrellas and Parasols	1,194	366	568	1,258	1,364	2,072
Tooth-brushes	1,454	1,416	2,005	2,950	3,235	2,968
Matches	2,965	1,408	938	3,248	2,928	3,209

VALUE OF CHIEF COMMODITIES IMPORTED

	1930	1931	1932	1933	1934	1935
			(In ¥ 1,000)			
Rice and Paddy	19,533	6,971	12,164	11,521	660	3,349
Wheat	41,509	32,935	49,572	44,384	40,748	43,199
Soy beans	36,664	27,817	31,240	38,034	41,028	53,781
Sesame seeds	3,120	3,154	3,688	3,602	3,026	4,564
Cotton seeds	3,769	1,909	2,347	3,762	3,000	6,188
Wheat flour	2,252	470	280	118	146	326
Condensed milk	3,269	2,850	1,943	779	1,696	—
Sugar	25,973	15,603	3,332	12,798	9,678	12,701
Hides and Skins	7,270	5,710	6,566	11,709	14,344	18,060
Leather, Sole	592	623	235	45	54	—
Caustic soda, crude	5,009	5,201	3,865	1,994	1,525	2,013
Ammonium sulphate, crude	26,624	15,861	7,035	9,420	13,806	21,059
Mineral oil (excluding crude oil and heavy oil) under 0.8762 S. G.	37,866	35,993	36,533	34,773	33,358	37,185
Paraffin wax	4,363	3,853	3,952	2,602	1,632	2,013
Synthetic colours	5,809	7,285	9,066	8,060	9,147	9,338
Raw cotton, ginned	361,715	296,115	447,130	604,467	730,036	714,261
Flax, Hemp, Jute and China grass	14,258	11,944	14,939	23,137	27,461	27,794
Wool	73,609	86,145	87,559	164,190	186,381	191,760
Woolen yarn	14,148	12,429	5,112	3,020	1,708	1,930
Cocoons	947	987	301	179	52	610
Wild silk	863	1,040	610	270	226	405
Cotton Italians and Satin	833	518	359	337	142	1,158
Cotton velvet and Plushes	663	631	403	99	92	—
Woolen cloth and Serges	7,023	6,033	6,548	3,365	2,442	3,521
Woolen cloth and Serges mixed with cotton	3,947	3,540	3,570	3,682	2,638	3,123
Printing paper	4,524	5,561	5,530	3,668	5,657	8,211
Phosphorite	12,011	7,213	11,097	15,374	16,677	20,059
Coal	34,203	23,268	27,358	36,657	47,192	48,970
Iron, pig	15,845	11,229	12,173	25,251	26,528	41,179
Iron, round, square and flat, T. angle, etc.	6,938	3,376	4,457	7,839	7,710	18,956
Wire, coated with base metals	443	260	125	59	34	897
Iron, tinned plates or sheets	15,560	8,490	13,324	22,916	25,638	16,483
Iron, plates and sheets not coated with metals	10,018	3,462	3,018	8,652	8,357	7,976
Rails	1,034	497	841	331	416	1,176
Iron, pipes and tubes	5,488	2,172	2,222	2,585	4,421	4,444
Lead, ingots and slabs	11,116	8,127	9,972	11,901	17,903	20,292
Tin, ingots and slabs	4,845	3,627	5,956	10,670	15,316	15,581
Zinc, sheets and plates	855	515	939	1,339	14,611	—
Glass, plates and sheets (unsilvered)	3,632	2,655	3,123	2,967	3,176	2,435
Automobiles and parts thereof	20,773	16,329	14,821	13,871	32,302	32,589
Cycles and parts thereof	1,563	1,153	795	621	584	407
Steam boilers and engines	3,124	2,287	1,192	1,790	4,090	6,109
Electric machinery	5,093	2,323	1,802	1,911	1,311	965
Spinning machinery	6,365	3,512	7,998	3,520	6,394	4,612
Pulp	12,084	11,840	15,328	27,066	44,255	55,101

FOREIGN TRADE

	1930	1931	1932	1933	1934	1935
			(In ¥ 1,000)			
Leaf tobacco	6,600	8,142	3,670	6,239	8,411	7,961
Oil cake (bean, cotton, rape and others)	66,416	44,348	34,599	41,180	42,052	38,678
Indian rubber	—	—	—	29,685	57,337	51,636
Lumber	—	—	—	40,534	40,183	49,775
Ores	—	—	—	22,171	27,085	44,541

Trade Ports

On June 2 in the sixth year of Ansei, 1859, in the latter part of the Tokugawa Shogunate régime, Yokohama, Nagasaki and Hakodate were opened to foreign trade. On December 7 in the 3rd year of the Keio Era (1867), Kobé was similarly opened and in the first year of the Meiji Era (1868) Osaka and Niigata were opened to international trade and commerce. In 1926 the total number of open ports in the Empire was 67, of which 41 were in Japan proper, 10 in Formosa, 11 in Korea and 5 in the South Sea islands. These were:

JAPAN PROPER: Yokohama, Nagasaki and Hakodate (all opened in the 6th year of Ansei), Kobé (the 3rd year of Keio), Osaka and Niikata (the first year of Meiji), Ebiisu (1869), Shimizu, Taketoyo, Yokkaichi, Shimonoeki, Moji, Hakata, Karatsu, Kuchinotsu, Izogahara, Sasuna, Shikami, Naha, Hamada, Sakai, Miyazu, Tsuruga, Nanso, Fushiki, Otaru, Kushiro, Muroran (all in 1899), Itozaki (1900), Wakamatsu (1902), Suminoe and Aomori (1904), Nagoya (1905), Miké (1906), Otomari (1907), Muroran (1908), Kagoshima (1919), Imaharu, Tokuyama and Maoka (1922).

FORMOSA: Keelung, Tamsui, Anping, Takao, Kyuko, Goryu, Goro, Kako, Toseki and Mako.

KOREA: Jinsen, Gunsan, Moppo, Fusan.

Chinnampo, Shingishu, Ryugampo, Gensan, Seishin, Joshin and Yuki.

SOUTH SEAS: Jaluit, Saipan, Kusaie, Angaur and Palau.

In 1873 Yokohama came to the topmost position in trade volume, next came Kobé, Nagasaki, Osaka and Hakodate in the order mentioned. Since 1902 Osaka has outstripped Nagasaki and held the third most important position. Kobé overstepped Yokohama in 1893 and since then has occupied the premier position of all ports. Compared, Yokohama is the principal export port, while Kobé holds the first place for imports. The importance of Yokohama is due greatly to her geographical position, being the nearest port to America. She also has a good trade in silk textiles but holds second place to Kobé for the manufactured silks. Her imports consist of beans, wheat, oil, drugs, raw cotton, wool, iron, etc. Kobé is a great import port for grains, sugar, rubber, soda, chemical fertilizers, dyes, raw cotton, wool, pulp, iron and bean cake. Osaka's chief trade is in cotton goods: Moji is noted for being a large export and import port of sugar; Nagoya for its shipments of porcelain and cotton cloth; Shimizu for tea and tangerine oranges; and Miké for coal.

VESSELS ENTERED AT FIVE PRINCIPAL PORTS

(Unit: Ton)

	Yokohama	Kobé	Nagasaki	Moji	Osaka
1929	22,361,753	41,206,119	4,156,665	21,596,141	16,548,746
1930	22,859,290	42,579,869	3,772,707	21,141,985	17,131,553
1931	22,878,155	42,723,674	3,502,425	19,965,693	18,842,627
1932	22,207,885	43,033,220	3,348,230	20,538,484	19,539,331
1933	23,114,760	34,088,884	3,567,460	22,282,866	23,099,688

TRADE PORTS

STEAM VESSELS ENTERED TO JAPANESE PORTS

Year	Japanese		Chinese		British	
	No.	Tons	No.	Tons	No.	Tons
1930	13,247	35,942,573	68	155,278	1,646	7,865,014
1931	13,172	37,019,321	51	96,664	1,390	7,093,160
1932	12,714	36,406,061	57	53,969	1,470	7,481,516
1933	13,464	39,694,785	155	328,199	1,633	8,068,360
1934	13,267	40,689,352	606	1,146,871	2,015	9,470,345

Year	French		German		Italian	
	No.	Tons	No.	Tons	No.	Tons
1930	108	703,752	367	1,579,774	63	272,276
1931	115	752,309	245	1,077,855	43	191,009
1932	70	551,684	212	944,703	28	106,962
1933	4	36,545	334	1,482,957	32	106,350
1934	46	364,149	374	1,667,367	39	139,350

Year	Russian		Danish		Swedish		Norwegian	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1930	10	23,036	80	313,193	61	215,739	320	952,169
1931	37	83,660	71	274,473	62	227,104	294	929,439
1932	15	42,489	87	335,316	49	190,519	341	1,130,881
1933	19	47,578	100	387,136	67	249,336	417	1,360,714
1934	7	12,264	162	601,567	115	415,262	599	1,883,055

Year	United States of America		Other Countries		Total	
	No.	Tons	No.	Tons	No.	Tons
1930	628	3,592,247	2,159	6,861,967	18,757	58,477,021
1931	580	3,215,153	1,877	5,847,547	17,887	56,807,994
1932	511	3,363,520	1,816	5,427,306	17,870	55,034,926
1933	584	3,443,765	2,068	6,421,570	18,827	51,627,290
1934	541	3,317,351	2,014	6,272,707	19,775	65,979,640

Foreign Trade During the Year 1934

Japan's foreign trade, excluding that of Chosen and Taiwan, reached during 1934 a total value of ¥4,554,455,000, being made up of ¥2,171,924,000 of exports and ¥2,282,531,000 of imports. The excess of imports was ¥110,607,000. These figures show, in comparison with the returns for the preceding year, an increase of ¥310,878,000 (16.7%) in exports, an increase of ¥365,311,000 (19.1%) in imports, an increase of ¥676,189,000 (17.9%) in the total of exports and imports, and an increase of ¥54,433,000 (96.7%) in the excess of imports.

In 1934 throughout the world there was observed an increasing trend toward economic nationalism which induced many countries to take every possible measure to impose restrictions on imports from other countries. Despite such hindrances, Japan's export trade, as in the case of the preceding year, continued to expand and found new outlets in various quarters of the world. With this activity in export trade, a substantial growth was also shown in the value of such articles of import as raw cotton and other raw materials. As regards the total value of exports and imports, it was the highest after the year 1925 which

was a record year in its history, thus being completely restored to the position held before the world depression.

Different countries of the world have undertaken to check the importation of Japanese merchandise. It was in May, 1934, that Great Britain introduced import quotas for Japanese cotton tissues in all her dependencies. The Netherlands also decided to impose strict restrictions on all categories of Japanese merchandise to be imported into the Dutch East Indies. These were the circumstances under which the negotiation was instituted at the beginning of June at Batavia by the Japanese and Netherlands representatives for the purpose of the coordination of trade between the two nations. The negotiation continued till the end of the year, when it was unfortunately forced to be adjourned. Certain other countries in Central and South America, aiming at the coordination of trade with Japan, imposed higher duties on her merchandise, or undertook to conclude new trade conventions in their favour by abrogating the old conventions. Even in the United States attention was gradually paid to Japanese merchandise, with the result that an agreement was reached between the two countries in respect of import restrictions on the volume of such articles as cotton carpets and pencils.

With regard to the value of exports and imports of gold and silver, excluding those of Chosen and Taiwan, exports amounted to ¥13,925,000, imports to ¥331,000, and the excess of exports to ¥13,594,000. These figures show, in comparison with the preceding year, an increase of ¥206,000 in imports, but a decline of ¥14,682,000 in exports.

Exports and imports during 1934, excluding those of Chosen and Taiwan, were as follows:

EXPORTS AND IMPORTS OF MERCHANDISE (In thousands of yen)

	1934	1933	Increase(+) or Decrease(-)
Exports	2,171,924	1,861,046	(+) 310,878
Imports	2,282,631	1,917,220	(+) 365,411
Total	4,454,555	3,778,266	(+) 676,289
Excess of Imports	110,607	56,174	(+) 54,433

EXPORTS AND IMPORTS OF GOLD AND SILVER (In thousands of yen)

	1934	1933	Increase(+) or Decrease(-)
Exports	13,925	28,607	(-) 14,682
Imports	331	125	(+) 206
Total	14,256	28,732	(-) 14,476
Excess of exports	13,594	28,482	(-) 14,888

Export Trade The export trade, as in the preceding year, continued to increase during 1934. The export of such articles as cotton tissues, rayon tissues, silk tissues, machinery and parts thereof, iron, and comestibles in tin and bottle showed an increase in value. In particular, the rate of increase in woollen tissues, rayon, and machinery and parts thereof was 141.2%, 136.2%, and 123.4% respectively as against the preceding year. Cotton tissues increased from ¥383,215,000 of the preceding year to ¥492,351,000 in 1934, rayon tissues from ¥77,382,000 to ¥113,484,000, silk tissues from ¥63,544,000 to ¥77,488,000, machinery and parts thereof from ¥25,857,000 to ¥57,777,000, iron from ¥34,666,000 to ¥53,029,000, and comestibles in tin and bottle from ¥46,984,000 to ¥50,304,000. As regards raw silk which have for many years headed the list of Japan's exports, its exports heavily declined from ¥390,901,000 of the preceding year to ¥286,794,000 in 1934, and were reduced to the second position among her exports. Other articles that declined in value were wheat flour, boots, shoes and clogs, and lamps

and parts thereof. Speaking geographically, it is to be noted that exports to all continents, except North America, showed increases; especially those to Central and South America indicated greater increases. It is owing to inactivity in the raw silk trade that exports to North America declined to 81.7% of the preceding year.

Principal exports are given below:

Items	(In thousands of yen)		Ratio to Exports of 1933 %
	1934	1933	
Cotton tissues	492,351	383,215	128.5
Raw silk	286,794	390,901	73.4
Rayon tissues	113,484	77,382	178.6
Silk tissues	77,488	63,544	121.9
Machinery and parts thereof	57,777	25,857	223.4
Iron	53,029	34,666	153.0

EXPORTS CLASSIFIED BY CONTINENTS (In thousands of yen)

Continents	1934		1933		Ratio to Exports of 1933 %
	Value	Ratio to Total Exports %	Value	Ratio to Total Exports %	
Asia	1,169,504	53.8	980,637	50.0	125.7
Europe	227,772	10.5	182,078	9.8	125.1
North America	407,614	18.8	489,157	26.8	81.7
Central America	43,295	2.0	16,175	0.9	267.7
South America	61,457	2.8	30,380	1.6	202.3
Africa	182,397	8.4	137,239	7.4	132.9
Oceania	79,885	3.7	65,380	3.5	122.2
Total	2,171,924	100.0	1,861,046	100.0	116.7

Import Trade Almost all the principal articles of import, with the exception of only two or three articles such as wheat and wood, showed in 1934 an increase in value as against 1933, and the total of imports was 19.1% above 1933. In particular, the import of raw cotton increased from ¥604,847,000 of the preceding year to ¥731,425,000 in 1934, wool from ¥164,192,000 to ¥186,455,000, iron from ¥136,641,000 to ¥171,563,000, and mineral oil from ¥108,859,000 to ¥124,027,000. The imports from continents all showed

increases as against the preceding year; especially those from Central and South America and Africa showed greater increases.

Principal imports are given below:

Items	(In thousands of yen)		Ratio to Imports of 1933 %
	1934	1933	
Cotton in the seed and ginned cotton	731,425	604,847	120.9
Wool	186,455	164,192	113.6
Iron	171,563	136,641	125.6
Mineral oil	124,027	108,859	113.9
Machinery	98,022	72,658	135.0
Gum and gum resins	65,986	35,784	184.4

Items	1934	1933	Ratio to Imports of 1933	Items	1934	1933	Ratio to Imports of 1933
Beans and peas	51,968	50,345	103.2	Copper	28,389	9,628	294.9
Coal	47,193	36,657	128.7	Ores	27,806	22,172	125.4
Pulp for paper making	44,256	27,066	163.5	Oil yielding seeds	25,257	23,298	108.4
Oil cake	42,052	41,181	102.1	Lead	17,977	12,013	149.7
Wheat	40,749	44,384	91.8	Phosphorite	16,677	15,374	108.5
Wood	40,183	40,584	99.0	Leather	16,320	13,545	120.5
Automobiles and parts thereof	32,302	13,871	232.9	Tin	15,338	10,674	143.7
				Salt	14,839	11,709	126.7

IMPORTS CLASSIFIED BY CONTINENTS

(In thousands of yen)

Continents	1934		1933		Ratio to Imports of 1933
	Value	Ratio to Total Imports	Value	Ratio to Total Imports	
Asia	812,020	35.6%	653,557	34.4%	123.3%
Europe	295,623	13.0	282,812	14.8	104.6
North America	823,476	36.1	667,702	34.8	123.3
Central America	857	0.0	438	0.0	195.7
South America	23,962	1.0	12,872	0.7	186.2
Africa	79,574	3.5	48,407	2.5	164.4
Oceania	214,296	9.4	212,391	11.0	101.4
Bonded Manufacturing Warehouses	32,723	1.4	35,040	1.8	93.4
Total	2,282,531	100.0	1,917,219	100.0	119.1

VALUE OF CHIEF COMMODITIES EXPORTED TO VARIOUS COUNTRIES

(In ¥1,000)

	1930	1931	1932	1933	1934
Rice					
Kwantung Province	1,015	1,119	175	175	503
Asiatic Russia	743	382	457	412	483
United States of America	92	233	76	85	95
Canada	411	458	397	600	1,195
Hawaii	81	107	56	52	142
Other Countries	4,227	13,578	3,623	796	6,000
Total	6,570	15,879	4,786	2,123	8,420
Tea					
Kwantung Province	161	137	165	143	173
United States of America	6,366	5,274	4,752	5,083	4,629
Canada	802	675	671	721	875
Hawaii	64	56	48	43	33
Other Countries	992	2,088	2,535	2,457	3,845
Total	8,387	8,232	8,173	8,449	9,557
Beans & peas					
Great Britain	2,336	2,874	4,521	5,481	6,222
United States of America	3,238	831	131	200	326
Canada	270	82	30	24	19
Hawaii	241	145	116	45	33
Other Countries	1,138	1,196	1,105	1,408	2,449
Total	7,225	5,080	5,905	7,160	9,051
Aquatic products					
Manchoukuo	—	—	119	337	307
Kwantung Province	1,600	895	1,977	2,268	2,263
China	5,975	2,654	2,545	2,278	4,432
Hongkong	5,416	2,752	574	1,397	2,792
Straits Settlements	973	562	193	893	2,640
United States of America	2,210	1,926	975	1,191	1,713
Hawaii	854	722	720	560	487
Other Countries	1,048	662	651	1,374	1,836
Total	18,080	10,176	7,759	10,301	16,478

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Sugar, refined					
Manchoukuo	—	—	136	653	1,084
Kwantung Province	2,500	1,959	4,416	6,994	4,781
China	22,771	11,442	2,853	6,158	6,989
Asiatic Russia	229	338	103	593	239
Other Countries	1,233	1,122	287	509	387
Total	26,734	14,862	7,797	14,909	18,531
Comestibles in tin & bottle					
Manchoukuo	—	—	23	263	325
Kwantung Province	632	468	942	1,447	1,197
China	350	179	224	205	463
Hongkong	233	168	35	113	159
Asiatic Russia	67	74	97	127	142
Great Britain	4,874	4,635	6,157	13,136	24,711
United States of America	9,255	7,810	8,053	17,838	11,182
Hawaii	632	635	863	954	829
Other Countries	5,715	4,974	6,371	12,898	11,291
Total	21,762	18,948	22,774	46,984	50,304
Camphor					
British India	635	616	972	1,288	1,228
Great Britain	88	125	241	252	181
France	84	89	227	414	406
Germany	87	39	21	30	97
United States of America	1,169	1,348	1,217	1,568	1,716
Other Countries	994	724	859	890	973
Total	3,109	2,944	3,541	4,445	4,603
Waste silk & floss silk					
Great Britain	89	31	42	54	97
France	1,976	465	427	656	891
Italy	1,053	86	120	333	540
United States of America	2,560	1,583	141	73	78
Other Countries	898	195	510	185	214
Total	6,578	2,393	1,241	1,303	1,822
Plaits for hat making					
Great Britain	847	266	486	744	1,063
France	503	255	831	1,177	452
Germany	522	251	477	691	280
Italy	158	60	97	126	83
United States of America	874	622	632	3,303	4,946
Australia	78	33	221	285	396
Other Countries	482	330	481	875	902
Total	3,466	1,820	3,228	7,204	8,125
Knitted goods					
Manchoukuo	—	—	12	1,022	899
Kwantung Province	350	324	547	842	1,014
China	1,634	847	244	194	165
Hongkong	463	179	22	153	467
British India	7,948	3,901	6,698	9,628	8,349
Straits Settlements	209	86	232	771	1,320
Dutch East Indies	1,720	1,569	2,524	4,234	4,338
Philippine Islands	3,096	1,959	3,744	2,670	3,431
Great Britain	6,920	5,488	3,837	6,560	7,672
Egypt	1,183	1,305	1,818	3,370	3,029
Union of South Africa	1,444	1,293	1,314	2,565	1,514
Australia	51	15	29	43	20
Other Countries	5,439	4,205	5,913	9,984	15,392
Total	30,461	21,175	26,935	42,047	47,617
Silk, raw					
France	3,040	1,879	7,107	15,378	20,333
Great Britain	2,914	6,161	9,257	14,654	14,237

FOREIGN TRADE

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Italy	—	—	—	145	101
United States of America	398,715	342,479	360,148	355,805	239,568
Canada	3,558	2,535	1,164	208	411
Australia	2,783	1,928	3,165	3,297	4,017
Other Countries	635	349	1,523	1,411	8,124
Total	416,646	355,393	382,366	390,901	286,793
Cotton yarns					
Manchoukuo	—	—	499	3,099	3,631
Kwantung Province	454	293	670	614	513
China	2,579	489	692	168	175
Hongkong	2,594	449	1,336	291	132
British India	6,575	5,592	14,343	7,605	11,111
Dutch India	446	357	—	1,236	1,695
Philippine Islands	403	331	249	193	339
Other Countries	1,977	996	2,309	2,502	5,885
Total	15,032	8,510	21,546	15,712	23,484
Silk tissues					
Manchoukuo	—	—	25	661	1,139
Kwantung Province	704	590	1,169	3,574	10,210
China	2,110	848	159	128	144
Hongkong	2,574	1,662	338	521	1,355
British India	16,781	21,524	32,956	32,958	42,509
Straits Settlements	4,492	2,654	2,927	4,425	6,938
Dutch East Indies	8,882	8,910	14,365	15,988	14,082
French Indo-China	477	292	787	1,018	317
Philippine Islands	6,234	3,063	1,910	1,057	2,091
Great Britain	6,262	4,212	4,761	8,726	11,549
France	4,402	1,966	2,064	3,524	2,741
Germany	690	235	258	381	731
Italy	236	135	103	195	452
United States of America	6,527	4,626	4,243	6,135	5,540
Canada	5,314	3,530	548	268	300
Argentina	1,456	1,907	2,169	2,537	1,413
Uruguay	3,319	777	232	1,573	4,337
Egypt	2,966	3,954	9,183	7,704	11,677
Union of South Africa	5,314	6,954	5,657	8,610	10,900
Australia	13,797	9,329	16,623	19,934	25,767
New Zealand	1,868	609	863	1,333	2,160
Other Countries	6,296	4,928	9,476	19,665	34,604
Total	100,710	82,766	110,827	140,926	190,972
Silk handkerchiefs					
British India	412	262	363	619	1,369
Great Britain	112	205	299	431	544
United States of America	622	546	200	579	623
Canada	110	81	57	29	27
Argentina	41	147	98	53	73
Uruguay	480	113	21	91	39
Egypt	6	6	4	15	17
Union of South Africa	71	29	20	82	86
Australia	7	1	3	16	24
Other Countries	492	235	331	545	1,502
Total	2,356	1,630	1,402	2,464	4,307
Cotton tissues					
Manchoukuo	—	—	2,192	21,626	40,253
Kwantung Province	9,186	6,172	16,107	18,822	19,217
China	86,913	43,073	38,229	25,604	13,029
Hongkong	18,251	9,764	3,755	5,674	7,310
British India	61,216	49,866	80,653	71,163	66,814
Straits Settlements	6,283	5,212	11,229	17,607	17,394

EXPORTS IN 1934

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Dutch East Indies	23,234	23,279	50,228	78,273	82,928
Philippine Islands	5,438	4,162	2,769	5,779	13,205
Siam	2,531	795	3,338	6,778	10,818
Turkey	3,725	3,506	5,574	2,024	1,392
United States of America	63	63	264	1,298	2,763
Chili	1,495	371	193	1,223	6,072
Argentine	1,442	1,407	3,300	6,615	13,955
Egypt	20,525	14,955	27,068	38,351	46,833
Union of South Africa	3,753	5,450	5,338	5,911	4,458
Australia	2,441	2,856	4,874	10,029	14,783
New Zealand	141	94	181	562	742
Hawaii	164	142	168	171	181
Other Countries	20,204	22,552	33,244	65,696	130,294
Total	272,116	198,731	288,712	383,215	492,351
Coal					
China	12,520	7,455	3,791	4,445	2,014
Hongkong	3,881	3,124	4,347	5,226	3,638
Straits Settlements	2,538	1,848	2,431	2,182	2,503
Dutch East Indies	144	123	195	61	—
French Indo-China	268	240	153	109	196
Philippine Islands	1,700	1,583	1,568	1,651	1,447
Other Countries	729	630	957	480	575
Total	21,783	15,008	13,450	14,153	10,375
Potteries					
Manchoukuo	—	—	71	531	1,233
Kwantung Province	841	560	756	1,193	1,763
China	1,697	617	554	991	1,387
Hongkong	525	243	142	247	374
British India	1,867	1,391	3,463	3,965	3,200
Straits Settlements	399	210	374	900	1,239
Dutch East Indies	2,265	1,711	2,414	3,728	3,168
Philippine Islands	679	400	635	959	578
Great Britain	719	696	825	1,296	1,161
France	883	1,079	311	643	355
Germany	317	199	100	146	221
Italy	242	195	236	371	343
Holland	1,157	1,200	848	981	761
United States of America	10,820	6,634	6,441	10,180	14,313
Canada	1,391	1,339	1,317	1,399	1,508
Argentina	249	174	150	395	628
Brazil	140	79	118	370	554
Egypt	119	146	408	438	627
Australia	767	665	1,768	2,707	2,331
Other Countries	2,081	1,960	1,998	4,185	5,065
Total	27,171	19,307	22,937	35,634	41,877
Cement					
Manchoukuo	—	—	253	205	168
Kwantung Province	186	113	299	1,824	4,119
China	844	483	340	395	264
Hongkong	2,008	2,553	2,047	1,214	668
British India	746	1,038	1,307	949	418
Straits Settlements	1,509	1,800	823	597	764
Dutch East Indies	3,263	2,198	2,600	1,368	667
Philippine Islands	952	322	258	71	26
Other Countries	555	578	615	763	939
Total	10,066	9,089	8,545	7,394	8,038
Buttons					
Manchoukuo	—	—	11	145	227
Kwantung Province	133	46	73	79	99

FOREIGN TRADE

	(In ¥1,000)				
	1930	1931	1932	1933	1934
China	699	527	263	407	435
British India	412	319	635	639	1,303
Dutch East Indies	151	103	228	461	413
Great Britain	960	937	1,815	1,555	1,796
France	324	153	163	189	288
Germany	562	626	804	789	370
Spain	223	200	246	315	473
United States of America	120	128	157	357	214
Canada	232	157	121	85	122
Argentina	208	188	269	291	487
Brazil	125	114	154	209	183
Egypt	25	35	61	80	104
Australia	180	69	284	319	366
Other Countries	1,251	1,061	1,071	1,872	2,763
Total	5,619	4,674	5,862	7,748	9,648
Glass & glass manufactures					
Manchoukuo	—	—	82	421	516
Kwantung Province	388	175	335	480	509
China	1,958	1,046	828	1,047	1,191
Hongkong	613	423	126	233	318
British India	2,888	2,239	4,106	5,506	5,473
Straits Settlements	480	220	202	617	1,041
Dutch East Indies	1,094	1,149	1,070	2,068	1,931
Philippine Islands	691	519	503	809	831
Siam	359	113	132	398	567
Great Britain	40	36	101	160	357
United States of America	136	100	491	802	1,315
Union of South Africa	137	110	153	450	757
Australia	304	80	357	755	832
Other Countries	516	319	784	1,573	3,260
Total	9,609	6,534	9,281	15,326	19,454
Brushes					
China	172	75	29	74	133
British India	99	61	172	171	240
Dutch East Indies	69	42	108	142	181
Siam	33	21	38	42	51
Great Britain	654	471	505	693	1,038
United States of America	1,328	1,122	1,256	1,679	1,807
Canada	149	138	143	99	67
Argentina	26	40	19	16	14
Australia	59	5	19	70	63
Other Countries	369	300	634	1,463	1,642
Total	2,964	2,279	2,927	4,452	5,246
Matches					
Kwantung Province	44	33	27	44	69
China	34	14	1	1	3
Hongkong	1,715	693	12	154	954
British India	12	4	76	88	82
Straits Settlements	216	184	119	234	401
Dutch East Indies	145	111	66	107	110
Philippine Islands	418	205	98	136	111
African Countries	26	47	47	80	90
Other Countries	351	113	486	2,400	1,104
Total	2,965	1,408	938	3,248	2,923

IMPORTS IN 1934

VALUE OF CHIEF COMMODITIES IMPORTED
FROM VARIOUS COUNTRIES

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Rice					
China	2	—	—	—	—
British India	1	—	282	—	327
French Indo-China	2	—	19	57	332
Siam	17,239	5,694	10,127	10,882	—
United States of America	2,336	1,275	1,733	580	—
Other Countries	—	—	—	—	—
Total	19,583	6,971	12,164	11,521	660
Beans & Peas					
Manchoukuo	—	—	10,434	45,342	47,609
Kwantung Province	35,100	21,741	16,463	102	125
China	12,897	14,557	13,546	2,992	2,643
British India	1,336	811	1,300	1,434	1,370
Asiatic Russia	4	7	—	—	—
Other Countries	446	231	324	474	218
Total	49,784	37,349	42,069	50,344	51,968
India-rubber & gutta percha, crude					
British India	3,756	343	293	364	478
Straits Settlements	11,615	9,272	10,060	20,499	37,818
Dutch East Indies	2,173	3,206	4,995	7,268	14,383
Great Britain	59	39	45	48	36
Other Countries	325	321	593	1,503	4,620
Total	17,930	13,183	15,988	29,685	57,337
Sugar, (brown & white)					
Hongkong	—	—	—	—	—
Dutch East Indies	25,932	15,587	3,133	12,786	9,657
Philippine Islands	18	—	—	—	13
Cuba	4	—	185	—	—
Other Countries	18	15	13	6	7
Total	25,973	15,603	3,332	12,793	9,678
Oil cake					
Manchoukuo	—	—	3,030	31,480	31,198
Kwantung Province	30,021	18,413	16,861	2,218	3,364
China	35,132	24,680	11,821	5,928	6,236
British India	809	789	2,048	1,184	1,032
Asiatic Russia	65	—	13	32	4
Other Countries	338	465	823	335	215
Total	66,416	44,348	34,599	41,180	42,052
Coal					
Manchoukuo	—	—	4,754	24,150	30,554
Kwantung Province	21,261	17,932	12,902	396	31
China	5,349	3,902	4,241	4,104	6,817
French Indo-China	5,950	5,106	4,295	6,037	7,105
Asiatic Russia	1,509	1,246	1,144	1,938	2,670
Other Countries	133	30	18	30	13
Total	34,203	28,268	27,353	36,657	47,192
Leather					
British India	1,965	1,761	1,433	1,956	2,762
Great Britain	671	406	342	404	222
Germany	541	533	625	565	837
United States of America	1,615	1,468	982	766	750
Other Countries	195	127	184	239	256
Total	4,989	4,347	3,617	3,933	4,829
Cotton, raw					
China	21,985	17,366	18,885	24,347	15,693
British India	147,688	113,262	91,746	168,796	252,434

FOREIGN TRADE

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Straits Settlements	8	11	117	27	9
Dutch East Indies	220	195	257	269	577
French Indo-China	605	18	27	110	160
United States of America	176,800	153,700	320,751	381,655	400,918
Egypt	12,592	11,619	15,300	19,084	39,787
Other Countries	2,243	98	313	10,554	21,842
Total	362,046	296,273	447,401	604,847	731,424
Other vegetable fibres					
Manchoukuo	—	—	43	333	508
China	4,549	4,798	5,941	6,923	10,169
British India	2,963	1,954	3,669	5,400	4,883
Philippine Islands	8,627	6,525	7,056	9,616	10,913
Other Countries	302	470	391	864	986
Total	16,448	13,698	17,101	23,137	27,461
Synthetic colours					
Great Britain	30	24	35	22	44
France	198	524	631	579	574
Germany	2,586	4,085	4,959	5,217	5,979
Switzerland	1,526	1,431	2,025	1,236	1,336
United States of America	1,301	1,025	1,157	881	1,116
Other Countries	165	194	257	121	96
Total	5,809	7,285	9,066	8,060	9,147
Wool					
Kwantung Province	3	6	—	13	—
China	54	67	67	128	341
Great Britain	339	157	375	1,051	904
Chile	194	229	22	464	984
Argentina	620	873	481	2,427	7,552
Union of South Africa	19	64	1,031	2,529	5,780
Australia	72,336	83,295	84,245	156,513	159,241
Other Countries	41	1,451	1,335	1,064	11,700
Total	73,609	86,145	87,559	164,191	186,455
Woolen or worsted-yarns					
Great Britain	1,928	2,264	3,132	2,168	1,669
France	752	375	65	2	1
Germany	4,584	3,220	155	19	36
Belgium	—	—	—	—	—
Italy	61	1	—	—	—
Austria	102	—	—	—	—
Czechoslovakia	1,329	1,690	238	—	—
Poland	5,377	4,867	1,512	830	—
Other Countries	12	10	8	—	1
Total	14,148	12,429	5,112	3,020	1,708
Cotton tissues					
Great Britain	3,742	2,296	2,080	1,212	735
France	143	65	55	10	11
Germany	161	128	52	32	31
Switzerland	663	1,500	1,796	403	96
United States of America	214	318	69	45	56
Other Countries	74	65	76	1,249	20
Total	4,999	4,375	4,130	2,954	952
Wollen tissues					
Great Britain	8,916	7,884	8,597	6,833	5,041
France	268	194	157	51	27
Germany	2,010	1,699	1,541	297	105
Italy	24	11	7	7	2
United States of America	5	10	18	4	7
Other Countries	208	191	164	17	14
Total	11,434	9,993	10,487	7,212	5,198

IMPORTS IN 1934

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Wood					
Kwantung Province	632	285	80	40	34
China	299	297	46	90	66
Dutch East Indies	601	760	681	1,609	2,152
Asiatic Russia	8,921	5,278	3,531	2,597	826
Siam	1,214	988	999	1,239	1,012
United States of America	32,619	26,176	20,225	23,744	20,966
Canada	6,731	7,776	7,346	7,632	9,469
Other Countries	2,062	1,815	2,117	3,628	5,654
Total	53,033	43,379	35,029	40,584	40,183
Printing paper					
Great Britain	1,152	840	757	486	574
Germany	1,045	375	169	17	34
Switzerland	—	—	—	—	—
Holland	63	65	50	20	30
Sweden	1,160	1,610	633	25	44
Norway	612	897	284	15	16
United States of America	106	136	98	75	135
Canada	—	1,154	3,497	2,976	4,595
Other Countries	382	279	39	50	225
Total	4,524	5,361	5,530	3,668	5,657
Pig iron					
Manchoukuo	—	—	2,241	18,101	18,960
Kwantung Province	5,928	4,924	4,706	60	19
China	1,482	2,356	1,933	—	—
British India	7,666	3,626	3,027	5,802	7,292
Great Britain	213	148	166	216	110
Germany	340	63	30	39	20
Belgium	11	—	—	—	—
Sweden	111	70	36	541	25
United States of America	85	39	30	34	83
Other Countries	5	—	—	455	13
Total	15,845	11,229	12,173	25,251	26,528
Lead (ingots & slabs)					
China	—	—	—	36	—
British India	1,279	1,131	1,866	2,011	3,048
Great Britain	11	19	7	25	22
United States of America	4,112	2,514	3,275	4,011	6,823
Canada	5,049	4,240	4,298	5,542	7,405
Australia	582	195	322	249	579
Other Countries	81	29	202	24	24
Total	11,116	8,127	9,972	11,901	17,903
Machinery & parts thereof					
Great Britain	22,947	11,662	12,419	12,204	15,797
France	3,517	1,662	4,448	3,422	3,324
Germany	15,653	10,415	9,699	15,978	24,318
Belgium	63	16	9	50	22
Switzerland	3,694	1,568	2,139	2,005	3,499
Sweden	1,649	1,248	1,862	3,721	5,395
United States of America	24,479	15,485	17,176	21,869	35,137
Canada	165	175	236	263	248
Other Countries	9,650	6,512	10,776	11,341	8,969
Total	81,820	48,748	58,817	70,859	96,712
Automobiles & parts thereof					
Great Britain	250	161	469	452	401
France	245	209	56	26	3
Germany	66	73	394	92	105
Italy	95	34	3	—	—
United States of America	19,867	15,816	13,838	13,288	31,533
Canada	188	21	36	—	43

	(In ¥1,000)				
	1930	1931	1932	1933	1934
Other Countries	58	11	23	10	193
Total	20,773	16,329	14,821	13,871	32,302
Mineral Oil. (excluding crude oil & heavy oil) under 0.730 S. G.					
Dutch East Indies	729	619	353	41	317
United States of America	255	174	5	4	7
Other Countries	—	—	10	—	—
Total	986	793	369	46	325
Mineral Oil. (excluding crude oil & heavy oil) under 0.8762 S. G.					
Dutch East Indies	12,645	12,636	14,511	15,789	18,899
United States of America	21,205	19,521	18,702	14,568	10,099
Other Countries	4,015	3,835	3,319	4,415	4,859
Total	37,866	35,993	36,533	34,773	33,858
Sulphate of ammonium, Crude					
Kwantung Province	166	440	190	43	—
Great Britain	8,381	3,788	2,386	1,823	1,833
Germany	16,922	10,984	4,187	6,942	11,680
United States of America	3,917	297	130	—	—
Australia	95	—	—	—	—
Other Countries	141	351	150	606	292
Total	29,624	15,861	7,035	9,420	13,806
Pulp for paper making					
Great Britain	180	2	82	—	25
Germany	645	245	1,293	621	361
Sweden	921	1,220	1,792	3,571	7,438
Norway	3,608	2,013	4,115	7,577	10,463
United States of America	832	2,418	3,951	7,801	16,321
Canada	5,459	5,200	3,144	6,043	7,244
Other Countries	436	738	949	1,449	2,399
Total	12,084	11,840	15,323	27,066	44,255
Caustic soda & soda-ash					
Manchoukuo	—	—	2	—	—
China	600	292	116	376	276
Great Britain	3,045	2,372	3,872	1,003	2,163
United States of America	2,840	2,884	1,013	1,036	473
African Countries	1,722	1,627	1,155	229	1,261
Other Countries	700	972	225	1,718	191
Total	8,080	8,150	6,385	5,263	4,355

1935 Trade

Early in the year the foreign trade of the country was looked upon with pessimism on account of great increase of imports, decline in the rate of expanding power of exports, restrictions placed on imports of our goods in almost every corner of the world, etc. After the middle part of the year, however, it suddenly became very active. Imports increased tremendously, but increase of exports was even more greater. Speaking of foreign trade carried by Japan proper alone, exports exceeded imports by ¥26,000,000.

Drastic Decrease of Imports Excess

First, as regards the value of the foreign trade carried last year, the total exports of the country, including those of Chosen, Taiwan, the South Sea Islands, etc., reached ¥2,603,000,000 (an increase of 15 per cent. over the previous year), and the total imports ¥2,617,000,000 (an increase of 9.1 per cent.), the balance showing an excess of imports of ¥14,000,000. When this is compared with the excess of imports of ¥142,000,000 in 1934 it showed a drastic decrease of ¥127,000,000 or 89 per cent. and means that 1935 foreign trade made an epoch-making expansion. Of course allowance must be made to these figures due to a change which

was effected in the mode of preparing trade statistics compiled by the Department of Finance since July, for unless it be done so the improved conditions cannot be accepted as the

figures indicate. But even if that allowance is taken into consideration the fact that the 1935 foreign trade developed in prosperous conditions is clear.

(A) Japan Proper's Foreign Trade Which Showed Exports Excess.

Development of Foreign Trade of Japan

Exports	(Unit in ¥1,000)				Ratio of Increase (+) or decrease (-)			
	1931	1933	1934	1935	1931	1933	1934	1935
Japan proper & Karafuto	1,146,981	1,861,046	2,171,924	2,499,073	(-22.0	(+32.0	(+16.7	(+15.0
Chosen	12,771	52,773	57,674	64,902	(-50.6	(+80.7	(+9.3	(+12.5
Taiwan	19,449	17,656	26,518	36,544	(-57.4	(-) 2.1	(+50.1	(+37.8
The South Sea Islands	10	548	1,957	2,662	(-83.9	(+1,091.8	(+236.3	(+35.5
Total	1,179,211	1,932,069	2,258,080	2,603,181	(-22.3	(+32.6	(+16.9	(+15.3
Imports	1931	1933	1934	1935	1931	1933	1934	1935
Japan proper & Karafuto	1,235,672	1,917,220	2,282,601	2,472,236	(-20.1	(+33.9	(+19.1	(+) 8.3
Chosen	52,696	64,368	79,527	100,093	(-40.7	(+) 4.5	(+23.6	(+25.9
Taiwan	30,859	35,478	38,031	44,978	(-31.6	(+14.3	(+) 6.4	(+18.3
The South Sea Islands	178	439	335	473	(-30.7	(+28.7	(-)23.7	(+41.2
Total	1,319,405	2,017,503	2,400,494	2,617,880	(-21.5	(+52.3	(+19.0	(+) 9.1
Imports excess	140,194	85,434	142,414	14,699	(-13.3	(+19.6	(+56.7	(-)89.7

The 1935 foreign trade carried by Japan proper gave ¥2,499,000,000 for exports and ¥2,472,000,000 for imports. When these figures are compared with those of 1931 both imports and exports doubled. In the balance of trade, too, imports excess of ¥88,000,000 has been turned into exports excess of ¥26,000,000. Exports excess for Japan proper has not been seen since 1919.

(B) Foreign Trade of Colonies Which Maintains Steady Increase. In line with the expansion of the foreign trade of Japan proper that of colonies increased also. In Chosen the exports amounted to ¥64,000,000 and imports to ¥100,000,000 with an excess of imports of ¥36,000,000. Against 1934 imports excess of ¥21,000,000 an increase of ¥14,000,000 was made in this instance. In Taiwan, which lies as the first line of national defence and has recently increased its importance as a connect-

ing point of foreign trade, the expansion of trade was but natural. Her exports in 1935 was ¥36,000,000 (an increase of 37.8 per cent. over 1934) and her imports ¥44,000,000 (an increase of 18.3 per cent.), which showed an imports excess of ¥8,000,000. While both the exports and imports expanded to a large extent the fact that the imports excess decreased indicates that the island is treading the same course as the home land. The South Sea Islands' foreign trade is also keeping up its progress of expansion.

In this manner a turn into the exports excess in the home land, the decrease of imports in Taiwan and the great exports excess in the South Sea Islands fairly covered the large excess of imports of Chosen and ultimately led to the whole Empire to reduce her imports by ¥127,000,000, or 89 per cent. from that of the previous year.

Changes in Substance of Exports and Imports Goods; (A) Factors for Increased Exports. That the increase of exports of 1935 owes much to a great increase of the exports of silk is now recognized. The exports of this staple commodity amounted to ¥387,000,000 in value which corresponds to an increase of ¥100,000,000 or 35 per cent. This explains that with the recovery of prosperity in America after September the demand on silk increased with the corresponding rise in price which resulted in Japan's enlarged exports of silk to that country. Also it should not be overlooked that larger exports were made to Great Britain, France and Switzerland in Europe as well as to British India and Australia than formerly.

Another matter to be noted is the increase of exports in the so-called general merchandises. If, by general merchandises are meant those commodities other than what are called 8 of principal commodities and put up as such in the ten days trade report (which are wheat flour, comestibles in tin and bottle, silk, cotton textiles, silk weaves, cotton yarns, rayon weaves, and knit goods), then the percentage that these commodities occupy has recently been increasing tremendously. In 1935 against the exports of ¥1,265,000,000 of the principal commodities the exports of general merchandises amounted to ¥1,194,000,000. In spite of the exclusion of Japanese goods the general merchandises jumped

over obstacles placed on their way and found market in every corner of the world. Kinds of these merchandises are becoming more varied and manifold.

On the other hand, the imports of cotton was ¥714,000,000 and showed a decrease of ¥17,000,000, or 2.3 per cent. This was due to reduction of purchase of American cotton by importers who withheld from going into market. Imports were also curtailed in machinery, crude rubber and bean cake, the sum of decrease of which exceeded that of cotton. The decrease of machinery proves that the domestic machinery manufacturing industry has been well expanded and strengthened.

Commodities whose imports increased were crude and heavy oils, mineral ores, iron, copper, etc. which are raw materials for industry, especially for ammunition industry.

(B) Composition of Import and Export Commodities and its Tendency. In the above explanation a brief survey has been made on principal items of import and export commodities. The situation will be now synthetically surveyed. Import and export commodities are now divided into six groups of foodstuff, raw materials, manufactures as raw materials, manufactured articles, miscellaneous and reimported and re-exported articles. Percentage of each of these groups to the total is calculated, the results of which are shown in the following table:

CHANGE IN COMPOSITION OF IMPORT AND EXPORT COMMODITIES IN PERCENTAGE

Year	Exports					
	Food-stuff	Raw materials	Manufactures as raw materials	Manufactured articles	Miscellaneous	Reimported and reexported articles
1929	7.4	4.1	41.2	43.6	1.6	2.1
1930	8.8	4.4	35.6	47.0	1.8	2.4
1931	8.9	3.9	36.9	46.5	1.6	2.2

Year	Food-stuff	Raw materials	Manufactures as raw materials	Manufactured articles	Miscellaneous	Reimported and reexported articles
1932	7.4	3.6	34.5	49.7	1.7	3.1
1933	8.5	4.0	29.0	55.4	1.6	1.5
1934	7.9	4.4	22.9	62.0	1.2	1.5
1935	7.9	4.4	26.9	58.1	1.2	1.5

Imports

Year	Food-stuff	Raw materials	Manufactures as raw materials	Manufactured articles	Miscellaneous	Reimported and reexported articles
1929	12.3	55.2	16.0	15.6	0.8	0.1
1930	13.5	53.6	15.3	16.5	0.9	0.2
1931	12.8	55.4	14.7	16.0	0.8	0.3
1932	11.2	58.6	14.1	15.5	0.5	0.3
1933	9.0	61.6	17.1	11.5	0.5	0.3
1934	7.7	61.3	18.2	12.1	0.5	0.2
1935	7.8	61.0	18.9	11.6	0.4	0.3

In 1929 the percentages of manufactured articles and manufactures as raw materials to the total exports were 43 per cent. for the former and 41 per cent. for the latter and there was no great difference between the two. Since that year the difference grew larger. In 1933 against 55 per cent. of the manufactured articles the percentage of the manufactures as raw materials declined to 29 per cent. and in 1934 the ratio became 62 and 22.9 per cent. In 1935 a slight retrogression was made and the ratio was 58.1 to 26.9 per cent., but it was little higher than the ratio of 1933. This was due to a special circumstance which was caused by the great increase of exports of silk, and it should not be taken as a proof of lowering of the class of goods exported.

The same can be said of the imports. Percentage of the raw materials declined slightly in comparison with 1934 while those of the manufactures as raw materials and of foodstuffs increased to a large extent. Of course the percentage of the manufactured articles decreased. Viewed broadly the tendency of the change from manufactured articles and foodstuff to raw materials is unmistakable. In short the foreign

trade of Japan is pursuing its normal course of change in its exports to manufactured articles and to raw materials in imports, and there has been made no basic change in the tendency.

Extension of Market The increase of the exports of silk, especially the fact that this export was made principally to America, has brought about a certain change to the composition of the export market. This made the total exports to America ¥535,000,000 which meant an increase of ¥136,000,000 or 34.2 per cent. over the previous year. As the result 21.4 per cent., which is the percentage which exports to America bears to the total, showed an increase of 3 per cent. over that of 1934 which was 18.4 per cent. Percentage of exports to countries in Asia, Central America and Africa lowered slightly.

Of course further trade obstacles were placed by various countries in Asia, Central America and Africa so that it cannot be said that the increase of exports to North America, especially to the United States, served to decrease exports to other parts in the world. But it can not be denied that it acted as its cause to some extent.

Viewed more broadly, however, the position of Asia is gaining in importance. Markets in Central and South America, Africa and Oceania are gradually being developed too. In 1929 the percentage of exports to South America, Africa and Oceania were 1.1, 2.8, and 2.6 per cent. respectively. Though the figure for Central America is not available it was probably 0.2 or 0.3 per cent. However, these figures increased to 2., 2.8, 8.4 and 3.7 for Central America, South America, Africa, and Oceania respectively.

In the value of exports made to these markets the exports to Central America slightly decreased in 1935 as compared with that of the year before. Even then it was 8.5 times as large as that of 1930. The value of the exports to South America and Africa was also more than 3 times as large as that of 1929, while that to Oceania increased by more than 70 per cent.

Such differentiation and change in the share by continents applies to imports as well.

PERCENTAGE OF INCREASE OF EXPORTS TRADE BY CONTINENTS

	1935	1934	Comparison between 1935 and 1934	Comparison between 1933 and 1934
	(¥ 1,000)		%	%
Asia	1,304,433	1,169,508	25	11.5
Europe	262,831	227,772	25	15.5
North America	543,899	412,141	(-) 19	31.5
Central America	36,026	43,295	175	(-) 16.7
South America	73,361	61,457	31	19.3
Africa	183,527	182,397	34	0.6
Oceania	95,492	74,359	28	28.4

VALUE OF THE CLASSES OF COMMODITIES EXPORTED AND IMPORTED IN 1934 AND 1935

	EXPORTS	
	1934	1935
	Yen	Yen
Plants and animals	3,347,820	3,642,431
Grains, flours, starches & seeds	47,828,704	43,022,477
Beverages, comestibles & tobacco:—	124,945,571	150,193,567
Part I. (Tea)	9,557,111	11,418,592
Part II. (Aquatic products)	16,473,288	20,734,798
Part III. (Sugar & confectioneries)	15,801,611	20,133,621
Part IV. (Alcoholic liquors)	9,393,287	9,558,550
Part V. (Others)	71,791,718	55,034,069
Part VI. (Tobacco)	1,928,606	3,313,637
Skins, hairs, bones, horns, teeth, tusks, shells, etc., & manufactures thereof	10,704,374	13,779,695
Oils, fats, waxes & manufactures thereof	32,832,257	63,210,429
Drugs, chemicals, medicines, compounds or preparations thereof & explosives	52,460,068	61,133,403
Dyes, pigments, coatings & filling matters	15,518,543	20,310,483
Yarns, threads, twines, cordages & materials thereof:—	368,713,854	493,225,827
Part I. (Silk)	315,907,461	419,935,049
Part II. (Others)	52,806,393	73,289,778
Tissues & manufactures thereof:—	787,275,927	829,406,715
Part I. (Silk tissues)	190,922,081	205,704,572
Part II. (Cotton tissues)	492,351,023	496,097,062

	1934	1935
	Yen	Yen
Part III. (Other tissues)	54,861,618	67,189,071
Part IV. (Tissues, manufactures of)	49,141,205	60,415,993
Clothing & accessories thereof	154,266,079	170,752,557
Papers & paper manufactures	31,329,134	86,621,919
Minerals & manufactures thereof	24,426,499	23,894,881
Potteries & glass	61,331,744	66,071,947
Ores & metals	74,904,681	93,616,908
Metal manufactures	59,054,665	67,825,954
Clocks, watches, scientific instruments, fire-arms, vessels, vehicles & machinery	124,382,223	141,205,666
Miscellaneous articles	139,069,504	144,103,312
Articles by post	26,203,743	23,793,978
Grand total	2,139,195,380	2,460,313,147
Re-exports	32,729,233	38,759,893
Total exports	2,171,924,623	2,499,073,045
Food, drink & tobacco:—	171,980,789	197,110,604
A. In a natural state	48,315,675	51,801,233
B. Partly or wholly prepared	123,615,114	145,309,321
Raw materials	95,739,209	110,462,542
Manufactures for further use in manufacturing	498,528,754	672,412,600
Articles wholly manufactured	1,345,511,501	1,451,330,163
Miscellaneous articles	60,214,370	67,757,136
Grand Total	2,171,924,623	2,499,073,045

IMPORTS

	1934	1935
	Yen	Yen
Plants & animals	1,142,570	2,128,345
Grains, flours, starches & seeds	125,444,090	174,742,212
Beverages, comestibles & tobacco:—	71,865,555	59,039,947
Part I. (Sugar & confectioneries)	9,788,480	12,675,533
Part II. (Alcoholic liquors)	2,063,152	2,302,465
Part III. (Others)	50,578,814	33,659,123
Part IV. (Tobacco)	9,435,109	10,202,826
Skins, hairs, bones, horns, teeth, tusks, shells, etc., & manufactures thereof	36,902,073	42,247,063
Oils, fats, waxes & manufactures thereof	135,634,188	166,633,706
Drugs, chemicals, medicines, compounds or preparations thereof & explosives	144,293,432	157,314,423
Dyes, pigments, coatings & filling matters	18,567,833	20,612,553
Yarns, threads, twines, cordages & materials thereof	969,156,807	952,902,115
Tissues & manufactures thereof:—	10,653,970	14,021,209
Part I. (Tissues of cotton)	952,082	1,158,645
Part II. (Tissues of flax, hemp or jute)	523,335	818,100
Part III. (Tissues of wool)	5,198,790	6,753,199
Part IV. (Others)	3,979,763	5,291,265
Clothing & accessories thereof	1,030,201	1,211,131
Pulp for paper making, papers, paper manufactures, books & pictures	61,879,024	75,384,482
Minerals & manufactures thereof	79,851,152	90,369,016
Potteris, glass & glass manufactures	7,894,338	7,010,225
Ores & metals:—	307,309,733	383,994,052
Part I. (Iron)	190,983,959	241,705,837
Part II. (Others)	116,325,774	142,288,215
Metal manufactures	8,706,009	10,561,200
Clocks, watches, scientific instruments, fire-arms, vehicles, vessels & machinery:—	143,590,180	158,984,361
Part I. (Clocks & watches)	2,795,902	4,212,957
Part II. (Scientific instruments & fire-arms)	9,627,411	13,381,628

	1934	1935
	Yen	Yen
Part III. (Vehicles & vessels)	33,074,613	36,881,657
Part IV. (Machinery)	98,022,254	105,008,119
Miscellaneous articles	142,565,126	189,328,515
Articles by post	8,944,160	7,811,230
Travelling effects	682,016	1,294,456
Grand total	2,277,112,457	2,465,640,231
Re-imports	5,489,143	6,595,825
Total imports	2,282,601,600	2,472,236,116
Food, drink & tobacco:	174,448,527	192,604,690
A. In a natural state	125,935,479	147,495,994
B. Partly or wholly prepared	48,513,048	45,108,696
Raw materials	1,413,855,900	1,507,620,055
Manufactures for further use in manufacturing	415,841,011	468,616,440
Articles wholly manufactured	262,643,583	286,291,645
Miscellaneous articles	15,812,579	17,103,276
Grand total	2,282,601,600	2,472,236,116

JAPAN'S EXPORTS BY COMMODITIES

Group I (Plants and Animals)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Lily bulbs	1,000 p.c.s.	31,218	2,236,549	33,294	2,309,779
Group total		—	3,347,820	—	3,642,431

Group II (Grains, Flours, Starches and Seeds)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Rice and paddy	100 kin	1,101,085	8,420,185	533,309	5,225,189
Beans and peas	"	968,301	9,051,121	675,145	6,721,764
Wheat flour	"	4,427,373	28,451,525	4,819,629	33,699,761
Group total		—	47,828,704	—	48,022,477

Group III (Beverages, Comestibles and Tobacco)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Onions	100 kin	419,205	1,327,019	570,457	1,860,153
Potatoes	"	795,281	2,354,882	796,827	2,725,234
Mushrooms, dried	"	13,061	2,363,770	16,803	3,311,598
Mandarin oranges	"	528,112	3,471,450	553,796	3,095,396
Other fruits	"	—	1,775,941	279,110	2,448,446
Green tea	"	217,968	8,497,360	236,886	9,179,980
Other tea	"	22,207	1,059,751	44,963	2,238,612
Refined sugar	"	2,019,868	13,531,670	2,669,213	17,576,712
Confectioneries	"	38,405	1,230,398	53,316	1,648,181
Tangles and sliced tangles	"	638,130	2,363,583	567,193	3,297,054
Fish and shellfish, fresh	"	125,323	2,191,269	141,373	3,123,286
Dried fish	"	230,898	5,637,198	208,147	5,584,113
Dried shellfish	"	30,985	2,583,579	40,239	3,682,093
Isingiars, vegetable	"	20,931	3,215,118	25,162	4,261,797
Condensed milk	100 kin (Tin included)	58,061	1,537,882	87,763	1,937,261
Crabs in tin	"	159,806	15,420,564	203,099	19,660,816
Salmon and trout in tin	"	376,480	18,860,901	407,557	16,192,255
Tuna fish in tin	"	69,524	3,847,808	89,072	4,991,879
Sardines in tin	"	227,844	3,611,850	363,707	5,568,742
Saké	koku	31,843	3,585,510	30,046	3,276,041
Beer	"	118,009	5,535,420	135,107	5,870,840
Tobaccos	"	—	1,928,605	—	3,313,637
Group total		—	124,945,571	—	150,193,567

Group IV (Skins, Hairs, Horns, Tusks and Manufactures)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Furs	100 kin	3,926	3,023,242	5,768	3,642,062
Bristles	"	2,930	3,600,845	3,934	4,715,637
Group total		—	10,704,374	—	13,779,695

Group V (Oils, Fats, Waxes and Manufactures thereof)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Vegetable oil	100 kin	510,737	11,036,358	1,260,086	31,606,679
Peppermint oil	"	5,412	1,838,294	5,335	2,281,835
Fish oil	"	333,896	3,150,337	549,339	6,264,542
Kerosene oil	Gallon	1,170,857	423,253	2,927,500	984,006
Other mineral oil	100 gallons	448,558	3,495,639	84,243	3,576,347
Vegetable wax	100 kin	52,928	1,258,013	53,433	1,444,583
Hardened oil	"	401,606	5,042,254	586,305	8,920,875
Soap for toilet	1,000 dozen	3,651	2,487,975	4,017	2,748,052
Group Total		—	32,832,257	—	63,210,429

Group VI (Drugs, Chemicals, Medicines and Explosives)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Dried plants for insectifuge	100 kin	93,848	7,447,004	127,750	6,400,888
Sulphur	"	761,837	2,886,569	910,088	3,605,137
Caustic soda	"	204,886	2,025,063	291,606	2,684,589
Camphor	"	27,964	4,603,224	28,335	5,039,365
Menthol crystal	"	5,097	4,556,540	5,156	5,400,777
Prepared medicines	"	—	2,055,897	—	2,405,716
Other drugs, chemicals, etc.	"	—	11,647,519	—	12,133,729
Matches	"	178,092	2,928,558	201,211	3,209,449
Group total		—	52,460,068	—	61,133,403

Group VII (Dyes, Pigments, Coatings and Filling Matter)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Coal-tar dyes	100 kin	107,012	4,258,949	148,047	7,304,929
Coal-tar and pitch, etc.	"	703,974	1,360,434	303,590	700,138
Pencils	Gross	1,887,310	1,810,684	1,759,054	1,908,591
Inks	100 kin	28,042	1,165,408	33,893	1,297,824
Paints	"	67,551	2,023,396	96,811	2,684,846
Group total		—	15,518,543	—	20,310,453

Group VIII (Yarns, Threads, Twines, Cordages and Materials thereof)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Cotton yarns	100 kin	194,533	23,484,585	289,749	35,373,277
Woolen and worsted yarns	"	44,397	12,184,682	39,896	9,688,101
Raw silk	"	551,308	286,793,375	553,156	337,032,274
Spun silk yarns	"	11,657	4,875,985	18,695	7,153,233
Rayon	"	167,925	22,399,525	230,033	22,852,554
Waste cotton and waste cotton yarns	100 kin	356,430	6,598,144	642,280	12,663,744
Group total		—	368,713,854	—	498,225,827

Group IX (Tissues and Manufactures thereof)

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Gray cotton tissues (imitation nankeen)	Sq. yard	29,719,786	6,263,327	29,748,568	6,103,162
Gray cotton tissues (Drill)	"	34,493,552	7,428,495	26,955,434	5,521,755
Gray cotton tissues (Jeans)	"	8,635,675	1,703,589	14,739,235	2,799,734
Gray cotton tissues (Shirtings)	"	831,727,023	55,595,247	484,895,252	67,863,918
Gray cotton tissues (Dhooty)	"	41,961,784	5,385,445	65,217,941	8,068,986
Gray cotton tissues (Sheetings)	"	209,890,609	35,167,323	261,906,159	42,859,256
Gray cotton tissues (Others)	"	63,999,970	11,464,644	59,256,418	11,536,477
Bleached cotton tissues	"	509,797,660	83,916,657	511,334,801	85,303,581
Other cotton tissues	"	1,294,967,826	279,854,625	1,268,520,132	265,437,783
Woolen tissues	"	—	29,848,720	23,369,513	32,400,523

	1934		1935	
	Quantity	Value (Yen)	Quantity	Value (Yen)
Silk tissues, habutae	kin	911,281	20,840,757sq.y.	9,844,338
Fuji silk	Sq. yard	32,267,171	22,973,709	13,670,481
Silk tissues (others)	"	—	87,162,214	53,926,527
Rayon tissues	"	401,408,470	424,192,997	128,260,226
Knitted tissues	"	3,487,578	6,029,827	1,877,471
Rags	100 kin	734,669	1,155,743	12,823,191
All other tissues	"	—	—	17,242,542
Cotton blankets	100 kin	73,146	106,604	7,451,854
Grass rugs	Sq. yard	5,708,685	5,112,772	1,567,759
Table cloth	100 kin	10,788	23,048	4,077,697
Silk handkerchiefs	Doz.	2,074,768	1,887,506	3,952,829
Cotton handkerchiefs	"	7,8,94974	12,819,662	5,624,686
Cotton towels	"	3,502,735	3,401,677	6,477,017
Bed cloths	100 kin	28,406	31,432	3,272,330
Fishing nets	"	47,672	55,167	4,846,836
Group total	—	787,275,327	—	829,406,718
Group X (Clothing and Accessories)				
Undershirts and drawers	Dozen	11,436,001	12,480,639	42,720,240
Hats, caps and bonnets (of felt)	"	646,076	1,003,836	5,449,349
Hats, caps and bonnets (of imitation panama)	"	1,425,816	966,780	6,453,295
Socks and stockings	"	6,625,189	6,930,554	12,905,427
Rubber boots and shoes	"	575,709	451,580	2,699,837
Sporting shoes of tissues and with rubber sole	"	2,403,593	3,188,976	17,063,801
Buttons (of shell)	Gross	19,977,458	19,052,148	6,473,963
European clothing	kin	—	1,145,056	2,512,912
Kimono (of silk)	"	—	2,660,886	9,643,455
Group total	—	154,266,079	—	170,752,557
Group XI (Paper, Pulp and Paper Manufactures)				
Printing paper	100 kin	580,135	618,866	8,518,218
Paper, torinoko	"	86,397	112	9,938
Books and journals	"	—	—	2,255,883
Group total	—	31,329,134	—	36,621,919
Group XII (Minerals and Manufactures)				
Coal	Long ton	1,070,035	1,002,725	9,721,084
Cement	100 kin	8,998,422	10,918,062	8,081,777
Group total	—	24,425,499	—	23,394,881
Group XIII (Pottery and Glass)				
Potteries (tableware)	Dozen	43,828,235	38,455,800	33,864,134
Window glass	Sq. feet	28,318,261	25,372,793	1,219,222
Group total	—	61,331,744	—	66,071,947
Group XIV (Ores and Metals)				
Iron bars and rods	100 kin	1,803,907	1,800,514	11,645,607
Iron rails (including fish-plates)	"	1,590,018	1,669,997	18,526,164
Iron plates and sheets	"	539,541	1,403,865	17,220,076
Iron wire	"	548,320	796,297	6,677,470
Copper wire	"	110,664	214,562	8,872,044
Brass plates and sheets	"	154,929	164,119	6,602,089
Group total	—	74,904,681	—	93,616,903
Group XV (Metal Manufactures)				
Insulated electric wire	100 kin	145,116	229,099	11,188,266
Iron nails and the likes	"	479,386	481,770	4,748,191

	1934		1935	
	Quantity	Value (Yen)	Quantity	Value (Yen)
Enamelled iron ware	100 kin	257,818	309,233	9,419,467
Antimony manufactures	—	—	41,620	3,003,001
Group total	—	59,054,665	—	67,826,954
Group XVI (Clocks, Scientific Instruments, Machines)				
Clocks	p.c.s.	1,232,898	1,319,612	3,399,792
Physical and chemical instruments	—	2,494,529	—	945,966
Telephonic instruments	—	5,241,328	—	3,373,802
Phonographs	—	3,263,008	—	3,601,727
Cycles and parts thereof	—	24,602,881	—	22,676,411
Other vehicles and tires	—	21,373,219	—	31,321,057
Electric machinery	100 kin	50,248	114,539	8,042,291
Spinning machines	"	138,152	164,981	8,977,555
Locomotives	Number	1,759	184	13,776,800
Other machinery, parts and accessories	—	33,018,528	—	31,157,913
Group total	—	124,982,223	—	141,205,666
Group XVII (Miscellaneous)				
Venier plates	1,000 kin	21,830	64,027,999S. feet	4,397,206
Wood, shooks	set	10,018,921	9,654,111	5,011,926
Wood (Nara)	c. metre	62,512	77,159	5,750,011
Lacquered wares	—	2,570,476	—	2,513,884
Celluloid	100 kin	30,071	33,887	3,469,522
Celluloid manufactures	—	3,223,332	—	3,066,206
Brushes	—	5,346,142	—	5,117,421
Lamps and parts thereof	—	15,696,260	—	17,747,470
Toys	—	30,385,563	—	33,852,104
Artificial manures	100 kin	565,305	1,349,159	5,883,750
Fish meal	"	1,998,155	927,179	5,647,744
Group total	—	139,069,504	—	144,103,312
Articles by post	—	26,203,743	—	28,793,978
Re-exports	—	32,729,233	—	38,759,898
Grand total	—	2,171,924,623	—	2,499,073,045
JAPAN'S IMPORTS BY COMMODITIES				
	1934		1935	
	Quantity	Value (Yen)	Quantity	Value (Yen)
Group I (Plants and Animals)				
Horses	Number	35	38	424,886
Group total	—	1,142,570	—	2,128,345
Group II (Grains, Flours, Starches, etc.)				
Rice and paddy	100 kin	115,598	655,104	3,349,426
Wheat	"	8,155,061	7,417,800	43,199,110
Soy bean	"	9,128,311	8,702,373	53,781,211
Red (small) bean	"	1,244,768	1,687,547	10,319,662
Rape seed and mustard seed	"	802,255	1,111,057	8,927,840
Group total	—	125,444,090	—	174,742,212
Group III (Beverages, Comestibles and Tobacco)				
Tea	kin	658,160	552,680	815,867
Coffee	"	4,870,693	5,721,202	2,303,488
Sugar	100 kin	1,732,188	2,341,841	12,701,077
Meats	—	7,382,403	—	6,935,689
Salted fish	100 kin	972,247	172,533	1,627,414
Alcoholic liquors	litre	2,113,637	2,256,372	2,302,465

FOREIGN TRADE

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Salt	100 kin	17,941,812	24,839,869	17,558,225	14,540,084
Tobacco	—	—	9,435,109	—	10,202,826
Group total	—	—	71,865,555	—	59,039,947
Group IV (Skins, Hair, Bones, Horns, Tusks, Shells and Manufactures thereof)					
Furs	100 kin	9,314	1,084,719	6,620	803,204
Hides and skins	"	414,336	16,820,824	507,022	21,856,266
Leather	"	14,429	4,829,832	14,823	4,943,711
Bristles and hairs	"	13,606	5,892,123	21,809	6,814,214
Shells of mollusca	"	191,797	4,112,625	207,999	3,418,037
Group total	—	—	36,902,078	—	42,247,063
Group V (Oil, Fats, Waxes and Manufactures thereof)					
Fragrant volatile oil, vegetable	100 kin	5,557	2,546,634	7,844	3,161,457
Crude oil and heavy oil	100 gallon	7,439,851	82,482,862	9,157,871	106,825,959
Other mineral oils	—	—	41,543,749	—	45,820,549
Paraffin wax	100 kin	247,966	1,632,256	304,134	2,031,989
Group total	—	—	136,634,188	—	166,683,706
Group VI (Drugs, Chemicals, Medicines and Explosives)					
Hops	100 kin	6,672	2,625,656	7,052	2,230,008
Tanning materials	"	212,533	2,093,286	232,368	2,325,571
Tanning extracts	"	193,362	3,063,776	226,066	3,784,868
India rubber and guttapercha	"	1,197,051	57,337,922	994,692	51,636,065
Shellac	"	33,785	3,308,409	43,443	3,100,850
Rosin	"	351,278	3,160,996	461,153	4,271,308
Caustic soda, crude	"	165,468	1,525,881	332,274	2,913,430
Soda ash and natural soda	"	618,986	2,829,912	638,451	2,578,744
Nitrate of soda, crude	"	663,400	3,494,475	1,042,093	5,422,753
Chloride of potash, crude	"	764,382	5,790,445	1,281,093	8,934,788
Sulphate of potash, crude	"	814,584	6,065,388	1,410,387	10,217,677
Sulphate of ammonium, crude	"	2,681,688	13,806,538	3,976,636	21,069,855
Coal-tar distillates	"	46,603	946,477	12,195,880	1,655,244
Chemicals derived from coal-tar distillates	"	22,097	3,575,798	22,200	3,540,877
Explosives	—	—	1,005,163	—	892,510
Group total	—	—	144,293,432	—	157,314,423
Group VII (Dyes, Pigments, Coatings and Filling Matter)					
Synthetic colours	100 kin	18,394	9,147,156	20,793	9,991,698
Lacquer	"	28,305	2,988,509	30,774	2,924,531
Group total	—	—	12,567,838	—	20,612,553
Group VIII (Yarns, Threads, Twine, Cordages and Materials)					
Cotton, ginned	100 kin	13,525,151	730,936,399	12,244,434	713,682,406
Cotton yarns	"	163,557	13,251,795	53,823	5,153,240
Hemp, jute and Manila hemp	"	1,334,734	15,094,043	1,541,684	18,530,840
Sheep's wool	"	1,372,860	186,455,460	1,840,980	191,760,871
Woollen or worsted yarns	"	6,899	1,708,380	8,134	1,830,942
Waste or old fibres	"	172,052	5,203,754	245,387	7,550,501
Group total	—	—	969,156,807	—	952,902,115
Group IX (Tissues and Manufactures thereof)					
Cotton tissues	Sq. yard	1,404,399	955,082	1,530,125	1,158,645
Woollen cloths and serges	"	560,874	2,442,862	823,015	3,521,929
Group total	—	—	10,658,970	—	14,021,209

TRADE IN 1935

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Group X (Clothing and Accessories)					
Group total	—	—	1,030,201	—	1,211,131
Group XI (Paper, Paper Manufactures, Books and Pictures)					
Pulp for paper making	100 kin	3,814,656	44,255,752	2,430,661	21,171,251
Printing paper	"	762,968	5,657,286	1,010,015	8,211,933
Books and periodicals	—	—	2,256,436	—	2,066,678
Group total	—	—	61,879,024	—	75,384,482
Group XII (Minerals and Manufactures thereof)					
Asbestos and manufactures thereof	100 kin	347,323	5,093,656	367,649	5,536,097
Phosphorite	"	11,375,760	16,677,252	12,623,006	20,059,689
Coal	Long ton	3,996,506	47,192,729	3,984,824	48,970,834
Group total	—	—	79,851,152	—	90,369,016
Group XIII (Glass and Glass and Clay Manufactures)					
Plate or sheet glass	Sq. metre	1,667,388	3,853,462	877,428	2,895,078
Dry plates for photograph (undeveloped)	100 kin	12,564	1,823,972	11,746	1,736,132
Group total	—	—	7,894,338	—	7,010,225
Group XIV (Ores and Metals)					
Iron Ores	100 kin	35,531,933	19,420,762	56,734,975	34,546,519
Platinum	Gram	1,211,791	4,456,543	713,976	2,638,228
Pig iron	100 kin	10,239,965	26,523,461	16,031,900	41,179,962
Sheet bars	"	1,023,219	5,018,933	2,718,275	13,051,927
Iron plates and sheets (tinned iron sheets and tinned steel sheets)	"	1,468,025	25,698,173	897,117	16,483,326
Iron bands (hoop iron)	"	1,276,664	9,869,847	906,932	7,028,798
Special steel	"	117,970	6,327,021	162,415	8,286,620
Iron (waste or old)	"	23,549,896	65,730,218	23,202,465	84,231,394
Aluminium	"	169,597	12,576,368	223,358	18,362,317
Copper	"	856,137	28,389,216	1,136,910	37,959,262
Lead	"	1,585,234	17,977,326	1,523,469	20,490,014
Tin	"	67,708	15,338,382	71,289	15,594,313
Zinc	"	553,468	9,458,191	764,049	12,254,043
Nickel	"	43,974	8,821,180	56,957	11,127,530
Mercury	"	8,300	2,582,517	13,605	4,460,917
Brass and bronze	"	114,687	2,653,726	108,254	2,496,028
Group total	—	—	307,309,733	—	383,994,052
Group XV (Metal Manufactures)					
Iron cylinders for filling compressed gases	100 kin	45,059	1,539,309	49,152	1,669,382
Mechanic's tools, agricultural implements and parts thereof	—	—	1,023,751	—	1,287,089
Group total	—	—	8,706,009	—	10,561,200
Group XVI (Clocks, Watches, Scientific Instruments, Fire Arms, Vehicles and Machines)					
Watches and clocks and parts thereof	—	—	2,795,902	—	4,212,957
Meters	—	—	1,607,184	—	2,386,198
Physical and chemical instruments	—	—	1,003,171	—	1,529,999
Photographic instruments	—	—	1,418,670	—	2,582,740
Telephonic instruments	—	—	1,357,651	—	965,714

		1934		1935	
		Quantity	Value (Yen)	Quantity	Value (Yen)
Fire-arms	—	—	1,031,170	—	1,117,465
Automobiles	Number	896	3,357,061	934	3,202,241
Parts of automobiles	—	—	28,945,163	—	29,887,106
Steam boilers, parts and accessories thereof	—	—	4,090,880	—	6,109,842
Internal combustion engines	100 kin	158,219	20,777,828	131,600	15,538,988
Sewing machines	"	25,049	5,622,664	29,374	6,215,566
Metal or wood working machinery	"	153,125	21,432,589	138,716	17,872,352
Spinning machines	"	54,695	6,394,679	44,179	4,612,828
Card clothing	"	6,949	2,574,426	9,469	8,868,808
Group total	—	—	143,590,180	—	158,984,361
Group XVII (Miscellaneous)					
Lumber	—	—	40,183,059	—	40,776,176
Film for cinematograph	100 kin	3,414	3,930,071	3,967	4,809,443
Fodder	"	8,466,855	31,074,386	4,092,451	29,743,714
Wheat bran	"	3,019,833	8,884,755	2,254,573	7,487,507
Oil cakes (bean)	"	10,767,202	34,409,885	7,199,626	30,292,071
Group total	—	—	142,565,126	—	159,323,915
Articles by post	—	—	8,944,160	—	7,811,280
Travelling effects	—	—	682,016	—	1,294,456
Re-Imports	—	—	5,489,143	—	6,595,825
Grand total	—	—	2,232,601,600	—	2,472,236,116

Important Foreign Trade Countries

Great Britain Early in Meiji 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, although no change was noted in their precedence as import countries. A change came over the precedence in import countries in 1893 and 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. At present Great Britain comes 7th in order of Japan's export trade and

7th of Japan's import trade. 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.

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 Ka'ei, 1853. In the early stage the trade volume was less than that with 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 and in 1919 to ¥328,000,000, 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, this, by 1905 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, machinery and iron. The most unique feature of the Japan-American trade was that the trade balance was continuously in favour of Japan. In the last 60 years of trade relations, all but 1900, 1905, 1918, 1920, 1921 & 1932 saw an excess of exports over imports in favour of Japan. The latest four years, however, it has been reversed in favour of America. In 1935 the total volume of Japan-American trade comprised 33 per cent. of the total of Japan's foreign trade in that year.

China Japan entered into formal trade relations with China in 1873. Like Japan's trade with other countries, Japan's trade with that country made distinct development with the Sino-Japanese War, Russo-

Japanese War and World War. Exports, which in 1873 amounted to only ¥4,786,000, went up to as high as ¥10,000,000 in each of the years 1887 and 1888. These years, however, were exceptional. The amount declined to ¥5,000,000 in 1889, but again advanced to the former level of ¥10,000,000 in 1896 and further to ¥117,000,000 in 1906 following the Russo-Japanese War. The largest amount, ¥597,000,000 was reached in 1919. In 1926 the amount still showed a total of ¥521,000,000, which meant 109 times the 1873 amount. The chief exports to China consist of marine products, spun silk, copper, cotton cloth, matches and sundry articles. Imports for 1873 from China amounted to ¥9,881,000; in 1907 the amount reached ¥60,000,000; and the all-time record amount was ¥484,000,000 in 1919. The 1926 figure of ¥396,000,000 meant 40 times the 1873 figure. Imports from China were kaoliang, beans, wild silk, raw cotton, wool, hides, ores and others. China supplies mostly raw materials to Japan who in return supplies manufactured goods. Japan's trade with China for 1931 experienced its worst set-back in recent years through the vigorous anti-Japanese movement following the outbreak of the Manchurian and Shanghai incidents. But the condition is turning for the better, regaining normal relation prior to the incidents, the trade between China (including Kwantung and HongKong) and Japan in 1935, amounting to ¥498,788,000 in Japan's export and ¥162,169,000 in the import.

VALUE OF MERCHANDISE EXPORTED TO VARIOUS COUNTRIES

	(In ¥ 1,000)						
	1929	1930	1931	1932	1933	1934	1935
ASIA:							
Manchoukuo	—	—	—	25,947	82,071	107,151	126,045
China	346,652	260,825	155,750	129,478	108,253	117,062	148,788
Kwantung	124,476	86,814	65,541	120,594	221,068	295,868	300,269

FOREIGN TRADE

	(In ¥1,000)						
	1929	1930	1931	1932	1933	1934	1935
British India	198,056	129,262	110,367	192,492	205,154	258,011	287,524
Hongkong	61,065	55,646	35,754	18,141	23,419	33,497	49,731
Straits Settlements	27,928	26,930	19,119	25,549	45,133	63,320	48,536
Asiatic Russia	15,033	26,973	14,941	13,065	12,090	11,366	26,181
French Indo-China	2,695	2,412	1,709	2,343	3,680	2,654	4,020
Dutch East Indies	87,125	66,047	63,450	100,254	157,487	158,450	143,041
Philippines	30,596	28,369	20,425	22,362	24,050	36,460	48,058
Siam	10,633	9,476	4,721	8,581	18,124	28,048	40,258
Aden	—	6,136	4,809	8,307	7,193	9,353	13,208
Syria	—	—	—	—	—	11,699	12,559
Iraq	—	—	—	—	—	17,166	22,073
Others	10,969	5,134	7,425	10,560	21,773	19,395	34,142
Total	915,232	704,030	505,018	677,613	930,636	1,169,503	1,804,433
EUROPE:							
Great Britain	63,183	60,632	51,830	59,658	87,849	109,269	119,458
France	44,494	26,302	15,774	21,358	33,736	38,318	42,467
Germany	13,449	11,106	8,102	9,098	12,411	19,677	26,766
Italy	6,108	6,120	3,204	5,660	6,167	9,579	6,988
Belgium	2,890	1,973	2,446	4,160	7,739	9,675	15,393
Austria	62	203	84	54	93	198	308
Switzerland	647	660	463	311	323	307	471
Netherlands	6,917	8,074	10,097	12,445	12,325	17,832	18,316
Russia	2,303	1,345	2,134	1,379	1,575	1,638	2,138
Norway	366	911	309	465	1,608	2,828	4,482
Sweden	864	939	1,239	1,610	3,259	6,113	6,784
Spain	1,258	880	683	910	1,844	1,749	3,546
Turkey	2,551	3,949	3,790	5,964	2,431	2,194	3,241
Denmark	1,083	1,430	1,045	1,412	1,412	1,262	1,359
Greece	—	276	358	330	1,095	1,059	1,128
Portugal	17	69	59	344	529	572	1,062
Poland	13	10	15	19	44	212	955
Czechoslovakia	14	23	55	31	26	40	78
Other countries	1,072	407	296	639	2,605	5,194	7,891
Total	147,248	125,368	101,998	125,748	182,078	227,772	262,831
AMERICA:							
United States	914,084	506,112	425,330	445,147	492,237	398,928	535,389
Canada	27,096	17,884	13,067	8,562	6,580	8,666	7,977
Mexico	1,342	1,032	666	638	1,491	4,009	5,464
Cuba	1,256	1,248	641	962	3,323	9,986	5,047
Salvador	—	433	384	394	654	2,389	71
Colombia	—	—	—	—	3,005	7,832	—
Panama Canal Zone	—	376	449	551	1,110	1,827	824
Peru	2,601	2,234	800	841	3,899	6,879	6,961
Chile	2,719	2,471	804	286	1,475	7,459	6,647
Argentina	8,579	4,448	4,700	7,553	12,261	20,013	28,603
Brazil	1,572	953	642	1,330	2,765	3,064	5,925
Uruguay	—	4,114	1,150	422	2,451	6,964	5,676
Haiti	—	—	—	—	—	8,493	6,803
Others	11,507	3,706	3,754	5,541	17,423	24,801	29,567
Total	970,760	545,069	452,392	472,229	545,710	512,367	652,786
ALL OTHERS:							
Australia	44,075	25,486	18,405	36,895	51,416	64,461	74,793
Union of South Africa	13,179	14,196	19,282	16,418	26,740	29,539	32,769
East Africa	13,123	10,663	10,967	15,760	23,174	37,454	53,800
Egypt	31,352	23,997	22,829	41,876	55,607	72,988	—
Hawaii	6,271	6,392	5,623	6,676	6,484	5,526	7,242
New Zealand	4,094	3,226	1,965	2,933	6,452	8,587	11,304
French Morocco	—	—	—	—	—	19,076	18,813

TOTALS OF TRADE WITH COUNTRIES

	(In ¥1,000)						
	1929	1930	1931	1932	1933	1934	1935
Other countries	3,290	3,708	6,482	12,353	32,741	24,651	80,300
Total	115,376	92,671	85,460	132,973	206,618	262,282	279,021
Optional cargo	—	2,712	2,111	1,428	—	—	—
Total Exports	2,148,618	1,469,852	1,146,981	1,409,992	1,861,045	2,171,924	2,499,072

VALUE OF MERCHANDISE IMPORTED FROM VARIOUS COUNTRIES

	(In ¥1,000)						
	1929	1930	1931	1932	1933	1934	1935
ASIA:							
Manchoukuo	—	—	—	25,990	147,897	164,211	191,005
China	209,975	161,666	145,697	102,746	113,357	119,573	133,817
Kwantung	166,322	121,405	90,165	76,719	20,161	27,279	25,517
British India	238,119	180,405	133,165	116,865	204,737	291,960	308,425
Hongkong	607	538	498	977	2,093	1,481	2,835
Straits Settlements	41,634	28,925	21,857	25,338	38,771	63,320	40,647
Asiatic Russia	22,874	37,218	30,864	31,078	31,042	32,753	3,401
French Indo-China	9,590	7,907	6,380	5,692	9,909	10,620	15,010
Dutch East Indies	77,345	59,933	46,080	40,409	55,709	63,464	78,186
Philippines	18,044	10,759	8,987	9,764	14,185	18,890	23,948
Siam	20,811	18,848	6,792	11,198	12,255	1,540	5,457
Aden	—	76	22	1	10	27	364
British Borneo	—	—	—	—	—	7,303	9,831
Others	2,627	229	327	501	8,424	9,664	21,423
Total	857,953	632,459	493,936	450,911	658,557	812,090	869,871
EUROPE:							
Great Britain	153,045	92,561	63,335	78,760	82,558	70,036	82,160
France	26,185	16,635	12,407	21,094	21,745	18,299	19,808
Germany	157,273	106,183	73,244	71,742	95,797	109,583	120,817
Italy	7,550	4,259	4,275	3,972	6,035	3,461	5,831
Belgium	15,828	8,024	4,726	6,133	14,693	17,226	24,562
Austria	1,718	1,423	935	1,549	2,473	3,542	4,409
Switzerland	17,570	15,231	10,396	12,105	9,185	10,925	13,455
Netherlands	5,462	2,938	2,834	3,879	3,717	3,652	5,873
Russia	3,050	2,582	3,787	1,357	5,717	8,055	14,503
Norway	4,680	5,502	3,292	5,956	11,624	14,279	19,940
Sweden	11,025	8,634	8,580	9,826	16,085	21,140	23,074
Spain	748	827	924	2,273	3,629	2,851	4,548
Turkey	202	54	374	139	976	1,973	1,036
Denmark	6,050	5,384	536	812	504	1,657	522
Greece	—	80	68	119	215	325	670
Portugal	717	853	873	1,303	1,515	1,448	1,474
Poland	5,487	5,388	4,999	1,638	947	267	1,287
Czechoslovakia	1,960	2,273	2,947	1,454	1,702	1,755	2,331
Others	1,253	934	1,178	1,649	3,685	7,112	5,976
Total	419,342	279,773	199,768	225,261	282,812	295,623	352,276
AMERICA:							
United States	654,060	442,881	342,289	509,873	620,778	769,359	809,644
Canada	68,729	46,164	35,672	39,504	46,891	54,093	52,531
Mexico	700	327	90	319	188	189	6,443
Cuba	758	20	16	196	193	32	27
Salvador	—	5	—	—	106	1	—
Panama Canal Zone	—	22	8	35	10	47	45
Peru	53	253	17	41	1,553	1,822	11,414
Chile	10,414	3,100	2,942	761	2,962	3,438	4,472
Argentina	3,235	2,812	2,901	2,719	6,738	12,128	16,370
Brazil	380	306	452	754	1,008	3,291	4,006
Uruguay	154	315	686	173	317	2,630	4,494
Others	126	61	209	359	563	1,259	3,678
Total	738,615	496,272	385,287	554,738	681,012	848,295	913,124

FOREIGN TRADE

	(In ¥ 1,000)						
	1929	1930	1931	1932	1933	1934	1935
ALL OTHERS:							
Australia	132,600	94,308	113,337	134,277	204,586	197,757	235,128
Union of South Africa	1,447	1,618	1,332	2,635	4,312	8,233	4,762
East Africa	11,405	4,458	2,263	3,414	14,356	21,805	3,763
Egypt	25,824	16,222	13,567	19,787	26,455	46,259	51,304
Hawaii	145	73	268	532	135	153	287
New Zealand	677	389	1,439	1,470	2,399	11,594	6,363
Other countries	20,442	5,098	3,499	5,254	7,550	8,565	16,491
Total	181,138	122,179	135,709	167,372	259,797	293,869	318,103
Bonded	18,333	15,337	20,973	33,180	35,039	32,723	18,861
Unknown	306	—	—	—	—	—	—
Total Imports	2,216,240	1,546,070	1,235,675	1,431,461	1,917,219	2,282,601	2,472,235

CHIEF ARTICLES OF TRADE BETWEEN JAPAN
AND OTHER COUNTRIES

(In ¥ 1,000)

Manchoukuo

	1931	1932	1933	1934	1935
From Japan					
Wheat flour	1,372	4,758	9,305	9,083	14,449
Refined Sugar	—	335	635	1,084	1,523
Beer	201	383	966	992	1,196
Cotton yarns	249	935	3,099	3,631	4,627
Silk and Rayon tissues	9	25	661	1,139	1,647
Cotton tissues	3,543	3,263	21,626	40,253	35,733
Woollen tissues	21	171	1,360	1,539	1,896
Knitted goods	37	12	1,022	899	1,033
Paper	1,551	312	1,237	1,933	2,532
Iron manufactures	83	230	1,453	1,832	2,562
Machinery and parts thereof	150	394	1,933	3,336	5,607
Hats and caps	3	6	698	803	935
Soap	13	174	651	782	919
Lumber	—	27	729	2,355	1,095
Potteries	—	87	531	1,238	1,179
Others and total	11,874	25,947	82,071	107,151	126,045

	1931	1932	1933	1934	1935
To Japan					
Beans and peas	12,128	21,076	45,342	47,609	64,162
Vegetable fibres	—	86	333	508	644
Oil-yielding seeds	1,060	1,492	9,294	10,456	18,708
Meats	0	42	316	332	166
Hides and skins	24	182	798	704	1,040
Oil cake	19,860	11,746	31,480	31,198	23,965
Coal	969	6,277	24,150	30,554	30,906
Pig iron	2,356	4,175	24,150	18,960	18,812
Wheat bran	—	85	25	139	262
Others and total	41,948	51,569	147,897	164,209	191,005

China

	1931	1932	1933	1934	1935
From Japan					
Wheat flour	5,907	6,153	3,340	109	—
Aquatic products	2,623	2,531	2,278	4,432	5,985
Sugar, refined	10,950	2,655	6,158	6,989	9,762
Beer	425	1,171	757	587	544
Cotton tissues	39,529	37,153	25,604	13,038	11,912
Woollen tissues	258	430	1,687	2,975	3,043
Paper	13,669	5,121	4,785	6,152	6,571

TRADE WITH EACH COUNTRY

	1931	1932	1933	1934	1935
Coal	7,455	3,791	4,445	2,014	1,198
Glass and glass manufactures	1,023	809	1,047	1,191	1,389
Potteries	603	533	991	1,387	1,208
Iron	2,155	1,676	2,618	4,957	7,498
Iron manufactures	1,543	1,429	1,694	2,012	2,232
Brass	916	474	974	1,156	1,291
Soap	—	96	180	345	528
Machinery and parts thereof	6,731	3,848	4,951	9,691	15,310
Rubber tires	1,318	1,360	1,727	1,875	1,739
Lumber	2,277	2,362	2,702	2,704	2,987
Lamps and parts thereof	620	637	635	456	565
Hats and caps	465	194	507	967	721
Buttons	516	262	407	435	—
Others and total	143,876	129,473	108,253	117,062	148,788
To Japan					
Beans and peas	2,429	2,904	2,992	2,643	4,429
Oil-yielding seeds	8,454	6,873	9,477	11,215	17,631
Wheat bran	6,966	5,190	6,026	8,711	7,087
Wheat	—	—	—	92	—
Meats	7,441	2,548	3,964	5,009	4,026
Hides and skins	3,036	2,350	4,900	5,472	5,126
Oil cake	4,819	3,105	5,923	6,236	6,097
Caustic soda, etc.	292	116	376	276	110
Seed cotton and ginned cotton	17,366	18,885	24,347	15,693	20,705
Vegetable fibres, excluding cotton	4,703	5,898	6,923	10,169	7,385
Coal	3,902	2,719	4,104	6,817	7,610
Ores	4,870	4,580	4,300	6,804	11,839
Tin	787	908	1,776	2,731	3,194
Others and total	103,749	77,175	113,357	119,562	133,817

Kwantung Province

	1931	1932	1933	1934	1935
From Japan					
Wheat flour	1,922	9,435	21,808	18,557	16,313
Aquatic products	895	1,977	2,268	2,263	3,104
Sugar, refined	1,959	4,416	6,994	4,781	5,198
Beer	735	1,509	2,240	2,189	2,011
Comestibles in tin and bottle	463	942	1,447	1,197	1,523
Cotton yarns	293	670	614	513	539
Silk and Rayon tissues	590	1,969	3,574	10,209	14,433
Cotton tissues	6,172	16,107	18,822	19,217	15,211
Woollen tissues	737	2,925	5,944	8,281	8,729
Knitted goods	324	547	842	1,014	1,300
Paper	2,088	3,609	6,123	6,851	7,157
Cement	113	299	1,824	4,119	2,001
Potteries	560	756	1,193	1,768	1,794
Iron	2,606	8,415	27,555	38,853	36,746
Iron manufactures	1,396	2,662	6,059	10,107	8,394
Brass	129	143	271	1,156	—
Machinery and parts thereof	4,230	3,953	14,197	39,429	34,778
Rubber tires	160	437	1,065	1,023	1,059
Lumber	523	723	2,854	4,141	4,745
Lamps and parts thereof	720	567	1,023	1,153	1,622
Soap	287	486	555	679	1,037
Others and total	65,541	120,533	221,068	295,868	300,269
To Japan					
Beans and peas	22,741	16,463	102	125	—
Oil-yielding seeds	2,541	2,772	95	26	—

	1931	1932	1933	1934	1935
Oil cake	18,418	16,861	2,218	3,364	7,274
Coal	17,012	12,902	396	31	—
Gum	916	1,441	663	—	—
Meat	—	1,441	663	713	512
Others and total	90,165	76,720	20,161	27,222	25,517

British India

From Japan	1931	1932	1933	1934	1935
Beer	649	694	900	528	639
Camphor	616	972	1,288	1,328	1,632
Menthol crystals	318	355	284	—	729
Cotton yarns	5,592	14,343	7,605	11,111	20,093
Silk and Rayon tissues	21,524	32,956	32,958	42,508	40,528
Silk handkerchiefs	262	363	619	1,369	840
Cotton tissues	49,866	80,653	71,163	74,132	86,153
Cotton towels	436	877	1,005	1,110	771
Cotton blankets	212	314	314	853	1,389
Woollen tissues	63	591	1,647	8,219	4,920
Knitted goods	3,901	6,698	9,628	834	7,509
Clothing and accessories	1,142	2,042	2,431	3,266	3,764
Paper	983	1,160	842	750	1,107
Cement	1,038	1,307	949	418	—
Glass and glass manufactures	2,239	4,106	5,506	5,473	6,226
Potteries	1,391	3,463	3,955	3,200	3,526
Iron	21	251	819	1,378	3,126
Iron manufactures	1,762	3,322	5,151	4,984	5,465
Brass	1,150	2,989	3,885	4,919	5,505
Machinery and parts thereof	470	900	2,104	2,272	3,070
Toys	711	1,465	3,809	3,067	2,750
Lumber	1,762	1,529	1,884	1,060	1,199
Lamps and parts thereof	309	909	1,233	1,219	1,448
Hats and caps	497	898	1,181	903	1,338
Soap	30	98	837	469	238
Umbrella	45	265	669	97	—
Buttons	319	636	639	1,303	1,261
Others and total	110,367	192,491	205,154	258,011	278,524

To Japan

Beans and peas	811	1,300	1,434	1,370	2,294
Oil-yielding seeds	532	781	299	78	—
Leather	1,761	1,483	1,956	2,762	2,518
Oil cake	789	2,048	1,184	1,032	822
Seed cotton and ginned cotton	113,262	91,746	163,796	252,434	259,036
Vegetable fibres, excluding cotton	1,954	3,669	5,400	4,883	4,654
Ores	108	1,107	1,612	2,355	3,636
Pig iron	3,626	3,027	5,802	7,292	12,728
Lead	1,181	1,866	2,011	3,048	4,634
Gum	343	293	364	478	187
Others and total	133,165	116,865	204,737	291,959	308,425

Hong Kong

From Japan	1931	1932	1933	1934	1935
Aquatic products	2,752	574	1,397	2,792	3,967
Cotton yarns	449	1,336	291	—	948
Silk and Rayon tissues	1,662	338	521	929	5,062
Cotton tissues	9,764	3,755	5,674	7,310	9,801
Iron manufactures	—	125	266	508	712

	1931	1932	1933	1934	1935
Coal	3,124	4,347	5,226	3,638	4,078
Brass	—	49	150	1,015	869
Cement	2,553	2,047	1,214	668	716
Matches	693	12	154	954	1,565
Paper	—	524	649	1,251	1,668
Others and total	36,754	18,041	23,419	33,497	49,731
To Japan					
Tin	259	673	1,738	1,280	2,395
Others and total	498	977	2,093	1,481	2,835

Straits Settlements

From Japan	1931	1932	1933	1934	1935
Aquatic products	265	193	893	2,640	2,208
Silk and Rayon tissues	2,654	2,927	4,425	6,937	4,949
Glass and Glass manufactures	—	202	617	1,041	939
Cotton tissues	5,212	11,229	17,607	17,394	8,494
Coal	1,848	2,431	2,183	2,503	2,319
Cement	1,800	823	597	764	958
Potteries	210	374	900	1,289	763
Iron	—	618	371	48	1,294
Iron manufactures	226	345	1,186	2,245	1,744
Rubber tires	525	233	684	1,291	954
Toys	185	445	490	641	501
Knitted goods	—	232	771	1,320	1,441
Lumber	—	274	703	1,030	518
Matches	184	119	234	401	501
Others and total	19,119	25,546	46,133	63,320	48,536
To Japan					
Ores	8,433	7,284	8,820	8,742	158
Tin	2,084	3,793	5,329	10,612	9,894
Gum	9,272	10,060	20,499	37,818	24,124
Others and total	21,857	25,337	38,771	63,320	40,647

Asiatic Russia

From Japan	1931	1932	1933	1934	1935
Rice	382	457	412	483	525
Iron manufactures	2,392	1,497	1,183	941	601
Machinery and parts thereof	1,364	1,179	1,328	1,129	1,105
Others and total	14,941	13,065	12,090	11,366	26,181
To Japan					
Coal	1,246	1,144	1,938	2,670	618
Lumber	5,278	3,531	2,597	826	1,410
Others and total	30,880	31,078	31,042	32,752	3,401

French Indo-China

From Japan	1931	1932	1933	1934	1935
Silk and Rayon tissues	292	787	1,018	—	741
Others and total	1,709	2,343	3,680	2,654	4,020
To Japan					
Coal	5,106	4,295	6,037	7,105	9,793
Rice	—	19	57	332	162
Others and total	6,330	5,691	9,909	10,620	15,010

Dutch East Indies

	1931	1932	1933	1934	1935
From Japan					
Isinglass	401	448	458	647	—
Beer	234	535	1,639	224	—
Cotton yarns	357	1,445	1,236	1,695	4,502
Silk and Rayon tissues	8,910	14,365	15,988	14,081	14,045
Cotton tissues	28,279	50,228	78,273	82,828	66,578
Cotton towels	306	749	894	848	502
Cotton blankets	250	369	682	892	522
Knitted goods	1,569	2,524	4,234	4,388	4,118
Paper	129	643	1,082	514	746
Cement	2,198	2,600	1,368	667	549
Potteries	1,711	2,414	3,728	3,168	2,210
Glass and glass manufactures	1,149	1,070	2,068	1,931	1,983
Iron manufactures	841	2,575	4,365	5,055	3,718
Rubber tires	1,265	1,223	2,498	3,323	2,980
Toys	593	803	1,924	1,184	850
Lamps and parts thereof	590	766	1,706	1,336	1,190
Lumber	1,008	894	1,264	1,071	879
Hats and caps	872	728	1,230	903	—
Soap	22	149	486	—	—
Buttons	103	228	461	413	—
Umbrella	127	124	126	95	174
Matches	111	66	107	110	—
Others and total	63,450	100,254	157,487	158,450	143,041

To Japan					
Oil-yielding seeds	1,405	2,326	2,249	2,075	3,685
Sugar	15,587	3,133	12,786	9,878	12,575
Mineral oil, under 0.730 S.G.	619	353	41	317	11,863
Mineral oil, under 0.8762 S.G.	12,636	14,511	15,789	18,899	24,575
Tin	392	287	1,705	217	78
Lumber	760	681	1,609	2,152	2,120
Gum	3,206	4,995	7,267	14,383	11,660
Seed cotton and ginned cotton	—	257	269	577	967
Others and total	46,080	40,409	55,709	63,464	78,186

Philippine Islands

From Japan					
Silk and Rayon tissues	3,063	1,910	1,057	1,956	4,950
Cotton tissues	4,162	2,769	5,779	13,205	14,492
Knitted goods	1,959	3,744	2,670	3,431	4,733
Coal	1,583	1,568	1,651	1,447	1,683
Glass and glass manufactures	519	503	809	881	1,059
Potteries	400	635	959	—	918
Iron manufactures	650	469	932	927	1,581
Matches	205	98	186	111	—
Others and total	20,425	22,362	24,050	36,460	48,058
To Japan					
Vegetable fibres, excluding cotton	6,525	7,056	9,616	10,913	13,513
Others and total	8,987	9,764	14,185	18,890	23,948

Siam

From Japan					
Cotton tissues	795	3,338	6,778	10,818	13,227
Cotton blankets	128	305	985	1,175	1,334
Iron manufactures	380	568	1,190	1,609	2,113
Others and total	4,721	8,581	18,128	28,048	40,258

	1931	1932	1933	1934	1935
To Japan					
Rice	5,694	10,127	10,882	—	2,985
Lumber	988	999	1,239	1,012	1,624
Others and total	6,792	11,197	12,255	1,540	5,457

Great Britain

From Japan					
Beans and peas	2,874	4,521	5,481	6,222	4,231
Comestibles in tin and bottle	4,635	6,157	13,136	24,711	20,488
Fish and whale oils	756	1,130	591	432	851
Vegetable oil	846	769	510	890	1,196
Peppermint oil	84	278	672	557	564
Silk, raw	6,161	9,257	14,654	14,237	21,450
Silk and rayon tissues	4,212	4,761	8,726	11,548	12,779
Silk handkerchiefs	205	299	431	544	645
Knitted goods	5,488	3,837	6,560	7,672	7,344
Plaits for hat making	266	486	744	1,063	975
Potteries	696	825	1,296	1,161	1,186
Hats and caps	700	458	639	929	975
Lumber	1,381	2,865	3,837	5,089	5,629
Toys	2,099	2,288	4,053	4,604	4,877
Buttons	937	1,315	1,555	1,796	1,623
Brushes	471	505	693	1,038	721
Others and total	53,166	60,536	87,849	109,269	119,458

To Japan					
Leather	406	342	404	222	191
Ammonium sulphate, crude	3,788	2,386	1,828	1,833	300
Caustic soda, etc.	2,372	3,872	1,902	2,163	3,470
Woollen yarn	2,264	3,132	2,168	1,669	1,921
Cotton tissues	2,296	2,080	1,212	735	909
Sheep's wool	157	375	1,051	904	756
Wool tissues	7,884	8,597	6,833	5,041	6,536
Printing paper	840	757	486	574	557
Other irons	7,790	13,219	17,299	11,491	11,535
Aluminium	70	352	557	146	444
Automobiles and parts thereof	161	469	452	401	406
Dynamos and electric motors	605	165	131	107	81
Other machinery and parts	11,662	12,419	12,204	15,797	21,778
Others and total	63,334	78,760	82,558	70,036	82,160

France

From Japan					
Peppermint oil	87	299	571	504	688
Menthol crystals	131	502	1,426	783	804
Camphor	89	227	414	406	405
Silk, raw	1,879	7,107	15,378	20,333	23,764
Waste silk and Floss silk	495	427	656	891	448
Silk and Rayon tissues	1,966	2,064	3,524	2,373	1,665
Plaits for hat making	255	831	1,177	452	375
Potteries	1,079	311	643	—	—
Others and total	16,099	21,547	38,736	38,318	42,467
To Japan					
Synthetic colours	524	631	579	574	364
Aluminium	63	268	354	775	510
Other machinery and parts	1,662	4,448	3,422	3,324	2,973
Others and total	12,398	21,094	21,745	18,299	19,808

		Turkey				
		1931	1932	1933	1934	1935
From Japan						
Cotton tissues		3,506	5,574	2,024	1,392	3,130
Others and total		3,790	5,964	2,431	2,194	3,241
To Japan						
Total		374	139	976	1,973	—

The U. S. A.

From Japan						
Beans and peas		831	132	200	—	—
Tea		5,274	4,752	5,083	4,629	4,481
Aquatic products		1,926	975	1,191	1,713	2,664
Isinglass		723	537	674	479	542
Comestibles in tin and bottle		7,810	8,053	17,838	11,182	16,813
Vegetable oil		2,593	2,502	5,804	8,859	27,472
Dried plants for insectifuge		1,179	4,349	5,499	6,790	5,808
Menthol crystals		1,669	2,014	2,691	2,575	3,139
Camphor		1,348	1,217	1,568	1,716	2,551
Silk, raw		342,479	360,148	355,805	239,568	328,910
Waste silk and floss silk		1,583	141	73	78	392
Silk and rayon tissues		4,626	4,243	6,135	5,258	6,777
Silk handkerchiefs		546	200	579	623	864
Cotton tissues		63	264	1,298	2,863	8,184
Plaits for hat making		622	632	3,303	4,946	1,831
Knitted goods		450	510	879	1,514	3,871
Paper		918	735	943	636	845
Potteries		6,634	6,441	10,180	14,313	15,776
Toys		2,921	4,986	6,975	9,603	11,494
Hats and caps		6,136	3,032	4,143	4,521	1,831
Lamps and parts thereof		3,009	4,667	3,273	3,159	2,630
Brushes		1,122	1,256	1,679	1,807	1,662
Buttons		128	157	357	—	—
Glass and glass manufactures		—	491	802	1,815	2,308
Others and total		425,830	445,147	492,237	398,928	535,389
To Japan						
Wheat		2,523	751	238	9,869	283
Rice and paddy		1,275	1,733	580	—	—
Hides and skins		2,218	3,396	4,320	6,280	6,635
Leather		1,468	982	766	750	958
Mineral oil, under 0.876 S.G.		19,521	18,702	14,568	10,099	81,336
Sulphate of ammonium, crude		2,994	2,996	2,718	3,999	6,266
Caustic soda, etc.		2,884	1,013	1,036	472	702
Synthetic colours		1,025	1,157	881	1,116	1,390
Seed cotton and ginned cotton		153,700	320,751	381,655	400,918	371,952
Cotton tissues		318	69	45	56	47
Pulp for paper making		2,418	3,951	7,801	16,321	22,812
Paper		—	98	75	135	214
Irons		8,172	11,239	27,395	67,466	87,901
Lead		2,511	3,275	4,011	6,823	4,815
Zinc		147	388	824	1,352	1,848
Copper		—	123	7,238	26,137	35,849
Aluminium		106	675	89	33	—
Rails and plates		333	410	262	362	990
Watches and parts thereof		288	131	55	184	364
Automobiles and parts thereof		15,816	13,838	13,288	81,553	31,255
Dynamoes and electric motors		766	592	376	398	513

	1931	1932	1933	1934	1935
Other machinery and parts thereof	15,485	17,176	21,869	35,137	38,389
Lumber	26,176	20,225	23,744	20,966	28,226
Others and total	342,289	509,873	620,778	769,359	809,644

Canada

From Japan						
Rice		458	397	600	1,195	492
Tea		675	671	721	875	578
Silk, raw		2,595	1,164	208	411	—
Potteries		1,139	1,317	1,399	1,508	1,458
Others and total		13,067	8,562	6,580	8,666	7,977
To Japan						
Wheat		7,937	8,762	10,243	8,119	6,257
Pulp for paper making		5,200	3,144	6,043	7,244	5,990
Printing paper		1,154	3,497	2,976	4,595	6,843
Coal		7,776	7,346	7,632	—	—
Lead		4,240	4,298	5,542	7,405	6,923
Zinc		1,506	2,618	3,957	3,419	2,813
Lumber		—	9,469	7,632	7,346	8,258
Others and total		35,672	39,504	46,891	54,093	52,531

Chile

From Japan						
Cotton tissues		371	193	1,223	6,072	5,190
Others and total		804	286	1,475	7,439	6,647
To Japan						
Sheep's wool		—	22	464	934	875
Potteries		—	150	395	628	—
Crude nitrate of soda		2,685	706	2,464	2,272	2,776
Others and total		2,942	761	2,962	3,438	4,472

Argentina

From Japan						
Silk and Rayon tissues		1,907	2,169	2,537	1,369	1,310
Cotton tissues		1,407	3,300	6,615	13,955	20,125
Buttons		—	269	291	487	479
Others and total		4,700	7,553	12,261	20,013	28,603
To Japan						
Sheep's wool		873	481	2,427	7,552	611
Others and total		2,901	2,719	6,738	12,123	16,370

Uruguay

From Japan						
Cotton tissues		—	55	553	2,071	—
Silk and Rayon tissues		777	232	1,573	4,337	4,498
Others and total		1,150	422	2,451	6,964	5,676
To Japan						
Total		686	173	317	2,630	4,494

		Egypt				
		1931	1932	1933	1934	1935
From Japan						
Cotton yarns		43	325	259	—	—
Silk and Rayon tissues		3,954	9,182	7,704	8,076	8,006
Cotton tissues		14,957	27,068	38,351	46,833	31,683
Knitted goods		1,305	1,818	3,370	3,029	1,698
Potteries		—	408	438	627	—
Cotton towels		—	195	451	516	—
Others and total		22,829	41,876	55,607	72,988	53,800
To Japan						
Sulphate of ammonium, crude		1,390	3,664	5,960	4,787	—
Seed cotton and ginned cotton		11,619	15,300	19,084	39,787	43,009
Others and total		13,567	19,787	26,455	46,259	51,304

Union of South Africa

From Japan						
Silk and Rayon tissues		6,954	5,657	8,610	10,899	9,157
Cotton tissues		5,450	5,338	5,911	4,458	6,337
Knitted goods		1,293	1,314	2,565	1,884	1,700
Glass and glass manufactures		—	158	450	757	785
Lumber		292	291	878	971	816
Toys		—	116	391	865	645
Others and total		19,282	16,418	26,740	29,539	32,769
To Japan						
Sheep's wool		64	1,031	2,529	5,780	1,782
Others and total		1,332	2,635	4,312	8,233	4,761

East Africa

From Japan						
Total		10,867	15,760	23,174	37,454	25,083
To Japan						
Caustic soda, etc.		1,627	1,155	229	1,261	1,207
Others and total		2,263	3,414	14,356	21,305	2,945

Australia

From Japan						
Silk, raw		1,928	3,155	3,297	4,017	4,232
Silk and Rayon tissues		9,329	16,623	19,934	25,776	29,496
Cotton tissues		2,856	4,874	10,029	14,783	17,175
Cotton towels		172	383	656	720	525
Lamps and parts		—	433	606	559	651
Glass and glass manufactures		—	357	755	832	1,048
Potteries		665	1,768	2,707	—	2,804
Toys		207	861	1,811	1,765	2,010
Comestibles in tin and bottle		—	215	328	797	880
Others and total		18,405	36,895	51,416	64,461	74,793
To Japan						
Wheat		22,466	40,098	33,886	22,032	30,935
Meats		378	447	275	276	515
Beef tallow		2,382	2,437	3,250	2,588	2,200
Hides and skins		318	192	558	907	2,294
Sheep's wool		83,295	84,245	156,513	159,241	182,007
Zinc		1,198	1,594	2,102	2,293	2,729
Lead		—	322	249	579	460
Others and total		118,337	134,277	204,586	197,757	235,128

		New Zealand				
		1931	1932	1933	1934	1935
From Japan						
Silk and Rayon tissues		609	863	1,333	2,186	3,435
Others and total		1,966	2,993	6,452	8,588	11,304
To Japan						
Total		1,439	1,470	2,399	11,594	6,364
		Hawaii				
From Japan						
Aquatic products		722	720	560	—	557
Comestibles in tin and bottle		635	868	954	829	950
Others and total		5,623	6,676	6,484	5,526	7,242
To Japan						
Total		268	532	135	—	—

The Invisible Trade

The invisible foreign trade of Japan for 1934 continued to show an excess of receipts according to the report of the Finance Ministry. It amounted to ¥8,747,000, a decrease of ¥57,496,000, as compared with the previous year. This loss was mainly due to the decrease in receipts from

foreign investment in Japan and in collection of capital invested abroad. As compared with the previous year, an increase was recorded in almost all items except the item above mentioned and Government receipts from abroad. All told the total increase in assets was ¥141,913,000 (14%) and that in liabilities ¥199,399,000 (22%).

INVISIBLE FOREIGN TRADE OF JAPAN

(Compiled by the Ministry of Finance)

(In ¥1,000)

Items	1930	1931	1932	1933	1934
I Assets (Invisible Exports):					
(a) Ordinary receipts:					
Interest and dividends on foreign securities	22,442	17,971	19,362	23,806	22,517
Profit from undertakings abroad and remunerations for services rendered abroad	106,319	89,979	157,244	167,378	186,913
Receipts in connection with shipping	194,420	166,911	181,843	227,930	251,520
Insurance	116,218	108,812	117,258	117,570	138,518
Receipts from foreign nationals in Japan, tourists, missionaries, etc.	50,730	43,166	55,478	69,458	89,232
Government receipts from abroad	15,834	7,647	4,964	7,218	5,800
Others	18,873	12,278	41,267	51,120	93,730
Total	524,836	446,764	577,416	664,480	788,230
(b) Extraordinary receipts.					
Foreign capital invested in Japan	281,138	162,624	84,475	119,556	93,317
Collection of capital invested abroad	149,617	286,950	-105,988	174,287	218,635
Total	430,755	449,574	190,463	293,843	312,006
Grand total	955,591	896,338	767,879	958,323	1,100,236

FOREIGN TRADE

Items	1930	1931	1932	1933	1934
II Liabilities (Invisible Imports):					
(a) Ordinary Payments:					
Interest and dividends on Japanese securities possessed by foreign nationals	103,103	90,355	108,330	139,914	124,632
Profit of sund foreign takings and remunerations for foreign services in Japan	15,682	11,895	19,857	9,466	9,621
Payments in connection with shipping	69,085	66,270	82,142	101,868	106,906
Payments in connection with insurance	115,854	105,896	108,359	108,876	115,080
Expenditures abroad of Japanese tourists and travellers	50,017	44,897	39,852	68,462	65,791
Government expenditures abroad	30,058	37,896	89,182	128,008	141,696
Others	8,022	5,935	14,440	21,577	32,312
Total	391,821	363,144	462,162	577,271	598,042
(b) Extraordinary Payments:					
Investment abroad of Japanese capital	269,272	303,154	100,954	215,775	398,537
Collection of foreign capital invested in Japan	309,401	309,084	189,645	99,044	96,910
Total	578,673	672,238	290,599	314,819	495,447
Grand total	970,494	1,035,382	752,761	892,090	1,091,489
III Balance:					
(a) Excess of ordinary receipts	133,015	83,620	115,254	87,209	192,188
(b) Excess of extraordinary payments	147,918	232,664	100,136	20,976	183,411
Excess of receipts (+) or payments (-)	-14,903	-149,044	+15,118	+66,233	+8,747

Balance of International Payments

This table is based on the form required by the League of Nations

and includes the figures for the foreign trade of Korea and Formosa. The figures were prepared by the Ministry of Finance:

CURRENT ITEMS.

INWARD OR CREDIT MOVEMENTS (Exports)

	1933	1932
	(In million yen)	
I. Merchandise.		
1. Merchandise, including silver bullion and coins other than gold, exported (according to trade returns)	1,966.0	1,491.7
2. Adjustment of 1 in order to arrive at the commercial value f.o.b.	—	—
3. Contraband exports	—	—
Total	1,966.0	1,491.7
II. Interest and dividends.		
4. Interest received on intergovernmental debts, n. e. i. (Inter-allied debts, etc.)	—	—
5. Interest received on other foreign Government and municipal loans	13.8	9.9
6. Yield of other long-term capital investments abroad:		
a. interest	4.6	3.6
b. dividends, profits, etc.	71.2	68.6
7. Interest received from short-term capital invested abroad	3.0	5.1
Total	92.6	87.2
III. Other services.		
8. Income of national ships on account of all foreign traffic (a):		
a. ordinary freights	196.7	154.5

BALANCE OF INTERNATIONAL PAYMENTS

	1933	1932
	(In million yen)	
b. charter money	0.5	1.6
c. passage money	15.4	12.7
9. Port receipts from foreign shipping in national ports	5.3	5.0
10. Transport and other charges received for foreign goods transhipped or in transit (if not included in group I)	—	—
11. Commissions, insurance, brokerage and similar receipts, n. e. i.	117.6	117.3
12. Post and telegraph and telephone earnings, n. e. i.	1.6	1.2
13. Funds brought in by immigrants and returned emigrants	110.3	98.4
14. Emigrants' remittances and money gifts from abroad, n. e. i. }		
15. Receipts from foreign tourists and travellers	50.9	39.9
16. Diplomatic, consular and similar expenditure in Japan	6.9	6.6
17. Receipts for services rendered in Japan for "persons" domiciled abroad, n. e. i.	—	—
18. Government receipts in cash on account of reparation payments:		
a. amortisation	}	}
b. interest		
19. Counter-value of reparation receipts in kind, included in merchandise imports below	—	—
20. Government receipts from abroad, n. e. i.	5.6	3.7
21. Other current items	34.9	23.6
Total	545.7	464.5
IV. Gold Coin and Bullion.		
22. Gold bullion and gold specie exported (according to trade returns)	34.7	112.7
23. Adjustment of 22 in order to arrive at the commercial value f. o. b.	—	—
24. Decrease in the amount of gold earmarked abroad for domestic account, or increase in the amount of gold earmarked in the country for foreign account	—	—
Total	34.7	112.9
Grand total	2,639.0	2,156.1

OUTWARD OR DEBIT MOVEMENTS (Imports)

	1933	1932
	(In million yen)	
I. Merchandise		
25. Merchandise, including silver bullion and coins other than gold, imported (according to trade returns)	2,045.9	1,548.5
26. Adjustment of 25 in order to arrive at the commercial value c. i. f.	—	—
27. Contraband imports	—	—
Total	2,045.9	1,548.5
II. Interest and dividends.		
28. Interest paid on intergovernmental debts, n. e. i. (Inter-allied debts, etc.)	—	—
29. Interest paid on other Government and municipal foreign debt	70.6	58.0
30. Yield of other foreign long-term capital invested in Japan:		
a. interest	40.6	39.7
b. dividends, profits, etc.	22.4	20.8
31. Interest paid on foreign short-term capital invested in Japan	10.0	6.5
Total	143.6	125.0
III. Other services.		
32. Payments to foreign ships on account of traffic between domestic ports:		
a. ordinary freights	—	—
b. charter money	2.9	1.7
c. passage money	—	—

Note: (1) "n. e. i." means "not elsewhere indicated."

(2) (a) Foreign shipping traffic here means all traffic other than that between domestic ports. Maritime freight on imported goods, which is included in group I of imports, is unknown.

	1933	1932
	(In million yen)	
33. Port expenses incurred by national shipping in foreign ports	63.1	49.3
34. Transport payments to foreign carriers, n. e. i.	—	—
35. Commission, insurance, brokerage and similar payments, n. e. i.	108.9	108.4
36. Post, telegraph and telephone payments, n. e. i.	5.5	5.3
37. Funds taken out by emigrants sent abroad, immigrants	5.6	3.9
38. Immigrants' remittances and money gifts sent abroad, n. e. i. }	—	—
39. Expenditure abroad by national tourists and travellers	57.0	29.6
40. Diplomatic, consular and similar expenditure abroad	10.6	9.6
41. Payments for services rendered abroad for "persons" domiciled in Japan, n. e. i.	—	—
42. Government payments in cash on account of reparations:	—	—
a. amortisation	—	—
b. interest	—	—
43. Counter-value of reparation deliveries in kind, included in merchandise exports above	—	—
44. Government expenditure abroad, n. e. i.	122.5	83.9
45. Other current items	29.3	21.8
Total	405.4	313.5
IV. Gold coin and bullion.	—	0.7
46. Gold bullion and gold specie imported (according to trade returns)	—	—
47. Adjustment of 46 in order to arrive at the commercial value c. i. f.	—	—
48. Increase in the amount of gold earmarked abroad for domestic account, or decrease in the amount of gold earmarked in the country for foreign account	—	—
Total	—	0.7
Grand total	2,594.9	1,987.7
Surplus (+) or deficit (-) on account of:		
(a) goods and services (I-III)	(+) 9.3	(+) 56.4
(b) gold (IV)	(+) 34.7	(+) 112.0
(c) goods, services and gold (I-IV)	(+) 44.0	(+) 168.4

CAPITAL ITEMS.

INWARD OR CREDIT CAPITAL MOVEMENT

	1933	1932
	(In million yen)	
I. Long-term operations		
1. Receipts on account of amortisation of intergovernmental debts (Inter-allied debts, etc.)	—	—
2. Receipt on account of amortisation of other foreign Government and municipal loans	—	—
3. Receipts on account of amortisation of other loans	151.5	31.1
4. Existing domestic securities sold abroad	84.4	8.0
5. Foreign securities resold abroad	22.8	74.9
6. Real estate sold abroad:		
a. abroad	—	—
b. in Japan	—	—
7. Sale of new domestic securities on account of new loans floated abroad:		
a. Government and municipal loans	—	—
b. Other loans	—	—
8. Sale of new domestic securities on account of foreign participation in domestic capital issues	(a) —	(a) —
9. Other foreign long-term capital invested in Japan	—	—
Total	258.6	114.0
II. Short-term operations.		
10. Net increase in foreign short-term debts on account of credit raised and repaid	20.0	67.7
11. Net decrease in foreign floating assets on account of short-term credits granted and repaid	—	—
Total	20.0	67.7
Grand total	278.6	181.7

OUTWARD OR DEBIT CAPITAL MOVEMENT

	1933	1932
	(In million yen)	
I. Long-term operations		
12. Payments on account of amortisation of intergovernmental debts, n. e. i. (Inter-allied debts, etc.)	—	—
13. Payments on account of amortisation of other Government and municipal foreign debt	—	—
14. Payments on account of amortisation of other loans raised abroad	24.6	57.1
15. Repurchase of national securities formerly held abroad	45.4	52.8
16. Purchase of existing foreign securities issued abroad	13.8	70.9
17. Real estate purchased abroad:	37.0	4.8
a. abroad	—	—
b. in Japan	—	—
18. New foreign capital issues subscribed in Japan:	—	—
a. on account of foreign Government and municipal loans	—	—
b. other capital issues	—	—
19. Participation of domestic capital in foreign capital issues	(b) —	(b) —
20. Other long-term capital investments made abroad	178.8	96.2
Total	299.6	281.8
II. Short-term operations.		
21. Net decrease in foreign short-term debts on account of credits raised and repaid	—	—
22. Net increase in foreign floating assets on account of short-term credits granted and repaid	—	—
Total	225.2	229.3
Grand total	225.2	229.3
Net inward (+) or outward (-) movement of capital.	(-) 246.2	(-) 329.4
Difference between the balances obtained for goods, services and gold on the one hand and the capital items on the other, due to errors and omissions	(-) 202.2	(-) 161.0

Note: (a) Included in item 4. (b) Included in item 16.

Customs Duties

It was in 1859, at the time when most of the early commercial treaties with the Western Powers had been concluded, that custom-houses were for the first time established and customs duties were levied at a few open ports selected for the purpose. The customs tariff of that time was entirely determined by treaty; but the term of its operation was exceedingly short and the whole tariff was revised by treaty in 1866. This revised tariff kept our customs duties unchanged until 1899 when the treaties of commerce and navigation with the foreign Powers came into operation.

The coming into effect from 1899 of the revised commercial treaties with the foreign powers made it possible to bring into operation the general tariff which, combined with the conventional tariffs newly concluded, formed the customs tariff of our country. At the same time the export duties were entirely abolished.

In 1904 the urgent needs of the extraordinary fund in connection with the war with Russia led to the imposition of a special surtax on the customs duties as well as on the other taxes, and soon after the restoration of peace the entire customs tariff was revised and came into operation on October 1, 1906.

The Tariff Revision The Import Tariff Revision Bill passed the Imperial Diet in 1910 and was promulgated by Law No. 54 in April of the same year. The new tariff came into operation on July 17, 1911, but since then the tariff has been revised several times and at present the number of articles enumerated is 647, classified into seventeen groups; they are further subdivided and the duties thereon are converted as far as possible into specific duties. Raw materials are mostly duty-free; upon half-manufactured materials light duties are levied; and upon manufactured goods the rates vary from 15% to 40%; but on many manufactured goods low rates are imposed, while the goods on which the duty of 40% is imposed are manufactured goods which are imported in small quantities. Again, though a duty of 50% is levied upon articles of luxury, their importation is also very small.

As the Tariff Conventions concluded with Great Britain and Germany were to terminate on July 16, 1911, and that with France on the 3rd of the following month, negotiations for their revision were opened with these countries prior to their termination. Although the new Tariff Conventions with Great Britain and Germany came into force simultaneously with the expiration of the old Convention, the new Convention with France could not be established before the expiration of the old; and accordingly a provisional Convention was concluded pending the establishment of the new Convention, which was put in operation on February 29th of the following year.

A new tariff convention was also concluded with Italy in June, 1913.

Tariff in Korea In conformity with the Imperial Declaration concerning the Annexation of Chosen in 1910, the tariff system of the former

Korean Empire was left in force in the territory for ten years after the event. On expiration of the term of ten years on August 28, 1920, the tariff in force in Japan proper was applied to Chosen.

The Luxury Duties Under the law No. 24, promulgated on July 31, 1924, which regulates import duties on certain luxuries, a hundred per cent. ad valorem import duty was imposed for the time being on about one hundred and twenty kinds of goods which were designated as luxuries.

A partial amendment of the import duties on luxuries was made on April 1, 1925, exempting articles imported for industrial use, materials for re-export and certain other materials from the 100% duties.

Kwantung Province With the object of encouraging the industries in Kwantung Province and of promoting exports to the home country, portland cement and twenty-nine other articles produced in the province were exempted from import duties by the Act of June 18, 1925.

The Revision of 1926 Although several amendments in minor details had been made from time to time, the customs tariff of the country has remained practically unchanged since 1910, and has not been adapted to the great change in economic conditions at home and abroad. The Government, therefore, introduced into the Imperial Diet in 1926 a Bill proposing a general amendment embodying the following principles:

(a) Raw materials which are not produced or are scarce in this country are to be free of duties.

(b) Necessary protection is to be given to staple industries that have bright prospects for the future.

(c) Import duties are to be left untouched or are to be reduced with respect to foreign articles with which home produce is able to compete.

(d) Duties on the necessaries of daily life are to be reduced.

(e) In order to discourage consumption, high duties are to be imposed upon articles other than necessaries of daily life.

(f) The number of specific duties are to be increased and more minute classification of articles is to be made for convenience in the imposition of duties.

The Bill was passed by the both Houses of Imperial Diet without amendment, excepting the proposal concerning wheat, flour and eggs, and was put into effect on March 29, 1926.

Although not the direct object of the amendment, an increase in the customs revenue is expected as a result of the change in the rates of duties and the adjustment of the relation between specific duties and ad valorem duties in accordance with the rise of commodity prices.

Amendments During 1927 (a) Change of duties on sugar, etc.

The duties on sugar were amended on April 1, 1927. The duties on starch, butter, oxidized cobalt, oleine and cassava-root were also altered at the same time.

(b) Revision of the preferential tariff for Kwantung Province.

An amendment was made as to the articles exempted from import duties under the preference given to Kwantung Province, by adding soybean oil and certain kinds of manufactured cloths to the free list. This amendment was put into effect on

Not exceeding No. 24 English	
Not exceeding No. 42 English	
Not exceeding No. 60 English	
Not exceeding No. 80 English	
Others	

	from ¥ 5.80 to ¥ 3.75
	from 6.40 to 4.15
	from 9.50 to 6.15
	from 11.00 to 7.15
	from 11.30 to 7.35

C. The rate on cement has been reduced to ¥0.15 or 50% per 100 kin.

D. Certain kinds of iron pipes and

April 1, 1927.

Amendments During 1929 (a) Tea and twenty other luxury articles have been exempt from the luxury import duty since March 30, 1929.

(b) Import duties on wool and liquid gold were amended, and this amendment was put into effect on March 30, 1929.

(c) Cotton yarns and other goods manufactured in Kwantung Province have been exempt from import duties since May 1, 1929.

(d) Abolition of exceptions in import duties applicable in Chosen.

Although the import tariff of Chosen is generally the same as that of Japan proper, there existed certain exceptions in the case of import duties on horses and four other articles. The exceptions in the case of import duties on horses and two other articles were, however, abolished on and after March 30, 1929. The exceptions in the case of salt and wood were also amended, the former being abolished on and after April 1, 1930 and the latter on and after April 1, 1932.

Amendments During 1930 A. Millet, "Kao-liang" (*Andropogon vulgaris*), has been exempt from import duties.

B. Of cotton yarns:

(a) Special cotton yarns have been exempt from import duties.

(b) The rate of import duties on cotton yarns gray, single or two fold, with the exception of special cotton yarns, has been reduced per 100 kin as follows:

tubes have been exempt from import duties.

The above amendments have been

effective since May 17, 1930.

Amendments During 1931 A. Of import duties on wood, those on Momi (Abies), Tauhi (Picea), Matsu (Pinus) and Karamatsu (Larix) were amended as follows:

(a) Formerly, the import duty on wood not exceeding 200 millimetres in thickness was ¥1.1 per cubic metre, but it has been raised to ¥4.45 per cubic metre.

(b) The import duty has been newly imposed at the rate of ¥2.7 per cubic metre on other woods (including logs and cants) which were

Agricultural products and foodstuffs	wheat, millet (Andropogon vulgaris), Indian corn, wheat flour, butter, and condensed milk.
Industrial products	pig iron, wire rods, wires, reed wires, barbed twisted wires, parts of watches, parts of automobiles, and internal combustion engines.
Forestry products	certain kinds of wood.

(2) In view of the decline in exchange rates, it was decided to increase, for the time being, the specific duties as provided in the Import Tariff annexed to the Customs Tariff Law to 135 per cent. This increased rate was put into effect on and after June 16, 1932, but is not applicable to the articles mentioned in (1) above.

Amendments During 1933 A. Ephedra herbs, argol, amorphophallus tubers, and bone ashes have been newly provided for in the Import Tariff. These articles, except amorphophallus tubers, have been exempt from import duties. In the case of amorphophallus tubers, the import duty has been imposed on those in meal at the rate of ¥16 per 100 kin and on others at the rate of ¥5.5 per 100 kin.

B. The following amendments have been made in import duties on wood on which no labour was expended after cutting, sawing or splitting:

(a) With respect to logs and cants of douglas fir, etc. under the head of conifers:

formerly exempt from the duty.

B. Import duty on rayon has been reduced from ¥125 to ¥75 per 100 kin.

The above amendments have been effective since April 1, 1931.

Amendments During 1932 (1) An increase in the import duties was effected as from June 16, 1932 in respect of 29 articles in the case of which circumstances either at home or in the countries of export demanded it. The principal articles, the rates on which were increased, are as follows:

1. Those exceeding 18 metres in length and not exceeding 30 centimetres in diameter at the top end have been exempt from import duties;

2. On those exceeding 10 metres in length and not exceeding 30 centimetres in diameter at the top end the duty has been imposed at the rate of ¥2 per cubic metre;

3. On others the duty has been imposed at the rate of ¥2.5 per cubic metre.

(b) With respect to timber of broad-leaved trees, but not provided for in the Import Tariff.

1. On those not exceeding 200 millimetres in thickness the duty has been imposed at the rate of ¥5.5 per cubic metre.

2. On others, including logs and cants, the duty has been imposed at the rate of ¥2 per cubic metre.

These amendments were made by Law No. 26 of March, 1933, and put into effect as from March 29. It should, however, be noted that the provisions of Law No. 4 of 1932 are not applicable to the above articles

on which specific duties are imposed.

Amendments from January to July, 1935 A. Luxuries and similar articles.

(a) The import duty on precious stones has been reduced from an ad valorem duty of 100 per cent. to 10 per cent.

(b) With the abolition of an ad valorem duty of 100 per cent. on "shochu" included in the item of alcoholic liquors, such "shochu" has been subject to the General Tariff.

B. Articles in general.

(a) On musk xylol under the heading of artificial musks the duty has been imposed at the rate of ¥125 per 100 kin, and on others an ad valorem duty of 35 per cent. has been imposed.

(b) Of bleached plain tissues of flax pure or mixed with cotton, articles which had hitherto been exempt from import duties became subject to the same duties as those on tissues of flax and tissues of flax mixed with cotton.

(c) On magnesium alloys the same duty as that on magnesium has been imposed.

(d) Catalyzers containing vanadium have been exempted from import duties.

(e) On vulcanized fibres the duty has been imposed at the rate of ¥26 per 100 kin.

These amendments were put into effect as from April 4, 1935.

C. In answer to the customs measures taken by Canada against our merchandise, ad valorem duties of 50 per cent. were from July 20 to the end of 1935, imposed, in addition to the import duties enumerated in the Import Tariff annexed to the Customs Tariff Law, on the following articles produced in Canada or articles manufactured in bonded manufacturing warehouses from Canadian raw materials:

Wheat, wheat flour, wheat starch,

gluten, pulp for paper making (including that for rayon making), packing paper, match paper, endless felts for paper making, and wood under the heading of conifers.

For the customs tariff law and the customs duties on the principal commodities see Chapter VIII and Appendix.

Commerce Adjustment and Safeguarding Law

This law, intended to protect Japan's foreign trade, particularly against restrictive measures undertaken by other nations to which Japanese goods are exported, was adopted at the 65th session of the Imperial Diet and has been in force since May 1, 1934. According to a Foreign Office statement, the promulgation of this law has been made necessary, because of a growing tendency in other countries to ignore the fundamental economic principles of ministering to one another's wants and promoting through their co-operative efforts the progress and prosperity of mankind, which is reflected in their attempts to suppress importation of foreign goods by means of high tariffs, restriction of imports, etc., and particularly because of the increasing number of countries which are setting up barriers against Japan's export trade. The law is intended to enable Japan to adjust her trade to the above situation, to balance thereby her international payments, and at the same time to take, if necessary, appropriate measures for safeguarding her commerce. It is stipulated in the law that the Government, whenever they consider it specially necessary for the purpose of adjusting trade or safeguarding commerce in answer to the measures that have been, or are to be, taken by foreign countries, may, in accordance with provisions of Imperial Ordinance and

with the approval of the Tariff Investigation Commission, in respect of specified articles, and during a specified period of time, impose on such articles, in addition to the import duties enumerated in the Import Tariff annexed to the Customs Tariff Law, import duties not exceeding

in amount their value; or reduce, or exempt them from, import duties; or prohibit or restrict the exportation or importation thereof.

(As to the first application of the Law to Canada and the second application to Australia see Chapter VI.)

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, 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 and decided on insurance and 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 Viscount Eiichi 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 capitalization was ¥650,000. Marquis Hachisuka was president and Viscount Shibusawa and Mr. Iwasaki advisers.

Life Insurance Follows The late Taizo Abé is the originator of life insurance in Japan. Two years after the introduction of marine insurance he founded the Meiji Life Insurance Company in September, 1881, with a capitalization of ¥150,000. The

promoters of this company were mostly graduates of the Keio Gijuku (present Keio University). In 1888, the Teikoku Life Insurance Company was founded and the Nippon Life Insurance Company was incorporated in Osaka in the following year. Zenjiro 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 12 kinds, namely, life, military conscription, accident, marine, fire including forest fire, transport, automobile, burglary, glass, fidelity, engine and boiler and re-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, participate and the forfeited accrued interest of those not called up, together with that of those who have died before being conscripted. It is 36 years since the business was first commenced and four companies engage in it. Japan's grand total of insurance business for the last 12 business years, as prepared by the Ministry of Commerce and Industry, follows:

Business year	Number of concerns	Paid-up capital and funds (In ¥ 1,000 and 1,000 contracts)	Liability reserves at end of year	Contracts in force at end of year	
				No.	Amount
1921-22	93	91,176	510,869	8,952	10,670,858
1922-23	95	118,043	591,350	11,121	13,699,379
1923-24	96	119,043	670,003	11,467	13,971,965
1924-25	95	119,043	780,115	13,633	16,704,023
1925-26	95	122,018	890,457	15,876	19,269,426
1926-27	95	124,062	1,016,929	16,029	20,651,623
1927-28	93	123,757	1,180,869	17,517	22,268,970
1928-29	94	123,585	1,253,062	19,086	23,752,130
1929-30	93	124,335	1,408,520	22,199	25,940,943
1930-31	92	123,229	1,519,352	23,097	27,490,657
1931-32	91	122,170	1,637,178	22,693	27,469,633
1932-33	89	122,570	1,831,610	23,123	29,427,346
1933-34	84	150,925	1,985,871	25,443	33,108,594

CONTRACTS OF INSURANCE COMPANIES
(In ¥1,000,000)

Kind Insurance	New Contracts	Contracts in Force at Year End	
		1934	1935
Life	2,072	11,059	2,706
Fire	49,064	83,750	50,825
Marine	14,431	3,070	16,037
Transportation	7,299	335	8,147
Accident	268	216	299
Automobile	164	91	138
Burglary	15	17	14
Fidelity	8	6	8
Engine and boiler	4	4	4

Note: These figures are subject to future revision.

INSURANCE COMPANIES
1930-1935
(Amount in Yen)

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paidup	Liability and Current	Others
Accident	1930-31				707,186	45,728,277
	1931-32				773,651	51,818,800
	1932-33				893,369	54,242,900
	1933-34				945,927	57,815,170
	1934-35				1,045,697	61,589,100
Fire	1930-31				104,127,232	64,889,160
	1931-32				105,268,129	64,726,756
	1932-33				110,585,848	67,291,681
	1933-34				114,713,943	71,736,746
	1934-35				116,893,087	76,173,940
Marine	1930-31				70,648,175	52,849,608
	1931-32				69,803,559	55,550,554
	1932-33				72,077,803	55,018,772
	1933-34				76,628,071	67,553,842
	1934-35				80,132,896	72,028,475
Transportation	1930-31				2,152,045	59,609,464
	1931-32	1930-31 52	294,000,000	100,915,000	2,059,980	60,555,454
	1932-33				1,871,347	62,789,172
	1933-34				2,043,729	66,808,842
	1934-35				2,176,179	71,174,239

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paidup	Liability and Current	Others
Fidelity	1930-31				80,000	6,547,090
	1931-32				93,500	12,750,700
	1932-33				97,000	12,773,200
	1933-34	1931-32 51	290,500,000	99,900,000	95,000	18,118,800
	1934-35				93,000	18,514,800
Engine and Boiler	1930-31				41,324	55,208
	1931-32				40,050	56,740
	1932-33	1932-33 51	284,900,000	98,622,500	39,727	58,840
	1933-34				39,031	60,560
	1934-35				44,095	63,560
Automobile	1930-31				2,067,820	41,574,577
	1931-32				2,102,260	47,612,200
	1932-33				2,190,315	49,950,200
	1933-34	1933-34 51	329,900,000	128,088,645	2,274,918	53,494,800
	1934-35	1934-35 51	329,900,000	128,762,500	2,530,498	57,226,800
Burglary	1930-31				185,927	32,650,772
	1931-32				276,045	38,885,000
	1932-33				245,717	41,213,000
	1933-34				249,745	44,050,000
	1934-35				242,784	42,291,000
Glass	1930-31				07,417	21,875,851
	1931-32				42,674	23,370,000
	1932-33				153,877	30,220,000
	1933-34				58,199	32,600,000
	1934-35				62,398	34,335,000
Life	1930-31				1,263,134,591	117,845,902
	1931-32				1,371,312,737	115,323,760
	1932-33	1930-31 40	43,530,000	22,270,000	1,483,841,742	130,782,919
	1933-34	1931-32 40	46,030,000	22,895,000	1,609,662,519	147,526,178
	1934-35	1932-33 38	46,880,000	22,720,000	1,798,822,750	146,785,642
Conscription	1930-31	1933-34 34	42,650,000	23,437,500	125,761,731	2,938,904
	1931-32	1934-35 33	45,800,000	22,512,500	140,447,768	2,799,887
	1932-33				159,713,779	3,589,619
	1933-34				179,217,142	4,722,361
	1934-35				201,530,031	6,126,596

Conditions of Business

Kind of Insurance	Business Year	Earnings			
		Premiums	Interests	Others	Total
Accident	1930-31	641,479	—	10,188	651,617
	1932-32	623,425	—	16,861	640,286
	1932-33	726,101	—	94,810	820,911
	1933-34	952,702	—	111,581	1,064,283
	1934-35	—	—	—	905,167
Fire	1930-31	88,114,367	8,161,557	19,617,218	115,893,142
	1931-32	86,565,556	8,073,139	18,701,654	113,340,349
	1932-33	88,830,852	7,944,468	21,891,064	118,666,384
	1933-34	94,082,693	8,063,153	21,222,340	123,358,186
	1934-35	—	—	—	126,168,944
Marine	1930-31	28,428,116	12,273,210	8,077,114	48,778,440
	1931-32	24,821,774	12,224,926	0,383,383	47,430,083
	1932-33	26,689,037	12,848,842	19,960,740	49,498,619
	1933-34	31,101,512	13,786,286	8,257,452	53,145,250
	1934-35	—	—	—	57,449,315
Transportation	1930-31	878,012	—	20,517	898,529
	1931-32	692,539	—	24,370	716,909
	1932-33	791,557	—	11,515	803,172
	1933-34	1,021,082	—	25,343	1,046,325
	1934-35	—	—	—	1,212,326
Fidelity	1930-31	08,914	—	6,905	115,119
	1931-32	196,353	—	7,355	103,708
	1932-33	86,940	—	6,151	93,091
	1933-34	83,719	—	6,112	89,831
	1934-35	—	—	—	90,810

Conditions of Business

Kind of Insurance	Business Year	Earnings				Total
		Premiums	Interests	Others		
Engine and Boiler	1930-31	120,109	16,642	4,210	40,961	
	1931-32	81,275	10,746	9,716	101,737	
	1932-33	79,195	9,650	9,784	198,629	
	1933-34	80,542	11,385	9,848	101,775	
	1934-35	—	—	—	108,903	
Automobile	1930-31	1,426,762	5,641	8,617	1,441,320	
	1931-32	1,359,529	5,369	36,533	1,401,431	
	1932-33	1,543,239	5,026	10,996	1,559,260	
	1933-34	1,749,665	5,778	41,344	1,796,787	
	1934-35	—	—	—	2,014,636	
Burglary	1930-31	58,889	—	657	59,546	
	1931-32	35,564	—	743	36,307	
	1932-33	59,180	—	962	60,142	
	1933-34	59,158	—	1,332	60,490	
	1934-35	—	—	—	63,150	
Glass	1930-31	4,138	—	168	4,306	
	1931-32	3,998	—	205	4,203	
	1932-33	6,983	—	237	7,220	
	1933-34	7,680	—	460	8,140	
	1934-35	—	—	—	12,702	
Life	1930-31	294,288,980	79,245,891	18,187,302	386,672,173	
	1931-32	309,473,125	83,809,213	12,707,823	405,990,161	
	1932-33	320,187,748	92,551,304	19,583,430	458,872,225	
	1933-34	350,372,780	99,973,149	26,522,160	476,868,089	
	1934-35	—	—	—	553,713,646	
Conscription	1930-31	23,593,777	8,043,992	1,042,661	32,680,430	
	1931-32	22,106,176	8,401,764	2,855,319	33,363,259	
	1932-33	26,623,705	12,462,744	6,254,506	45,340,955	
	1933-34	25,939,982	11,057,417	5,254,869	42,252,268	
	1934-35	—	—	—	50,851,063	

Conditions of Business

Kind of Insurance	Business Year	Expenses				Total
		Claims Paid	Payment by Contract other than Claims	Business Expenses	Others	
Accident	1930-31	247,680	4,420	245,179	12,635	509,914
	1931-32	276,357	5,817	233,417	8,209	523,900
	1932-33	477,406	8,769	307,868	14,798	808,841
	1933-34	538,176	11,392	381,344	14,823	945,735
	1934-35	—	—	—	—	1,030,061
Fire	1930-31	32,346,239	9,525,008	53,204,534	9,116,779	104,192,560
	1931-32	33,941,596	9,564,105	51,483,784	7,150,417	102,144,902
	1932-33	33,962,253	10,711,007	52,125,132	6,479,769	103,278,141
	1933-34	34,704,434	12,259,579	55,594,541	6,660,150	109,218,704
	1934-35	—	—	—	—	116,824,625
Marine	1930-31	20,502,208	1,843,089	6,736,109	10,360,640	39,442,046
	1931-32	17,988,187	1,759,847	6,026,539	12,119,924	37,894,497
	1932-33	18,128,982	2,053,878	6,080,650	9,116,202	35,379,712
	1933-34	19,602,005	2,317,516	6,823,090	7,605,849	36,348,460
	1934-35	—	—	—	—	39,697,384
Transportation	1930-31	178,552	96,725	211,078	3,325	489,680
	1931-32	142,850	80,640	179,152	10,439	413,081
	1932-33	122,169	77,475	185,420	3,949	389,013
	1933-34	100,487	99,038	215,810	7,894	423,229
	1934-35	—	—	—	—	705,761
Fidelity	1930-31	31,222	5,016	33,913	94	68,327
	1931-32	29,304	4,032	31,605	96	70,898
	1932-33	35,165	2,150	28,426	89	66,229
	1933-34	35,564	2,078	26,111	105	63,858
	1934-35	26,820	—	—	—	48,960
Engine and Boiler	1930-31	—	1,008	118,258	9,631	123,897
	1931-32	—	919	79,126	7,466	87,511
	1932-33	—	730	77,312	5,644	83,686
	1933-34	—	664	78,199	7,163	86,025
	1934-35	—	—	—	—	87,015

Kind of Insurance	Business Year	Claims Paid	Payment by Contract other than Claims	Business Expenses	Others	Total
Automobile	1930-31	700,338	262,097	495,649	29,813	1,037,897
	1931-32	707,010	235,533	495,687	22,979	1,461,259
	1932-33	826,684	263,314	492,289	15,748	1,598,035
	1933-34	866,525	275,363	540,735	74,302	1,756,925
	1934-35	—	—	—	—	1,745,341
Burglary	1930-31	25,523	5,225	15,676	100	46,533
	1931-32	20,833	710	13,147	80	34,770
	1932-33	29,153	826	20,404	854	51,237
	1933-34	22,836	1,339	22,151	511	46,837
	1934-35	—	—	—	—	43,829
Glass	1930-31	2,040	408	775	10	3,233
	1931-32	2,335	266	888	11	3,500
	1932-33	3,753	319	1,452	19	5,543
	1933-34	5,339	559	1,826	13	7,737
	1934-35	—	—	—	—	8,644
Life	1930-31	93,974,841	53,585,432	68,463,909	59,305,724	275,229,906
	1931-32	108,033,944	69,521,359	71,609,053	30,844,607	280,008,973
	1932-33	114,600,140	77,059,835	75,293,331	26,098,902	293,052,208
	1933-34	124,659,486	78,516,055	83,935,600	22,859,150	310,070,291
	1934-35	—	—	—	—	356,324,141
Conscription	1930-31	918,577	3,749,397	6,417,199	9,491,906	20,577,079
	1931-32	1,076,070	4,811,537	7,284,566	5,359,134	18,531,307
	1932-33	1,698,627	7,593,676	10,599,963	5,877,887	25,770,153
	1933-34	1,681,245	5,831,146	11,618,262	2,753,896	21,884,549
	1934-35	—	—	—	—	27,544,203

Conditions of Business

Kind of Insurance	Business Year	New Contracts		Contracts in force at the end Business Year	
		Number	Amount	Number	Amount
Accident	1930-31	111,069	100,145,000	105,814	78,694,000
	1931-32	96,318	118,015,000	88,004	89,274,000
	1932-33	115,344	132,700,000	97,907	104,977,000
	1933-34	224,595	199,925,000	206,709	172,879,000
	1934-35	186,198	204,813,000	174,957	160,728,000
Fire	1930-31	18,498,471	22,855,352,000	15,815,125	18,135,844,000
	1931-32	17,913,069	21,821,161,000	15,086,303	17,526,420,000
	1932-33	18,230,713	23,942,948,000	15,321,736	18,627,406,000
	1933-34	20,377,560	27,593,329,000	16,943,563	21,119,623,000
	1934-35	20,856,048	28,678,717,000	17,064,927	21,321,758,000
Marine	1930-31	4,158,871	6,473,136,000	707,156	1,338,530,000
	1931-32	4,437,864	5,962,947,000	778,466	1,359,601,000
	1932-33	4,509,510	7,044,774,000	805,934	1,619,671,000
	1933-34	5,140,252	7,874,981,000	884,104	1,796,231,000
	1934-35	5,983,524	9,676,112,000	975,081	2,056,947,000
Transportation	1930-31	1,637,266	3,648,717,000	76,887	180,731,000
	1931-32	1,603,594	3,303,935,000	72,783	175,673,000
	1932-33	1,638,537	4,156,334,000	75,037	258,971,000
	1933-34	1,744,067	5,521,416,000	82,913	334,900,000
	1934-35	1,921,836	6,067,066,000	96,020	296,399,000
Fidelity	1930-31	3,434	7,661,000	2,943	5,715,000
	1931-32	3,443	6,677,000	3,167	5,779,000
	1932-33	3,436	6,299,000	3,196	5,543,000
	1933-34	3,407	5,976,000	3,179	5,097,000
	1934-35	4,123	6,734,000	3,883	6,124,000
Engine and Boiler	1930-31	1,708	6,679,000	1,187	4,472,000
	1931-32	1,171	4,310,000	1,171	4,310,000
	1932-33	1,182	4,701,000	1,182	4,035,000
	1933-34	1,251	4,236,000	1,233	4,182,000
	1934-35	1,302	4,455,000	1,288	4,313,000
Automobile	1930-31	77,112	65,820,000	58,316	47,421,000
	1931-32	58,449	62,886,000	60,664	47,735,000
	1932-33	94,532	70,235,000	66,083	53,934,000
	1933-34	87,525	70,868,000	59,481	53,186,000
	1934-35	100,792	85,712,000	60,474	63,088,000

Kind of Insurance	Business Year	Number	Amount	Number	Amount
Burglary	1930-31	22,478	7,644,000	3,175	4,992,000
	1931-32	4,059	6,267,000	3,484	5,055,000
	1932-33	4,371	11,750,000	3,610	9,539,000
	1933-34	4,230	11,461,000	3,546	9,314,000
	1934-35	4,596	12,100,000	8,829	9,537,000
Glass	1930-31	242	66,000	227	60,000
	1931-32	234	62,000	229	61,000
	1932-33	293	136,000	278	129,000
	1933-34	345	129,000	326	120,000
	1934-35	397	199,000	391	192,000
Life	1930-31	704,167	1,254,493,000	5,310,878	7,113,828,000
	1931-32	793,909	1,430,733,000	5,492,808	7,643,858,000
	1932-33	842,215	1,438,364,000	5,658,350	8,065,173,000
	1933-34	1,056,220	1,756,493,000	6,029,271	8,806,589,000
	1934-35	1,286,437	2,144,302,000	6,702,346	10,049,122,000
Conscription	1930-31	146,688	110,367,000	1,016,055	530,370,000
	1931-32	155,493	127,652,000	1,023,636	611,867,000
	1932-33	226,217	189,255,000	1,080,047	677,968,000
	1933-34	268,296	223,925,000	1,229,857	806,593,000
	1934-35	317,963	249,392,000	1,398,454	934,953,000

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

PRINCIPAL FOREIGN INSURANCE COMPANIES IN JAPAN

Compiled by the Department of Commerce and Industry

(Amount in yen)

LIFE INSURANCE

Business Year	Business Conditions		Contracts in force at the end of business year	
	Number of Com-panies	Deposits with the Gov.	Number	Amount
1929-30	3	25,109,954	39,171	222,963,000
1930-31	3	27,189,420	41,162	239,064,000
1931-32	3	31,643,125	41,894	243,397,000
1932-33	3	31,708,560	38,957	220,780,000
1933-34	3	30,750,399	34,822	189,614,000

FIRE INSURANCE

Business Year	Number of Com-panies	Deposits with the Gov.	Premiums Received	Claims paid	New Contracts	Contracts in force at the end of business year
					Number	Amount
1929-30	26	5,523,845	5,482,014	4,020,954	584,985	1,947,773,000
1930-31	26	5,625,033	6,099,768	2,727,712	363,437	1,912,953,000
1931-32	26	5,677,337	5,008,450	2,345,005	287,047	1,516,256,000
1932-33	26	4,978,522	4,488,087	2,519,249	201,924	1,473,093,000
1933-34	26	5,192,902	5,164,637	1,944,304	291,280	1,648,619,000

MARINE INSURANCE

Business Year	Business Conditions		Contracts in force at the end of business year	
	Number of Com-panies	Deposits with the Gov.	Number	Amount
1929-30	16	4,166,196	18,531	50,002,000
1930-31	16	4,175,463	16,555	35,230,000
1931-32	16	4,111,716	18,767	34,548,000
1932-33	16	3,740,556	16,452	46,737,000
1933-34	16	3,954,937	20,583	76,146,000

INVESTMENTS OF HOME INSURANCE COMPANIES

The Insurance Year Book by the Department of Commerce and Industry

Year	Number of Companies	Advances				Loans on Securities	Loan on Companies, Policies	Loans to Public Bodies	Others	Total
		Mort-gages on Real Estates	Mort-gages on Factories, etc.	Mort-gages on Vessels	Loans on Securities					
1929-30	93	61,104	70,444	18,774	63,905	118,741	34,728	11,512	379,211	
1930-31	92	69,484	82,228	15,313	84,738	153,994	42,399	6,060	454,239	
1931-32	91	80,590	104,180	13,410	102,760	191,542	49,214	6,269	548,067	
1932-33	89	82,070	118,836	12,288	126,151	220,418	64,964	3,842	628,572	
1933-34	85	78,344	87,287	11,354	118,216	230,438	58,305	7,003	590,950	
1935 (June)		130,900	—	—	—	—	—	—	580,600	

Year	Securities				Total	Deposits with Banks	Grand Total	
	Government Bonds	Local Government Bonds	Debentures	Shares				
1929-30	120,556	71,015	356,167	340,806	41,497	930,042	278,657	1,582,910
1930-31	129,646	86,174	412,111	315,753	14,632	958,318	274,512	1,687,069
1931-32	120,596	94,026	460,749	305,498	17,744	998,604	261,370	1,808,041
1932-33	114,238	98,489	482,828	332,179	43,839	1,071,575	271,129	1,971,277
1933-34	128,469	130,871	513,099	441,031	49,196	1,262,669	335,077	2,188,696
1935 (June)	—	—	—	—	—	1,367,000	251,400	2,330,000

Leading Japanese and Foreign Insurance Companies

(1) JAPANESE CONCERNS

Life Insurance Companies	Est'd.	Meiji Fire	Est'd.
Teikoku Life	1888	Teikoku Marine and Fire	1893
Meiji Life	1893	Nippon Marine	1896
Yasuda Life	1894	Nippon Movables Fire	1898
Aikoku Life	1896	Tomei Fire and Insurance	1907
× Dai-ichi Life	1902	Toho Fire	1911
Taihei Life	1909	Chiyoda Fire	1913
Nisshin Life	1907	Taisho Marine and Fire	1918
Nippon Conscription	1911	Japan Automobile	1923
Nikka Life	1914	× Nippon Life	1889
× Fukoku Conscription	1923	Jinju Life	1894
Taiyo Life	1896	Dai-ichi Conscription	1898
Taisho Life	1913	× Chiyoda Life	1904
Toyo Life	1900	Sumitomo Life	1907
Nippon Kyoritau Life	1894	Mitsui Life	1914
Fukutoku Life	1912	× Japan Physicians' Mutual Relief	1919
Yurin Life	1894	Tokyo Fire	1888
Yokohama Life	1907	Nippon Fire	1892
Daido Life	1902	Osaka Marine and Fire	1883
Katakura Life	1921	Yokohama Fire and Marine	1897
Nippon Dantai Life	1934	Kobé Marine Transport and Fire	1907
Fukuju Life	1903	Okura Fire and Marine	1911
× Showa Life	1931	Teikoku Fire	1912
Fuji Life	1909	Fuso Marine and Fire	1917
Nippon Kyoiku Life	1896	Mitsubishi Marine and Fire	1919
Property Insurance Companies			
Tokyo Marine and Fire	1878		

Mark × represents companies of the mutual basis.

(2) FOREIGN INSURANCE CONCERNS

Sun Life Assurance Co. of Canada, Montreal (Tokyo Office)
The Manufacturers Life Insurance Co., Toronto (Japan Office, Tokyo)

The New York Life Insurance Co. (Japan Office, Tokyo)
 The London and Lancashire Insurance Co., Ltd. (Japan Office, Tokyo)
 The London Provincial Marine and General Insurance Co., Ltd. (Japan Office, Tokyo)
 The Northern Assurance Co., Ltd., London (Japan Office, Tokyo)
 The Phoenix Assurance Co., Ltd., London (Japan Office, Tokyo)
 The Guardian Assurance Co., Ltd., London (Japan Office, Tokyo)
 The New Zealand Insurance Co., Ltd., Oakland, N. Z. (Japan Office, Tokyo)
 Royal Exchange Assurance Corporation, London (Japan Office, Tokyo)
 Union Insurance Society of Canton, Ltd., Hongkong (Japan Office, Yokohama)
 The North China Insurance Co., Ltd., Shanghai (Japan Office, Yokohama)
 The Yangtze Insurance Association, Ltd., Shanghai (Japan Office, Yokohama)
 Union Assurance Society, Ltd., London (Japan Office, Yokohama)
 The London Assurance Corporation (Japan Office, Yokohama)
 L'Union Fire, Accident and General Insurance Co., Paris (Japan Office, Yokohama)
 The Palatine Insurance Co., London (Japan Office, Yokohama)
 Royal Insurance Co., Ltd., Liverpool (Japan Office, Tokyo)
 Norwich Union Fire Insurance Society, Ltd., Norwich (Japan Office, Tokyo)
 Caledonian Insurance Co., Edinburgh (Japan Office, Tokyo)
 The Netherlands Insurance Co., The Hague (Japan Office, Yokohama)
 The Liverpool & London & Globe Insurance Co., Ltd., Liverpool (Japan Office, Tokyo)
 The North British Mercantile Insurance Co., Ltd., London (Japan Office, Tokyo)
 The Yorkshire Insurance Co., Ltd., New York and London (Japan Office, Tokyo)
 The Sun Insurance Office, Ltd., London (Japan Office, Tokyo)
 The Law Union and Rock Insurance Co., Ltd., London (Japan Office, Yokohama)
 The Home Insurance Co., New York (Japan Office, Tokyo)
 The Continental Insurance Co., New York (Japan Office, Tokyo)
 The Hongkong Fire Insurance Co., Ltd. (Japan Office, Yokohama)
 The Canton Insurance Office, Ltd. (Japan Office, Yokohama)
 The Alliance Assurance Co., Ltd. (Japan Office, Yokohama)
 The Commercial Union Assurance Co., Ltd., London (Japan Office, Yokohama)
 The South British Insurance Co., Ltd., Oakland, New Zealand (Japan Office, Tokyo)

ASSOCIATIONS

Association of Life Insurance Companies of Japan, Tokyo (President, Mr. S. Hirose)
 Joint Fire Insurance Association of Japan, Tokyo (President, Mr. K. Kagami)
 Foreign Fire Insurance Association, Yokohama (President, Mr. James A. Dixon)
 Marine Insurance Association of Japan, Tokyo (President, Mr. K. Kagami)

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 8th, 1916, the former being put into effect on October 1st and the latter on August 20th 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 ¥20 up to ¥450.

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

4. If the insured die within one and a half year 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 seven kinds of the terms of 10 years, 15 years, 20 years, 25 years, 30 years, 35 years and 40 years. Infantile policies are, to present, either 15 years or 20 years endowment.

6. The age of a person to be newly insured must be between 3 and 60

years.

7. The Mortality Table constituting a basis for the computation of premium was compiled by adding 20% to the Mortality Rates of the Japanese population under Table No. 2 published in 1912 by the Government Statistics Bureau. The interest on premiums is 3½% per annum.

8. The premiums are to be paid monthly. Those who have difficulty in monthly payment of the premiums, such as seamen, emigrants and farmers, are allowed to pay the premiums in advance. In such case, the prescribed premiums are reduced.

9. The period within which premiums should be paid in 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 their limbs or becomes blind of both eyes, the future premiums need not be paid.

Besides whenever a policy has been in force for a period of thirty years and the insured person has arrived at 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 since 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 rebate.

13. A loan may be allowed on the application of the insurer, not exceeding the amount which is to be paid back on the cancellation of the insurance contract.

14. In order to maintain and promote the health of the Health Consultation Service Regulation, 1922, so far been established in 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 as far back as 1897, the authorities concerned thought it wise to introduce Post Office Life Insurance first and see how this would work, until, in 1926, changing social conditions and the maturing for the first time of the Post Office Life Insurance Endowment Policies gave favourable indications for the Annuity business, and a bill in this connection was introduced and unanimously approved by the Diet in March.

The main features of the system which came into operation on October 1st of the same year 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. Annuities that may be purchased are divided into:

(1) Immediate Life Annuities.

(2) Deferred Life Annuities.

(a) Annuities commencing at the age of 50.

(b) Annuities commencing at the age of 55.

(c) Annuities commencing at the age of 60.

(d) Annuities commencing at the age of 65.

3. The Post Office Life Annuities may be purchased either with or without provision for the return of the purchase money, and purchasers must select one of these two plans when they make their application.

4. The ages of persons entitled to become annuitants under this system must fall, in the case of Imme-

mediate Life Annuities between 40 and 80 inclusive and in the case of Deferred Life Annuities between 12 and 60 both inclusive.

5. The premium rates are calculated on the mortality rates by deducting 20 per cent. for males and 30 per cent. for females from the general 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 5 per cent. and under the single payment plan, such rate shall be determined, from time to time, by the Minister of Communications upon the basis of the current market price of public bonds. The rate is fixed at $5\frac{1}{2}$ per cent. for the present.

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

6. The maximum annuity that can be purchased on the life of any one person is ¥2,400, and the minimum is ¥120 under the instalment premium plan or ¥12 under the single premium plan.

7. Premiums are payable either in a single sum or by instalments; in the latter case, the premium payment is divided into four periods, namely, 10 year payment, 15 year payment, 20 year payment and ordinary payment, and the premium may also be paid yearly, half yearly or quarterly. All premiums are payable either at any post office de-

signed by the purchaser or at his residence to the collector.

8. In the case of an Immediate Annuity, the annuity will begin on the date of contract and continue from that time until the death of the annuitant. In the case of a Deferred Annuity, the annuity will begin on the date of the annuitant's reaching a certain specified age and continue from that time until the death of the annuitant.

9. Annuitants are given the right, subject to certain conditions to claim a change in their contracts.

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

11. Provided a contract reserves the right for the purchaser or the annuitant to claim refund of premiums paid, such person may avail himself of a cash loan of not more than 50% of the premiums paid, provided that the sum is not less than ¥20 per contract, or, if the proceeds are to be applied to the payment of the premium, a sum equal to one year's premiums.

12. Annuitants or purchasers are requested, before bringing a civil action against the Government in respect of their contract, to submit their cases before the Post Office Life Insurance Committee of Inquiry.

13. A special account is established of the management of this business.

POST OFFICE LIFE INSURANCE

Compiled by the Bureau of the Post Office Life Insurance, the
Department of Communications
(Amount in Yen)

Financial Year	New Contracts			Revivals		
	Number	Premiums	Sums insured	Number	Premiums	Sums insured
1930-31	2,434,292	2,308,475	857,792,091	131,351	103,096	17,871,493
1931-32	2,800,819	2,453,427	888,633,808	166,531	129,941	22,318,260
1932-33	2,883,356	2,412,634	871,027,787	177,421	139,271	23,628,101
1933-34	3,095,872	2,647,666	417,989,686	114,735	93,230	15,618,247
1934-35	3,150,881	2,827,243	453,306,720	78,796	65,404	10,842,614

Financial Year	Number	Death		Expirations		Surrenders, Lapses and from other Causes			
		Pre-miums	Sums insured	Num-ber	Pre-miums	Sums insured	Number	Pre-miums	Sums insured
1930-31	186,446	153,736	25,691,415	25,413	19,962	1,918,265	1,255,103	1,194,688	196,626,198
1931-32	200,888	168,270	27,915,317	55,302	43,466	4,487,420	1,644,375	1,362,097	226,778,654
1932-33	213,312	178,664	29,531,662	113,022	105,125	10,719,540	1,344,789	1,174,600	194,708,465
1933-34	238,634	201,423	33,086,753	133,608	144,528	14,803,961	964,867	869,237	144,324,826
1934-35	257,699	216,605	35,608,107	202,282	249,120	23,283,353	804,643	762,455	129,779,381

Financial Year	Number	Net Increase		Contracts in Force at the End of the Financial Year		
		Premiums	Sums insured	Number	Premiums	Sums insured
1930-31	1,098,631	1,043,185	151,427,706	15,626,700	12,623,224	2,101,365,710
1931-32	1,166,785	1,000,535	151,770,677	16,793,485	13,632,759	2,253,136,887
1932-33	1,589,702	1,093,274	159,657,564	18,183,187	14,725,033	2,412,793,951
1933-34	1,874,499	1,525,230	241,389,396	20,057,686	16,251,313	2,654,183,347
1934-35	1,964,853	1,664,566	273,477,991	22,022,539	17,915,879	2,927,661,338
1935 (Dec. 31)	—	—	—	23,745,419	19,470,286	3,210,253,636

Welfare Service for the Insured

Health service is one of the subjects which have commanded constant attention since the very inception of the system of Post Office Life Insurance in this country. Of the various kinds of health campaigns which have been embarked upon by the Bureau with a view to maintain-

ing and promoting the health of the insured, the establishment of the Health Consultation Offices was first realized in 1922. At present there are 154 offices in cities and larger towns of the country. The Central Office is in charge of the work of replying to any consultation involving any of the following:

- 1) Serochemostrical research
- 2) Biochemical research
- 3) Bacteriological research
- 4) Roentgen diagnosis
- 5) Hygienic research
- 6) Animal experiment
- 7) Complicated diagnosis of initial tuberculosis, carcinoma, etc.

POST OFFICE LIFE ANNUITIES

Compiled by the Bureau of the Post Office Life Insurance,
Department of Communications
New Contracts

Financial Year	Kind of Annuities	Num-ber	Pre-miums		Deaths	
			Yen	Amt. of Annuities Yen	Num-ber	Pre-miums Yen
1930-31	Immediate Annuities	3,474	4,478,709	365,582	274	275,224
	Deferred Annuities under the Single Premium Plan	14,725	3,239,005	1,062,176	895	65,612
	Deferred Annuities under the Instalment Premium Plan	15,187	523,801	2,114,633	446	16,206
1931-32	Immediate Annuities	3,398	4,272,465	348,952	417	418,408
	Deferred Annuities under the Single Premium Plan	12,996	2,823,411	896,390	811	77,951
	Deferred Annuities under the Instalment Premium Plan	16,751	561,973	2,271,458	458	13,764
1932-33	Immediate Annuities	4,609	5,536,318	487,472	476	445,484
	Deferred Annuities under the Single Premium Plan	15,235	3,524,887	1,093,903	1,047	134,418
	Deferred Annuities under the Instalment Premium Plan	16,077	544,602	2,170,603	426	15,948
1933-34	Immediate Annuities	5,413	6,536,965	501,012	560	628,061
	Deferred Annuities under the Single Premium Plan	16,537	4,771,335	1,327,205	1,148	124,324
	Deferred Annuities under the Instalment Premium Plan	19,642	827,548	2,751,437	551	21,117

Financial Year	Kind of Annuities	New Contracts			Deaths		
		Num-ber	Pre-miums	Amt. of Annuities	Num-ber	Pre-miums	Amt. of Annuities
			Yen	Yen		Yen	Yen
1934-35	Immediate Annuities	4,718	5,089,198	353,611	725	725,571	65,442
	Deferred Annuities under the Single Premium Plan	11,825	3,370,317	684,037	1,213	152,323	56,722
	Deferred Annuities under the Instalment Premium Plan	28,215	1,577,225	4,212,438	634	22,454	75,795
Total		44,758	10,036,741	5,255,086	2,572	900,348	197,959
		Surrenders			Cancellation of Contracts by Statutes		
		Num-ber	Pre-miums	Amt. of Annuities	Num-ber	Pre-miums	Amt. of Annuities
			Yen	Yen		Yen	Yen
1930-31	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	2,725	334,600	129,368	—	—	—
	Deferred Annuities under the Instalment Premium Plan	7,484	212,259	898,585	1,455	35,429	186,750
1931-32	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	2,852	328,619	127,687	—	—	—
	Deferred Annuities under the Instalment Premium Plan	3,202	224,190	935,121	3,624	53,160	444,652
1932-33	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	2,779	281,530	112,070	—	—	—
	Deferred Annuities under the Instalment Premium Plan	7,765	204,255	926,669	3,380	59,806	420,100
1933-34	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	2,132	239,415	86,066	—	—	—
	Deferred Annuities under the Instalment Premium Plan	5,929	155,830	700,918	2,821	49,844	348,068
1934-35	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	1,889	257,792	87,122	—	—	—
	Deferred Annuities under the Instalment Premium Plan	5,804	178,479	696,713	2,887	59,464	357,194
Total		7,693	436,271	783,835	2,887	59,464	357,194

Financial Year	Kind of Annuities	Increase (+) or Decreased Contracts in Force at the End of the Financial Year.					
		Num-ber	Pre-miums	Amt. of Annuities	Num-ber	Pre-miums	Amt. of Annuities
			Yen	Yen		Yen	Yen
1930-31	Immediate Annuities	+ 36	+13,742	+338	12,053	13,161,213	1,087,487
	Deferred Annuities under the Single Premium Plan	- 35	-58,258	-10,679	133,284	14,825,919	6,176,519
	Deferred Annuities under the Instalment Premium Plan	- 52	-103,181	-358,798	66,268	2,070,198	8,322,023
1931-32	Immediate Annuities	+ 70	+31,610	+1,813	15,104	17,046,880	1,394,604
	Deferred Annuities under the Single Premium Plan	+ 68	-70,547	-13,250	142,451	16,572,213	6,894,915
	Deferred Annuities under the Instalment Premium Plan	- 76	-91,490	-391,629	70,659	2,244,567	8,800,552
1932-33	Immediate Annuities	+ 114	+81,760	+5,610	19,351	22,219,474	1,796,918
	Deferred Annuities under the Single Premium Plan	- 90	-76,205	-13,953	153,769	19,704,948	7,813,778
	Deferred Annuities under the Instalment Premium Plan	- 87	-98,568	-281,697	75,077	2,410,553	9,290,540

1933-34	Immediate Annuities	+ 90	-65,371	+4,630	24,294	28,193,749	2,345,669
	Deferred Annuities under the Single Premium Plan	- 69	-63,424	-14,227	167,007	24,044,120	8,989,045
	Deferred Annuities under the Instalment Premium Plan	- 55	-71,181	-228,148	85,363	2,940,178	10,698,043
1934-35	Immediate Annuities	+ 185	+146,095	+19,731	28,472	32,703,381	2,549,569
	Deferred Annuities under the Single Premium Plan	- 81	-122,530	-20,258	175,650	26,881,999	9,509,030
	Deferred Annuities under the Instalment Premium Plan	- 150	-176,762	-342,302	104,103	4,080,244	18,488,478

Loans and Investment Loans and investment of the Post Office Life Insurance Fund totalled ¥759,896,198 in 1934 as against ¥650,440,881 in 1933; ¥557,603,911 in 1932; ¥454,067,209 in 1931; and ¥356,849,980 in 1930. Of the total ¥197,613,671 was loans for public welfare enterprises; ¥97,525,840 was against policies of the Post Office Life Insurance it-

self; ¥116,489,821 against governmental bonds and securities and ¥265,581,610 against commercial securities, and ¥80,832,164 was in deposit at the Deposit Bureau and ¥370,000 in the vault of the Post Office Life Insurance Bureau in cash. For a further information see the table below:

LOANS AND INVESTMENT OF THE P.O.L.I. FUND
At the end of March, each year
(in yen)

	1930	1931	1932	1933	1934
Free lodging houses	¥643,202	¥624,952	¥599,584	¥571,561	538,941
Easy eating houses	157,664	147,532	141,248	133,668	129,414
Public markets	5,510,167	5,969,456	5,136,193	5,274,586	5,031,142
Common benefit of retail traders	4,684	4,514	24,336	23,297	18,014
Cost Price Medical Service Work	2,167,377	2,305,532	2,438,280	2,356,453	2,230,100
Maternity hospitals	243,966	255,881	252,184	248,309	242,554
Public tuberculosis asylums	291,502	271,910	1,099,182	941,557	1,043,152
Redemption of old debts incurred for the running of public tuberculosis asylums	16,862	30,031	30,031	172,937	1,043,152
Labour exchanges	351,770	304,542	255,416	242,211	225,549
Public Pawn Shops	1,000,916	1,470,060	1,570,545	1,530,751	1,582,612
For redemption of old loans incurred for the running of public pawn shops	15,000	37,000	44,198	120,172	1,582,612
Day nurseries	284,547	268,308	258,922	240,959	222,123
Public bath houses	114,595	101,263	95,227	101,030	90,933
Establishment and maintenance of landed farmers	57,300,932	72,993,015	85,068,173	97,407,642	110,738,252
Local improvement & adjustment of boundaries	441,151	598,796	1,620,648	1,594,312	1,943,123
Petty amount industrial fund	—	80,000	578,048	933,324	133,306
Advances of travelling expenses for persons placed in employments and daily advances for day-labourers	505,000	505,000	504,600	4,180	3,962
Residences	11,127,776	10,732,860	10,009,401	9,390,534	8,424,216
Redemption of old debts incurred for the building of residences	13,512	13,025	11,985	10,383	8,424,216
Epidemic hospitals	2,705,373	3,095,918	2,921,332	2,827,729	2,214,257
Redemption of old debts incurred for the building of epidemic hospitals	577,429	549,452	494,537	453,578	2,214,257
Sewerage	9,450,135	11,256,492	12,129,728	12,951,452	14,005,991
Redemption of old debts incurred for the aforesaid purpose	8,832,250	9,053,517	8,933,537	8,524,231	14,005,991
Garbage equipment	1,154,530	1,215,470	1,321,748	1,477,951	613,968
Cooperative use of farm tools	2,155,731	2,300,963	2,113,861	2,127,529	2,124,705
Primary schools	42,130,534	41,731,120	36,539,071	33,886,447	20,959,879
Redemption of old debts incurred for the aforesaid purpose	4,518,328	4,477,763	3,928,192	3,316,921	20,959,879
Business continuation schools	50,680	36,300	28,337	48,666	42,843
Public hospitals	598,154	562,046	509,826	523,749	558,163
Redemption of old debts incurred for the aforesaid purpose	117,106	65,231	117,590	196,029	558,163

Water works	22,280,618	27,592,535	32,101,736	33,914,413	} 16,818,483
Redemption of old debts incurred for the aforesaid purpose	10,517,817	16,254,453	19,594,883	18,724,771	
Cooperative equipments for aquatic industry	1,149,913	1,190,489	1,219,122	1,329,670	
Adjustment of arable lands	477,330	313,211	132,125	70,161	
Office buildings in cities, towns and villages	351,933	334,063	316,900	404,822	
Advances against insurance policies	32,791,655	50,046,822	67,871,575	85,452,269	
	1930	1931	1932	1933	1934
Others and Total	22,859,226	268,995,585	302,978,321	333,173,405	295,189,511
Investment against Government bonds	55,556,997	69,769,984	87,918,050	105,700,083	116,489,821
Investment against other securities	49,514,322	71,186,405	126,029,787	142,200,252	265,581,610
Deposits at the Deposit Bureau	27,594,037	44,045,235	38,911,752	74,245,436	80,832,164
Cash on hand	3,325,298	70,000	1,776,000	1,121,700	370,000

State Live-Stock Insurance

The live stock insurance is making a steadily prosperous business. In March, 1930 there were only 6 societies engaged in this live stock insurance business, with only 1,304 head having been insured. In March, 1930 the aggregate amount

insured was ¥127,622 which increased to ¥19,491,871 in March, 1934 and to ¥27,423,940 in March, 1935 with premiums received increasing from ¥2,166 in March, 1930 to ¥642,962 in March, 1935. The following shows the business results of the last 5 years:

March of	Insurance societies	Insured cattle	LIVE STOCK INSURANCE		Claims paid
			Insured amount	Premiums received	
			Yen	Yen	Yen
1931	102	41,474	4,156,117	83,277	20,749
1932	173	96,450	8,207,310	165,042	104,514
1933	209	173,891	13,024,819	279,630	167,002
1934	234	263,550	19,491,871	424,650	278,808
1935	241	367,542	27,423,940	642,962	365,603

LIVE STOCK INSURANCE CLASSIFIED BETWEEN HORSES AND CATTLE

March of		Insured Number of animals	LIVE STOCK INSURANCE CLASSIFIED BETWEEN HORSES AND CATTLE	
			Insured Amount	Premiums
1931	{ Cattle	80,899	2,947,205	49,179
	{ Horses	10,572	1,208,912	34,098
1932	{ Cattle	66,939	5,470,796	88,423
	{ Horses	29,511	2,736,514	76,619
1933	{ Cattle	108,818	8,005,567	129,468
	{ Horses	65,073	5,018,952	150,142
1934	{ Cattle	165,856	12,306,058	203,019
	{ Horses	98,194	7,195,813	221,631
1935	{ Cattle	237,950	19,088,118	322,162
	{ Horses	129,592	9,335,822	320,800

State Health Insurance

On March 31, 1934, the number of labourers holding policies in the State Health Insurance was 2,001,481, an increase of 281,282 as compared with the previous year. Of the total, 1,965,026, or 98 per cent., were compulsorily insured; the number of contracts under Government control was 1,294,926 (65%) as against 706,555 (35%) of contracts under the control of 345 health insurance associations.

In 1933-34, the amount paid out to the beneficiaries reached ¥26,636,928 for 6,495,694 cases, an increase of ¥2,872,623 and 819,324 cases as compared with the previous year. Of the total number of cases the sickness comprised as much as 88 per cent. and the wounded 10 per cent. In the same fiscal year the premiums collected totalled ¥29,304,218 an increase of ¥3,184,697 as compared with the previous year. For full particulars figures follow:

HEALTH INSURANCE

March of	Total	HEALTH INSURANCE		
		Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1929	1,933,613	1,901,550	31,847	—
1930	1,899,893	1,871,236	28,317	216
1931	1,547,780	1,518,476	28,868	340
1932	1,633,237	1,599,230	33,823	436
1933	1,720,199	1,634,509	35,530	184
1934	2,001,481	1,965,026	36,455	—

UNDER GOVERNMENT'S CONTROL

March of	Total	UNDER GOVERNMENT'S CONTROL		
		Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1929	1,160,953	1,158,740	2,024	—
1930	1,146,258	1,143,997	1,921	189
1931	933,633	930,072	3,180	340
1932	1,047,553	1,043,702	3,667	431
1933	1,122,141	1,117,478	4,503	184
1934	1,294,926	1,290,439	4,487	—

UNDER CONTROL OF HEALTH INSURANCE ASSOCIATIONS

March of	Number of Associations	Total	UNDER CONTROL OF HEALTH INSURANCE ASSOCIATIONS		
			Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1929	343	772,660	742,810	29,823	—
1930	349	753,635	727,239	26,396	27
1931	345	614,097	588,404	25,688	—
1932	345	585,684	555,528	30,156	5
1933	347	598,058	567,031	31,027	—
1934	345	706,555	674,587	31,968	—

PREMIUMS COLLECTED & INSURED MONEY PAID OUT

During	Premium	Insured Money Paid Out	PREMIUMS COLLECTED & INSURED MONEY PAID OUT			
			Total	Under Government's Control	Under Control of Health Insurance Association	
			Premium	Insured Money Paid Out	Premium	Insured Money Paid Out
1929-29	36,817,377	33,149,373	18,735,546	16,655,833	18,081,831	16,493,535
1929-30	37,128,505	31,050,430	18,864,142	17,664,505	19,264,164	16,395,925
1930-31	33,213,428	32,723,084	17,754,974	17,593,322	15,453,454	15,129,762
1931-32	27,582,195	26,512,962	15,598,925	14,854,272	11,933,270	11,658,690
1932-33	26,119,521	23,764,305	15,177,291	13,648,413	10,942,230	10,115,892
1933-34	29,304,218	26,636,928	17,370,322	15,218,077	11,933,896	11,418,851

Actuarial Work

The Japanese Government began in 1927 the actuarial work of compiling "New Experience" mortality tables from the materials of ordinary life policies in 19 home life insurance companies, whose records escaped from burning in the Great Earthquake and Fire of 1932. The materials of the 19 companies used for this comprehensive work were for males 3,565,574 policies with

¥3,854,943,000, for females 1,116,549 policies with ¥892,335,000, covering the period of 15 years from 1912. The work was conducted under the special charge of the Insurance Bureau in the Ministry of Commerce and Industry, using perforated cards and statistical machines of the Hollerith Accounting Company. After four full years the work was completed, at the end of March, 1931. Some important features of this New Table are as follows:

(1) An unprecedentedly large number of materials was used.

(2) The computation of the rate of mortality was by the policy year method, the age at entry was taken from the nearest birthday and the duration by the nearest method.

(3) The number of policies and amounts insured are both used as the basis for determining "qx" (the Japanese 3 Life Office Table is based on the lives insured only). In Full Aggregate Tables the rate of mortality and the expectation of life based on amounts insured are very favourable, for both males and females of every age. But in Truncated Tables the same tendencies were not observed.

(4) Deaths from influenza 1918-1920 (for males 6,143 policies with ¥4,351,000, for females 2,200 policies with ¥1,353,700) and from the great Earthquake-Fire of 1923 (for males 2,336 policies with ¥3,215,500, for female 1,117 policies with ¥1,066,500) were included in the materials. The effects were found to be about 4%.

(5) Days of grace were excluded in computing the rates of mortality (contrary to the practice in Japanese 3 Life Office Table) causing about 2% plus (males and females) in the Full Aggregate Table, but in the Truncated Aggregate Table the

influence has not been so markedly observed.

(6) In Japan, before 1872, the lunar calendar system was used, so the ages of the persons who were born before 1872 have been recalculated on the solar calendar system.

(7) Compared with the Japanese 3 Office Table the rate of mortality in the New Full Aggregate Table shows very favourable tendencies except for men between the ages of 25 and 40, and in New Truncated Aggregate Tables the tendencies are quite remarkable. If allowances were to be made for the points mentioned in (4) and (5) there are good reasons to believe that the experienced mortality in Japan would show better figures throughout every age.

(8) Compared with Japanese Population Table No. 4, the figures in the New Table for males are less than those of the Population Table except for old ages; and for females except for middle ages, they are higher than those of the Population Table.

(9) The following tables show the comparisons of the New Japanese Experience Table, Japanese 3 Office Table and Japanese Population Table No. 4, which is prepared by Mr. Takejiro Sumio, an actuary:

FULL AGGREGATE TABLE

(Male)

Age x	New Experience Table				Japanese 3 Office Table		Population Table No. 4	
	JPM		JAM		JM		qx	ex
	qx	ex	qx	ex	qx	ex		
10	.00262	46.42	.00285	47.05	.00499	46.195	.00817	46.53
15	.00346	42.82	.00557	42.77	.00648	42.403	.00597	42.31
20	.00981	38.94	.00975	39.41	.00890	38.969	.01080	39.10
25	.00841	35.71	.00789	35.16	.00792	35.628	.00951	36.06
30	.00730	32.05	.00687	32.46	.00718	31.914	.00828	32.59
35	.00772	28.18	.00732	28.54	.00764	28.028	.00871	28.87
40	.00950	24.30	.00908	24.61	.00935	24.118	.01053	25.18
45	.01295	20.03	.01273	20.82	.01373	20.350	.01371	21.49
50	.01856	16.97	.01785	17.25	.02028	16.906	.01862	18.02
55	.02751	13.71	.02694	13.95	.02857	13.763	.02527	14.77
60	.04134	10.99	.04071	11.05	.04378	10.960	.03915	11.87
65	.06127	8.58	.05779	8.51	.06084	8.640	.05705	9.31

Age x	New experience Table				Japanese 3 Office Table		Population Table No. 4	
	JPM		JAM		JM		qx	ex
	qx	ex	qx	ex	qx	ex		
70	.09203	6.13	.08828	6.28	.08233	6.422	.08480	7.11
75	.13681	4.41	.13291	4.48	.13335	4.583	.12446	5.31
80	.20158	3.04	.19864	3.06	.19044	3.233	.18274	3.87
85	.29177	2.01	.29215	1.99	.27574	2.156	.26469	2.77
90	.41079	1.26	.41772	1.22	.38983	1.356	.37276	1.95
95	.55588	0.73	.57174	0.69	.53333	733	.51059	1.37

TRUNCATED AGGREGATE TABLE

(Male)

Age x	New Experience Table				Japanese 3 Office Table	
	JPM (3)		JAM (3)		JM (5)	
	qx	ex	qx	ex	eq	ex
10	.00293	46.01	.00319	46.15	.00705	44.051
15	.00551	41.71	.00538	41.89	.00862	40.651
20	.01082	38.39	.01115	38.55	.01199	37.656
25	.00947	35.36	.00965	35.55	.01024	34.825
30	.00805	31.87	.00802	32.09	.00820	31.376
35	.00823	28.09	.00811	28.32	.00818	27.601
40	.00980	24.26	.00968	25.48	.00992	23.734
45	.01306	20.52	.01328	20.74	.01485	20.040
50	.01862	16.97	.01828	17.21	.02171	16.692
55	.02748	13.71	.02714	13.94	.03004	13.645
60	.04135	10.79	.04076	11.05	.04490	10.927
65	.06127	8.28	.05779	8.51	.06084	8.640
70	.09203	6.13	.08828	6.28	.08233	6.422
75	.13681	4.41	.13291	4.48	.13335	4.583
80	.20158	3.04	.19864	3.06	.19044	3.233
85	.29177	2.01	.29215	1.99	.27574	2.156
90	.41079	1.26	.41772	1.22	.38983	1.356
95	.55588	0.73	.57174	0.69	.53333	0.723

FULL AGGREGATE TABLE

(Female)

Age x	New Experience Table				Population Table No. 4	
	JPF		JAF		qx	ex
	qx	ex	qx	ex		
10	.00426	45.41	.00362	45.66	.00371	47.00
15	.01089	41.75	.01060	41.93	.00901	43.12
20	.01366	39.42	.01377	39.58	.01208	40.38
25	.01194	36.97	.01185	37.15	.01117	37.72
30	.01061	34.02	.01042	34.19	.01045	34.69
35	.01043	30.75	.01012	30.89	.01073	31.44
40	.01053	27.31	.01035	27.41	.01134	28.09
45	.01114	23.70	.01115	23.79	.01132	24.58
50	.01439	20.07	.01466	20.18	.01382	20.95
55	.01929	16.61	.01907	16.75	.01839	17.43
60	.02653	13.31	.02607	13.41	.02540	14.12
65	.04167	10.26	.04318	10.41	.03977	11.10
70	.06612	7.70	.06647	7.97	.06157	8.44
75	.10135	5.50	.09814	5.98	.09585	6.21
80	.15356	3.93	.14170	4.39	.15026	4.41
85	.22888	2.64	.20056	3.14	.23315	3.04
90	.33300	1.69	.27794	2.18	.35351	2.04
95	.46779	1.02	.37604	1.46	.51107	1.36

CHAPTER XIII

AGRICULTURE

General Survey

Shogunate to Meiji Era Under the Tokugawa Shogunate farmers were restricted as to the kinds of their products, while the favoured few were given license for the exclusive cultivation of sugar cane and a few other products. Not only did the statutory ban come direct from the Shogunate, but feudal clan governments, in their turn, put on their own restrictions and handed out their own favours. The farmers were unable to escape from these restrictions, one feudal government might be less strict than another and the tendency would be for an efflux of farmers from the areas with stringent regulations to the areas more lenient, but the Government prevented such migration by prohibiting the sale of cultivated land. As the feudal clans strove after the attainment of a position of self-sufficiency in food-stuffs, the majority of the farmers were compelled to centre their energies on the production of rice and barley, the main foods of the Japanese people.

Export Ban Raised Like the Tokugawa régime, the Meiji Government concentrated its energy on agricultural development, but in a more informed manner. The export of rice and barley, which was banned by the Tokugawas, was permitted by the Meiji Government from January, 1872, the fifth year of Meiji, and since then the export of rice has been made free in principle, although limits have been imposed occasionally, and for short times,

because of the need of regulating the price of rice. The reason for the Government initiating rice exports was that it had decided to break away from the centuries' old custom of having taxes paid in rice and accept monetary payments only. It possessed a large amount of rice in its warehouses, an amount which was ever increasing, and this fact prompted it to dispose of its stocks abroad to prevent the drop of rice prices and avert the consequent blow to Government finance. The Government consigned the rice to a British trading concern, Walsh and Hall. The export lasted for two years, to January, 1874, and during this period 1,197,843 koku were shipped to Hongkong, Amoy, Shanghai, Swatow, Fukien, Sydney, Melbourne, London and San Francisco. By this sale, the Government obtained ¥4,925,905. Trade conditions abroad at the time were very bad and the amount the Government received was about ¥1,420,000 less than was expected might be realized from a sale at home, but it had the desired effect of preventing a fall in domestic prices. After all, the greater part of the rice had been taken over, without payment from the Tokugawa Shogunate and feudal clans, so the Government was by no means a loser on the transaction, and the farmers benefited as farm products were emancipated from all restrictions on trading. The Tokugawa ban on the sale of land was removed in part in 1872. By removing the ban the Meiji Government recognized the private ownership of land and, furthermore, made the sale and

mortgaging of it easy by adopting a system of land certificates.

Relief of Unemployed Samurai The majority of samurai were naturally thrown into unemployment by the Restoration of Meiji, and as they were the warrior class their unemployment was a great menace to the new Government. In order to give them proper employment the Government decided to encourage them in agricultural pursuits and as Hokkaido, the Ogasawara (Bonin) Islands, Sambongihara (Aomori prefecture) and Koganegahara (Chiba prefecture) required developing, the Government, in concert with former feudal lords, sent batches of samurai immigrants to these districts. A liberal subsidy was given to them, and as the results proved satisfactory the Government was successful in tiding over the possible crisis coming from a sudden increase of jobless samurai.

The Komaba School Toshimichi Okubo, one of the greatest figures of the Restoration, concentrated his energy on agricultural development. The Komaba Agricultural School, Tokyo, predecessor to the College of Agriculture of the Tokyo Imperial University, was founded in 1877 through his efforts. The Government protection for agricultural development was thoroughgoing. The appropriation of funds, establishment of agricultural schools and experimental stations, importation and application of Western agricultural technique, plantation of beet sugar, sheep-raising, cattle-breeding and sundry other necessary steps for agricultural improvement were adopted.

Agricultural Encouragement

The Government Activities George A. H. Hall, an American agricultural expert, was engaged by the Government in 1871 as an adviser on live-stock breeding and farming.

The importation of cotton seeds from the Netherlands, the opening of the Komaba Agricultural Experimental Station, and sundry other enterprises were undertaken. In 1875, the Government sent abroad officials and students to study agriculture. A sheep-raising industry was sanctioned and an eight year plan to bring the industry to an advanced stage of efficiency was devised. Farms were selected in three villages in Chiba prefecture and the enterprise was under the supervision of American experts. Sheep were imported from Australia, America and China. The Senju Woollen Cloth Manufacturing Co., still in existence under Government management, was established in September, 1879. Beet sugar cultivation was started with the erection of a sugar refining mill at Mombetsu, Hokkaido, in 1879, with Government support. The expenses were ¥136,460. Work was started in 1881. The plantation area was 120 cho, and this was divided and allotted to 440 farm houses. Due to inexperience only 15,000 kin of sugar were produced and the plan to manufacture 700,000 kin of sugar yearly ended in failure. All these protective steps of the Government came to an end with the death of Okubo and the farming industry was left to look after itself until 1890.

New Ministry Created The Government in April, 1881, established the Ministry of Agriculture and Commerce, against public opinion, but its general policy seemed to be one of *laissez faire* and, in consequence, various Government enterprises were transferred to private management. For the ten years from the Sino-Japanese War, 1894-95, to the Russo-Japanese War, 1904-5, a policy of protection was resorted to, and various protective measures were adopted, such as enforcement of the Japan Hypothec Bank Law, Agricultural

and Industrial Bank Law, Arable Land Readjustment Law, Agricultural Society Law, Co-operative Society Law, Staple Produce Traders' Association Law, and the Prefecture Agricultural Experimental Station Treasury Subsidization Law.

Purpose of Measures Taken Not only were these measures intended for to protect the farmers from troubles peculiar to their own industry but also to protect them from the increase of troubles arising from the growth of other industry and competition with foreign farm products. Farm products in Japan were diminishing in quantity and quality through sundry conditions, such as the climate, labour wages and Japan's changing social and international relations. With the promotion of foreign trade, cheaper-priced farm products such as raw cotton, indigo and beans began to be imported in large quantities and, when the occupation of Formosa as the result of the Sino-Japanese War resulted in a rapid expansion of sugar cultivation in that region, large-scale enterprises at home were rendered unnecessary. The import tariff on raw cotton was cancelled in April, 1896, and domestic plantations ceased to exist.

Subsidies and Tariff After the Sino-Japanese War bankruptcy was very rife among the farmers and relief was given to them by the passing of the Agricultural Society Law in 1899, by which the societies were to be given an annual subsidy of ¥150,000. In 1906, rice and unhulled rice were taken off the free list and a duty of 64 sen per 100 kin was imposed on their importation, the tariff on barley was raised to 57 sen from 10.1 sen per 100 kin and that on wheat raised to 47 sen from 15.3 sen per 100 kin and, in 1911, the tariff on rice and unhulled rice was

raised to ¥1 and that on wheat to 77 sen.

Other Encouragement During the first decade or so of the century the Government also paid much attention to agriculture in other directions, for instance, the Treasury was authorized to subsidize research into and relieve sericulturists whose silk-worms had suffered from disease. An Increased Mulberry Growth Encouragement Fund, Land Improvement Encouragement Fund, Insect Ravage Prevention Fund and certain other funds and subsidies were paid out of the Treasury. As foreign rice and wheat were heavily imported agricultural interests suffered, a suffering that was not mitigated by the inflow of new capital, for capital was now being centralized in the cities and farmers, ever in constant financial difficulties, were compelled to borrow from money lenders at high rates of interest. Educated landlords found it advisable to give up farming and rural communities lost their leadership while urban industry gained.

The World War The World War promptly affected agriculture. Production in foreign countries fell, and as the prices of agricultural products rose Japanese foodstuffs were exported in large quantities. In 1914 the export value of cereals, flour and starch totalled ¥9,000,000, in the following year it increased to ¥24,000,000, in 1916 it was ¥36,000,000, in 1917 it was ¥79,000,000, and in 1918 passed the ¥100,000,000 mark. There was also an increased home demand, the cities were enjoying unprecedented prosperity and while the prosperity lasted the farmers benefited, but with the termination of the war reaction set in, prices dropped, and agriculture found itself in the well of depression from which it has not yet extricated itself. The largest area under cultivation was

6,162,000 chobu, in 1921, but since then the area has kept declining.

Gold Embargo The replacement of the gold embargo enabled Japan to dodge the immediate settlement of its most important domestic problem, that of the farmers. The factors entering the equation were many and complicated, bearing directly not only upon the living standards of the agricultural community, which constitutes 46 per cent. of Japan's population, but upon the solvency of the banks. Before the re-imposition of the gold embargo, rice was selling at ¥17 per koku, against a cost of production estimated at about ¥30. Making up this high cost of production were dear money (the farmer pays 10 or 11 per cent. on his borrowings), high taxes (the farmer with a profit pays more than double the merchant with a profit and infinitely more when profits are lacking), the cost of fertilizers, and the cost of living (forced upward over a period of years by a rising tariff wall). Inability of the farms to pay taxes and interest had forced down the prices of real estate. Between the financial panic of 1927 and the replacement of the gold ban in December, 1931, such prices had fallen between 30 and 50 per cent., depending on locality. Lenders on rural real estate were carrying paper losses of between ¥500,000,000 and ¥625,000,000 the figure representing the difference between the current market price of the land and the amounts due, including defaults in interest and instalments. The losses represented between 20 and 25 per cent. of the value of the total agricultural mortgages outstanding.

An Analysis Assuming that the ¥2,700,000,000 of outstanding loans were on a 50 per cent. basis, the value of the land involved is ¥5,400,000,000, or 41 per cent. of the total value of

farmlands in 1931, and the average amount of debt on each cho of land on which borrowings have been made is ¥2,058, an average of ¥226 a year in interest alone. The interest burden on each koku of rice produced on such debt-laden land is ¥12.20. If the 1924 valuation of ¥5,680 per cho were taken as averaged, the debt burden per debt-laden cho would rise to ¥2,813, and the annual interest burden per koku of rice to ¥16.70.

Land Value According to the investigation of the Hypothec Bank of Japan in March, 1935, the average value of land, which had kept declining since 1926 became stationary in 1933 and then began to rise in 1934, reached ¥415 per tan with paddy fields, a rise of ¥17 or 4.3 per cent. and ¥247 with farms, a rise of 7 or 2.9 per cent., as compared with the previous year.

AVERAGE VALUE OF AGRICULTURAL LAND (March, 1935)

Class	(per tan in yen)	
	Paddy Field	Upland
First	540	354
Second	415	247
Third	279	149

The reasons for the rise in land value in 1935 may be found in the stability of agricultural industry because of the fixing of the minimum price of rice by the Rice Control Law, high price of rice in the year, the low interest rate which quickened the demand for arable land, gradual effect of the measures taken for the economic improvement of agricultural villages and the increased income of farmers from side-work stimulated by the general boom of industries in cities.

Farm Households and Arable Land

Farm Households Number of farm households totalled 5,617,486 at the end of 1934, which figure holds 44%

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Farm Households and Arable Land

Farm Households Number of farm households totalled 5,617,486 at the end of 1934, which figure holds 44%

of the total number of households in Japan proper. Comparison with that of the previous year indicates a decrease of 4,049 (0.1%).

As classified by those principally engaged and those subsidiarily engaged in agriculture, the figure consists of 4,144,218 (74%) of the former, increasing by 19,166 (0.5%) and 1,473,268 (26%) of the latter, lower by 22,215 (1.5%), both as compared with the figures of the previous year.

Farm households cultivating their own lands numbered 1,740,219 (31%), while the number of tenant-farmers and households cultivating their own lands together with those leased being 1,508,319 (27%) and 2,368,948 (42%) respectively.

The trend followed by those cultivating their own lands during the past ten years and those cultivating their own lands together with those leased has been a slow growth, tenant-farmers indicating a tendency towards decline in number recently.

As classified by size of agricultural area operated, number of farm households of those operating area under 0.50 ha. 1,918,507 (34%), those ranging from 0.50 ha. to under 0.99 ha. 1,921,420 (34%), those from 0.99 ha. to under 1.98 ha. 1,250,818 (22%), and those from 1.98 ha. and over 526,841 (10%).

To summarize, those operating on a small scale have been increasing, while those on a medium and a large scale showed a marked drop.

Owners of Arable-lands Number of owners of arable-lands totalled 5,096,195 at the end of 1934 decrease-

ing from that of the previous year by 23,741 (0.05%). When divided according to area owned, this figure is made up of those owning area under 0.50 ha. which leads the list, being 2,519,322 (49.5%), those owning from 0.50 ha. to under 0.99 ha. numbering 1,289,449 (25.3%). In this way the more the area, the less the number of owners, and so those owning 49.59 ha. and over are only 3,547 (0.1%) in number. In the light of the tendency during the previous ten years uninterrupted increase is traceable in the total number, while by reference to the tendency of number fluctuation according to area owned, those under 2.98 ha. are pursuing a steady upward course, those owning more than 2.98 ha. showing the reverse trend.

Area of Arable-lands Area of arable-lands at the end of 1934 was computed at 5,987,747.50 ha., occupying 15% of the total area of Japan proper. This figure consists of 3,191,841.62 ha. (54%) of rice-fields and 2,795,905.88 ha. (46%) of upland-farms. Comparison of these figures with those of the previous year indicates decrease of 7,128.59 ha. (0.2%) on the part of the former and increase of 15,936.19 ha. (0.6%) on the latter.

Classified into those cultivated by owners of lands and those by tenant-farmers, area cultivated by the former was 3,172,579.93 ha. (53%), increasing by 13,391.00 ha. (0.4%), the latter being 2,815,167.57 ha. (47%), lower by 4,583.40 ha. (0.2%), both as against the figures of the previous year.

FARM HOUSEHOLDS AND ARABLE LANDS IN JAPAN PROPER

(Compiled by the Ministry of Agriculture and Forestry)

Year (At the year end)	FARM HOUSEHOLDS				
	1930	1931	1932	1933	1934
Total	5,599,670	5,633,800	5,642,509	5,621,535	5,617,486
Households principally engaged in agriculture	4,041,682	4,090,585	4,116,678	4,126,052	4,144,218

FARMERS, ARABLE LANDS

Year (At the year end)	1930	1931	1932	1933	1934
Households subsidiarily engaged in agriculture	1,557,988	1,545,215	1,525,831	1,495,483	1,473,268
Classified by the mode of tenure of the lands					
Households cultivating their own lands	1,742,293	1,756,399	1,754,537	1,745,847	1,740,219
Tenant-farmers	1,486,133	1,495,310	1,498,596	1,499,855	1,508,319
Households cultivating their own lands together with those leased	2,370,544	2,382,091	2,389,376	2,375,833	2,368,948
Classified by the size of agricultural area under operation					
Under 0.50 ha.	1,939,404	1,941,488	1,936,419	1,920,943	1,918,507
0.50 ha. — 0.99 "	1,916,367	1,933,172	1,933,219	1,927,660	1,921,420
0.99 " — 1.98 "	1,227,417	1,236,880	1,242,863	1,247,517	1,250,818
1.98 " — 2.98 "	316,525	319,747	324,294	319,351	321,088
2.98 " — 4.96 "	130,169	130,078	129,523	129,529	129,209
4.96 ha. and over	69,248	72,985	76,191	76,835	76,444

Excluding owners of arable-lands not engaged in cultivation.

OWNERS OF ARABLE-LANDS

Year (At the year end)	1930	1931	1932	1933	1934
Total	5,064,945	5,095,447	5,120,839	5,119,936	5,096,195
Under 0.50 ha.	2,524,633	2,535,438	2,546,089	2,550,437	2,519,322
0.50 ha. — 0.99 "	1,256,899	1,273,214	1,286,050	1,284,076	1,289,449
0.99 " — 1.98 "	895,932	899,128	903,41	899,506	900,677
1.98 " — 2.98 "	224,844	224,983	222,327	222,779	223,977
2.98 " — 4.96 "	112,941	112,869	112,449	113,104	112,681
4.96 " — 9.92 "	45,812	46,052	46,270	46,400	46,542
9.92 " — 49.59 "	3,884	3,763	3,738	3,634	3,547

ARABLE LANDS

Year (At the year end)	1930	1931	1932	1933	1934
Total	5,867,101.09	5,904,607.83	5,942,563.44	5,978,939.90	5,987,747.50
Cultivated by owners of the lands	3,066,146.96	3,120,478.81	3,183,032.93	3,159,188.93	3,172,579.93
Cultivated by tenant-farmers	2,800,954.11	2,784,129.02	2,804,530.51	2,819,750.97	2,815,167.57
Rice-fields	3,177,749.55	3,185,312.92	3,193,845.89	3,195,970.21	3,191,841.62
Cultivated by owners of the lands	1,471,615.83	1,484,729.55	1,490,420.73	1,496,365.29	1,493,518.41
Cultivated by tenant-farmers	1,706,133.72	1,700,583.87	1,702,925.16	1,702,604.92	1,698,323.21
Upland-farms	2,689,351.54	2,719,294.91	2,749,217.55	2,779,969.69	2,795,905.88
Cultivated by owners of the lands	1,594,531.15	1,635,749.26	1,647,612.20	1,662,823.64	1,679,061.52
Cultivated by tenant-farmers	1,094,820.39	1,083,545.65	1,101,605.35	1,117,146.05	1,116,844.36

Value of Production

The total value of production by 5,617,486 farm-households in 1934 amounted to ¥3,205,484,021 (¥570.00

per household) including farm products, minor industries, live stock, cocoons, raw silk and forestry production. (For details of the last three items see following chapters.)

of the total number of households in Japan proper. Comparison with that of the previous year indicates a decrease of 4,049 (0.1%).

As classified by those principally engaged and those subsidiarily engaged in agriculture, the figure consists of 4,144,218 (74%) of the former, increasing by 19,166 (0.5%) and 1,473,268 (26%) of the latter, lower by 22,215 (1.5%), both as compared with the figures of the previous year.

Farm households cultivating their own lands numbered 1,740,219 (31%), while the number of tenant-farmers and households cultivating their own lands together with those leased being 1,508,319 (27%) and 2,368,948 (42%) respectively.

The trend followed by those cultivating their own lands during the past ten years and those cultivating their own lands together with those leased has been a slow growth, tenant-farmers indicating a tendency towards decline in number recently.

As classified by size of agricultural area operated, number of farm households of those operating area under 0.50 ha. 1,918,507 (34%), those ranging from 0.50 ha. to under 0.99 ha. 1,921,420 (34%), those from 0.99 ha. to under 1.98 ha. 1,250,818 (22%), and those from 1.98 ha. and over 526,841 (10%).

To summarize, those operating on a small scale have been increasing, while those on a medium and a large scale showed a marked drop.

Owners of Arable-lands Number of owners of arable-lands totalled 5,096,195 at the end of 1934 decreas-

ing from that of the previous year by 23,741 (0.05%). When divided according to area owned, this figure is made up of those owning area under 0.50 ha. which leads the list, being 2,519,322 (49.5%), those owning from 0.50 ha. to under 0.99 ha. numbering 1,289,449 (25.3%). In this way the more the area, the less the number of owners, and so those owning 49.59 ha. and over are only 3,547 (0.1%) in number. In the light of the tendency during the previous ten years uninterrupted increase is traceable in the total number, while by reference to the tendency of number fluctuation according to area owned, those under 2.98 ha. are pursuing a steady upward course, those owning more than 2.98 ha. showing the reverse trend.

Area of Arable-lands Area of arable-lands at the end of 1934 was computed at 5,987,747.50 ha., occupying 15% of the total area of Japan proper. This figure consists of 3,191,841.62 ha. (54%) of rice-fields and 2,795,905.88 ha. (46%) of upland-farms. Comparison of these figures with those of the previous year indicates decrease of 7,128.59 ha. (0.2%) on the part of the former and increase of 15,936.19 ha. (0.6%) on the latter.

Classified into those cultivated by owners of lands and those by tenant-farmers, area cultivated by the former was 3,172,579.93 ha. (53%), increasing by 13,391.00 ha. (0.4%), the latter being 2,815,167.57 ha. (47%), lower by 4,583.40 ha. (0.2%), both as against the figures of the previous year.

FARM HOUSEHOLDS AND ARABLE LANDS IN JAPAN PROPER

(Compiled by the Ministry of Agriculture and Forestry)

(Year (At the year end)	FARM HOUSEHOLDS				
	1930	1931	1932	1933	1934
Total	5,599,670	5,533,800	5,642,509	5,621,535	5,517,486
Households principally engaged in agriculture	4,041,682	4,090,585	4,116,678	4,126,062	4,144,218

FARMERS, ARABLE LANDS

Year (At the year end)	1930	1931	1932	1933	1934
Households subsidiarily engaged in agriculture	1,557,988	1,543,215	1,525,831	1,495,483	1,473,268
Classified by the mode of tenure of the lands					
Households cultivating their own lands	1,742,993	1,756,399	1,754,537	1,745,847	1,740,219
Tenant-farmers	1,486,133	1,495,310	1,498,596	1,499,855	1,508,319
Households cultivating their own lands together with those leased	2,370,544	2,382,091	2,380,376	2,375,833	2,368,948
Classified by the size of agricultural area under operation					
Under 0.50 ha.	1,939,404	1,941,488	1,936,419	1,920,943	1,918,507
0.50 ha. — 0.99 "	1,916,367	1,933,172	1,933,219	1,927,660	1,921,420
0.99 " — 1.98 "	1,227,417	1,236,380	1,242,863	1,247,517	1,250,818
1.98 " — 2.98 "	316,525	319,747	324,294	319,351	321,088
2.98 " — 4.96 "	130,169	130,078	129,523	129,529	129,209
4.96 ha. and over	69,248	72,035	76,191	76,835	76,444

Excluding owners of arable-lands not engaged in cultivation.

OWNERS OF ARABLE-LANDS

Year (At the year end)	1930	1931	1932	1933	1934
Total	5,064,945	5,095,447	5,120,338	5,119,936	5,096,195
Under 0.50 ha.	2,624,633	2,535,438	2,546,089	2,550,437	2,519,322
0.50 ha. — 0.99 "	1,256,809	1,273,214	1,286,050	1,284,076	1,289,449
0.99 " — 2.98 "	895,932	899,128	903,41	899,506	900,677
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Cultivated by owners of the lands	1,471,615.83	1,484,729.55	1,490,420.73	1,496,365.29	1,493,518.41
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Cultivated by owners of the lands	1,594,531.15	1,635,749.26	1,647,612.20	1,662,823.64	1,679,061.52
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The total value of production by 5,517,486 farm-households in 1934 amounted to ¥3,205,484,021 (¥570.00

per household) including farm 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 1934

(In Yen)	
Cereals	1,660,995,963
Leguminous plants	64,019,732
Tuber and root crops	175,875,097
Industrial crops	98,338,371
Vegetables	94,016,595
Fruit	69,644,146
Flowers	1,351,930
Nursery stock of fruit and mulberry trees	4,206,706
Green manure crops	20,191,940

Tea	22,858,823
Live stock production	205,579,277
Cocoons	208,871,290
Raw silk	417,414,865
Wood and bamboo	167,119,286
Total	3,205,484,021

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 Colonies	Total
1926	5,500,031	59,704,286	9,541,387	74,745,704
1927	5,967,771	55,592,820	12,670,239	74,230,830
1928	5,765,541	62,102,541	11,255,519	79,123,601
1929	7,840,192	60,303,089	8,909,410	77,052,691
1930	7,027,557	59,567,694	8,602,411	75,187,662
1931	5,719,241	66,875,535	11,486,145	84,080,961
1932	9,140,247	55,215,263	11,602,116	75,957,626
1933	8,907,000	60,390,098	12,747,000	82,045,000
1934	9,007,000	70,829,000	13,744,000	93,582,000
1935	16,389,000	51,840,000	13,043,000	81,271,000

DEMAND

	Exports including those to Colonies	Carried forward to next year	Consumption	Total population in Japan Proper	Per capita consumption
1926	539,081	5,967,771	68,238,852	60,267,000	1.132
1927	1,284,285	5,765,541	67,181,004	61,190,000	1.098
1928	985,164	7,840,192	70,298,245	62,127,000	1.132
1929	539,307	7,027,557	69,485,827	63,078,000	1.102
1930	539,963	5,717,117	68,930,582	64,450,000	1.076
1931	1,963,389	9,140,247	72,977,325	64,366,000	1.124
1932	631,613	8,907,430	66,418,583	66,296,000	1.007
1933	623,000	9,007,000	72,413,000	67,238,000	1.090
1934	681,000	16,380,000	76,510,000	68,194,000	1.142
1935	790,000	9,942,000	70,539,000	69,251,000	1.018

Each rice year begins with November of the previous year and ends with October, and production of the year before in 1924 represents the crop in the autumn of 1923.

Korean Rice Crop The total rice crop in Korea for 1934 totalled 16,554,000 koku, a decrease of 1,639,000 koku from the 1933 total. Since rice is more expensive than millet, the Korean eats millet imported from Manchuria and exports his rice to Japan. That, at least, is

the theory. In recent years, however, the Korean Government-General's efforts to promote rice production have been so successful that the imports of millet no longer occupy the important position they once did. Korea is consuming more rice. Figures follow :

RICE CONDITION IN KOREA

Year	Production	Foreign rice imports (In 1,000 koku)	Exports to Japan Proper
1924	13,219	926	4,428
1925	14,773	804	5,213
1926	15,300	821	5,903
1927	17,298	361	7,068
1928	13,511	429	5,377
1929	13,703	386	5,167
1930	19,183	17	7,929
1931	15,873	233	7,197
1932	16,346	106	7,100
1933	18,192	0	7,990
1934	16,554	—	8,955

Formosan Rice Crop Formosa had a good crop in recent years and consequently exported more to Japan proper. Its gains more than offset the Korean losses. The 1934 production of rice was also on the increase,

the crop being 8,934,155 koku, and the 1935 production 8,906,033 koku. Its export to Japan proper is also on the increase, the 1934 export figure being 5,123,783 koku against 4,216,824 koku of the previous year.

RICE CONDITION IN FORMOSA

Year	Production	Foreign rice imports (In 1,000 koku)	Exports to Japan Proper
1926	6,101	403	2,437
1927	6,637	799	2,703
1928	6,841	287	2,387
1929	6,451	551	2,172
1930	7,111	68	2,071
1931	7,516	5	2,663
1932	8,072	149	3,333
1933	8,666	43	4,123
1934	8,934	0	5,123
1935	8,906	—	—

The Uses of Rice In the following there is shown rice consumption as classified by uses in 1930 :

Uses	Consumption (In 1,000 koku)	Percentage of total
Seeds	816	1.1
Eating	59,471	86.4
Making Saké	3,593	5.2
Making Mochi (rice cake)	3,393	4.9
Making Miso (bean mash) and Soy	478	0.6
Making Cake and Amé (Jelly)	774	1.1
Paste	35	—
Others	213	0.3
Total	68,776	100.0

1935 Rice Crop The yield of rice in 1935 was 57,456,976 koku. When this is compared with the yield of 1934, it shows an increase of 5,616,794 koku (18 per cent.), but a decrease of 3,573,063 koku (5.9 per cent.) when compared with the average of the preceding five years. The acreage of plantation was 3,204,105.2 cho and the average yield per tan in the whole country was 1.793 koku. The acreage of plantation and the yield in Japan proper in the last five years follow :

(The units are cho and koku)

Year	Acreage of Plantation	Yields
1930	3,239,321.6	66,875,535
1931	3,348,719.5	55,215,263
1932	3,257,009.4	60,390,098
1933	3,173,203.3	70,829,117
1934	3,172,810.6	51,840,182
1930-1934	3,218,212.9	61,030,039
5 year average	3,204,105.2	57,456,976

Estimates on the Demand and Supply
Estimates on the demand and supply of rice for the 1936 rice year based on the actual yield of rice in 1935 as given above are as follows:

(Unit is 1,000 koku)

Supply	
Stock carried forward	9,940
Actual yields	57,450
Imported	
From Korea	9,000
From Formosa	5,000
Total	81,897
Demand	
Consumption	71,000
Exports	460
Total	71,460
Balance to be carried to the next year	9,937

Of the balance of 9,937,000 koku approximately 6,300,000 koku, which consists of 5,580,000 koku old rice of previous years and 720,000 koku new rice, is held by the Government.

VALUE OF CEREAL PRODUCTION IN JAPAN PROPER

Total		1931	1932	1933	1934	1935
Area	ha.	4,970,291.20	4,998,713.86	4,947,186.47	4,944,215.71	—
Production (Value)	yen	1,086,126,373	1,414,859,457	1,680,499,165	1,660,995,963	—
Rice						
Area	ha.	3,221,870.58	3,230,611.74	3,147,809.9	3,146,587.44	3,177,698.08
Production	yen	913,181,567	1,235,023,997	1,433,590,419	1,384,621,927	1,611,431,032
Wheat						
Area	ha.	496,999.93	504,512.53	611,381.55	643,138.02	658,327.63
Production	yen	53,60,653	66,649,413	114,032,716	121,743,980	131,091,448
Oats						
Area	ha.	118,086.74	127,042.02	127,154.88	119,406.55	121,286.68
Production	yen	7,144,137	5,582,912	8,141,403	12,393,484	9,664,957
Barley						
Area	ha.	377,250.05	376,931.11	344,424.50	329,003.40	339,122.36
Production	yen	42,476,675	36,976,527	44,127,198	51,164,962	57,100,667
Naked barley						
Area	ha.	471,457.88	475,724.83	434,042.38	420,877.69	436,079.70
Production	yen	51,837,992	48,932,510	55,518,156	71,293,670	77,279,880
Other cereals						
Area	ha.	284,626.02	283,891.63	282,323.31	285,292.61	—
Production	yen	17,879,349	21,694,098	25,089,273	19,778,340	—

Other Farm Production

Leguminous Plants Area of leguminous plants in 1934 was 641,765.26 ha., with increase of 8,573.85 ha. (1.4%) and the production was valued at ¥64,019,732 which is lower than that of the previous year. Dur-

Soy-beans	336,378.84 ha.	3,902,774 hl.	¥ 29,185,101
Azuki beans	119,491.24 ..	1,126,554 ..	10,391,320

Tuber and Root Crops Area cultivated with tuber and root crops in 1934 was 619,289.89 ha. and the value realized from their production was ¥175,875,097, the former advancing by 10,291.05 ha. (2.9%), while the latter decreased by ¥7,028,356 (4.0%)

ing the past decade area has been pursuing a slow, downward movement, while a sharp reduction experienced by production was more than made good by the increase of 1933. Soy-beans and azuki (red) beans are predominant both in area and production.

than those of the previous year. The review of the past decade points to yearly lowering both in area and production. From the standpoint of area and production, sweet potatoes, radishes, satoimo and potatoes are predominant.

Sweet potatoes	265,960.76 ha.	3,037,048,500 kg.	¥ 64,996,967
Radishes	104,978.78 ..	2,358,374,900 ..	34,952,676
Satoimo (taro)	52,386.96 ..	578,005,500 ..	23,563,417
Potatoes	184,505.62 ..	1,270,116,200 ..	26,257,233

Industrial Crops Area cultivated with industrial crops in 1934 amounted to 257,447.30 ha. and the production was valued at ¥98,338,371, the former being 17,788.76 ha. (7.4%) above, the latter ¥6,037,283 (6.5%) higher, both as compared with the corresponding figures of the previous year.

Chief products are summarized below:

Tobacco	65,976,435 kg.	¥ 30,636,263
Sugar cane	975,551,795 ..	9,145,659
Rapeseed	1,624,463 hl.	12,570,506
Rush	74,432,505 kg.	8,463,143
Insecticide flowers	7,798,856 kg.	10,574,195

Vegetables Area under vegetables in 1934 was 204,726.05 ha. and the value of the production was estimated at ¥94,016,595. Increase of 10,249.88 ha. (5.3%) and decrease of

Mandarins	267,678,338 kg.	¥ 18,220,246 (26.2%)
Persimmons	235,596,780 ..	10,826,991 (15.5%)
Pears of native origin	149,650,166 ..	9,312,597 (13.4%)
Apples	131,643,889 ..	8,525,207 (12.2%)
Grapes	60,836,179 ..	5,211,307 (7.5%)

Tea Tea manufactured in 1934 was 44,204,360 kg. in quantity and ¥22,858,823 in value, the former increasing by 717,199 kg. (1.6%) and the latter by ¥1,649,544 (7.2%) as against the figures of the previous year. 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 of prices.

Livestock and Poultry (1) Horses Horses at the end of 1934 numbered 1,469,289, consisting of 832,738 (57%) female and 631,551 (43%) male. Foals and horses perished totalled 110,629 and 27,789 respectively. The increase in number dur-

ing the past decade has been very slow, often tending towards decline.

(2) Cattle Cattle at the end of 1934 numbered 1,614,798 (female, 1,206,672; male, 408,126), being 54,960 (3.5%) above the corresponding figure of the previous year. Calves and cattle perished numbered 252,229 and 14,530 respectively. The tendency of the past ten years was a steadily increasing one.

(3) Swine Number of swine at the end of 1934 totalled 980,738, showing increase of 67,236 (7.4%) over against that of the previous year. During the year there were 721,908 litters, and swine perished numbered 85,402. The raising of

¥733,144 (0.8%) were witnessed in comparison with figures of the previous year.

Chief products are given below:

Water-melons	498,478,392 kg.	¥ 10,536,836
Tsukenn	740,089,935 ..	14,706,059
Egg-plants	429,022,695 ..	13,841,271
Cucumbers	256,062,851 ..	9,716,221
Negi (onion)	243,683,865 ..	8,581,237
Pumpkins	272,379,409 ..	8,360,207

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 1934 numbered 35,953 and 253,758 respectively, both 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 cannot be said yet to be prevalent in spite of this marked progress.

(5) Fowls The total number of fowls at the end of June, 1934 was 53,315,720 (valued at ¥34,040,650), showing increase of 3,404,726 (4.7%) as compared with the previous year. During the past ten years the number has increased nearly by 100 per cent.

Livestock Production (1) Milk The quantity of milk obtained in 1934 amounted to 2,368,225 hl. valued at ¥27,877,875, increasing by 232,811 hl. (10.9%) as compared with that obtained in the previous year. The number of cows milked during the same year was 94,187 at the year end.

(2) Meat and Animals Slaughtered The number of slaughter-houses in 1934 was 696 and the number of animals slaughtered and the quantity of meat obtained were as follows:

Number of Animals Slaughtered

Horses	39,835 (6.3%)
Cattle	297,017 (50.7%)
Calves	28,635 (0.2%)
Swine	974,140 (67.0%)
Sheep	1,376 (0.1%)
Goats	43,557 (0.3%)
Total	1,433,560

Quantity of Meat Obtained

Horses	12,229,227 kg.	¥5,317,634
Cattle	50,955,311 ..	42,271,906

Calves	1,375,950 kg	¥870,785
Swine	48,406,815 ..	27,251,981
Sheep	27,465 ..	24,235
Goats	342,282 ..	147,987
Total	113,337,050 ..	75,884,478

As compared with those of the previous year the number of animals slaughtered and the quantity of meat obtained showed a decrease of 34,800 (2.4%) and 3,151,563 kg. (2.7%) while the value increased by 437,983 (0.6%).

(3) Dairy and Meat Products Dairy production in 1934 amounted to 25,636,942 kg. valued at ¥18,483,174, both increasing (14% in the former and 11.8% in the latter) as compared with the corresponding figures of the previous year. Meat products in 1934 totalled 2,389,500 kg. valued at ¥2,406,475, the former showing a decrease of 90,731 kg. (3.7%) and the latter an increase of ¥201,147 (9.1%) as against those of the previous year.

(4) Eggs Number of eggs obtained during the year ending June, 1934 was as follows:

	Number (in 1,000)	Value
Fowl's	3,535,071	¥76,898,665
Duck's	5,482	405,438

Both kinds of eggs advanced in value as compared with those of the previous year.

During the past decade the production of eggs has shown a substantial increase especially as regards fowl's eggs whose production in 1931 more than doubled the figure of 1922.

Present and Future of Agrarian Communities

General Survey According to Tatsunosuké Yamazaki, former Minister of Agriculture and Forestry, the economic conditions in farm-villages have followed the steps of economic

conditions in general. Taking 1929 as the base, the agrarian economy showed a depression in 1930 and after, but it began to show a slight turn for the better in 1933. In the following year, however, disasters of all kinds, which gave a heavy blow to crops, and the slump in the silk market checked the advance of economic recovery in farm-villages. Prices of agricultural products in 1930 fell to 60 per cent. of 1929 and in the following two years they fell still lower, that is, to 50 per cent. In 1933 the percentage rose to 70, but, in 1934, it declined to 57 again.

In 1935 economic conditions of farm-villages became much better than the preceding years. The main factors for the betterment were the rise in the price of rice due to the bad crop of the previous year, activities in the silk market in the year and the effect of the relief measures carried out by the central and local governments for the past three years. As a result, complaints and demands of farmers have largely disappeared and farm-villages are quiet as compared with the previous year.

The 1935 rice crop was a little less as compared with the average of recent years, but much greater than in the previous year. Cocoon price rose from spring to autumn. The growth of the summer-autumn silkworms was not ideal and the cocoon crop for the fall did not reach the 40,000,000 kan mark of the average year. But it was estimated at 35,000,000 kan and the rise of price probably more than recompensated the loss sustained by the poorer crop. The country was not entirely free from natural calamities in this year either, but the area afflicted was limited to a few prefectures. The agrarian economic condition as seen through the income tax was about the same as it was inferred from various other angles.

The economic condition of agrarian families varies according to districts and the nature and standard of each family; but it is as a whole far from satisfactory. According to investigations made by the Ministry of Agriculture and Forestry of 300 households chosen for the purpose, the average annual income of each in 1932 was but ¥620.00. There is a small excess of income over disbursement in the average, but, more than 80 show a deficit. These 300 households represent the middle class of farmers, cultivating on an average 1.20 ha.

This poor economic condition of farm-villages does not of course originate in 1930 and after. It has become worse together with the general depression in Japan's economy in these years, but its much slower recovery as compared with that of urban industrial and commercial circles suggests that causes are deep rooted and worked out a general weakening of farm-village economics.

One of such causes is the small holding of land of each farmer, it being a little over one hectare in Japan proper including Hokkaido. Of the total number of farm households in Japan proper those who cultivate less than 0.5 ha. comprise 34 per cent., and from 0.5 ha. to 1.00 ha. again 34 per cent., so that nearly 70 per cent. of all Japanese farmers belong to the poor class of farmers called "Gotan Byakushō" or "Half a hectare farmer." The second cause lies in the fact that farm-villages have not been able to keep in line with the rapid progress of the country's industry and commerce since the Restoration. The third cause may be found in the fact that the man force on the farm has become poorer. The percentage of the number of productive men from 20 to 45 in the agrarian community is much lower than in the municipal-

ities. The tendency is that a large portion of productive men is drawn to factories, and the juveniles and the aged are left on the farm.

In 1932 the cry for relieving the farm communities was so strong that the Saito Cabinet was compelled to scheme out an extraordinary measure. The first plan was to use approximately ¥600,000,000 for villages in three fiscal years from 1932 to 1934. The natural calamities in 1934, however, made the continuation of the relief work indispensable and the Okada Cabinet provided for an additional ¥20,000,000. About ¥60,000,000 of the total, however, was for the years following 1936, and the real addition for 1934 and 1935 was ¥140,000,000; so that ¥740,000,000 in all was disbursed from the national treasury for relief work during the 4 years. Local governments added certain amounts to this in accordance with their respective capacities and special needs in their own districts and the sum total of the relief funds is estimated at over ¥1,000,000,000. But the relief mainly concerned itself with the temporary need of villages and the money was largely spent as wages for villagers hired in public works to provide means for their daily needs. The relief work, therefore, failed to reach the core of the problem.

Line of Solution For the fundamental solution of the economic condition in villages a definite scheme must be mapped out along the lines which the causes of depression mentioned above will suggest. As to the area of land cultivated by each farm-household there are contradicting opinions. Some insist upon the need of doubling at least the area for each. This means, however, a lessening of the number of farm-households to about a half. The number of farm-households is 5,600,000

(45%) against 12,500,000 of the total number of households in Japan proper. So when the households engaged in forestry and fishery are added to the former the total number of households in villages comprises nearly 50 per cent. To decrease this percentage by one-half, as the above measure would suggest, is not a matter which can be easily undertaken. So the plan fails.

There seems, therefore, to be no other way for the relief of farm villages than the common-sense measure of increasing income and decreasing disbursement. For the increase of income diverse ways may be suggested. An increase and selection of farm products is one. Another source of increase in income may be found in the cultivation of rice. There exists much room for the betterment of the quality and increased crops of rice. For the third the expansion of foreign markets for tea, rapeseed and oranges may be mentioned. In this connection the fact that tulips, lily bulbs, pyrethrum, etc. are in increasing demand may be added. In the fourth place a curtailment in the imports of agricultural products may be taken into consideration. For instance, the import of soy beans amounting to ¥50,000,000 annually may easily be stopped. Wheat is another commodity whose imports over 3,000,000 koku annually three or four years before, may be considerably curtailed. The encouragement of its cultivation by the Ministry of Agriculture and Forestry has resulted in nearly making it a product of self-sufficiency and of a superior quality suitable for export is produced and taken by foreign markets, the production of an additional 3,000,000 koku is not impossible. Eggs have become self-sufficient in recent years, and now the surplus can be easily exported when freezing devices be-

come perfect. As to cotton Japan cannot raise a superior quality, but the production of wadding cotton to the amount of 50,000,000 kin at home is possible. Brans of various kinds used as animal food are annually imported to the amount of ¥30,000,000, but this can be eliminated by domestic production. Cattle for beef may also be raised to supply domestic demand which is now short by about 130,000 head.

As regards the second item, that is the reduction of disbursement, improvements of waterways and transportation facilities may help much in lessening the cost of production. One of the most important problems in this connection is that of manure. At present the total amount of money spent for manure in Japan proper reaches nearly ¥200,000,000 annually. It is impossible to do away entirely with chemical and animal fertilizers, but it seems true that too much money is being spent for it. Much of it may be replaced with farm-yard and green manures, etc. Side by side with this, means must be found to lower the price of fertilizers. Further it must be added that cheaper supply of electricity is desirable.

Another important point of improvement in this connection is in the administration of local matters. Centralization seems to have gone too far in Japan so that local affairs are often handled without due attention to local needs and conditions. The system, therefore, must be changed so as to enable plans to be made out first by local communities and carried out by themselves as far as possible within their own power and means, and in case of and to the extent of the real need of relief from outside only the central government should come to help for the completion of the plans. As the result of encouragement by the authorities

many a farm village has awakened to their own responsibility in these years and, if this tendency continues to prevail in future, many of their fundamental problems will be solved.

Industrialization of farm-villages is insisted upon by many scholars such as Dr. Ōkōchi, President of the Scientific Research Institute. Manufacturing of minor parts or accessories may be subcontracted by farm-villagers with enterprisers.

In connection with the burden upon farmers taxes cannot be overlooked. They are pretty heavy and are commonly considered nearly twice as much as industrialists and merchants' taxes. The average annual taxes per farm-household amount to about ¥58, 35 per cent. of which fills the national coffers, while the remaining 65 per cent. goes to local treasuries as prefectural, town, or village taxes. Local taxes are naturally much higher in prefectures where there are no large cities. As an evidence thereof the fact may be cited in the case of income tax 70 per cent. of the total of the whole country is borne by Tokyo, Osaka, Kyoto, Hyogo, Kanagawa, Aichi, and Fukuoka prefectures, where there are large cities. Small towns and villages mostly depend in their finances upon house rate, which averages ¥14.89 per house annually.

Formerly tenant disputes mostly concerned themselves with farm-rent and were led by labour unions. Today they are largely to do with the right of tenancy. The ownership of farm land is moving from villagers to the people in town or from poor landed farmers to rich landowners, and the number of demands to cancel tenancy rights on the part of landowners is fast increasing. Naturally tenant disputes have become a matter between landowner and his tenants instead of a movement en masse. This is one of many re-

sults of the economic depression, for land is often taken over by bankers as the mortgage expires or purchased by wealthy people in town and then the tenancy rights become an important question. Over the past 10 years the Ministry of Agriculture and Forestry has been taking measures to cope with the situation and succeeded in creating nearly 150,000 landed farmers. But this number is not large enough to change the whole situation. Seventy per cent. of farmers are either tenants or semi-tenants and the problem of tenancy right continues to be a grave one.

Indirect Taxes on Farmers. The Ministry of Agriculture and Forestry conducted an investigation concerning national and local taxes borne directly by farmers. It also undertook an investigation of indirect taxes borne by farmers, such as taxes on liquors, sugar excise, tobacco monopoly, etc., taking 336 representative farm-households as an index.

The results showed that the annual average amount per household paid for consumption taxes is ¥13,501 or 1.82 per cent. of its income. The greatest burden is that of saké which constitutes 50 per cent. of the total consumption taxes borne by farm-households. The volume of saké annually consumed by each farm-household averages 18 shō against the average of 34 shō for each household throughout Japan proper. Of the 336 farm-households of which the investigation was made 76 (little over 20 per cent.) were dry. Indirect taxes on tobacco and sugar comprise nearly 40 per cent. of the income. The money spent for clothing occupies the first place among the articles purchased in cash. Yet most of it is invested in cotton textiles, which is exempt from textile consumption tax, and the rate of indirect tax borne for clothing mate-

rials by farmers is comparatively low. The burden due to the consumption of beer and table waters is negligible.

Agricultural Economics

General Economic Condition For convenience' sake, 24 good farming households, which the Department of Agriculture and Forestry have selected from 11 prefectures in the country for investigation will be mentioned.

The landed farmers described below are those whose households consist of 6.29 people on the average (of which 3.93 people work). They cultivate soil of 1.328 cho on the average, rents to others a piece of land of 0.059 cho and owns 0.835 cho of forest. The tenant farmer household under survey comprises 6.88 people (of whom 4.43 people work). They cultivate 1.535 cho and work on 0.137 cho of forests. Both of these landed and tenant farmers are comparatively well-to-do ones of their respective classes and it must be understood that most of their fellow farmers are not as well off as they.

Cash Accounts Detailed accounts of receipts and expenditures in cash of the landed and tenant farmers will be first examined to see therein the social character of farmers' economics. Cash receipts here consist of incomes from the sales of agricultural crops, from side-lines, from application of various properties, and from domestic work. It does not include money drawn from savings deposits, repayment of loaned money, insurance, award from mutual financial aid association, etc. In the instance of expenditures, too, interest on money borrowed, repayment of the principal, insurance premium, instalment in mutual loans are excluded.

TABLE 1. RECEIPTS AND EXPENDITURES OF FARMHOUSEHOLD
(Investigation on 24 representative households)

Items	1929		1931		1934	
	Actual sum in Yen	Index No.	Actual sum in Yen	Index No.	Actual sum in Yen	Index No.
(A) Landed Farmers.						
Receipts						
Sales of various agricultural crops	974.81	100	529.67	54.34	642.62	65.92
Cash receipts from sources other than agricult'l crops	287.81	100	133.21	46.28	203.82	70.82
Total receipts in cash	1,262.62	100	662.88	52.50	846.44	67.04
Expenditures						
For management	289.13	100	192.33	66.52	172.35	59.61
Other disbursements in cash	4.36	100	2.02	46.33	7.50	172.02
Living expenses	600.26	100	408.42	68.04	389.80	64.94
Taxes and rates	122.89	100	100.65	81.90	95.31	77.56
Total expenditures in cash	1,016.64	100	703.42	69.19	664.96	65.41
Profit or loss	245.98	100	(-) 40.54		181.48	
(B) Tenant Farmers						
Receipts						
Sales of various agricultural crops	781.44	100	370.07	47.44	394.42	50.47
Cash receipts from sources other than agricult'l crops	235.59	100	181.52	77.05	312.41	132.61
Total receipts in cash	1,017.03	100	551.59	54.24	706.83	69.50
Expenditures						
For management	378.77	100	223.94	59.12	230.27	60.79
Other disbursements in cash	80.29	100	89.59	111.58	78.27	97.48
Living expenses	362.79	100	216.12	59.57	270.70	74.62
Taxes and rates	28.44	100	26.81	94.27	28.88	101.55
Total expenditures	850.29	100	556.46	65.44	608.12	71.52
Profits or loss	166.74	100	(-) 4.87		98.71	

As the above table shows cash receipts of farming households have been reduced to one-half of what they used to be by the crisis which visited agricultural farms in 1931, this being the case both in the instance of landed and tenant farmers. Conditions slightly improved since 1932, and the results in 1934 correspond to 77 and 69 per cent. of 1929 for the landed and tenant farmers respectively. While the increase in cash receipts in the instance of landed farmers were due to the increase in the amount of sales of agricultural crops because of the increase in production and rise in prices, they were due in the instance of tenant farmers to physical exertions on labour other than raising crops or wage earning. In the

index number of sales of agricultural crops landed farmers made a gain in 1934 of 11.58 over that of 1931 while tenants increased only by 3.03. However, in the incomes other than crops landed farmers gained in 1934 only by 24.54 over 1931 while tenants made 55.56. Sixty per cent. of this class of income consists of earnings through services, which comprises salary, allowances and remuneration. Further, on examination of items of cash expenditures for management its index number is lower in the instance of tenant farmers than in that of landed farmers because the former economized purchase of fertilizers to the extreme in 1931. But a further decline was impossible because of farm rent which was not reduced. In 1934, therefore,

the index number of expenditures for management of landed farmers the largest percentage of which is occupied by expenses for fertilizers, declined greater than in the case of tenant farmers. The fact that the sum of expenditures of farm management of tenant farmers is greater than that of landed farmers is due to the farm rent. Again the ratio of expenditures of farm management to that of the total expenditures of tenant farmers is larger than that of landed farmers.

The ratio of expenses of farm management to the total expenditure

Year	Landed Farming	Tenant Farming
1929	28.44	44.54
1930	30.29	39.86
1931	27.34	40.24
1932	27.30	34.49
1933	23.95	37.95
1934	25.92	37.87

Furthermore, the amount of cash disbursement made by tenant farmers for the purpose of obtaining incomes from sources other than crops is much larger than that of the other. The difference arises from the nature of incomes. In the case of landed farmers the incomes from sources other than crops arises chiefly from a better adaptation of their surplus capital, and hence the expense required for it is small. But for tenants this income comes from labour and therefore a larger expense is necessary.

Living Expenses The reduction of cost of living, due to the crisis of 1931, was 32 and 41 per cent. for landed and tenant farmers respectively. Landed farmers made further reduction in 1934 for the sake of "economic revival". In this manner the percentage of living expenses of 1934 became 65 and 74 per cent. for landed and tenant farmers respectively as compared with 1929. One thing to be noticed here is that

the percentage of living expenses to the total expenditure for the year of 1934 are 58 and 44 per cent. for these farmers respectively.

The ratio of living cost to the total expenditure

Year	Landed Farmer	Tenant Farmer
1929	59.04	42.67
1930	54.62	42.34
1931	58.06	38.84
1932	55.95	40.51
1933	60.96	42.31
1934	58.62	44.51

When real figures are compared tenants who have a larger family are much more poorly fed and are accordingly reducing their living cost.

The cost of living is, taking the average for five years since 1930, ¥410.21 and ¥239.60 for landed and tenant farmers respectively, while the number of families is, taking the average for three years since 1932, 6.29 for the former and 6.88 for the latter.

Taxes and Rates For landed farmers the burden of taxes and rates has been lightened, however small in amount, but for tenants it has actually been increased in spite of the decrease of income and reduction of living cost to a large extent.

In this manner the balance in the finances of farming households can be maintained only through a drastic reduction of living cost and increased earnings from work other than regular agricultural pursuits. Although these 24 chosen families were able to make a little margin in 1934 it can hardly be said that ordinary farmers were able to attain that. Even in the case of the chosen tenants such margin could not have been obtained, if they had defrayed their living expenses to the same extent as landed farmers, while the chosen landed farmers either could not have got that margin if they had maintained their living standard

on the same level as 1929. The so-called economic revival of farming households, therefore, has only been attained through an increase of income from sources other than crops and a serious cutting down of the living costs. They are engaging in various side pursuits to cover the deficit, but are unable to make both ends meet unless they reduce their living costs as far as possible. Circumstances forced tenants to depend more on wage earnings and to cut their living expenses to almost one-half of that of landed farmers. Economic revival of Japanese agrarian populace by the fundamental means of lowering cost of production through rationalization of management is not yet realized to any material extent. Farm rent which constitutes the largest percentage of costs of production in tenant farming, is rather on the rising tendency. According to investigations made on agricul-

tural economics in 1932, items of tenant farming expenses which amounted to ¥452.09 were of following percentage:

Seeds	1.18	Wages	2.58
Silk eggcards	0.92	Interest on debts	2.27
Cattle	1.47	Various charges	3.62
Cattle food	7.63	Farm rent	53.54
Fertilizers	16.34	Total	100.00

Tenants are, therefore, compelled to overwork for earning money outside of their occupation on the farm. But a portion of the money thus earned slips away to landowners or to the Government in the form of farm rent and taxes and rates, and the deficit thus caused is made good only through reduction of living cost.

Landownership Unequal distribution of arable lands is an old question in Japan. The present state of land distribution among different classes of farmers follows:

Year	Class	No. of Household (in 1,000)	Percentage	Area of land owned (in 1,000 cho)	Percentage
1927	Landowners	942	18.8	2,781	45.8
	Landed-farmers	1,737	81.2	3,227	54.2
	Semi-landed	2,329			
1933	Landowners	998	19.4	2,843	47.1
	Landed-farmers	1,746	80.6	3,186	52.0
	Semi-landed farmers	2,376			

In 1927 landowners who constituted only 18.7 per cent. of all those who owned lands, possessed 45.8 per cent. of the total arable lands. In 1933, landowners were 19.4 per cent. and owned 47.1 per cent. of the total area. During the interval there occurred an unheard-of agricultural depression and the upper stratum of the middle landed farmers transformed themselves into landowners, while those in the lower degenerated into small semi-landed farmers, so that about 1.8 per cent. of land was shifted into the hands of landowners.

Another point to be noticed is that expropriation of tenanted land in an obstinate manner took place in re-

cent years. Disputes related to tenant rights are more numerous than those for reduction of farm rent. Even in the lean year of 1934 percentage of disputes on tenant rights occupied a determining ratio. Landowners demand the return of lands with a desire for self-management, because of arrearage of farm rent, to sell lands or to change the classification of lands, while tenants insist upon their right of continued tenancy, demand the recognition of tenant rights, and ask for compensation for leaving farms. The tendency of disputes may be seen from the following table:

Disputes on Tenant Rights and Those on Farm Rent

Year	Percentage against		Percentage against	
	Number	the Total Number of Disputer	Number	the Total Number of Disputer
1931	1,307	38.2	1,171	34.8
1932	1,520	44.5	1,057	31.0
1933	2,275	56.9	646	16.2
1934	2,704	46.4	1,940	33.3
1935 first half	1,977	51.6	1,216	31.7

Nearly 50 per cent. of total disputes comprises those on tenant rights, in all of which tenants are on the defensive and are standing in the last ditch. These disputes occur more in the six prefectures in the north-eastern part of the Main Island which are suffering from bad crops caused often by unseasonal cold weather occupying from 30 to 40 per cent. of the total in Japan.

Rising Tendency of Farm Rent. According to the investigations of the Hypothec Bank of Japan, farm rent in recent years based on actual yield of crops is as follows:

Rising Tendency in Recent Years of Farm Rent (per tan)

Year	Paddy Fields in koku	Dry Land in Yen	Yield of Ordinary Paddy Fields per tan in koku
1932	1.01	11.21	(1.854)
1933	1.02	10.92	(2.232)
1934	1.04	11.20	(1.634)
1935	1.02	12.67	(1.780)

The rise of farm rent on dry land is very evident. Farm rent on paddy field in 1935 shows a decrease of 0.02 koku as compared with that of 1934, which is evidently the result of bad crops in 1934. Still it shows a rise of 0.01 koku over that of 1932. Classified according to prefectures the rise of farm rent of dry land is specially large in the north-eastern districts, the rise in 1935 is 22 per cent. of 1934.

This rising tendency of farm rent boosted up prices of arable lands and naturally resulted in landowners' re-

gaining their former power and position. According to investigations made by the Hypothec Bank of Japan, the rise in land prices are very clear as shown in the following table:

Rising Tendency of Market Price of Paddy Field and Dry Land

Year	(per tan)	
	Value of paddy field in Yen	Value of dry land in Yen
1932	386	284
1933	387	284
1934	298	240
1935	415	247

Classified according to districts paddy field is quoted highest in the Kinki (Kyoto, Osaka) district at ¥562, followed by Shikoku, Tōkai (Kanagawa—Nagoya), Chūgoku (west of Kobe), Tōzan (Nagano), Kyūshū and Hokuriku (north-western) all higher than the average of the country. In the case of ordinary dry land the price in Tōkai district quoted at ¥369 is the highest, followed by Kinki, Tōzan, Kantō (Tokyo, Chiba, etc), and Shikoku, all higher than the average of the country.

Economic Readjustment. In the fall of 1932 the Village Economic Readjustment Section was established in the Ministry of Agriculture and Forestry to lead the planning and practice of economic readjustment in villages. According to Gon-ichi Kodaira, Director of the Section, the ideology of the movement was to keep the old farm-village life, which rests upon the foundation of mutual help and sympathy among families

and neighbouring villages, by making a thoroughgoing diagnosis of diseases in industrial, economic and social systems of villages, thereby giving adequate treatments to them.

The number of villages specially designated as coming under the movement was 5,500, or nearly one-half of the total villages in Japan proper. The movement being now 5 years old, the planning has been almost finished and villages are to put their schemes into practice in the years to come.

Plans for individual villages are made out from the reports of farm-households. Village officials classify problems suggested by these reports as those pertaining to the village as a whole and those to individual farm-households, and then proceed to give the necessary help first to individual households so as to make the carrying-out of the plan for the whole village possible. Items included in these plans are spiritual uplift, improvement of agricultural management, increase of production, economical use of labour, expansion of self-supporting economy, expansion of co-operative associations, improvement of living, saving of money, and readjustment of debt. The readjustment committee is organized by village leaders, who carry out new plans by dividing their work

into four sections of Control, Management, Economics and Education, the heads of which are respectively the Head of the Village, President of the Agricultural Association, President of the Industrial Co-operative Association, and Schoolmaster. The village office has become an active centre of readjustment movement; school teachers are not locked up in class-rooms, but go out to lend their assistance for the movement; young men's association and women's society are also busily engaged in making the Committee's activities effective.

Co-operative Societies for Trade and Purchase. According to the investigation of the Central Union of Industrial Associations in Japan on the utilization of farmers' co-operative societies, those who are profited most by these organizations belong to the upper classes of farmers, as is clear in the following tables compiled in August, 1933.

PERCENTAGE OF OFFICIALS OF CO-OPERATIVE SOCIETIES ACCORDING TO CLASSES OF FARMERS

	Officials	Credit Committee
Landowners	36	13
Landed-farmers	48	55
Semilanded-farmers	11	25
Tenants	—	25
Others	5	4

UTILIZATION OF CO-OPERATIVE SOCIETIES ACCORDING TO CLASSES OF FARMERS

	(per household, in yen)			
	Loan	Trading	Purchasing	Fees for Utilization
Landowners	747	352	82	3.4
Landed-farmers	399	112	71	2.1
Semilanded-farmers	368	73	54	1.6
Tenants	149	50	42	1.3

In the first plan the completion of co-operative societies was to be made in five years, all the farmers

in Japan proper being taken as members. But as a matter of fact poor farmers have not been able to

enter the local society and thus to utilize the organization for their benefit. In the case of credit societies especially, to poor farmers who have nothing to mortgage the gate of loan is closed. Trading societies mainly handle the trade of rice and other cereals, and that of cocoons, vegetable and side products are neglected, thus becoming an organ for landowners. Tenants have little surplus rice to sell and the activities of trading societies end with profiting landowners and rich farmers. Purchasing societies succeeded in protecting the interests of farmers especially in the purchase of fertilizers, but here also poor farmers are not much benefited because they have no money on hand to get fertilizers through purchasing societies and are compelled to pay high interest to merchants who allow delay of payment.

Movement of Co-operative Societies In these few years the readjustment movement in farm-villages has taken a new shape. Hitherto it was mainly a class struggle between tenants and landowners. This kind of farmers' movements by no means die away, but rather have become more acute in its nature. At the same time and more conspicuously they have come to take the shape of a struggle between farmers and merchants, or villages and cities. In other words, farmers began to fight or protect themselves against their common outside foes. The economics in old farm-villages has gradually come to be oppressed by the ever advancing capitalism. The profits of farm-villages have been squeezed by urban commercial and industrial capitalists, and landowners and rich farmers have become aware of such phenomenon specially pronounced in these years, and they in union with tenanted farmers have begun a movement to protect them-

selves from their common enemy.

The five-year plan for farm-village economic readjustment of the Government has spurred them to march forward in this economic war. All kinds of co-operative societies in villages have carried out a five-year expansion plan, while Agricultural Societies have become more active in leading and advising villagers in economy and management of farm industry. Attention has been specially drawn to trading and purchasing, and villages and cities have stood against each other in economic rivalry, farmers and merchants waging a heated battle at the Imperial Diet around the rice control bill, etc.

The Agricultural Association The Agricultural Association is one of the two greatest farmers' societies, the other being the Farm Co-operative Society. Its central association is the Imperial Agricultural Association and prefectural, county, town and village agricultural associations are its local branches. It has a membership of nearly 7,000,000. Its purpose is twofold; one is the promotion of farm industry and the other the protection of farm interests. Recently the activities of the Association have been centred around the latter, and fought for the political protection of farmers' interests on rice, cocoon and silk industry, distribution of cheaper fertilizers, and the diminution of public burden of farm-households. Important bills for the solution of these problems were pigeonholed at the 67th session of the Diet in 1935. This defeat quickened the political movement of the Agricultural Associations, and they instituted a new Agricultural Political Committee in the Imperial Agricultural Association to take timely and effective steps for passing important bills through the Imperial Diet in the nearest future.

Nor is the other function of the

Association neglected. For the improvement of farm industry they give lectures for the local leaders on economical readjustment of farm-villages, encourage the use of the account book, and leads in a better management of industries. Young farmers in some progressive prefectures such as Hyogo, Shizuoka and Aichi have organized associations especially for a better and cleverer management of agricultural industries, and other prefectures are following their suit.

The trouble with the Agricultural Associations, however, is that they are semi-governmental, with the natural result that they are mostly utilized by landowners and upper

classes of farmers, so that tenant farmers who are most in need of their benefit are notoriously neglected.

Co-operative Societies Activities of Village Co-operative Societies have been accelerated since the commencement of economic readjustment works under the Ministry of Agriculture and Forestry in 1932. The Ministry succeeded in revising the Co-operative Society Law for expanding and strengthening co-operative societies and has given necessary subsidies. The societies themselves made out a five-year programme and are on the way for accomplishing their aim. The results of their efforts are given below:

RESULTS OF ACTIVITIES OF CO-OPERATIVE SOCIETIES IN 1935

(The second year of the 5-year programme)

	Results	Prospects for the year	Attainment
Societies	14,802	15,135	— 333
Members	5,465,944	5,895,414	— 430,370
Farmer members	3,963,475	4,398,448	— 534,968
Funds	¥328,269,291	331,933,196	— 3,534,905
Loans	¥1,033,246,155	1,332,931,489	— 299,685,284
Rice sold (in bales)	19,399,508	11,110,337	+ 8,289,571
Fertilizer purchased (in ton)	1,254,702	1,243,777	+ 10,985
Utilization	¥7,476,470		

They have succeeded in marketing rice and purchasing fertilizer to their profit. But in the other items results were in the negative, and in 1935-1936, which is the third year of the plan, they have to be made good besides the 40 per cent. increase allotted to the year itself. On May 18, therefore, the co-operative societies held a national council to devise means for taking vigorous steps to attain their goal. Important plans adopted were the popularization and urbanization of the co-operative movement. They hit upon the necessity of expanding their field of activity to cities and have credit and consumers' co-operative

societies in urban areas more closely connected with similar societies in country districts.

The activities of co-operative societies, however, brought about an unforeseen result. It was this that the expansion of co-operative movement which took place as the five-year programme progressed gave rise to a schism between farmers and merchants. So rose up merchants to protect their rights against co-operative societies, thus bringing about controversies between cities and villages. At the 67th session of the Diet merchants fought fiercely around the Rice Control Bill and many other bills intended for the

betterment of farmers' living conditions. Thus the urbanization of the co-operative movement has met with a set-back.

The second aim of co-operative societies, the popularization of the co-operative movement, succeeded little better than the other. The total membership of co-operative societies of all kinds stands at 5,000,000, comprising 40 per cent. of the total households in Japan proper, for each member usually represents a household. Out of the above figure 3,500,000 represent the membership of farmers' co-operative societies. This constitutes 62 per cent. of the total farm-households, leaving 38 per cent. outside of the societies. According to the five-year programme, all of these households were to be enlisted. At present Fukuoka is the only prefecture where all the 10 cities and 301 towns and villages in the prefecture have one kind or another of co-operative societies and the entire farm-households are members of co-operative societies. Hence the movement. But in order to reach the final goal greater efforts are required. At present the Young Men's League of Co-operative Societies are specially earnest in the popularization movement. In October, 1935, they called a national meeting in Kyoto and discussed the ways and means how to attain the objective. Attention was called to the necessity of improving the polity and activities of co-operative societies themselves, classes of farmers, such as the prevention of commercialization of society business, of partiality to the well-to-do farmers, etc. thus extending an invitation for all to join.

Year	Birth rate for every 1,000 of population		Death rate for every 1,000 of population		Rate of natural increase for every 1,000 of population	
	County	City	County	City	County	City
1920	37.88	28.49	25.67	24.24	12.21	5.25
1925	36.50	29.17	20.64	18.90	15.86	10.27
1926	36.61	28.26	19.60	17.68	17.01	10.93

Problems of Agrarian Population

During the ten years, 1920 to 1930 inclusive, the population of Japan increased by 8,486,000, while in the ten years, 1925 to 1935 inclusive, the increase was 9,515,000. But, as is pointed out by experts, fecundity of Japanese women is declining and as one of the results the birth rate has kept even for several years. Since, however, the death rate is declining also, the natural increase of population is not expected to decline in any appreciable degree in the near future.

Agrarian and Urban With respect to the agrarian population, unfortunately no statistics showing respective population of cities and villages are available, but the general tendency is not very difficult to ascertain. Statistics on population in urban and county districts in 1920 were as follows:

	Population (in 1,000)	Percentage
Whole country	55,963	100
County districts	42,037	75
Urban districts	13,925	25

The natural increase classified according to districts during ten years ending with 1930 is illustrated by the following figures:

	Population (in 1,000)	Percentage
Whole country	8,486	100
County districts	6,937	82
Urban districts	1,549	18

The reason why the rate of increase in county districts is large out of proportion to the population is that the birth rate there is much higher than in urban districts as shown below:

Year	Birth rate for every 1,000 of population		Death rate for every 1,000 of population		Rate of natural increase for every 1,000 of population	
	County	City	County	City	County	City
1927	35.47	27.28	20.33	18.92	15.14	8.36
1928	36.36	27.91	21.51	17.91	15.75	10.00
1929	35.98	26.46	20.70	17.66	14.29	8.30
1930	34.30	26.59	18.71	16.46	15.59	10.04
1931	33.93	26.74	19.48	17.46	14.45	9.28
1932	35.59	24.24	19.49	18.70	17.10	10.46
1933	37.74	26.71	18.67	16.70	15.11	10.70

Nearly 82 per cent. of the natural increase of population during the years from 1920 to 1930 was attributable to county districts, but this rate may differ in the future, for while in 1920 three-fourth of the population were in county districts and the rest in cities and the natural increase in county districts in 1920 was twice as large as that in cities, the ratio has now greatly changed. The condition of population in 1935 was as follows:

	Number (in 1,000)	Percentage
Whole country	69,251	100
County districts	45,566	66
Urban ..	23,685	34

That is, two-thirds of the population are in county districts while one-third live in cities. Judging from recent tendency it is possible to presume that the natural increase in the coming ten years will be 15 in every 100 of the people in county districts and 10 in urban districts. The natural increase of population will then be as follows:

	Number (in 1,000)	Percentage
Whole country	9,993	100
County districts	6,937	70
Urban districts	3,056	30

Actually, however, the increase in cities may be larger than the above assumption, but it will probably not exceed 3,000,000. Moreover, a part of the 6,800,000 for county districts may move out into urban districts, thus making the increase in the urban

population more acute. With respect to this point actual conditions of population in the years between 1920 and 1930 may be examined with profit. The statistics of population in 1930 was as follows:

	Number (in 1,000)	Percentage
Whole country	64,450	100
County districts	43,203	70
Urban districts	13,925	20

When the population of county districts in 1930 is compared with that of 1920, given above, it shows an increase of 3,166,000. However, since the aggregate of the natural increase in county districts in the 10 years was 6,937,000, the difference of 3,771,000, or 54 per cent. of the natural increase denotes the number of people who moved into city districts. Supposing that this tendency will be kept up in the coming 10 years, approximately 3,670,000 of the total estimated increase of population to county districts will move into cities. It is needless to say that the greater portion of these emigrating populace will be young men. According to Mr. Kiichi Inoma's survey of the population of Tokyo in 1930, the number of young men and women, between 15 and 24 years of age, was 1,251,000, of which one-third had moved into the city from outside during the preceding 5 years. So approximately 40 per cent. of the increase in population in county districts remain in their native places and the balance of 60 per cent. goes into cities. This is to say that rural

communities are robbed of their useful and productive young men and women to the extent of 60 per cent.

According to an investigation made by Mr. Keikai Hayashi on the sub-

Agricultural villages (towns and villages having population of less than 70,000)	Cities (cities, towns, and villages having population over 10,000)
2,811	5,678

The table shows that in the last ten years two-thirds of the increase of the population were absorbed in cities while only one-third remained in rural districts. If this tendency is kept up in the future 6,000,000 out of the estimated 9,000,000 will presumably be absorbed by cities.

The Age Distribution The age distribution of the population of Japan as a whole is a normal one. If a diagram is drawn for age structure of the Japanese population with five years as a unit it will make a nearly regular pyramid. But it is different in the case of the rural population.

Unfortunately relevant materials for agrarian villages only are lacking, but if urban districts are taken as roughly representing cities and county districts, and agrarian villages, the following table may be made out of the 1930 census.

Age	Index Number of Age Distribution by Districts (from 0 to 4 taken as 100)		
	Whole country	Villages	Cities
0-4	100	100	100
5-9	86	87	80
10-14	75	75	74
15-19	72	63	104
20-24	61	53	92
25-29	53	48	74
30-34	46	46	60
35-39	39	37	47
40-44	26	34	41
45-49	33	33	35
50-54	31	31	31
55-59	24	25	22
60-64	19	19	16
65-69	13	14	10
70-74	10	11	7
75-79	6	6	4

ject, with the number of population in 1920 taken as the basis the following results came out for the 10 years from 1920 to 1930:

Number increased (in 1,000)	Percentage absorbed
2,811	33.1%
5,678	66.9%

According to the above table the population of villages show that the portion which represents ages between 15 and 44 is markedly lean. On the contrary, that portion is much swollen in cities.

The fact that the number of young men is small in agrarian villages and that of children and the aged is large suggests a number of important problems for study.

Classifying the population into three categories of the young (from 0 to 15), the productive (from 15 to 59) and the aged (59 and above), as it stood in 1930 the following table is made out:

	Whole Country	
	Number in 1,000	Percentage
The productive	36,085	55.8
The young	23,570	36.6
The aged	4,786	7.6
	Villages	
The productive	26,305	53.7
The young	18,006	39.0
The aged	4,005	8.3
	Cities	
The productive	9,780	67.9
The young	4,884	31.6
The aged	781	5.1

Though the natural increase of population in rural districts is larger than in urban districts, the above figures show that the percentage of the productive age is comparatively small in the former. This undoubtedly indicates a considerable movement of

rural population into city districts.

An expert on agrarian problems declares that "rural community is becoming a nursery and an old people's home combined into one for cities." Whether it is good for the country as a whole or not, it is a fact that when depression sets in and labour becomes excessive in cities, men of productive age are forced back into villages and are taken care of by communities which are largely made up by unproductive members. This is obligatory upon them, since the family system of the country so ordains.

Other Problems

Education Educational organs for farmers before 1934 were 320 agricultural schools and over 13,000 business continuation schools. The primary aim was education of young farmers who may stay in their native places, but in many cases the upshot was that the graduates became more inclined to leave their native places than staying there. So the need of inspiring enthusiasm in them to stay on the farm became a general cry among village leaders. The forerunner of the movement was Motojiro Sugiyama, who established the Nomin Fukuin Gakko, or Farmers' Gospel School, as early as 1913. He established similar institutions in many places since then, and the example was followed by many educators, who established kindred institutions according to their taste and inclination, some being Christian and others Buddhist or nationalistic. The number of these private organs for educating farmers was approximately 100 in 1934. The Manchurian incident in 1931 and the May 15, 1932, incident served to turn the attention of the Saito Cabinet to the matter, for the former had to do in result, if not in cause, with the welfare of the people in general espe-

cially the farming population and the latter was closely associated with patriotic farmers whose slogan was "Give us better administration". So by the initiative of Fumio Goto, the Minister of Agriculture and Forestry, the Shuren Nojō, or the Institute for Farm Training, was established in 1934 in twenty prefectures, one for each, with the Government subsidy amounting to ¥99,000 in all. The plan and purpose of the new institute are: (1) The institute is for the training of farm labour. The students are to stay in the dormitory for one or two years and are thoroughly trained in the art of modern agriculture. (2) It is first established and managed by prefectural government, but will be made independent as soon as possible. (3) The head of the institute is chosen by the central and local governments. (4) The students are chosen and recommended by heads of towns or villages, of the Agricultural Societies, of Co-operative Societies or members of the Economic Readjustment Committees. Their age limit is from 18 to 40, and the number in an institute is to be from 50 to 100. (5) The area of the practice farm for each institute shall be about 123 acres.

Reports have it that authorities were able to find out well qualified heads for the 20 institutes already established, and the future development and results of the experimentation are watched with much expectation.

A Model Village On the "Kigensetsu" of 1935 (The Anniversary of the Accession of the Emperor Jimmu) Matsumo-mura, Itano-gun, Tokushima prefecture was selected and recommended by the Minister of the Home Department as a model village. A brief account of the village seems called for.

The village lies a little over 2 ri

to the north of the old Tokushima castle, which once was the seat of Lord Hachisuka. Its area is 836 cho, which comprised 12 sub-divisions or smaller hamlets, 1,019 households with a population of 5,500. Approximately 70 per cent. of the households are engaged in agriculture, and the rest in trade and fishery. Both the rich and poor are earnestly occupied with their business. Relations among the people are harmonious and they all spend peaceful days. In 1928 the village won official recommendation of the Governor of Tokushima prefecture for its superior showing in self-government.

Village Government The village head, Mr. Shozaburo Miki, is one of the wealthiest men of the village and is a graduate of the Commercial University of Tokyo, who later pursued studies at Columbia University, New York. He had been active in business for many years, but in 1924 he took his office as village head by the unanimous request of the villagers.

The village assembly consists of members, and is earnest in helping directors for an ideal administration of village affairs. At election there is, of course, competition, but once it is over, there are no further troubles.

The 1935-36 budget was ¥64,000. The burden of the village rates is a little over ¥30 per household, on the average, but since there are some 20 wealthy persons who bear a large portion of it, the burden of each household of small means is not so heavy. In order to make levying of taxes impartial, a taxation system investigation committee is from time to time appointed from among the people. The committee examines the standard or rate of assessment with the help of officials, and at the same time it undertakes the education of

the people in their duties to pay taxes.

Education There are 3 elementary schools and 1 detached class-room in the village to which attendance is good. There is also the Young Men's School, which occupies the central part of the village. It has its own ground and building, and is perfectly equipped. There are 15 instructors in all besides Mr. Nishino, the principal. In 1928 the higher course in elementary schools was abolished, and the Young Men's School now takes all those who wish to pursue further studies. Graduates from the three elementary schools are brought here together and are trained to be good citizens. The school has two courses, one daytime and the other evening, and in either case four years is requisite for the completion of the course. This system has brought about good results so much so that in 1933 official recognition was accorded to the school by the Minister of Education. In 1935 there were 235 male and 153 female students registered in this school.

A further step was taken by the village to realize enlightenment of the whole village. With this object in view the Whole Village School was opened in 1932. Various organs and associations in the village are associated with the institution under the auspices of a central organ called "jijokai", or Self-help Council, which is composed of representatives of all organs and associations in the village. Elementary school teachers are appointed leaders in each subdivision and see to it that studies are properly given. The 15th day of each month is set apart as "The Aikyobi" or love-for-village day, on which the whole population of each subdivision assemble at the village shrine early in the morning to pay homage to their guardian god. Once a year a gen-

eral meeting of the entire villagers is held at the Matsumo Elementary School, where an exhibition is opened and reports are made, for the promotion of studies and friendly relations of the people. Furthermore, several times a year moving picture shows are held for both recreation and education of villagers. The principles upon which the affairs of the village are conducted are as follows:

1. Economic advancement should go hand in hand with moral elevation (Social Principle).
2. Education and learning should be advanced. The aim is to give middle grade education to young men and women of the village (Educational Principle).
3. Subsidiary industry should be encouraged, so as to bring the level of production up to that of principal industry (Industrial Principle).
4. Efforts should be made to eradicate entirely epidemic diseases from our village, and to make improvements in the health and hygiene of the villagers. (Hygienic Principle).

Industry. The principal industry of the village is agriculture. Paddy field occupies about 70 per cent. of the total area of the village, which is equal to over 650 cho, while the area of dry land is about 65 cho. Even in 1934 when yield was exceptionally poor on account of damages due to storm and flood, agricultural crops totalled more than ¥430,000, ¥270,000 of which were from cereals.

As regards subsidiary industry, experts are invited to the village so as to get advice and guidance, and investigations of the actual condition are made with a view to find out ways in order to raise as much money as the main industry. Besides close co-operation is kept with trading societies for marketing the products profitably. In 1934 subsidiary

products reached 58 per cent. of the production of the rice and barley and amounted to ¥150,000. Principal items in this line are pears, watermelons, and lotus root, manufacturing of ropes, straw mats, and straw bags, and poultry raising.

There are about 300 fishing households. Catches principally consist of sardines, shrimps and clams. In 1934 incomes from these catches amounted to more than ¥47,000. Sea transportation, cultivation of fishes and shell-fishes are also recommended to these people so as to increase their income.

Hygiene. Efforts have been made for hygienic improvement in the community. The hygienic guild has been engaged for a long time for the prevention of epidemics in co-operation with the village office. A hospital for contagious diseases has been built with complete equipment. In the schools one day in each month is set apart for the parents of pupils to consult about the health of their children. A nurse is employed at school who makes her rounds to families for the consultation of the health of children under school age or that of women in pregnancy. The outbreak of epidemics is very rare in the village. The hygienic guild won official recognition of both the prefectural governor and the Home Minister, and the village master was accorded words of praise by the prefectural governor.

Various Organizations. There is a young men's association, which, besides doing customary work, assists in investigations of various kinds with a view to promoting the well-being of the villagers and takes an active part in the Whole Village School. Side by side with this there is a young women's association, which, generally speaking, is doing with young women what the young men's association is doing with

young men.

There is also in the village an agricultural association, which is active as the centre of various local industrial associations. It has expert technicians, whose duty is to promote the knowledge of farmers and guide them in the technique of farming. It distributes superior seeds of rice, barley, vegetables, encourages subsidiary industry, and gives lectures and short courses of study on agriculture.

The credit society has a membership of 545, with deposits amounting to ¥154,000, and loans to ¥76,000. It

is fast developing into a consumers' co-operative society with four functions of giving credit, trading, purchasing and utilization.

The trading society controls and intercedes the sales of agricultural products and takes charge of developing market. It takes measures to standardize the products and improve their quality. At the time of its establishment the amount of sales which were made through its intercession was only ¥6,900, but it increased to more than ¥60,000 a year recently.

CHAPTER XIV

SERICULTURE AND RAW SILK

Sericulture

History

Historical records show that the raising of silkworms was practised in Japan more than two thousand years ago. It is surmised that the industry was first introduced into the country from Chosen 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 coun-

try 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.

	(in 1,000 kwan)	Index number
1880-1884	12,223	100
1885-1889	11,147	91
1890-1894	15,436	123
1895-1899	24,608	201
1900-1904	26,484	217
1905-1909	32,622	267
1910-1914	43,184	353
1915-1919	61,561	504
1920-1924	64,877	530
1925-1929	91,668	749
1930	106,469	871
1931	94,072	709
1932	89,550	732
1933	101,247	828
1934	87,199	713
1935	82,067	671

The recent condition in the sericultural industry can roughly be explained as follows: (1935, as compared with 1933 and 1934)

	1933	1934	1935
Number of agrarian families	5,621,536	5,617,486	—
Number of cocoon raising families	2,092,187	1,995,422	1,894,647
Percentage of cocoon raising families	37.2	35.5	—
Mulberry plantation area (chobu)	640,178	622,938	—
Egg-cards brushed (gramme)	181,200,931	160,829,333	151,131,371
Quantity of cocoon yield (1,000 kwan)	101,163	87,140	82,066
Value of cocoon yield (1,000 yen)	500,129	203,871	350,860

The Cocoon-raising Industry

According to the Ministry of Agriculture and Forestry statistics the raisers of silkworm cocoons numbered, 1,894,647 in 1935, those engaged in spring cocoon production being

1,749,988 and those in summer and autumn cocoon production 1,769,777.

The quantity of cocoons produced in 1935 totalled 307,747,699 kg. and the value was estimated at ¥350,860,428 consisting of 165,658,223 kg. of spring cocoons valued at

¥161,952,218 and summer and autumn cocoons of 142,089,476 kg. valued at ¥188,908,210. This is a decrease of 19,026,536 kg. (5.8%) in quantity and a remarkable increase of ¥146,989,138 (72.1%) in value as compared with the previous year. Again it shows a decrease of 10,551,000 kwan, or 11.4 per cent., in quantity and an increase of ¥17,263,000, or 5.2 per cent., in value as compared with the average of preceding three years. The decrease of 5.8 per cent. in quantity in spite of favourable climatic condition in 1935 was caused by the curtailment of area of mulberry plantation and consequently that of silkworm raising in anticipation of the decrease in quantity of mulberry leaves.

Egg-Cards

Control of Egg-cards Production In view of the severe competition with rayon silk in recent years there is a sheer necessity of improvement in silk industry so as to produce silk of a more superior quality with a lower cost of production, and the question of a better egg-cards comes first of all. There was no control of the preparation of egg-cards hitherto all the matter being altogether left to the hands of merchants and it is said that there are over 600 kinds of egg-cards to-day distributed among the farmers who are rather confounded in the choice of the best kind. For long the request for an effective control on the egg-cards production by the authorities has been raised

among the farmers and silk producers. Consequently, the National Original Silkworm Egg-card Control Law was promulgated in 1934. The purpose of the Law is to realize a thorough control of egg-card production by 1938 and cut down the excessive number of different kinds and squeeze out the best ten by a special committee which is to be organized by the Imperial ordinance. The original egg-cards of the best kinds thus selected and sanctioned by the Ministry of Agriculture and Forestry shall be sent to local governments where they are multiplied and distributed among sericulturists. Private establishments may reproduce egg-cards out of the original ones, but the percentage is limited to 30% against the 70% of local governments' production. The price shall be fixed by the Imperial ordinance. The local governments are granted a delay of 10 years for the completion of facilities, but, as a matter of fact the control will be completed without delay because most of local governments can immediately respond while the vacancy left by backward prefectures will be filled up by private concerns for the time being. Encouragement shall be given to an invention of better egg-cards by individuals so as to prevent the abuse of a too-strict governmental control. An annual profit of at least ¥100,000,000 is estimated at as the result of the control.

PRODUCTION OF SILKWORM EGGS

	(In kg.)				
	1930	1931	1932	1933	1934
Number of producers	6,885	6,269	5,616	5,344	4,924
Total					
Production	333,987	294,774	236,903	280,185	288,940
Qualified by government test	321,633	286,197	230,539	280,490	281,613
Reproductive eggs					
Production	9,959	8,871	7,559	9,360	9,369
Qualified by government test	9,459	8,401	7,211	8,901	9,006

Industrial eggs	Production	285,902	229,843	279,824	270,570
Qualified by government test	312,173	277,705	223,027	271,589	272,606

Mulberry Plantation

The success of the silk-worm raising industry depends upon an adequate supply of suitable leaves on which to feed the worms.

In Japan there are as many as 276 varieties of mulberry trees, and from these, 71 are selected by local government authorities as model kinds, each having its own special characteristics.

The total mulberry plantation area in 1934, was 622,998 (617,851.34 ha.) chobu against 640,178 chobu for 1933; the total area covered with mulberries in 1934 being 10.3% of the total arable land and 22.1% of the total upland farms in the country. The number of mulberry saplings that were raised in the same year counted 255,609,924 pieces valued at ¥2,902,000.

Cost

According to the investigation made by the Imperial Farmers' Association, cost of production against the price of cocoons in 1933 was as follows:

COST OF COCOON PRODUCTION

(For 1 kwan Cocoon; in yen)

Details	Spring Crop	Summer- Autumn
Egg-card	0.20	0.27
Mulberry leaves	1.82	1.73
Labour	1.46	1.84
Animal power	0.00	0.00
Cocoonery room	0.09	0.13
Instruments	0.15	0.22
Duties	0.09	0.13
Miscellaneous	0.30	0.26
Total	4.25	4.61
Price of 1 kwan best Cocoon	6.25	4.27
Income from by- products of the same	0.56	0.56

Educational Facilities There are in Japan three special colleges for the

silk industry, namely, the Ueda Sanshi Senmon Gakko, Nagano prefecture; Tokyo Koto Sanshi Gakko, Tokyo; and Kyoto Koto Sanshi Gakko, Kyoto; besides which, there are, in different parts of the country, 16 public schools of middle school grade. Some of the agricultural colleges and middle grade schools also have classes dealing with silk industrial enterprises. In addition to these regular seats of learning there is a class for the practical training of silk-raisers at every sericultural experimental station established by the Government in each silk producing district, and a similar training is also given at a score of private institutes created for the purpose of diffusing knowledge on all phases of the silk industry.

Cocoon Markets Matsuzaki, on the western coast of Izu Peninsula, Shizuoka prefecture, was for many years the place where Japan's first market of the season for cocoon transactions took place and, naturally, cocoon prices quoted there were watched with keen interest by sericulturists and reelers, but because of a geographical disadvantage and other reasons, Matsuzaki has, since 1928, been superseded by Numazu. Usually, the first spring cocoon dealings begin in Numazu between May 20 and 25, according to the condition of the cocoon crop. Hamamatsu opens its market shortly after Numazu, but usually the spring cocoon market at Ohito follows the Numazu market and then dealings begin at Nirayama, Gotemba, Susono, Mishima and Omiyaguchi, all in Shizuoka prefecture. After, the market opens in turn at various parts of Mié prefecture, Chugoku, Shikoku and Kyushu, then in the Kwanto, Koshu, Shinshu and Tohoku

districts. The reasons why spring cocoon transactions take place on the western side of the Izu Peninsula first are that the locality is climatically suited to a favourable growth of mulberry trees and there

is a narrow difference of temperature only between day and night.

The Statistics Statistics on cocoon production in Japan proper in the past 6 years are given below:

COCOON PRODUCTION IN 1930-1935

		(Japan Proper)					
		1930	1931	1932	1933	1934	1935
Number of producers		2,216,072	2,119,903	2,064,639	2,092,187	1,995,492	1,804,647
Egg-cards incubated	gr.	18,353,061	170,006,525	166,811,582	181,200,931	160,914,816	151,131,371
Total production							
Quantity	kg.	399,238,185	364,021,706	335,771,254	379,676,366	326,742,555	307,747,660
Value	yen	304,212,774	275,557,296	296,791,026	500,129,171	203,849,178	350,860,428
Cocoons							
Quantity	kg.	350,626,973	322,354,080	297,237,229	339,646,186	292,851,645	275,129,036
Value	yen	290,119,559	260,229,804	280,910,829	477,690,472	192,143,243	330,510,801
Doupons							
Quantity	kg.	31,579,500	26,558,917	23,317,849	23,602,789	19,016,008	17,725,294
Value	yen	9,027,896	10,338,730	10,117,560	13,165,266	7,056,560	11,702,573
Waste cocoons							
Quantity	kg.	17,031,712	15,108,709	15,216,176	16,427,441	14,874,907	14,593,360
Value	yen	5,065,319	4,988,762	5,702,637	9,273,433	4,649,375	5,646,964

Price of Cocoon

Farmers who are engaged in cocoon raising are not well informed of the international trade conditions and often fall into a short sighted speculations on the basis of the preceding year market prices. There is no systematic plan for adjusting cocoon production to the need so as to regulate the price. The future of the cocoon and silk markets, therefore, is hard to tell and the industry remains unsettled as long as it depends on the change of market prices of cocoon and raw silk.

Opinions of silk producers are divided into two; one is to regulate the price of raw silk by the governmental control like that for the price of rice, while the other is to compete with rayon with such a large production as to shut it out. The practicability of the former is doubtful as the nature of silk as a commodity is radically different from that of rice. The second idea may, in the last analysis, profit silk pro-

ducers and brokers, but there is a danger of exposing farmers to the brink of bankruptcy before the prospect brightens in any extent, for rayon will not give way so easily with its machines and capital. Farmers have to make a subtler and scientific study of cocoon raising industry to make it a more stable side work and at the same time to control cocoon production by selection and restriction of silkworms according to the amount of the balance stock of cocoon and raw silk.

AVERAGE COCOON PRICE IN JAPAN PROPER PER KWAN

Year	(in yen)		
	Spring Cocoon	Summer-Autumn Cocoon	Average
1924	7.37	9.22	8.21
1925	11.25	10.07	10.68
1926	9.28	7.33	8.35
1927	7.15	4.77	6.03
1928	6.88	6.02	6.48
1929	7.57	6.93	7.06
1930	4.00	2.04	3.10
1931	3.08	2.96	3.03
1932	2.54	4.70	3.53
1933	6.25	4.27	5.28
1934	2.32	2.28	2.45
1935	3.80	5.30	4.46

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 of which to arrest the attention of the Government authorities was 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 centre. 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 centre with

Fukushima, Aichi, Saitama, Gifu and Kyoto following.

Raw Silk Production in 1934

Number of establishment worked during 1934 was 51,168, decreasing by 3,229 (5.9%) as compared with that of the previous year. Division of this number according to the number of basins used were as follows.

Those using less than 10 basins	48,163 (94.1%)
" " 10 - 50	1,454 (2.9%)
" " 50 - 100	779 (1.5%)
" " 100 - 300	621 (1.2%)
" " 300 and more	151 (0.3%)

The tendency shown by the number of establishments during the ten preceding years has been towards a severe reduction occasioned by the significant decrease in the number of those using less than 10 basins, while those using more than 50 basins has shown rather an advancing trend. Quantity and value of raw silk produced in 1934 were 45,243,354 kg. and ¥398,369,167, the former indicating increase of 3,082,794 kg. (7.3%), the latter decrease of ¥99,371,641 (20%) against those of the previous year. During the preceding ten years uninterrupted progressive trend has been witnessed in the production, but the value obtained has shown considerable decrease these 5 years, owing to the lowering tendency of price.

NUMBER OF FILATURES, BASINS AND OPERATIVES
(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Establishments	Filature worked by Machinery	Basins	Operatives
1919	234,992	4,311	610,032	—
1924	196,929	3,574	523,582	546,813
1926	91,751	3,768	425,174	488,342
1927	83,469	3,787	425,595	496,230
1928	76,090	3,509	435,735	515,504
1929	69,417	3,719	437,738	525,307
1930	70,728	3,759	433,637	509,124

Year	Establishments	Filature worked by machinery	Basins	Operatives
1931	66,400	3,687	418,402	495,449
1932	60,461	3,356	365,417	428,763
1933	54,397	3,218	343,579	395,027
1934	51,168	3,013	321,040	362,510

SILK PRODUCTION

(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Total output		White silk		Yellow silk	
	volume (kwan)	value (yen)	volume (kwan)	value (yen)	volume (kwan)	value (yen)
1924	7,577,170	837,230,677	6,158,148	673,368,557	1,419,022	163,862,124
1925	8,284,317	95,605,2187	6,822,065	784,720,379	1,462,252	171,331,808
1926	9,101,310	850,751,982	7,151,726	667,505,253	1,949,584	183,246,729
1927	9,880,306	798,798,455	7,800,821	629,005,493	2,079,485	169,782,962
1928	10,584,232	835,467,904	7,760,865	615,721,117	2,823,367	219,746,787
1929	11,292,399	857,577,692	8,246,583	624,955,155	3,045,816	232,622,537
1930	11,365,026	536,663,848	8,097,133	384,978,534	3,267,893	151,685,264
1931	11,682,814	427,690,988	8,036,360	295,289,433	3,646,454	132,401,555
1932	11,090,711	454,457,858	7,805,617	320,777,178	3,285,094	133,680,660
1933	11,242,816	497,740,808	8,429,370	370,840,466	2,813,446	126,900,342
1934	12,064,894	398,369,167	8,785,013	294,268,393	3,279,881	104,100,774

TOTAL PRODUCTION BY RAW SILK FACTORIES

		1930	1931	1932	1933	1934
Grand total						
Number of establishments		70,723	66,400	60,461	54,397	51,168
Number of boiling basins		433,637	418,402	365,417	343,579	321,040
Number of operatives		509,124	495,449	428,763	395,027	362,510
Male		36,830	36,185	30,120	28,055	27,450
Female		472,294	459,264	398,643	366,972	335,060
Production (Value)	yen	552,618,420	441,508,631	472,324,428	517,054,010	417,414,865
Raw silk						
Qt.	kg.	42,618,848	43,810,553	41,590,166	42,160,860	45,243,354
Val.	yen	536,663,848	427,690,988	454,457,838	497,740,808	398,369,167
Waste						
Total						
Qt.	kg.	14,029,496	13,742,940	13,558,605	13,988,562	15,053,644
Val.	yen	15,954,572	13,817,643	17,866,590	19,313,202	19,045,898
Noshi						
Qt.	kg.	528,577	548,700	414,623	395,704	391,425
Val.	yen	841,541	863,666	802,515	782,928	711,864
Kibiso						
Qt.	kg.	6,867,908	6,788,873	6,719,914	6,112,189	6,252,755
Val.	yen	11,946,132	10,014,064	13,372,628	13,885,488	13,614,701
Others						
Qt.	kg.	6,632,711	6,405,367	6,424,068	7,480,669	8,409,484
Val.	yen	3,166,899	2,939,913	3,691,447	4,644,786	4,719,133

Japan's Place in World's Silk Industry

According to the investigation made by the Silk Bureau of the Agriculture and Forestry Ministry the total world production in

1933 was 57,001,000 kilogrammes of which Japan (Korea and Formosa included) produced 43,757,000 kg., 76% of the total. China with 8,876,000 kilogrammes produced the largest quantity next to Japan. Then came Italy with 3,400,000 kilo-

grammes. A noticeable feature is a greatly decreased production in all countries except Japan, where the output, though diminished slightly compared with the 1931 basis, is still on the increase. Compared with

1923, the gain made during the 10 years was 18,189,000 kilogrammes. Detailed figures of the statistics prepared at the Silk Bureau of the Agriculture and Forestry Ministry follow:

RAW SILK PRODUCTION IN THE WORLD

(In 1,000 kilogrammes)

Year	Total	Japan	India & Indo-China	China	Eastern Europe, Near East and Central Asia	Spain	Italy	France
1924	52,670	29,666	80	17,144	1,095	95	5,255	335
1925	57,138	31,485	90	19,678	1,145	100	4,380	260
1926	59,485	34,677	120	19,433	1,070	90	3,855	240
1927	63,211	37,782	140	19,244	1,040	83	4,627	205
1928	67,430	40,582	110	20,478	1,140	79	4,836	205
1929	70,630	43,403	60	20,722	1,350	74	4,826	195
1930	68,330	43,943	20	18,067	1,220	58	4,882	140
1931	57,718	45,244	10	8,244	810	44	3,286	80
1932	56,984	42,114	—	9,524	706	42	3,520	78
1933	57,001	43,757	—	8,876	854	38	3,400	76

Silk in Japan's Foreign Trade

While importance of raw silk in Japan's foreign trade is on the decline in recent years, it still occupies more than 15% of the total value of her exports, ¥387,032,000 being its exports for 1935 out of the total exports of ¥2,499,073,000 for the same year. This forms a sharp contrast to the situation in 1922 and 1923, during which period silk occupied about 40% of her total exports. The United States took ¥328,910,000 of Japanese raw silk considerably increasing as compared with the previous year, while it is also on the increase to France, Britain and other countries. In 1932 France took Japanese raw silk to the extent of ¥7,107,000. In 1933 it increased to ¥15,378,000, in 1934 to ¥20,333,000 and in 1935 to ¥23,764,000. In Britain it increased from ¥9,257,000 in 1932 to ¥14,237,000 in 1934 and in 1935 to ¥21,450,000. To other foreign markets it increased from ¥5,852,000 in 1932 to ¥7,843,000, in 1934 and in 1935 to ¥12,905,000.

SILK AND TOTAL EXPORTS COMPARED

(Unit: ¥1,000)

	Value of all exports	Value of silk exports (Japan Proper)	Percentage of silk
1912	526,982	150,321	28.5
1913	632,460	188,917	29.9
1914	591,101	161,797	16.3
1915	708,807	152,031	21.5
1916	1,127,468	267,037	23.7
1917	1,603,005	355,155	22.2
1918	1,962,101	370,337	18.9
1919	2,008,872	623,619	29.7
1920	1,948,306	382,717	19.3
1921	1,252,828	417,124	33.3
1922	1,637,452	670,048	40.9
1923	1,447,751	556,169	39.1
1924	1,807,035	685,366	37.9
1925	2,305,590	879,657	28.2
1926	2,044,728	734,052	35.9
1927	1,992,317	742,266	37.3
1928	1,971,955	733,436	37.2
1929	2,148,619	784,150	36.5
1930	1,460,852	419,107	28.5
1931	1,146,981	355,394	31.0
1932	1,409,992	382,265	27.8
1933	1,861,945	390,901	21.0
1934	2,171,924	286,793	13.2
1935	2,499,073	387,032	15.4

As regards the quantity, it is rather on the increase compared with 10 years or so ago. In 1923 the exports were figured at 263,280 piculs

and for the following 3 years the quantity of the annual shipment never exceeded 450,000 piculs in contrast to 497,485 piculs for 1933. But this quantity for 1933 was smaller than that for any single year between 1928 and 1932. In 1934 it regained the former level, realizing a quantity next to none other than 1931 figure 1935. Below are given the yearly quantity of silk exported for the 10 years ending 1935:

Year	Quantity of Silk Exported (picul)
1925	438,449
1926	442,978
1927	521,773
1928	549,256
1929	680,950
1930	477,322
1931	560,577
1932	548,541
1933	497,485
1934	551,308
1935	

WORLD MARKETS FOR JAPANESE SILK

	(Unit: ¥1,000)						
	1928	1929	1930	1931	1932	1933	1934
United States	687,464	755,377	808,715	842,479	360,149	355,805	239,568
Britain	3,717	4,121	2,914	6,161	9,257	14,654	14,237
France	34,985	13,253	8,040	1,879	7,107	15,378	20,333
Australia	2,035	2,352	2,783	1,928	3,165	3,297	4,017
Canada	3,112	5,692	3,558	2,595	1,164	208	411
Others	795	71	636	351	1,523	1,556	8,225
Total	732,108	780,866	415,646	355,393	382,366	390,901	286,793

SILK EXPORTS TO THE UNITED STATES

Year	Export volume	Index number	Rate of increase or decrease against previous year (%)
1921	247,672	100.0	
1922	312,419	126.1	(+) 26.1
1923	201,938	81.5	(-) 35.4
1924	335,596	135.5	(+) 66.2
1925	422,984	170.8	(+) 26.0
1926	427,621	172.7	(+) 1.1
1927	491,078	198.3	(+) 19.8
1928	514,772	207.8	(+) 9.8
1929	560,976	226.5	(+) 9.0
1930	453,517	183.1	(-) 19.2
1931	540,158	218.3	(+) 19.2
1932	513,402	207.1	(-) 5.1
1933	437,624	176.7	(-) 14.7
1934	433,537	175.0	(-) 0.9
1935			

RAW SILK PRICE AT YOKOHAMA SPOT MARKET

Year	(Standard quality; per 100 kin, 133 lbs.)												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925	2,053	2,098	1,889	1,514	1,813	1,888	1,913	1,956	2,069	2,078	1,992	1,955	1,957
1926	1,942	1,860	1,711	1,503	1,519	1,576	1,602	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

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, unfortunately prices did not fall in inverse ratio, had they done so Japanese producers would have been happy, for in June, 1932, they reached a low of less than one-tenth that of 1920, whereas output had only doubled. In 1933 it regained a little, but 1934 price has fallen to the lowest, and it seems to be turning to an upward tendency in 1935 and 1936.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	1,356	1,378	1,396	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	534	548	556	567	583
1932	672	653	618	534	473	469	536	503	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	853	764	749	—	—	—	—	—	—	—	—	—	—

Accumulation and Distribution in Yokohama and Kobé Below is shown the statistics, compiled by the Hara Gomei Kaisha, anent the accumulation and distribution of silk in Yokohama and Kobé:

Year	Stocks at Beginning	YOKOHAMA		Sales for Domestic Consumption
		Receipts (In bales)	Sales for Exports	
1930-1931	—	677,492.0	638,010.0	44,975.0
1931-1932	—	396,345.5	373,809.5	26,881.0
1932-1933	—	367,702.5	342,429.5	28,156.5
1933-1934	—	394,286.0	353,543.5	30,545.5
1934 June	18,615.0	23,932.0	23,634.0	4,576.0
July	14,337.0	36,933.0	30,488.5	3,002.0
Aug.	17,779.5	41,310.0	37,485.0	3,276.5
Sept.	18,328.0	35,440.5	31,905.0	3,149.0
Oct.	18,714.5	38,747.0	34,842.0	4,424.0
Nov.	18,195.5	32,365.0	28,588.5	3,374.5
Dec.	18,597.5	34,353.0	31,696.0	2,115.0
1935 Jan.	19,139.5	20,863.0	21,922.5	1,294.0
Feb.	16,786.0	23,042.0	23,058.0	1,769.5
March	15,000.5	31,960.0	28,408.0	2,318.5
April	16,234.0	31,924.5	29,141.0	2,958.5
May	16,059.0	29,810.0	31,496.0	2,322.0
1934-1935	—	380,680.0	352,664.5	34,579.5

Year	Stocks at Beginning	KOBÉ		Sales for Domestic Consumption
		Receipts (In bales)	Sales for Exports	
1930-1931	—	310,216.0	286,156.0	11,256.0
1931-1932	—	198,579.0	190,994.0	17,718.0
1932-1933	—	176,702.5	164,002.5	14,030.5
1933-1934	—	190,069.5	176,039.5	8,762.5
1934 June	10,130.0	12,541.0	13,766.5	325.0
July	8,579.5	17,630.5	15,117.5	605.0
Aug.	10,487.5	17,709.0	17,580.5	486.0
Sep.	10,130.0	13,351.5	13,064.0	196.0
Oct.	10,221.5	15,504.5	15,131.0	382.0
Nov.	10,213.0	13,033.5	11,719.0	240.0
Dec.	11,290.5	14,035.5	12,399.0	658.0
1935 Jan.	12,269.0	13,071.0	12,818.5	10.0
Feb.	12,511.5	11,190.5	12,482.0	910.0
March	10,301.0	14,107.0	13,738.0	610.5
April	10,068.5	13,679.0	13,721.5	515.5
May	10,400.0	11,718.5	12,695.5	1,571.0
1934-1935	—	167,571.5	164,229.5	6,509.0

SERICULTURE AND RAW SILK

	Stoch at Beginning	TOTAL Receipts	Sales for Exports	Sales for Domestic Consump- tion
1930-1931	—	987,711.0	924,166.0	56,234.0
1931-1932	—	594,924.5	564,803.5	44,599.0
1932-1933	—	544,405.0	506,432.0	42,187.0
1933-1934	—	584,355.5	529,533.5	29,308.0
1934 June	28,745.0	36,473.0	37,400.5	4,901.0
July	22,916.5	54,563.5	45,606.0	3,607.0
Aug.	28,267.0	59,019.0	55,065.5	3,762.5
Sept.	28,458.0	48,792.0	44,969.0	3,345.0
Oct.	28,936.0	54,251.5	49,973.0	4,806.0
Nov.	28,408.5	45,398.5	40,304.5	3,614.5
Dec.	29,888.0	48,388.5	44,095.0	2,773.0
1935 Jan.	31,408.5	33,934.0	34,741.0	1,304.0
Feb.	29,297.5	34,232.5	35,540.0	2,679.5
March	25,310.5	46,067.0	42,146.0	2,929.0
April	26,302.5	45,603.0	42,892.5	3,474.0
May	26,459.0	41,528.5	44,191.0	3,893.0
1934-1935	—	548,251.0	516,894.0	41,088.5

Note: The silk year begins with June.

CHAPTER XV

FISHERIES

General

Japan Leads From her natural position, the fishing industry has naturally developed from of old until today and Japan occupies the first position in the world in the production of aquatic animals and plants amounting to ¥522,335,538, in 1934, as the following tables show. These products consist mainly of fishes, shell-fishes, seaweeds, which are used as food, fish oils and animal fertilizers.

Fishes and shell-fishes of which the Japanese are very fond are abundantly found in the coastal waters as well as in rivers, ponds, marshes, etc. For centuries the Japanese have been familiar with aquiculture, though crude in form, carp and gold fish were raised in ponds, while oysters and edible seaweeds were cultivated in the sea. Until recently fishing was mainly carried on in the coastal waters where herring, sardine, bonito, mackerel, tunny, shad, sea-bream, eel, flat-fish, etc. and shell-fishes such as awabi (sea-ear), oyster, asari (*Tapes philippinarum*), clams, etc. are found. More recently, pelagic fishing has developed with great rapidity, and not only are trawl fishing and whaling carried on with unusual vigour but new methods of fishing as the use of floating canneries, or crab-canning vessels, and the use of mother vessels for the collection of salmon and trout have been increasingly used. With the development of deep-sea fishing the canning of crab and salmon is being carried out on a large scale, the products being exported to dif-

ferent parts of the world. Today Japanese canned crab is dominating the American market, while canned salmon is finding a ready sale in Great Britain.

Administration and "Kumiai" The power of administration of fisheries is delegated to the prefectural governors who are authorized under the Fishery Law to give orders regarding the modes of catching, transportation and sales of manufactured products, fishing implements, vessels, etc. In order to secure a more effective control of the industry and promote its development by the co-operation of aquatic products associations, or "Suisankai", legislation was enacted in 1921. "Suisankai" are associations organized by the people engaged in fishing, manufacturing, selling, or storing aquatic products and have as their purpose the improvement of the fishing industry. The Imperial Government subsidizes these associations to some extent. In addition to "Suisankai" there are numerous local fishing guilds covering practically all the important fishing villages, and also many "Suisan Kumiai" which represent some particular branch of fishery. All these organizations are established to promote mutual interest by providing means to develop and improve the fishery industry and to protect and propagate aquatic animals and plants. "Suisan Dogyo Kumiai" are organized under the Guild Law for Important Products, their functions being the standardization of aquatic products and the improvement of their methods of trade, etc.

History of the Industry

Many historical records show that the people in Japan engaged in fishing and served fishes as delicacies at table from very early times. During the time the Ashikaga family ruled the country, fishermen in the western provinces were so bold as to sail not only to the Chinese coast but even as far as Annam and Siam. Fishermen during the time of Toyotomi were equally active and engaged in fishing in the seas round Korea. When, however, the Tokugawa Shogunate came to govern the country, it adopted the seclusion policy and dealt a severe blow to the fishing industry. Fishermen were prohibited from sailing to distant seas and pelagic fishery, which would otherwise have developed, gradually declined.

The international exhibitions held in Vienna and Philadelphia in 1872 and 1876, and the International Exhibitions of Aquatic Products held in Berlin and London in 1880 and 1883, had a great deal to do with the awakening of Japan's fishery industry. Somewhere about that time incubation was first introduced into Japan. In 1885, the Bureau of Aquatic Products was established in the Department of Agriculture and Commerce and at the same time Regulations for Fishermen's Associations were issued; investigations regarding aquatic products were started; indiscriminate catching of fishes, shellfishes, and seaweeds were prohibited; and various other measures for the protection, cultivation and improvement of the industry were adopted. In 1897, an Act for the Encouragement of Pelagic Fishery was enacted, and from 1902 on the Fishery Act, which was revised in 1910, was enforced.

As regards international relations, the Act for Fishery Associations in

Foreign Seas was enacted in 1902. Under this Act the present "Suisankai" in Russian waters was established in December of 1908. In 1907, the most important treaty on fishery, the Russo-Japanese Treaty was signed between the two countries. In 1924, a further treaty on fishery was concluded between Japan and Soviet Russia.

Another important treaty, important from the standpoint of international relations on fishery, was signed between Japan, Great Britain, the United States of America and Russia in 1911 with regard to the protection of the fur-seal. In 1924, a treaty was concluded in Paris with the purpose of establishing an International Storage Association.

Survey of Recent Years

The Value of Catches In 1934 the value of marine products including catches in the Russian waters amounted to ¥286,891,477. That of marine products along the coasts of Japan amounted to ¥173,137,123, showing an increase of ¥2,523,249 (1.6%) as compared with the previous year. Of the catches in the coastwise fishery fishes totalled ¥128,142,923, shells ¥10,094,031, crustaceans and mollusca ¥25,617,397 and seaweeds ¥9,282,772. In the deep sea fishery, production of which amounted to ¥72,851,356 in 1934, the bonito surpassed all the rest, its value reaching ¥11,048,454. Next was the tunny which amounted to ¥10,753,997. The third was the sea-bream which brought ¥5,470,836. Coral catching is also included in the deep-sea ocean going fishery and its production for 1933 reached 628 kwan and ¥187,472. Catches in the Soviet waters were valued at ¥23,666,332 in 1933 against ¥31,909,072 in 1932. But the 1934 production increased to ¥40,902,998. The number of leased fishing grounds

for 1934 was 386 against 357 in 1933 and 392 in 1932. Productive value of canned marine products there for 1934 totalled ¥27,859,302 against ¥14,588,106 for 1933.

The activity of Japan Industry Company in fishery business during 1933 deserves noting. The concern placed under its control the Kyodo Fishery Company, Japan Godo Floating Cannery Company, Japan Fish Net and Implement Company and Toyo Can Manufacturing Company to rival the Nichiro Fishery Company, the largest fishery company in Japan. These companies of Japan Industry affiliation concentrated their energy on deep-sea fishery, which had made a remarkable growth as the result. This company has obtained the permission of the Argentine Government for trawling in the South American Atlantic coasts in January, 1936 and a vessel will be sent there in 1936 on trial. Fish catches in the deep-sea fishery for 1933 by five fishery companies other than Nichiro Fishery realized satisfactory results, as is seen below:

Companies	Red	Salmon
	Salmon	Pink
	(In cases)	
Hirado Okidori	20,364	unknown
Daido Okidori	17,505	16,950
Taiheiyō Fishery	50,086	29,725
Miyagi Fishery	10,000	4,255
Okidori Godo	32,710	24,005
Total	131,155	75,535
Nichiro Fishery	281,259	386,401
Grand total	412,454	537,471

Nichiro Fishery's business interest was very much affected by the activity of these five companies. Alive to the promising future of deep-sea fishery, Kyodo Fishery has turned its attention to this field and applied to the Hokkaido Government for operation in the North Kuriles. This company placed under its management the Godo Fishery Company, which specializes in deep-sea fishery. Thus the deep-sea fishery for 1934

was to be competed between Nichiro Fishery and Kyodo Fishery. However, Taiheiyō Fishery was affiliated with Nichiro Fishery and did not take too much heed to the activity of Kyodo Fishery.

The Nichiro Fishery reported profit amounting to ¥6,084,000 for the first half of 1935 and ¥3,910,000 for the second half of the same year. Red salmon catches were the poorest in the second half of 1935 in the past ten years. The company, however, could keep a dividend of 10 per cent. by the rationalization of management and improvement in the products prepared.

	Nichiro Fishery Catches	
	Red Salmon	Salmon and Trout
	(in Cases)	
1933	281,259	386,401
1934	500,511	889,158
1935	179,714	654,658

Kamchatka Fishery Auction Disputes pending between Japan and the Soviet Union on Kamchatka fishery grounds out of the yen-ruble conversion rate have not yet been solved. Prior to the annual fishery auction for 1934 to be held on February 20, 1934, the Soviet Union suddenly notified the Japanese side of the increase of conversion rate to 75 sen. The Japanese Government and fishery companies rejected to the proposal and the matter was left to diplomatic negotiations. When the date of auction neared, Japanese fishery companies deposited guarantee money at the rate of 32.5 sen with the Soviet Fishery Board in Vladivostok to participate in the auction. On reason that the guarantee money is a half the required amount, the Soviet side declared the auction for Japanese null and void. The conversion rate was agreed upon as the result of negotiations between Baron Kijuro Shidehara, Foreign Minister, and Mr. Alexander Trayanovsky, Soviet Ambassador in Tokyo,

in May, 1931. The sudden proposal for changing the rate had a very delicate situation connected with it. The Soviet side announced the new auction to be held on March 5, but the Japanese side still insisted on the validity of the first auction. If the Japanese side ever participated in the new auction, this means it recognized the invalidity of the first auction and Soviet proposal for having doubly raised the conversion rate. Eventually, the Japanese side persisted in its due claim for the first auction and did not participate in the second auction, thus disclaiming their right to participate in the auction this year. The year's new grounds acquired by Japanese in the first auction were 34, which the Japanese side does not give much importance and this does not affect the whole fishery situation in Kamchatka very badly against Japan. Japanese fishery companies forsook their right to participate in the second auction and sent their ships to Kamchatka during April. The annual fishery auction for 1936 was held on February 28 at Vladivostok and the Japanese acquired 20 grounds against 17 for the Russians. The Japan-Soviet Fishery Treaty was concluded on March 1, 1928, but, due to its defects, a provisional treaty was concluded between the two Governments in August, 1932. This treaty holds good till 1936. The treaty aims at reassurance of Japa-

nese right and interest, the expansion of Soviet fishery interest and the solution of pending issues. According to the revised treaty, except for 60 grounds out of 392 grounds (371 for salmon, trout and herring grounds and 21 for crab) operated by Japanese all the remaining grounds can be secured as they are till 1936 without being subjected to auction. Japan recognizes the increased catch of the Soviet side by 37 per cent. or 5,000,000 poods till 1936.

New treaty for the years after 1936 is under negotiation at Moscow since 1935, but it has not yet come to the final conclusion.

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 1934, as many as 1,521,916 men and women were engaged in fishery, and of this number 1,231,021 were males and 290,895 females. Classified as employers and employees, the former numbered 640,735, and the latter 881,181. Of the total number, 1,103,346 (72.5%) were fishermen, 151,007 (9.9%) were engaged in cultivation and 267,563 (17.6%) 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 manufactures
1928	1,498,258	1,130,430	119,986	247,842
1929	1,490,726	1,112,002	120,933	257,791
1930	1,482,355	1,109,700	122,116	252,119
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	267,563

NUMBER OF PERSONS CLASSIFIED ACCORDING TO EMPLOYERS, EMPLOYEES AND SEX

Year	Total number			Total	Employees	
	Total	Men	Women		Men	Women
1928	1,498,258	1,208,583		864,771	606,598	258,173
1929	1,490,726	1,209,969		857,646	605,754	251,892
1930	1,482,355	1,205,654		847,114	600,197	246,917
1931	1,482,520	1,202,515		847,821	598,221	249,600
1932	1,499,040	1,217,694		858,722	608,151	250,571
1933	1,499,175	1,216,434		863,326	612,354	250,972
1934	1,521,916	1,231,021		881,181	622,029	259,152

Fishing Boats and Vessels

The total number of boats and vessels engaged in fishing at the end of 1934 was over 364,582, of which 311,553 were without engines, while over 53,029 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	
			Steam	Motor
1919	384,609	380,577	99	3,933
1930	359,295	323,228	159	35,908
1931	360,590	318,443	185	42,062
1932	369,686	315,217	244	45,225
1933	363,473	314,434	250	48,789
1934	364,582	311,553	87	52,942

FISHING BOATS AND VESSELS CLASSIFIED ACCORDING TO KINDS AND CAPACITIES

Kinds and tonnage of steamers	1930	1931	1932	1933	1934
	Without engines	323,228	318,443	315,217	314,434
Under 5 tons	314,400	309,985	306,137	306,381	303,342
5-10 "	8,269	7,925	8,650	7,582	7,635
10-20 "	520	482	385	417	529
20 " and over	39	49	45	54	47
With engines	36,067	42,247	45,469	49,039	53,029
Steam engines	159	185	244	250	87
Under 50 tons	55	70	143	157	63
50-100 "	19	19	16	13	2
100 " and over	85	96	85	80	22
Oil engines	35,908	42,062	45,225	48,789	52,942
Under 5 tons	21,520	27,301	30,402	33,714	37,053
5-10 "	5,996	6,136	6,388	6,516	6,772
10-20 "	6,446	6,584	6,458	6,498	6,724
20-50 "	1,729	1,755	1,688	1,688	1,871
50 tons and over	217	286	339	373	522

Coastal Fishery

Fish, shell-fish, etc. caught in 1934 amounted to ¥173,137,123 in value, the major classification of which were as follows:

Fish	Quantity	Value
Fish	2,227,176,264 kg.	¥128,142,023
Shell-fish	180,033,086	10,094,031
Crustaceans and Mollusca	190,476,233	25,617,397
Seaweeds	657,042,262	9,282,772

The amount of catches in coastal fishery since 1927 is shown in the following table. In 1930-1932 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 for the past two years it is regaining former prosperity.

(Quantities in Metric Tons, Values in ¥1,000)

Year	Total		Fresh fishes	
	Quantity	Value	Quantity	Value
1927	2,971,779	229,138	1,717,739	166,006
1928	2,123,777	200,264	1,469,120	156,560
1929	2,186,252	204,498	1,489,973	153,424
1930	2,302,036	162,928	1,588,580	121,734
1931	2,526,887	147,806	1,833,826	110,773
1932	2,667,255	145,736	1,886,086	107,818
1933	3,859,993	170,613	2,860,585	128,151
1934	3,254,725	173,137	2,227,173	128,142

Year	Shell-fishes		Crustaceans and mollusca		Seaweeds	
	Quantity	Value	Quantity	Value	Quantity	Value
1927	130,218	11,001	173,023	80,232	950,799	21,809
1928	143,984	12,113	184,763	28,931	875,910	11,661
1929	138,828	10,492	149,308	29,311	858,143	11,270
1930	123,100	8,465	136,757	23,169	503,599	9,561
1931	118,732	7,136	148,663	21,892	425,506	8,005
1932	125,328	6,975	179,009	22,951	476,832	7,992
1933	135,593	7,972	204,347	26,288	659,467	8,201
1934	180,033	10,094	190,476	25,617	657,042	9,282

Catches of the more important fishes in coastwise fishery since 1929 are shown in the following tables:

PRODUCTION AND KINDS OF FRESH FISHES

(Unit ¥1,000)

Kind of fresh fish	1929	1930	1931	1932	1933	1934
Herring	10,611	7,542	7,213	7,253	13,378	7,157
Sardine	26,234	19,006	17,972	20,756	26,035	26,314
Bonito	3,492	2,589	2,257	2,081	2,325	2,687
Mackerel	7,815	5,631	5,184	4,555	5,746	5,830
Tunny	7,814	5,630	5,184	4,601	4,715	4,991
Yellow-tail	10,058	7,865	7,191	9,075	10,934	9,654
Cod	4,556	3,252	2,968	2,997	3,287	3,781
Shark	1,288	986	767	607	857	909
Sea-bream, red	12,720	10,232	9,144	8,602	10,434	9,685
Sea-bream, black	2,274	2,024	1,859	1,780	1,904	2,176
Flat-fish	5,029	4,192	3,458	3,532	3,694	4,135
Cybius	2,721	5,513	2,207	1,976	2,072	2,557
Horse-mackerel	4,787	4,099	3,988	3,677	4,390	4,501
Flying fish	1,225	1,071	798	711	902	907
Grey mullet	3,452	2,962	2,426	2,367	2,779	2,655

Kind of fresh fish	1929	1930	1931	1932	1933	1934
Konosirus	1,439	948	827	720	863	804
Dog-salmon	4,299	3,890	3,345	2,558	3,636	4,690
Trout	5,666	2,225	2,599	1,715	1,956	5,312
Japanese smelt	3,848	3,411	2,989	2,789	2,473	2,595
Eel	3,361	2,974	2,688	2,453	2,425	2,278
Others	32,460	27,855	25,616	22,952	21,219	24,515

PRODUCTION OF VARIOUS KINDS OF SHELL-FISHES

(Unit ¥1,000)

Kind of shell-fish	1929	1930	1931	1932	1933	1934
Awabi ¹	2,957	2,552	1,683	1,656	1,813	2,849
Oyster	475	363	400	720	423	473
Clam	445	402	373	463	492	493
Sazané ²	714	502	483	416	456	485
Arca	606	651	536	555	463	405
Asari ³	625	576	507	497	505	434
Others	4,666	3,315	3,151	2,959	3,818	4,951

1 Sea ear, abalone.

2 Turbo cornutus.

3 Tapes philippinarum.

PRODUCTION OF CRUSTACEANS AND MOLLUSCA

(Unit ¥1,000)

Kind	1929	1930	1931	1932	1933	1934
Cuttle-fish	12,311	8,315	8,822	10,169	11,781	10,276
Octopus	4,142	3,431	2,930	2,898	3,069	3,357
Prawn and shrimp	7,336	6,616	5,425	5,258	6,179	6,320
Spiny lobster	1,298	1,094	1,062	1,051	1,056	1,079
Crab	798	781	790	712	1,411	1,603
Bêche-de-mer	1,070	752	623	592	584	777
Others	2,443	2,175	2,236	2,359	2,206	2,201

PRODUCTION OF VARIOUS KINDS OF SEAWEEDS

(Unit ¥1,000)

Kind	1929	1930	1931	1932	1933	1934
Kombu ¹	4,157	3,909	2,381	3,945	2,345	3,930
Amanori ²	542	552	412	315	515	452
Wakamé ³	1,279	921	813	722	938	1,026
Tengusa ⁴	2,322	1,821	2,094	1,616	1,733	1,466
Funori ⁵	843	680	681	644	698	877
Others	2,125	1,675	1,522	1,748	1,920	1,529

1 Laminaria.

2 Porphyra.

3 Undaria pinnatifida.

4 Gelidium corneum.

5 Gloiopeltis furcata.

Pelagic Fishery

Large-sized vessels with motors have increased greatly in number lately. 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 Formosa and Japan proper. The northern seas have been opened up by floating crab canneries, and mother ves-

sels 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 Siam, 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 1934, the number of vessels engaged was 8,705, the number of men 110,983 and the amount of catches 726,919,444 kg. of a value of ¥69,428,261, exclusive of catches in colonial waters. The vessels with engines numbered 8,408, while those without numbered only 297.

Catches of principal fishes are as follows:

Bonito	68,942,475 kg.	¥11,048,454
Tunny	36,009,938	10,753,997
Sea-bream	11,479,945	5,470,536
Flat-fish	50,045,010	5,184,968

The number and descriptions of vessels engaged in this fishing with their catches, since 1930, 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		
	No.	Tonnage	No. of crew	No.	Tonnage	No. of crew	No.	Tonnage
1930	9,258	175,617	111,778	590	4,484	3,757	8,660	170,955
1931	9,048	170,624	111,778	590	4,484	3,757	8,458	166,040
1932	8,690	172,621	111,763	408	3,013	2,914	8,282	169,608
1933	8,225	181,957	112,919	282	1,916	1,482	7,943	180,041
1934	8,705	194,407	110,983	297	2,088	1,686	8,408	192,369

VALUE OF DEEP-SEA FISHES CAUGHT IN HOME WATERS

In Japan Proper

(Unit ¥1,000)

Kind of fish	1930	1931	1932	1933	1934
Sardine	2,047	2,183	2,506	3,412	3,702
Bonito	11,063	10,886	8,404	11,661	11,048
Mackerel	2,612	2,450	2,183	2,873	2,973
Tunny	13,703	11,806	9,040	9,788	10,753
Cod	1,699	1,647	1,507	2,102	2,967
Shark	3,695	2,588	2,606	2,848	2,686
Sea-bream	7,218	5,546	4,025	5,449	5,470
Flat fish	5,650	4,387	4,051	5,287	5,184
Cybiun	253	32	37	31	53
Skipper	1,295	814	950	1,299	1,655
Others	17,307	15,633	17,811	21,230	22,931
Total	66,546	57,978	54,020	65,986	69,428

In Korean Waters

	1930	1931	1932	1933	1934
Number of boats	2,274	2,102	1,712	1,343	832
Total value of catches	¥5,610,728	¥3,763,452	¥3,171,906	¥3,339,410	¥3,241,283

In Formosan Waters

	1930	1931	1932	1933	1934
Number of boats	—	7	15	50	42
Total value of catches	—	¥104,571	¥198,583	¥191,559	¥181,812

In Kwantung Waters

	1930	1931	1932	1933	1934
Number of boats	102	92	244	288	288
Total Value of catches	¥318,452	¥239,264	¥599,522	¥641,071	¥644,465

Norwegian Whaling 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 of 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 can only be carried on under permit. The Government furthermore restricts the number of ves-

sels engaging in this work to 30 in seas other than the Southern or Northern 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 Southern Ocean and the Tonan Maru made good catches of whales there in 1935.

WHALES CAUGHT (Value in yen)

Whales caught	In Kwantung Waters				
	1930	1931	1932	1933	1934
In home waters					
Total	No. 1,868	1,004	1,124	1,156	1,356
	Value 1,246,671	766,208	650,300	1,142,183	1,991,421
Finback whale	No. 142	171	122	124	178
	Value 224,530	151,206	183,592	148,402	427,093
Blue whale	No. 48	17	17	6	24
	Value 129,550	34,649	38,033	11,889	90,118
Sperm whale	No. 751	859	561	617	786
	Value 556,062	222,257	360,389	532,262	883,220
Humpback whale	No. 12	30	41	58	42
	Value 41,327	42,036	50,984	98,736	88,880
Sye whale	No. 410	419	369	348	324
	Value 285,258	267,243	245,793	343,908	495,210
Grey whale	No. —	—	—	—	—
	Value —	—	—	—	—
Right whale	No. 5	8	14	3	2
	Value 9,944	18,817	21,459	6,986	6,900
In colonial waters					
Total	No. 349	221	206	202	123
	Value 612,132	375,423	346,616	433,849	429,683
Finback whale	No. 258	166	148	164	106
	Value 433,662	295,190	279,084	284,500	405,741
Blue whale	No. 8	3	—	1	—
	Value 29,255	8,775	—	1,156	—
Sperm whale	No. 2	—	—	1	2
	Value 3,836	—	—	1,085	2,856
Humpback whale	No. 50	40	49	34	15
	Value 91,693	50,129	57,116	45,272	21,086
Sei whale	No. 1	2	2	1	—
	Value 374	1,487	1,192	540	—
Grey whale	No. 30	10	7	1	—
	Value 53,312	19,842	9,224	1,296	—
Right whale	No. —	—	—	—	—
	Value —	—	—	—	—

Trawling Trawling in Japan is modelled after that now being car-

ried 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 Inland Sea, the East China Sea, 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, as mentioned above, the number of trawlers is restricted to 70. Catches by trawling in 1934 amounted to 51,704,775 kg., value ¥6,721,432.

FISHES CAUGHT BY TRAWLING

(Quantity in metric ton, value in ¥1,000)

Kind of fishes	1930	1931	1932	1933	1934
Total quantity	62,356	58,951	55,799	50,351	51,704
Value	7,625	6,284	5,607	6,254	6,721
<i>Pagrus major</i>					
Quantity	512	343	258	129	135
Value	232	155	78	68	87
<i>Sciaena japonica</i>					
Quantity	4,416	5,032	3,170	2,840	2,221
Value	1,025	911	564	577	517
<i>Sciaena schlegelii</i>					
Quantity	18,687	18,802	21,003	14,968	18,811
Value	2,189	1,713	1,512	1,361	1,609
Flat fish					
Quantity	6,576	6,209	5,678	5,507	5,452
Value	847	721	644	655	749
Shark					
Quantity	5,047	4,451	3,163	2,597	2,549
Value	453	309	179	171	179
Others					
Quantity	27,116	24,111	23,556	24,309	22,534
Value	2,866	2,473	2,630	3,419	3,578

Fishery in Russian 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 of 1904-05. In 1928, a new convention (Appendix), 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 Kam-

chatka, are leased from the Soviet at annual auctions held at Vladivostok.

In 1934 the number of fishing lots actually worked was 370, the number of steamers 171, sailing vessels 1, and the number of fishermen and others engaged in the fishing 20,364. The amount of salmon, trout, and herrings caught in 1934, was 108,162,600 kg. in total, the catches of crab amounted to 3,583,413 pieces. Good catches of salmon and trout are made every other year, while the quantity of crabs has a tendency to become

smaller. The amount of salmon, crab, etc. canned was 1,429,191 cases, valued at ¥27,859,302 in 1934. In the same year the amount of salmon

and trout salted reached 56,607,300 kg. The following table shows the number of fishing districts leased, amount of fish caught, etc.

STATISTICS SHOWING NUMBER OF FISHERIES, FISHING VESSELS, FISHERMEN, AND PRODUCTS IN RUSSIAN WATERS

	1930	1931	1932	1933	1934
Number of fisheries:					
Fisheries leased from U.S.S.R.	318	309	392	357	385
Fisheries worked for the year	292	287	323	350	370
Fishing vessels:					
Steamships No.	252	193	212	174	171
Tonnage	442,062	300,311	366,634	330,062	360,179
Sailing-ships:					
Number	6	10	2	1	1
Tonnage	1,583	2,179	623	525	525
Fishermen	22,227	17,240	18,185	17,506	20,364
Total fish caught 100 kg.	889,690	457,700	768,324	476,652	1,081,626
Dog salmon 100 kg.	357,608	231,475	233,428	231,471	350,787
Trout	374,058	106,731	395,468	163,185	571,661
Red salmon	151,037	114,692	115,438	80,016	156,098
King salmon	4,184	2,808	2,807	1,332	2,575
Herring guano	2,803	1,994	1,183	648	505
Crab pieces	4,846,962	4,291,600	3,100,855	2,546,331	3,583,413
Fishery products prepared, yen	31,829,383	22,355,899	31,909,037	23,666,332	40,902,998
Salt cured (total) Qt'y 100 kg.	593,350	288,891	472,047	312,267	566,073
Value yen	9,511,527	5,040,798	8,301,448	7,567,889	10,583,126
Salmon Quantity 100 kg.	351,770	209,071	231,965	212,957	324,953
Value yen	6,424,376	4,019,101	5,178,966	5,647,006	6,994,973
Trout	241,580	79,820	240,082	99,310	241,120
Canned food (Total)	3,087,151	1,021,697	3,127,482	1,920,883	3,588,153
Quantity cases	1,347,503	814,391	1,216,921	698,126	1,429,191
Value yen	20,847,275	16,292,679	21,571,336	14,588,106	27,859,302
Red salmon	601,933	511,121	416,164	287,666	514,543
Salmon	12,504,247	12,602,559	13,771,888	9,272,017	17,671,705
Trout	102,905	55,070	40,186	27,839	48,187
Crab	912,064	517,433	659,716	543,168	711,288
Others	569,630	184,253	713,091	357,492	837,306
Crab	5,035,112	1,266,844	5,469,149	3,603,966	8,076,869
Others	73,035	63,947	47,480	25,129	29,155
Others Value	2,895,852	1,905,843	1,670,583	1,168,955	1,399,440
	1,470,581	1,022,422	2,086,253	1,510,337	2,460,570

FISHING DISTRICTS FOR SALMON AND TROUT, AND AMOUNT OF FISH CAUGHT IN RUSSIAN WATERS

Year	Fishing districts				Standard amount of fishing and fishery products			
	Japanese No.	%	Russian No.	%	Japanese Quantity pood	%	Russian Quantity pood	%
1930	296	55.2	240	44.8	7,677,908	60.7	4,975,733	39.3
1931	288	51.7	269	48.3	7,483,410	57.7	5,496,765	42.3
1932	371	58.3	267	41.7	8,379,652	60.7	5,077,471	39.3
1933	340	51.5	320	47.3	8,022,711	58.0	5,631,046	42.0
1934	369	52.6	333	47.4	8,337,526	58.9	5,809,165	41.1

CRAB FISHING DISTRICTS IN RUSSIAN WATERS
WITH AMOUNT OF CRABS CAUGHT

Year	Fishing districts		Russian		Standard amount of crab fishing		Russian	
	Japanese No.	%	No.	%	Japanese Quantity cases	%	Quantity cases	%
1930	22	40.7	32	59.3	128,500	49.2	126,500	49.6
1931	21	39.6	32	60.4	125,500	49.2	129,500	50.8
1932	21	40.4	31	59.6	125,500	47.0	139,500	53.0
1933	17	37.0	29	63.0	104,500	44.6	129,500	55.4
1934	17	34.7	32	65.3	104,500	44.6	129,500	55.4

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-manufactory 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 revised, the number of vessels on the western sid of Kamchatka 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 Russian vessels came in, in 1929 another two entered and 1930 saw a further increase.

Canned crabs manufactured by this method since 1930 are as follows:

OPERATION OF CRAB MANUFACTORY VESSELS

No. of vessels, crabs caught, etc.	1930	1931	1932	1933	1934
Vessels in operation					
Number	19	9	7	9	9
Tonnage	63,924	29,413	24,275	40,724	37,235
Crew	801	377	301	414	406
Fishermen engaged	6,434	2,816	2,144	2,541	2,714
Crabs caught, pieces	24,055,810	15,185,800	60,355,729	9,461,587	9,930,675
Canned foods					
Quantity cases	405,377	240,207	173,525	153,712	162,079
Value in yen	13,148,175	7,302,961	5,467,542	7,476,267	7,732,616

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 fishes 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. In order to encourage the incubation of salmon and trout in public waters the Government issued in 1926, Rules for Encouraging Aquiculture, and decided to bear 70% of the expense required for the selection of spawn, etc., when the incubation work was undertaken by various prefectures, or by any fishery associations. From 1926 to 1929, the Government spent ¥793,560 for these purposes, and let loose 601,940,000 incubated fishes. In addition, aquiculture for both fresh

and sea-water fishes is carried out on a business basis by private interests in various ways. Business of this kind is increasing, but there is still room for large development as the area over which aquiculture is being carried on is only 524,102,737 sq. m. in 1932, which is only about 6% of the total available area. The principal fishes, shell-fishes and seaweeds which are now being cultivated are carp, eel and tortoise in fresh water, and the seaweed

laver in seawater. The breeding is done in rice-fields, breeding ponds, reservoirs, marshes, etc.

The number of aquicultural establishments in 1934 was 163,549, the area covered 522,221,417 sq. m. and the amount of products was valued at ¥22,318,327 increasing by ¥3,034,956 (15.7%) as compared with the previous year. 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 sq. metres	Value of products yen
1930	144,438	485,235,131	18,509,406
1931	151,565	499,770,658	19,128,963
1932	157,414	524,102,737	18,470,143
1933	159,091	537,908,403	19,283,371
1934	163,549	522,221,417	22,318,327

FISHES, SHELL-FISHES, ETC., RAISED THROUGH AQUICULTURE

Fishes, shell-fishes, etc., produced	1930	1931	1932	1933	1934
Carp:					
Ricefields					
Quantity kg.	1,927,140	1,835,490	1,805,708	1,923,199	2,094,821
Value yen	740,960	622,072	627,697	659,960	690,306
Breeding-ponds					
Quantity kg.	4,201,796	4,585,643	4,828,178	5,571,454	6,154,268
Value yen	1,674,865	1,685,808	1,746,661	1,990,842	2,139,843
Reservoirs, marshes, etc.					
Quantity kg.	2,754,870	2,986,103	3,259,601	3,394,560	3,542,741
Value yen	1,182,306	1,101,170	1,186,599	1,272,190	1,356,034
Eel:					
Breeding-ponds					
Quantity kg.	3,817,213	3,837,025	4,585,448	5,511,315	6,042,968
Value yen	2,682,720	2,785,600	2,830,072	3,475,012	3,732,627
Reservoirs, marshes, etc.					
Quantity kg.	281,786	141,503	117,015	146,880	121,181
Value yen	231,178	116,067	82,544	111,326	92,250
Goldfish:					
Quantity kg.	488,965	446,026	549,176	513,958	1,865,014
Value yen	569,849	564,998	567,293	648,101	593,605
Oyster:					
Quantity kg.	1,937,209	25,861,714	25,123,556	35,275,125	43,397,078
Value yen	988,615	1,102,889	1,126,636	1,193,086	1,437,378
Asari:					
Quantity kg.	24,596,753	28,432,526	29,530,433	29,530,433	38,522,404
Value yen	734,342	715,337	653,252	633,913	691,690
Pearl oyster:					
Pearl					
No. of shells	819,496	1,079,163	3,655,135	2,492,727	4,510,158
Value yen	712,460	564,538	983,831	909,355	1,472,487
Pearl shells:					
No.	6,180,522	10,289,214	23,902,593	13,932,890	50,515,256
Value yen	173,457	117,721	107,201	286,653	637,196
Amanori:					
Quantity kg.	18,545,048	26,200,676	24,117,068	22,409,048	30,649,665
Value yen	7,435,263	8,425,967	7,199,250	6,481,262	7,521,042
Others:					
Value yen	1,383,391	1,325,796	1,354,107	1,621,671	1,953,869

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 amount 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 1934 was valued at ¥190,348,739, of which ¥28,913,030 was in fertilizers, ¥8,702,511 in fish oils, ¥627,608 in Gloiopeltis dried, and the balance of ¥152,105,590 was the value of food products.

MANUFACTURED FISHERY PRODUCTS

(Units: Quantity metric ton, value ¥1,000)

Year	Total	Food products		Fertilizers		Year	Quantity	Value	Quantity	Value
		Quantity	Value	Quantity	Value					
1930	155,879	404,351	134,761	233,339	16,572	1930	40,204	3,404	993	1,047
1931	187,378	400,717	119,036	279,085	15,129	1931	45,235	2,480	793	731
1932	138,986	381,240	114,027	344,888	20,207	1932	57,089	4,120	733	583
1933	176,598	450,267	140,230	438,117	28,843	1933	70,633	6,947	679	576
1934	190,348	485,264	152,105	424,017	28,913	1934	82,638	8,702	788	627

Note: Production of Japanese isinglass is not included in the table.
* Dried seaweed, *Gloiopeltis furcata*.

Fish 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 na-

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

FOOD PRODUCTS

(Unit ¥1,000)

Year	Fushi	Dried	Salted and dried	Boiled and dried	Smoked	Salt-cured	Canned foods	Miscellaneous
1930	18,707	21,000	7,878	18,914	424	8,484	8,409	50,942
1931	17,506	16,933	7,215	14,940	322	7,690	6,670	47,757
1932	13,711	20,288	6,173	14,090	349	6,140	7,274	45,996
1933	15,628	21,221	8,300	15,794	360	9,773	20,304	47,848
1934	15,823	23,250	8,820	19,781	372	9,704	23,301	51,051

Japanese Isinglass Kantén or Japanese isinglass is a gelatinous substance extracted from seaweeds, especially from "*Gelidium amansii*",

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

	1931	1932	1933	1934	1935
No. of establishments	411	431	435	429	449
Total production quantity kg.	1,387,620	1,529,310	1,573,230	2,081,404	2,320,654
Value yen	3,951,402	4,123,893	3,883,464	4,718,521	5,257,378

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 metric ton, value in ¥1,000)

Year	Total	Quantity	Value	Herring	Sardine	Bonito	Sardine	Dried	Others
1930	233,339	16,572	3,663	8,172	573	475	1,565	2,122	
1931	279,085	15,129	3,227	8,080	521	576	1,238	1,486	
1932	344,888	20,207	3,799	11,080	489	1,114	1,238	1,584	
1933	438,117	28,843	5,121	17,750	526	966	2,300	2,178	
1934	424,017	28,913	3,319	19,516	969	1,006	2,163	1,917	

Fish Oils Fish oils used for industrial purposes are sardine oil, herring oil, cod oil, whale oil and shark oil. Production is increasing every year,

in 1934 it was 82,638,855 kg. against 70,633,755 kg. in 1933, the value being increased from ¥6,947,198 to ¥8,702,511.

FISH OILS

(Value in ¥1,000)

Year	Total	Sardine	Herring	Cod	Whale	Shark	Others
1930	3,404	1,988	425	99	310	308	271
1931	2,480	1,541	291	84	144	269	150
1932	4,120	2,926	265	144	264	340	177
1933	6,947	4,804	295	255	439	448	703
1934	8,702	6,416	358	375	408	431	711

Sukifunori The production of sukifunori, dried *Gloiopeltis jurcata*, used as a starch, in 1934 amounted to 788,869 kg., valued at ¥627,608.

Manufacture of Salt

The salt industry in Japan is carried on under the Salt Monopoly Law. Salt is manufactured by the boiling method. The cost of production, therefore, is high, and the quantity produced is not enough, so that a large quantity of cheap salt is imported every year. The number of salt producing establishments, production, production areas, etc., in Japan are as follows:

Year	Quantity kg.	Value yen
1930	736,931	641,722
1931	793,028	731,561
1932	733,703	583,958
1933	679,369	576,457
1934	788,869	627,608

for Encouragement of Cold Storage, refrigeration by air was introduced from U. S. A., and as the result of encouragement, cold storage businesses arose in every part of the country. Up to 1929, subsidies amounting to ¥2,467,000 had been granted to 99 persons out of the 174 who had applied for them.

(3) Ice Storage The amount of subsidy for construction, addition, or reconstruction of ice storage is less than one-third of the cost. Owing to the rapid development of ice manufacturing since 1919, ice storage has developed in every part of the country, and ice storage plants for fish have been constructed in numerous places along the coast. The Government began to encourage their construction in fishing villages in 1923, and up to 1929 subsidies amounting to ¥180,000 were granted to 83 persons out of the 144 who applied for them.

System of Fishing Rights

Any system which makes the capture of fishes or shell fishes in the sea a right is unknown in the West. Japan, however, has had a system of this sort in a rude form from of old, and in 1901, the system was legally established by the Fishery Law, because of the necessity of protecting the cultivation of fishes

1. Facilities for quays and the mooring of vessels.
2. " " the sale of manufactured fishing products.
3. " " manufacturing and disposing of fishing products.
4. " " cold storage.
5. " " fishing vessels and fishing implements.
6. Facilities for transportation.
7. " " cultivation.
8. " " rescue work of shipwrecked fishing vessels.

The amounts of subsidy to be granted will be less than 40% of the cost in the case of the first six, less than 50% for the seventh, and

and the maintenance of fishing villages. There is a similar kind of system for rivers, lakes and marshes, but examples of river and lake fishing rights are also found in foreign countries. The kinds of fishing rights which are given in the Fishery Law are as follows:

- (1) Exclusive fishing rights.
- (2) Fixed " "
- (3) Divisional " "
- (4) Special " "

Fishing rights are considered as rights of property. They can be transferred freely, if registered, and money can be borrowed with them as security. The term of fishing rights are fixed by the authorities which issue the licence within twenty years, but they may be renewed on application by the owners of the rights. The term of an exclusive fishing right is fixed at 20 years.

Facilities for Fisheries

In 1925, the Government issued Rules for Encouraging the Establishment of Facilities for Fisheries and ruled that it would grant subsidies for facilities established by Gyogyo-Kumiai, Suisankai, Suisan-Kumiai, industrial associations, or local municipalities of cities, towns and villages. The kinds of facilities encouraged are:

less than 60% for the eighth. Subsidies granted since 1925 are as follows:

1.	95 cases of facilities for quay and vessel mooring	yen
2.	81 " " " " the sale of fishing products	876,374
3.	22 " " " " manufacture and disposal of fishery products	177,578
4.	18 " " " " cold storage	45,884
5.	55 " " " " facilities for fishing vessels and fishing implements	77,224
6.	16 " " " " the transportation of fish	90,000
7.	74 " " " " cultivation of fishes	33,208
8.	24 " " " " rescue of shipwrecked fishing vessels	130,000
Total 384 cases		1,537,856

Organizations Related 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 in 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) Sui-

sankai. 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 aquaculture, 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 labour 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, their members, etc. during the last few years are as follows:

SUISANKAI (Fishery Societies)

Fishery Societies:—	1929	1930	1931	1932	1933
Total	374	377	380	380	349
County and city fishery societies	334	337	340	340	308
Prefectural fishery societies	39	39	39	39	40
Imperial fishery society	1	1	1	1	1
Number of members of societies:—					
Country and city fishery societies	451,066	457,298	430,767	451,182	450,276
Prefectural " "	331	334	340	336	304
Imperial " "	89	39	42	42	42
Expenditure of fishery societies	1,835,381	1,899,844	1,613,700	1,778,277	1,932,159

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, cultiva-

tion 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. In 1933 there were 67, with a membership of 49,801 and an expenditure of ¥983,882. The Act for Suisankumiai in Foreign Waters promul-

gated 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. In 1933, its members were 97. Its specially 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 Fishery Law, and is organized by fishermen living in a particular district. It acquires fishery rights, etc., for member fishermen and takes any measures neces-

sary 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 *kumiai* for securing them.

Though in the original Act, the object of *gyogyokumiai* was restricted to the acquisition of fishing rights, etc., the Act was revised in 1910, whereby *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 fishes and rescue of shipwrecked vessels. Their history and numbers are as shown below:

GYOGYO-KUMIAI (Fishermen's Societies)					
	1929	1930	1931	1932	1933
No. of societies classified	1929	3,574	3,928	3,957	3,980
according to no. of members (total)	3,892	1,239	1,260	1,262	1,271
under 50	1,267	913	884	892	904
51-100	924	957	997	1,004	975
101-200	947	649	661	670	687
201-500	642	100	105	109	120
500-1000		16	21	20	23
1001 and over	16	526,579	546,622	555,734	570,056
No. of members of societies	512,761				
Federations of societies		61	63	60	70
No. of federations	64	830	881	917	925
No. of member-societies	816				

Dogyo-Kumiai, etc., Related with Fishery
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

fishes, etc. In 1934, there were as many as 21 *dogyo-kumiai* related with the fishing industry. There is also the *Dai-Nippon Suisan Kai*, which is incorporated for the purpose of the improvement and encouragement of fishery.

CHAPTER XVI

FORESTRY

Introduction

Japan is one of the few countries on earth favoured with extensive forests. The area of forests and fields in Japan including Korea, Formosa and Saghalien Island, was 45,299,105 ha. 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 Formosa, and since her mild climate is very favourable 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 favoured 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 labour 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 Formosa, the southern half of the Loochoo Islands, including the Yayéyama Islands, the annual mean temperature in it being over 21° C. As to the altitude, the zone varies from below 2,000 metres above sea level in the southern part of Formosa to below 1,000 metres above sea level in the northern part of the same island. In this zone, *binroji*, *tsuga*, (*Arenga saccharifera*) *basho-banana* and bamboo are found.

The evergreen broad-leaved zone
This comprises *Shikoku*, *Kyushu*, the northern part of the Loochoo 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 metres on an average in *Kyushu*, 762.5 metres in *Shikoku* and 610 metres 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 *Korea*,

gated 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. In 1933, its members were 97. Its specially 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.

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sary 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 *kumiai* for securing them.

Though in the original Act, the object of *gyogyokumiai* was restricted to the acquisition of fishing rights, etc., the Act was revised in 1910, whereby *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 fishes and rescue of shipwrecked vessels. Their history and numbers are as shown below:

GYOGYO-KUMIAI (Fishermen's Societies)					
	1929	1930	1931	1932	1933
No. of societies classified	1,929	3,574	3,928	3,957	3,980
according to no. of members (total)	3,892	1,239	1,260	1,262	1,271
under 50	1,267	913	884	892	904
51-100	924	957	997	1,004	975
101-200	947	649	661	670	687
201-500	642	100	105	109	120
500-1000	16	16	21	20	23
1001 and over	16	16	21	20	23
No. of members of societies	512,761	526,579	546,622	555,734	570,056
Federations of societies					
No. of federations	64	61	63	69	70
No. of member-societies	816	830	881	917	925

Dogyo-Kumiai, etc., Related with Fishery *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

fishes, etc. In 1934, there were as many as 21 *dogyo-kumiai* related with the fishing industry. There is also the *Dai-Nippon Suisan Kai*, which is incorporated for the purpose of the improvement and encouragement of fishery.

CHAPTER XVI

FORESTRY

Introduction

Japan is one of the few countries on earth favoured with extensive forests. The area of forests and fields in Japan including Korea, Formosa and Saghalien Island, was 45,299,105 ha. 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 Formosa, and since her mild climate is very favourable 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 favoured 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 labour 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 Formosa, the southern half of the Loochoo Islands, including the Yayeyama Islands, the annual mean temperature in it being over 21° C. As to the altitude, the zone varies from below 2,000 metres above sea level in the southern part of Formosa to below 1,000 metres above sea level in the northern part of the same island. In this zone, *binroji*, *tsuga*, (*Arenga saccharifera*) *basho-banana* and *bamboo* are found.

The evergreen broad-leaved zone This comprises Shikoku, Kyushu, the northern part of the Loochoo 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 metres on an average in Kyushu, 762.5 metres in Shikoku and 610 metres in the southern part of Honshu. Trees which grow in this zone are *kusunoki* (*Cinnamomum camphora*, Nees), oak, *akamatau* (*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 Korea,

the annual mean temperature in this zone being from 6° C. to 13° C. As regards the altitude, it is from 976 metres to 1,372.5 metres in the northern part of Honshu and 457.5 metres 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 6° C. to below zero. This zone starts at the height of 1,000 metres in Honshu and ends at the height of 2,592.5 metres in the same island, while it ends at the height of 1,067.5 metres in Hokkaido and 610-762.5 metres 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 metres to 3,050 metres 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 190 years old. Most of them are 0.46 metre in diameter and 27.45 metres in height.

Forests of sugi in Akita district are widely distributed along the Yoneshiro 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 metres. 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 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)	(In ha.)		
	1927	1930	1933
Grand total	22,713,451.34	23,011,218.74	23,645,731.85
Forested tracts	19,517,036.23	19,879,240.86	20,575,913.91
Coniferous	4,689,293.16	4,632,827.51	5,420,369.80
Broad-leaved	8,062,476.89	8,470,016.53	9,086,657.13
Mixed	6,135,412.36	6,148,369.59	5,454,838.83
Bamboo groves	131,897.16	136,329.23	148,348.25
Miscellaneous	497,956.66	491,697.70	465,708.90
Bare tracts	3,196,415.11	3,131,977.88	3,069,817.94

Year (At the year end)	1927	1930	1933
Crown Total	1,349,802.45	1,432,649.16	1,413,885.42
Forested tracts	1,183,186.13	1,277,643.79	1,243,194.05
Coniferous	277,767.38	154,455.37	173,897.16
Broad-leaved	387,680.23	273,077.76	282,528.99
Mixed	517,690.71	850,268.92	786,728.23
Bamboo groves	47.81	41.74	39.67
Bare tracts	166,616.32	154,805.37	170,691.37
National Total	7,699,859.01	7,638,263.28	7,657,609.80
Forested tracts	7,415,503.74	7,249,054.67	7,417,962.90
Coniferous	1,053,782.88	1,013,768.92	1,558,856.40
Broad-leaved	3,376,578.45	3,523,029.30	4,038,152.40
Mixed	2,486,644.96	2,218,783.65	1,354,467.40
Bamboo groves	540.79	775.10	777.80
Miscellaneous	497,956.66	491,697.70	465,708.90
Bare tract	284,355.27	390,208.61	239,646.90
Public Total	4,247,441.26	4,186,375.15	4,287,336.00
Forested tracts	3,092,580.00	3,184,041.42	3,308,320.76
Coniferous	787,617.02	840,414.75	926,065.88
Broad-leaved	1,334,891.50	1,398,262.81	1,334,040.50
Mixed	962,077.89	937,850.29	1,040,727.17
Bamboo groves	7,993.59	7,513.57	7,487.21
Bare tracts	1,154,861.26	1,002,333.73	979,015.24
Temple and shrine Total	130,278.24	141,381.03	144,269.56
Forested tracts	117,261.51	129,820.06	133,400.24
Coniferous	45,238.59	49,483.84	50,351.11
Broad-leaved	31,038.83	34,123.54	37,644.20
Mixed	38,987.30	44,043.67	43,146.15
Bamboo groves	1,896.79	2,169.01	2,258.78
Bare tracts	13,016.73	11,560.97	10,869.32
Private Total	9,286,070.38	9,612,550.12	10,142,631.07
Forested tracts	7,708,604.85	8,039,480.92	8,473,035.96
Coniferous	2,524,837.29	2,574,704.93	2,711,190.25
Broad-leaved	2,932,237.88	3,241,523.12	3,394,291.04
Mixed	2,130,011.50	2,097,423.06	2,229,769.88
Bamboo groves	121,418.18	125,829.81	137,784.79
Bare tracts	1,577,465.53	1,573,069.20	1,669,595.11

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 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.

Kind	Crown	Govern-ment	Public and Private			Total	%
			Public	Shrines and temples	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	54.0
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 co-

niferous trees account for 578,415,000 cu.m. and broad-leaved trees 678,878 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, FORMOSA, KOREA AND SAGHALIEN ISLAND IN 1933

(Quantities 1,000 cu. metres)

Owners	HOKKAIDO			SAGHALIEN ISLAND		
	Coniferous trees	Broad leaved trees	Total	Coniferous trees	Broad leaved trees	Total
Imperial Household Government	32,911	74,130	107,041	—	—	—
Public	165,705	212,599	378,304	165,951	22,905	188,856
Shrines and temples	19,829	51,448	71,277	—	—	—
Private	2	17	19	—	—	—
Total	2,899	28,994	31,893	—	—	—
Total	221,345	367,188	588,534	165,951	22,905	188,856

Owners	FORMOSA			KOREA		
	Coniferous trees	Broad leaved trees	Total	Coniferous trees	Broad leaved trees	Total
Imperial Household Government	—	—	—	—	—	—
Public	70,006	127,374	197,380	87,902	72,158	160,060
Shrines and temples	68	297	365	4,316	2,095	6,411
Private	—	—	—	2,413	1,472	3,885
Total	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	Total		Grand total
	Coniferous trees 1,000 cu. m.	Broad-leaved trees 1,000 cu. m.	
Imperial Household Government	65,363	88,251	153,614
Public	629,512	758,467	1,387,979
Shrines and temples	95,385	187,343	282,728
Private	9,748	6,489	16,237
Total	391,895	306,213	698,108
Total	1,191,903	1,296,763	2,488,665

Afforestation

There is 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, reafforestation 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 1934 was 111,696.49 ha., consisting of 91,775.40 ha. (83.3%) planted with coniferous trees, 17,115.60 ha. (14.7%) with broad-

leaved trees and 2,805.49 ha. (0.2%) with both kinds of trees.

Division according to kinds of ownership of area newly planted and number of trees planted follows:

Crown	Area (ha.)	Percentage	Number of trees	Percentage
National	5,409.02	(4.8%)	16,172,720	(4.8%)
Public lands afforested by the national government	15,227.21	(13.6%)	37,885,331	(11.1%)
Public	11,021.11	(9.9%)	30,409,359	(8.9%)
Temple and shrine owned	18,984.10	(17.0%)	58,658,472	(17.2%)
Private	497.55	(0.5%)	1,538,370	(0.5%)
	60,557.60	(54.2%)	195,902,706	(57.5%)

In addition to the above there were 64,755,759 trees supplementarily planted in the forests in 1934, and bamboo groves newly cultivated were 419.30 ha. in area and 971,748 in the number of bamboos planted.

Naturally Regenerated Area of forests naturally regenerated in 1934 was 271,563.91 ha. No change of noteworthy character has been observed in the movement of the area during these past ten years.

ARTIFICIAL AFFORESTATION

Year	1930	1931	1932	1933	1934
Area newly planted	101,208.20	99,612.79	110,679.27	113,681.76	111,696.49
Number of trees newly planted	334,901,485	311,048,353	338,338,447	346,812,821	340,567,028
	hl. 24.55	hl. 92.00	hl. 29.40	hl. 17.27	hl. 117.32
	kg. 1,773.5	kg. 1,700.4	kg. 3,239.6	kg. 2,622.1	kg. 2,756.2
Coniferous Area	88,619.71	84,404.33	95,140.66	96,311.19	91,775.40
Number of trees	294,523,162	265,887,220	293,079,122	297,689,664	283,670,325
	hl. 19.34	hl. 67.93	hl. 13.24	hl. 15.39	hl. 13.52
	kg. 162.4	kg. 232.9	kg. 909.7	kg. 423.8	kg. 245.2
Sugi Area	36,474.65	33,865.68	38,285.16	38,852.12	37,226.68
Number of trees	122,023,890	104,827,491	114,684,270	118,643,587	114,371,529
	kg. 23.4	kg. 70.2	kg. 26.2	kg. 4.4	kg. 1.2
Hinoki Area	18,586.81	18,154.61	21,843.17	21,241.56	19,943.51
Number of trees	66,418,642	60,012,853	72,667,544	70,042,003	65,959,171
	kg. 3.3	kg. 30.1	kg. 2.0	kg. 11.0	kg. 11.0
Matsu Area	19,137.06	16,453.29	20,669.35	18,726.37	17,196.32
Number of trees	61,562,626	56,043,395	67,176,011	60,069,653	57,751,475
	hl. 18.69	hl. 66.52	hl. 12.70	hl. 15.03	hl. 13.52
	kg. 139.6	kg. 82.5	kg. 381.8	kg. 342.4	kg. 216.6
Karamatsu Area	7,323.07	7,082.68	6,719.21	7,544.81	5,404.66
Number of trees	21,838,528	20,787,905	17,589,488	22,128,883	14,121,325
Sawara Area	112.17	137.75	160.65	173.71	223.61
Number of trees	379,256	446,006	533,121	501,365	601,471
Hiba Area	435.57	285.42	294.45	308.41	312.88
Number of trees	1,059,372	764,575	1,542,963	781,966	937,392
	kg. 0.3	kg. 0.3	kg. 0.3	kg. 0.3	kg. 0.3
Others Area	7,550.38	8,424.90	7,168.66	9,964.21	11,467.74
Number of trees	21,240,848	22,104,995	18,885,725	25,522,292	29,927,962
	hl. 0.65	hl. 1.41	hl. 0.54	hl. 0.36	hl. 0.36
	kg. 5.1	kg. 49.8	kg. 501.7	kg. 75.0	kg. 19.4
Broad-leaved Area	10,411.34	13,054.11	13,356.00	14,890.80	17,115.60
Number of trees	34,484,965	59,117,907	39,498,419	43,022,304	49,982,177
	hl. 5.21	hl. 24.07	hl. 16.1	hl. 1.88	hl. 3.80
	kg. 1,475.1	kg. 1,342.7	kg. 2,190.0	kg. 2,089.5	kg. 2,247.0

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(Quantities 1,000 cu. metres)

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	Coniferous trees	Broad leaved trees	Total	Coniferous trees	Broad leaved trees	Total
Imperial Household Government	32,911	74,130	107,041	—	—	—
Public	165,705	212,509	378,214	165,951	22,905	188,856
Shrines and temples	19,829	51,448	71,277	—	—	—
Private	2	17	19	—	—	—
Total	2,899	28,964	31,863	—	—	—
Total	221,345	367,188	588,534	165,951	22,905	188,856

Owners	FORMOSA			KOREA		
	Coniferous trees	Broad leaved trees	Total	Coniferous trees	Broad leaved trees	Total
Imperial Household Government	—	—	—	—	—	—
Public	70,006	127,374	197,380	87,902	72,158	160,060
Shrines and temples	68	207	275	4,316	2,095	6,411
Private	—	—	—	2,413	1,472	3,885
Total	828	9,121	9,949	60,658	15,276	75,933
Total	70,902	136,792	207,694	155,289	91,000	246,289

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Public	18,984.10 ..	(17.0%)	58,658,472 ..	(17.2%)
Temple and shrine owned	497.55 ..	(0.5%)	1,538,370 ..	(0.5%)
Private	60,557.60 ..	(54.2%)	195,902,706 ..	(57.5%)

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Number of trees newly planted	334,901,485	311,048,353	338,338,447	346,612,521	340,567,028
	hl. 24.55	hl. 92.00	hl. 29.40	hl. 17.27	hl. 117.32
	kg. 1,773.5	kg. 1,700.4	kg. 3,229.6	kg. 2,622.1	kg. 2,756.2
Coniferous Area	88,619.71	84,404.33	95,140.66	96,311.19	91,775.40
Number of trees	294,523,162	265,887,220	293,079,122	297,689,664	283,670,325
	hl. 19.34	hl. 67.93	hl. 13.24	hl. 15.39	hl. 13.52
	kg. 162.4	kg. 232.9	kg. 909.7	kg. 423.8	kg. 248.2
Sugi Area	36,474.65	33,865.68	38,285.16	38,352.12	37,226.68
Number of trees	122,023,890	104,827,491	114,684,270	118,643,587	114,371,529
	kg. 23.4	kg. 70.2	kg. 26.2	kg. 4.4	kg. 1.2
Hinoki Area	18,586.81	18,154.61	21,843.17	21,241.56	19,943.51
Number of trees	66,418,642	60,912,853	72,667,544	70,042,003	65,959,171
	kg. 3.3	kg. 30.1	kg. 2.0	kg. 11.0	kg. 11.0
Matsu Area	18,187.06	16,453.29	20,669.35	18,726.37	17,196.32
Number of trees	61,562,626	56,043,395	67,176,011	60,069,653	57,751,475
	hl. 18.69	hl. 66.52	hl. 12.70	hl. 15.03	hl. 13.52
	kg. 130.6	kg. 82.5	kg. 381.8	kg. 342.4	kg. 216.6
Karamatsu Area	7,323.07	7,082.68	6,719.21	7,544.81	6,404.66
Number of trees	21,838,528	20,787,905	17,589,488	22,128,983	14,121,325
Sawara Area	112.17	137.75	160.65	173.71	223.61
Number of trees	379,256	446,006	533,121	501,365	601,471
Hiba Area	435.57	285.42	294.45	308.41	312.88
Number of trees	1,059,372	764,575	1,542,963	781,966	937,392
	kg. 0.3	kg. 0.3	kg. 0.3	kg. 0.3	kg. 0.3
Others Area	7,550.38	8,424.90	7,168.66	9,964.21	11,467.74
Number of trees	21,240,848	22,104,995	18,885,725	25,522,202	29,927,962
	hl. 0.65	hl. 1.41	hl. 0.54	hl. 0.36	hl. 0.36
	kg. 5.1	kg. 49.8	kg. 501.7	kg. 75.0	kg. 19.4
Broad-leaved Area	10,411.34	13,054.11	13,856.00	14,890.80	17,115.60
Number of trees	34,484,965	39,417,907	39,498,419	49,022,204	49,982,177
	hl. 5.21	hl. 24.07	hl. 16.1	hl. 1.88	hl. 3.80
	kg. 1,475.1	kg. 1,342.7	kg. 2,190.0	kg. 2,089.5	kg. 2,247.0

Year		1930	1931	1932	1933	1934
Kusu Area	ha.	223.93	222.54	281.85	226.04	317.29
	Number of trees	514,506	469,842	659,977	550,304	591,105
		kg. 6.4	kg. 19.0	kg. 1.9		kg. 6.4
Kashi Area	ha.	74.18	114.94	78.49	85.68	212.57
	Number of trees	108,445	372,882	87,235	247,622	586,694
		kg. 363.2	kg. 455.1	kg. 860.2	kg. 565.0	kg. 1,378.0
Keyaki Area	ha.	124.26	207.77	144.59	133.21	123.01
	Number of trees	243,572	465,335	312,742	269,939	277,623
		kg. 88.8	kg. 26.3	kg. 10.9	kg. 70.9	kg. 6.2
Kuri Area	ha.	573.02	872.24	760.76	1,045.46	1,076.29
	Number of trees	979,681	1,405,498	1,194,152	1,259,007	1,481,752
		kg. 28.4				
Kunugi Area	ha.	6,203.12	7,835.30	8,276.53	9,620.32	10,772.94
	Number of trees	20,437,533	24,828,252	25,573,004	29,092,880	32,863,097
		kg. 406.0	kg. 208.0	kg. 896.3	kg. 939.0	kg. 140.0
Others Area	ha.	3,212.83	3,801.32	3,818.78	3,780.09	4,613.50
	Number of trees	12,201,228	11,876,098	11,671,809	11,602,452	14,181,906
		hl. 5.21	hl. 24.07	hl. 15.64	hl. .34	hl. 38.0
		kg. 582.3	kg. 635.3	kg. 42.07	kg. 514.6	kg. 716.4
Mixed Area	ha.	2,177.15	2,154.35	2,182.61	2,479.77	2,805.49
	Number of trees	5,893,358	5,743,226	5,760,906	6,100,953	6,914,526
		kg. 141.0	kg. 124.8	kg. 139.9	kg. 108.8	kg. 261.0

N. B. Figures with units of hl. and kg. indicate the quantity of seeds sown.

Production of Wood, Bamboo and Other Forest Products

Area of wood and bamboo lands

Area of wood and bamboo lands cleared	440,756.62 ha.
Wood and bamboo produced	167,119,286 yen.
Timber	112,749,264 ,, (67.5%)
Fuel wood	51,789,443 ,, (31.0%)
Bamboo	2,580,579 ,, (1.5%)

Coniferous wood holds 80% of the total quantity of timber. Division according to kinds of ownership of

cleared and the value of wood and bamboo produced in 1934 were as follows.

timber and fuel wood production in term of value are as follows:

	Timber (in 1,000 m ³)	(in 1,000 yen)	Fuel wood (in 1,000 yen)
Crown	1,274 (7.1%)	10,093 (9.0%)	493 (0.1%)
National	4,841 (24.2%)	17,678 (15.7%)	3,813 (7.4%)
Public	1,354 (8.7%)	7,899 (7.0%)	5,249 (10.1%)
Temple and shrine owned	499 (0.8%)	904 (0.8%)	325 (0.6%)
Private	10,603 (59.2%)	76,172 (67.5%)	41,907 (80.9%)

During the ten preceding years no marked fluctuation has been observed in movements of quantities of timber and fuel wood produced, on the

other hand, their value has been showing annually more than moderate decreasing trend.

Value of forest products in 1934

amounted to ¥124,288,810, consisting of ¥89,020,068 (71.7%) of charcoal, ¥15,617,039 (12.5%) of green grass, ¥7,809,459 (6.3%) of mushrooms, ¥5,501,755 (4.4%) of barks, fruits, nuts, and berries, ¥4,080,081 (3.3%) of bamboo sprouts, and ¥2,260,408 (1.8%) of miscellaneous products.

CLEARING OF WOOD AND BAMBOO LANDS

(1) Area of Lands Cleared

(In ha.)

Year	1930	1931	1932	1933	1934
Grand total	355,998.74	376,719.27	425,086.33	408,759.76	440,756.62
Crown					
Total	4,091.20	6,777.52	4,718.88	4,622.67	4,298.28
Timber	2,105.85	2,599.24	2,382.75	2,711.50	1,865.06
Coniferous	359.60	518.58	406.02	292.96	342.45
Broad-leaved	97.19	256.96	177.52	248.03	300.30
Mixed	1,649.06	1,823.70	1,799.21	2,170.51	1,222.31
Fuel wood	1,968.89	4,164.00	2,328.20	1,895.80	2,418.05
Bamboo	16.46	14.28	7.93	15.37	15.17
National *					
Total	96,823.55	113,232.60	140,572.96	94,045.98	89,343.17
Public					
Total	65,557.98	66,838.51	83,872.46	89,522.48	98,935.04
Timber	39,370.31	39,481.29	56,701.78	61,088.93	59,093.85
Coniferous	31,287.37	3,204.79	3,607.83	4,825.49	7,677.72
Broad-leaved	2,885.37	2,289.03	1,314.55	2,069.26	4,019.90
Mixed	5,247.57	33,987.47	51,779.40	54,194.18	47,396.23
Fuel wood	25,118.98	25,280.10	26,259.97	27,883.83	39,201.02
Bamboo	1,068.69	1,077.12	910.71	549.72	640.17
Temple and Shrine owned					
Total	1,921.88	1,362.05	1,310.97	1,333.79	1,341.85
Timber	323.50	254.28	370.31	347.51	635.60
Coniferous	212.03	142.81	237.62	259.34	469.59
Broad-leaved	27.77	17.06	38.77	43.34	70.21
Mixed	83.70	94.41	93.92	44.83	96.00
Fuel wood	1,506.25	1,015.84	853.69	898.41	1,108.07
Bamboo	92.13	91.93	86.97	87.87	98.18
Private					
Total	187,604.13	188,508.59	194,561.06	219,234.84	246,338.28
Timber	55,794.05	52,930.91	55,866.25	74,074.41	59,092.56
Coniferous	27,508.07	28,617.62	30,558.84	38,055.67	48,147.47
Broad-leaved	16,811.80	13,959.08	14,240.33	17,054.18	21,672.20
Mixed	11,474.18	10,354.21	11,067.08	18,964.56	19,272.89
Fuel wood	123,146.58	127,005.12	130,521.92	137,342.53	148,478.08
Bamboo	8,663.50	8,572.56	8,172.89	7,817.85	8,767.64

Note: * The investigation covers the year ending March of next year.

(2) Production of Wood and Bamboo

Year		1930	1931	1932	1933	1934
Grand total value	yen	121,161,562	109,893,917	113,558,616	138,677,128	167,119,286
Timber						
Qt.	m ³	13,268,646.3	13,596,523.4	14,532,529.7	15,665,299.0	17,912,503.2
		(num.) 7,813				
Val.	yen	70,157,730	63,509,363	67,387,663	88,686,606	112,749,264

Year		1930	1931	1932	1933	1934
Coniferous						
Qt.	m ²	10,588,313.7 (num.) 7,813	11,051,158.2	11,420,837.2	12,750,311.1	14,005,582.3
Val.	yen	59,985,380	54,556,176	57,794,234	73,009,416	96,893,722
Broad-leaved						
Qt.	m ²	2,680,333.1	2,545,865.2	2,833,192.5	2,914,987.9	3,006,920.9
Val.	yen	10,172,350	8,953,687	9,593,429	13,677,190	16,055,542
Fuel wood						
Qt.	m ²	49,296,118 1,195,728	50,118,480 1,363,547 (bundle)	51,191,001 1,333,800 (bundle)	52,975,247 1,256,896 (bundle)	55,455,104 1,224,247 (bundle)
Val.	yen (bundle)	(num.) 50,700 47,683,233	(num.) 50,700 43,533,840	(num.) 9,678 43,473,724	(num.) 3,427 47,393,782	(num.) 7,010 51,789,443
Bamboo						
Qt.	bundle*	4,899,853	5,005,507	5,191,998	5,172,564	5,419,375
Val.	yen (num.)	5,186 3,320,599	6,564 2,850,214	2,213 2,697,229	5,275 2,596,790	6,102 2,580,579

N. B. * A quantity of bamboo tied up with a straw rope of 3 shaku in length.

(3) Forest Products and Manufactures

(In yen)

Year	1930	1931	1932	1933	1934
Total value	96,096,356	89,259,391	91,887,655	109,437,960	124,288,810
Seeds for afforestation	56,268	39,109	88,849	44,259	45,826
Fruits, nuts and berries	2,867,719	2,671,233	2,853,528	3,623,573	3,277,001
Barks	1,733,795	1,501,666	1,581,984	1,798,159	2,224,754
Charcoal	64,950,004	53,363,991	61,579,016	76,154,605	89,020,068
Miscellaneous	26,488,870	25,681,392	25,834,278	27,817,364	29,721,161

Protection Forests†

Besides having a direct value through the produce they yield, forests have a distinct indirect value through their 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 "protection" forests. In the following instances, under the Forestry Act, the Government is authorized to decree that certain forests etc., shall be considered as "protection" 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 protection forests in 1933 was as follows:

† The word forest here and throughout this sub-section is understood to include woods, groves, copses, etc.

PROTECTION FORESTS.

Year (At the year end)	1930	1931	1932	1933	1934
Grand total					
Total Number	391,353	393,952	394,589	405,145	415,885
Area	ha. 2,057,906.48	2,067,483.67	2,069,591.70	2,078,522.78	2,089,401.95
Against soil-denudation					
Number	221,639	225,724	229,023	236,910	247,873
Area	ha. 889,372.07	891,710.48	897,120.59	905,430.25	911,327.28
For feeding spring					
Number	75,591	75,005	71,918	72,138	71,133
Area	ha. 994,823.60	997,982.18	991,570.91	980,990.98	982,608.16
Against flood					
Number	15,656	15,397	15,461	15,498	15,238
Area	ha. 10,407.47	10,449.52	10,915.14	10,967.50	10,879.14
Against rolling stone					
Number	452	456	485	485	481
Area	ha. 642.45	643.74	698.62	1,723.93	682.02
Against avalanche					
Number	4,812	4,774	4,846	4,899	4,958
Area	ha. 6,842.78	6,844.56	6,954.15	7,062.35	6,614.57
Against wind					
Number	13,894	13,596	13,667	13,736	13,940
Area	ha. 54,698.68	59,296.17	59,515.34	65,943.87	70,135.24
Against dust					
Number	9,859	9,653	9,550	10,869	11,221
Area	ha. 11,072.73	11,019.47	11,255.40	13,720.36	14,320.56
Against tide					
Number	12,890	12,962	12,941	13,260	13,637
Area	ha. 8,631.37	8,619.47	8,607.67	8,994.15	8,995.74
For attracting fish					
Number	25,258	25,208	25,491	25,853	25,867
Area	ha. 47,919.37	47,847.08	47,576.73	47,994.05	47,963.11
Landmark for navigation					
Number	247	249	254	253	259
Area	ha. 1,250.28	1,250.38	1,274.48	1,256.93	1,257.81
For maintaining public health					
Number	153	153	153	153	153
Area	ha. 89.55	89.55	89.55	89.36	89.26
For scenic beauty					
Number	10,902	10,785	10,800	11,091	11,125
Area	ha. 32,156.13	31,731.07	34,018.12	34,349.06	34,529.06

Owners of protection 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. Protection forests are divided into two classes for administrative purpose. 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.

The changes in area of protection forests are shown below:

Year	Total		Cutting limited		Cutting prohibited	
	No.	Area ha.	No.	Area ha.	No.	Area ha.
1919	319,079	1,529,498	314,241	1,335,405	4,838	194,053
1927	376,590	1,887,951	372,416	1,646,097	4,174	241,864
1928	381,312	1,887,092	377,146	1,649,188	4,167	237,815
1929	396,317	2,045,353	382,164	1,807,391	4,153	237,815
1930	391,353	2,057,906	387,180	1,819,823	4,173	238,803
1931	393,952	2,067,484	390,335	1,834,231	3,617	238,253
1932	394,589	2,069,592	391,081	1,841,031	3,508	228,561
1933	405,145	2,078,522	—	1,857,140	—	221,382

It will be noticed that there has been a yearly increase in the area. The largest owner is the Government which has 927,078.35 ha., the public owns 765,314.08 ha. and private interests 365,280.89 ha. The areas of protection forests owned by the Crown, shrines and temples are so small that they are hardly worth mentioning.

When protection forests are classified according to the nature and kinds of protection, those for conservation of water supply cover 980,990.98 ha., and those for soil denudation 905,430.25 ha., that is to say, about 94% of the protection forests is related to water regulation work.

Utilization of Government Forests

Forests are classified according to ownership as Crown forests, Government forests, and public and privately owned forests. Public and privately owned forests include those possessed by shrines and temples, public corporations and private individuals. Crown forests are those possessed by the Imperial Household and are divided into the hereditary and ordinary ones. Both are under control of the Minister of the Imperial Household, and are in charge of the Bureau of Imperial Forests and Estates. Government forests in Hokkaido are looked after by the local Government of Hokkaido, while those in Honshu (Main Island) are taken charge of by the Department of Agriculture and Forestry. Growth of forests, their utilization, and work of ensuring the public welfare through them are looked after by these offices, which administer them with rational plans for the public welfare.

The Government makes a contract with people willing to carry on afforestation work whereby they are

given not more than 80% of the total profit on condition that they follow the Government's instructions as to planting, supplementary afforestation work, and taking care of the trees planted. "Divisional Forests" may be established for this work. A portion of the Government's forests may be put into the custody of shrines and temples and any profits arising therefrom may be used by the shrines and temples. Such forests constitute "Forests in Custody." Sometimes the Government may appoint a particular city, town, or village to protect Government forests which are situated within the jurisdiction of that city, town or village, payment for the work being made by part of the products of that forest being handed over to the city, town or village (Commission forests). In addition, the Government may lease its forests for the purpose of the development of industry in a particular district, or for the purpose of assisting people living near the forests. In some cases no rent is charged. The ground may be used for grazing, grass, or gathering fuel. The Government may sell some of its forest land if it is suitable for reclamation. Forests which are used for these purposes are of a vast area. Figures for March, 1935 follow:

Protection forests	930,049 ha.
Divisional "	43,863
Forests in the custody of shrines and temples	25,584
Commission forests	55,998
Forests leased for industrial purposes	75,713
.. for grazing	119,409
.. as grass fields	162,338
.. for gathering fuel	1,010,615
.. " reclamation	23,602

Taxes cannot be imposed on Government forests which come within the area of any city, town, or village. But in view of the fact that it owes a great deal to the city,

town or village for controlling and managing these forests, the Government has decided to pay to that particular city, town or village a sum equivalent to the amount of the local tax which those forests would bear if they were owned by private individuals.

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., afforesters' associations, business associations, coolies' associations, and protection associations.

The number of forestry associations in 1934 was 1,919, and the area covered was 1,429,766 ha. The growth of forestry associations in recent years is shown in the following table:

FORESTRY CO-OPERATIVE SOCIETIES

Year (At the year end)	1930	1931	1932	1933	1934
Total					
Number of societies	1,204	1,407	1,602	1,734	1,919
Area operated by societies	ha. 851,128.26	902,971.24	1,162,678.02	1,259,575.0	1,429,766.0
Number of members	162,366	190,382	222,831	243,753	278,111

Labour for Forestry Work

People engaged in forestry work may be divided into the following classes, those employed in afforestation, those working in the plant nurseries, those clearing woods and lumbering, those carrying and storing lumber, those making charcoal,

and those engaged in the production and collection of by-products of the forests. Ordinarily they work for wages. Some of them are exclusively engaged in the work, but most of them work in forestry along with work in other fields, as the following statistics for 1930, 1931 and 1932 clearly show:

JAPAN PROPER (Hokkaido excluded)

Owners	Male ⁵	Female	Total	16-60 years	Under 16 years and over 60 years
Crown (March, 1933)	—	—	—	—	—
Government (March, 1934)	323,411	83,085	406,496	393,893	12,603
Public (March, 1934)	128,674	42,755	171,429	165,789	5,640
Private (For 1930)	751,302	186,171	937,474	782,494	154,979
Total	1,203,387	312,011	1,515,398	1,342,176	173,222
HOKKAIDO					
Crown (March, 1933)	—	—	—	—	—
Government (March, 1933)	37,244	3,322	40,566	40,256	310
Private (For 1930)	70,089	15,493	85,582	81,738	3,844
Total	107,333	18,815	126,148	121,994	4,154

GRAND TOTAL

Crown	Government	Public	Private	Total
860,635	86,407	447,062	434,149	12,918
128,674	42,755	171,425	165,789	5,640
821,891	291,664	1,023,055	864,232	158,823
Total	1,310,720	359,823	1,641,546	1,464,170

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 labour 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 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. The first two companies insure only those artificially afforested forests which are older than ten years, while the Tokyo Marine and Fire Insurance Co., Ltd., will insure artificially afforested forests which are not as old as ten years as well as naturally grown forests.

Damages done to forests in 1934 reached 740,792 ha. with an estimated value of ¥46,443,748. This record was wrought by the typhoon on September 21, 1934, and floods in the same year which gave considerable damages to farms and factories as well specially in Kansai districts. (See Chapter 1, the Kansai Typhoon.)

STATISTICS OF DAMAGES DONE TO FORESTS

Year	Total Damage		Forested tracts			
	Total area ha.	Value yen	By Fire		By Wind	
			Area ha.	Value yen	Area ha.	Value yen
1930	189,363.77	6,993,149	57,500.03	2,419,177	47,147.20	2,638,635
1931	84,188.43	3,454,903	16,393.98	1,970,599	9,227.61	133,677
1932	139,243.34	9,431,919	7,415.31	619,165	30,534.05	3,864,064
1933	91,225.17	3,551,976	4,697.75	893,992	18,526.12	218,159
1934	740,792.76	46,443,748	13,474.06	2,206,993	532,481.34	32,110,919

Forested Tracts

Year	By Fungus, Insect, etc.		By Flood	
	Area ha.	Value yen	Area ha.	Value yen
1930	4,559.71	222,005	533.56	300,002
1931	3,928.76	52,904	448.27	208,863
1932	4,378.51	42,554	686.97	305,278
1933	2,993.26	25,816	531.66	125,311
1934	1,868.81	53,937	7,312.09	2,259,657

Forested tracts

Year	By Snow		Others	
	Area ha.	Value yen	Area ha.	Value yen
1930	25,524.99	841,823	25,580.33	467,104
1931	26,823.37	780,520	24,458.18	282,458
1932	50,992.07	3,225,637	42,380.03	1,295,064
1933	23,395.52	588,752	38,787.48	1,558,933
1934	131,280.83	8,726,727	36,018.79	444,773

Year	By Fire		Bare Tracts By Flood		Others	
	Area ha.	Value yen	Area ha.	Value yen	Area ha.	Value yen
1930	27,063.37	43,727	998.63	38,502	485.95	22,674
1931	2,505.32	24,499	161.35	3,956	240.99	7,427
1932	1,928.63	18,748	374.88	45,321	552.89	16,058
1933	1,832.92	11,545	138.03	18,804	322.41	10,654
1934	6,967.60	35,373	1,955.61	441,537	9,333.63	163,832

Forest Administration

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

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 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 estab-

lish 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 ha.

The proper policing of various forests is carried out as follows:

FOREST POLICE

Owner	Forest Districts and Number of Police
Crown	Number of allotted districts; Japan proper
	Persons in charge of allotted districts; Japan proper
Government	Number of districts in Japan proper
 persons in charge
Public districts in Hokkaido
 persons in charge
Shrines and temples	Ordinarily the police look after these; but in the following 8 prefectures there are forest police facilities:
	Aomori, Miyagi, Fukushima, Yamaguchi, Yamanashi, Aichi, Saitama, and Oita
Private	For the public forests in Hokkaido, members who take charge of allotted districts look after:
	Number of allotted districts
	Number of persons in charge

Forestry Education

College Education Forestry education in Japan began with the establishment of a forestry school in Nishigahara, Tokyo, in 1882, under supervision of the Forestry Bureau. This school later 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 Suigen in Korea and Taihoku in Formosa. By 1926, there were 744 graduates of universities, and 2,589 who had passed through various colleges.

Each university and college has its own speciality. Kyushu and Hokkaido Universities give lectures on Forestry in Tropical and Arctic Zones respectively, and graduates of these universities are mostly working in the colonies. Each university has forests for experimental purposes (Consult Chapter XLII, Forests for University Field Work).

Most higher colleges are comparatively new but they each have their speciality. Some of them have two-year post-graduate courses, while others offer some special courses. Miyé Higher Forestry College is noted for its course in civil engineering for forestry, Gifu Higher Forestry

College for its technological course on forestry products, and Utsunomiya for courses on agricultural policy and economics. Gifu Higher Forestry College is specialized in its courses on clearing and carrying lumber making on a mechanical basis, chemical technology of forestry products, etc.

In 1933 there were 4 universities with 292 students, and 8 colleges with 805 students.

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. In 1933, in the whole country there were 53 middle grade forestry schools with 2,589 pupils.

In order to encourage forestry, training of experts who have practical knowledge of forestry is very important. These experts are trained mostly in the forestry schools which give practical lessons, but often other methods, as explained in the next section, are adopted.

Supplementary Education For those who have no opportunities to get regular forestry education in schools supplementary forestry education is given in various places, the principal method being by series of lectures given under the auspices of forestry experimental stations, forestry associations or charcoal associations. These lectures are given regularly each year, but in particular cases, when experts are required for the purpose of management of some special forestry work a special course of lectures will be given. In the case of Government forests, supplementary education is given every year to train men who take charge of the forests.

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 1882, but in 1890, the business of forestry experiments was taken up by the Forestry Administration Station of Tokyo. Later, in 1905, upon a pressing need, plant nursery beds was 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 other reports. The Station will, for payment, make analysis, carry out experiments and give advice and judgments on matters of forestry for the general public, if requested. The principal items of investigation and study of the station are such as are given below:

(1) Items which are connected with experiments on afforestation. The relation between plants and soil, the nature of seedlings, and methods of afforestation and fostering are investigated and studied.

The study of seedlings has been perfected. Special study has also been made in the method of clearing woods, and the result is already applied in practice by various forestry administration offices and stations.

(2) Experiments on the utilization of forestry products. Investigations have been made on the strengths of various kinds of lumber, antiseptics, physical and chemical properties of lumbars, electrical drying etc. In the chemical department studies are made on the method of manufacturing vegetable oils, charcoal, camphor, rosin, etc. Research is also carried out on the production of mushrooms, plantation of medicinal herbs, etc.

(3) Experiments which are connected with both forestry and agriculture. Studies on such as effect of growth of green mannas, fodder, etc. are made.

(4) Experiments and studies on forestry work and protection of forests. The effects of any forestry work on the principal trees are studied. A valuable supplementary table for the calculation of the growth and yields of the principal trees has been completed as the result of many years' study. As to the protection of forests, studies on beneficial and noxious insects and fungi are made. The result of the study on the disease of the Japanese cedar is one of world-wide importance.

(5) Weather observation. Forestry weather bureaux have been established at different places along the principal rivers to observe the temperatures in and out of forests, humidity, rainfall, evaporation, and water contents of soils. Also, the effects of forests on water regulation, the relation of rainfall in forestry districts to floods, the relation of climate in forestry districts to the growth of forests, etc. are ob-

served and studied. In the field of weather observation in forests, comparative studies are made of the possibility of promoting water supply by forested and wild land, the power of forests to retain rain water, and the extent of damage to coniferous trees and their withering during winter, etc. Also studies of the effects of different kinds of weather in various mountains and the effects of rainfall on the principal rivers and lakes are made.

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 Formosa is undertaken by a Forestry Bureau under the Central Research Station in the Government-General of Formosa. 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 Korea was established in 1922. As the climatic conditions in Korea 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 Korea. To effect an improvement in forestry work in Korea it was necessary to establish an independent experimental station in that country. 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 the plants, experiments in rearing and afforestation of the principal trees, experiments in the prevention of damage from noxious insects and fungi on young plants and forests, tests on lumber and methods of storing, 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 Trade and Industry

Lumber Trade The lumber trade in Japan can be said to have begun to develop after the Great War. The trade in 1919 was only ¥34,000,000 in value but had increased to ¥142,750,000 in 1924, an increase of 407%. Up to 1920, foreign trade, as far as the lumber trade goes, was in favour of Japan. This was changed in 1921, when a great quantity of American lumber was imported. After the great earthquake which destroyed Tokyo, Yokohama and their vicinities, there

was a great demand for lumber for the reconstruction work of these places and imports of lumber from America and Asiatic Russia increased by leaps and bounds. This situation was maintained until 1929, but the following year, 1930, saw a change when the imports of lumber dropped to 8,600,000 koku as against 12,000,000 koku in 1928. The reason for the change can be attributed to the following causes:

- Japan's raising of the embargo on gold.
- The world-wide depression.
- Japan's revision of the import tariff.
- Completion of reconstruction work in Tokyo and Yokohama.

Lumber imported into Japan for the year 1935 totalled ¥49,775,000 an increase of ¥9,592,000 (23.8%) as compared with the previous year. Main sources of shipments were the United States, Canada, the Dutch East Indies, Siam and Asiatic Russia, but the United States' share was far larger than the other countries combined. Meantime, the exports of lumber and bamboo amounted to ¥23,923,000 for the same year, which was a decrease of ¥945,000 as compared with the 1933 figure. Chief foreign markets for lumber from Japan in 1935 were Britain, Kwantung Province, China, Manchoukuo, the Dutch East Indies, British India and the Straits Settlements.

IMPORTS OF LUMBER (Unit ¥1,000)

Year	Ebony, kwaria, etc.	Teak	Cedar for pencils	Cedar, pine, fir from under 60 mm. thick to over 200 mm. cante)	Cedar, pine and fir (logs and cante)	Kiri (paulownia)	Aspen	Other wood
1931	836	651	451	18,996	18,740	398	459	2,784
1932	578	753	425	15,243	14,517	87	—	3,322
1933	922	919	203	16,479	16,540	97	204	5,214
1934	952	758	336	14,722	15,404	66	277	7,665
1935	967	1,347			37,128			8,009

EXPORTS OF LUMBER (Unit ¥1,000)

Year	Bamboo	Railway sleepers	Veneers	Shooks	Match sticks	Wood shavings for match boxes	Wood, other sawn	Logs, etc.
1931	741	123	554	3,224	942	642	2,846	2,136
1932	511	26	1,291	3,304	285	493	3,573	2,351
1933	700	612	2,550	4,506	347	462	6,325	3,833
1934	952	2,207	4,010	5,779	255	402	6,620	4,639
1935	742	689	4,397	5,012	88	282	7,520	5,192

Wood Pulp Industry In 1914, the consumption of wood used as raw materials for pulp amounted to only 1,160,000 koku, but in 1932 it was 6,978,261 koku, and in 1933 nearly 7,992,000 koku. Japan proper and Korea supply fir, cedar and hemlock-spruce, while Hokkaido and Saghalien Island supply ezo-matsu and todomatsu. In 1913, lumber grown in Japan proper used for pulp amounted

to 127,000 koku, that grown in Hokkaido 852,000 koku and that in Saghalien Island 33,000 koku. The consumption of wood grown in Japan proper decreases every year, while that grown in Hokkaido and Saghalien Island increases rapidly. In 1927, the consumption of Saghalien lumber was about 69% of the whole, Hokkaido lumber about 27%, and the remaining 4% was grown in

Japan proper, Korea and Manchuria.

Resources for pulp. Though the development of the pulp industry was partly due to the increase in demand for paper, it owes a great deal to the abundant supply of lumber. While in 1914 the consumption of lumber was barely 1,160,000 koku, it increased to 7,090,000 during the next 12 years and today the consumption amounts to about 10,000,000 koku a year. However, as explained elsewhere, it requires careful investigation, study and planting to make our forests capable of producing so large an amount every year.

Japan proper has been supplying in the past, fir, cedar and hemlock-spruce as pulp woods, but these are decreasing in quantity, and though they may be used to some extent for pulp, they are more necessary for other purposes and cannot be relied upon indefinitely as raw materials for pulp.

The quantity of ezo-matsu and tōdo-matsu supplied by Hokkaido as pulp woods is large, but it is difficult to obtain supplies in a greater proportion than at present, therefore the only forests on which the pulp industry can rely for a greater supply are those in Saghalien.

The stock of coniferous trees in Saghalien Island was at one time

said to be 1,800,000,000 koku and that of broad-leaved trees 125,000,000 koku. Later investigations have shown, however, that the total growing stock was only 709,000,000 koku, of which coniferous trees made up 637,000,000 koku and broad-leaved trees 72,000,000 koku. Great quantities have since been utilized and the amount available in future is said to be only about 400,000,000 to 500,000,000 koku.

Under such circumstances, it is doubtful whether the forests in Japan can supply all the raw materials her pulp industry will require in future. Thus the establishment of a far reaching forestry policy, encouragement of afforestation, prohibition of rough cutting, etc., are urgently required, and in order to further develop our pulp and paper industry the development of forests in Northern Manchuria and the Maritime Province is essential. In 1934 the total production of various kinds of wood pulp amounted to 710,000 tons from 7,137,000 koku of timber. (See Chapter XXII, Paper, for minutes.) At present a large quantity is yearly imported from foreign countries, the United States being the largest importer. The total amount imported for the year 1934 was ¥55,101,000 against ¥44,255,000 for the previous year.

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 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 ægis. 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 Shimozuké Province
Besshi " "	in Iyo " "
Sado Gold mines	in Sado Island
Miiké Coal "	in Chikugo Province
Karatsu "	in Hizen

After the Meiji Restoration the industry 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 transferred also, a factor which served to bring the mining industry of Japan to its present stage of development.

Mining Industry in Recent Years

The year 1934 closed with an unprecedented record in recent years, which was doubtlessly caused by the enormous increase of overseas trade and the continued boom of munition industries. The price level of mineral products kept its upward tendency in general throughout the year, which in turn contributed to accelerate the productive activity. The greatest activity was witnessed in the

coal production. Gold was another item which recorded an enormous increase in production owing to its enhanced market price. The high price paid for Government gold and gold bullion, the discount allowed in the railway freightage, the lower charges for the analysis of gold ores and the bounties for the building of gold refineries, all these facilities given by the Government added force to the increase of its production.

Mining applications made during the year 1933 were 8,193 for prospecting, 148 for actual operation and 478 for mining gold dust, with the total number of 8,819. This was an increase of 2,423 (42%) in prospecting, 61 (70%) for actual operation,

but a decrease of 106 (18%) in gold dust, as compared with the previous year. The total production in 1934 was valued at ¥432,307,812, an increase of ¥74,067,754 (20%) as compared with the previous year. Coal added ¥50,088,000 in value, as compared with the previous year, while copper decreased ¥4,025,655.

Exports and Imports The latest returns of the overseas trade show that the exports and imports of mineral products for the year 1934 were ¥98,187,047 and ¥509,962,571 respectively. (For details of exports and imports of mineral products in 1934 and 1935 see Chapter XI.)

NUMBER OF MINE-LOTS OPERATED AND THEIR AREA

(Prepared by Department of Commerce and Industry)

(Area is given in ares)

No. of Mine-lots	Operated	1930	1931	1932	1933	1934
		Not optd.	3,434	3,301	3,205	3,067
Area	Operated	22,325,461.3	21,037,812.1	20,806,803.3	22,175,416.3	23,723,094.7
	Not optd.	25,061,934.6	24,061,610.1	23,903,106.3	22,608,207.5	21,678,168.5

NUMBER OF MINE-LOTS PROSPECTED AND THEIR AREAS

(Prepared by Department of Commerce and Industry)

(Area is given in ares)

No. of Mine-lots	1930	1931	1932	1933	1934
	Area	114,968,846.3	109,294,197.7	111,630,875.4	130,743,419.5

NUMBER OF MINE-LOTS PROSPECTED AND THEIR AREAS

(Classified according to Kinds of Minerals)

(Area is given in ares)

Kind of mineral	1929		1930	
	No. of mine-lots	Area	No. of mine-lots	Area
Metal	3,497	52,860,182.6	3,438	50,097,981.7
Phosphorus	20	265,446.4	21	208,812.0
Graphite	15	190,199.5	15	190,397.3
Coal	1,881	40,915,869.1	1,774	40,245,236.3
Lignite	204	2,494,656.0	191	2,029,314.9
Petroleum	1,163	22,775,793.1	1,056	20,141,610.9
Petroleum asphalt	27	451,745.0	20	309,462.0
Sulphur	87	1,506,255.4	89	1,567,491.1
Other non-metals	—	—	—	—
Total	6,896	126,707,571.0	6,607	114,968,846.3

Kind of mineral	1931		1932	
	No. of mine-lots	Area	No. of mine-lots	Area
Metal	3,234	48,182,550.4	3,503	55,568,450.3
Phosphorus	19	183,493.2	14	155,837.0
Graphite	10	170,635.5	7	84,432.2
Coal	1,742	39,130,915.6	1,573	35,598,012.6
Lignite	157	2,005,192.0	146	1,290,171.0
Petroleum	903	17,368,277.6	858	16,761,711.9
Petroleum asphalt	14	219,253.0	13	250,371.0
Sulphur	108	1,895,325.9	112	1,877,969.4
Other non-metals	56	86,441.0	—	—
Total	6,195	109,294,197.7	6,229	111,630,875.4

Kind of mineral	1933		1934	
	No. of mine-lots	Area	No. of mine-lots	Area
Metal	4,438	74,253,387.5	5,956	107,661,143.2
Phosphorus	14	121,620.5	35	433,214.8
Graphite	11	107,678.2	13	68,257.8
Coal	1,594	35,985,565.7	1,746	39,643,220.8
Lignite	117	944,720.9	127	1,513,229.4
Petroleum	822	17,002,362.3	840	18,014,106.7
Petroleum asphalt	13	265,581.3	14	295,609.7
Sulphur	114	1,960,509.7	169	3,276,973.8
Other non-metals	1	32,529.1	—	—
Total	2,686	56,420,567.7	2,944	63,244,613.0

NUMBER OF MINE-LOTS OPERATED AND THEIR AREAS

(According to Kinds of Minerals)

Kind of mineral	1929		1930		
	No. of mine-lots	Area	No. of mine-lots	Area	
Metal	Operated	462	6,934,308.7	401	6,394,261.4
	Not optd.	1,927	12,438,685.5	1,877	12,224,045.0
Phosphorus	Operated	1	3,926.5	2	13,374.4
	Not optd.	6	28,095.9	5	18,648.0
Graphite	Operated	6	61,451.7	3	46,764.0
	Not optd.	10	43,157.1	15	68,745.8
Coal	Operated	515	12,808,958.5	508	18,515,299.3
	Not optd.	1,054	12,888,437.4	1,038	11,963,661.7
Lignite	Operated	101	613,212.2	100	619,281.8
	Not optd.	112	557,278.6	110	381,805.7
Petroleum	Operated	140	1,578,519.7	130	1,399,318.4
	Not optd.	297	1,030,495.1	285	1,022,905.4
Petroleum Asphalt	Operated	9	156,808.0	9	118,305.0
	Not optd.	5	7,345.0	5	7,344.0
Sulphur	Operated	31	184,509.0	31	194,107.0
	Not optd.	103	406,944.6	98	364,766.0
Other non-metals	Operated	—	—	2	24,750.0
	Not optd.	1	10,013.3	1	10,013.3
Total	Operated	803	15,407,386.5	1,186	22,325,461.3
	Not optd.	1,588	14,971,767.0	3,434	26,061,934.4

Kind of mineral	1931		1932		
	No. of mine-lots	Area	No. of mine-lots	Area	
Metal	Operated	343	5,873,435.5	389	6,210,175.4
	Not optd.	1,837	11,464,541.1	1,750	11,210,554.1

Kind of mineral		1931		1932	
		No. of mine-lots	Area	No. of mine-lots	Area
Phosphorus	Operated	1	3,926.5	1	3,926.5
	Not optd.	5	22,571.3	5	22,571.4
Graphite	Operated	4	50,498.5	3	45,308.5
	Not optd.	14	53,168.9	13	51,270.0
Coal	Operated	481	12,714,854.5	456	12,298,637.5
	Not optd.	963	10,855,070.2	970	10,867,332.2
Lignite	Operated	101	598,206.5	103	644,101.3
	Not optd.	103	352,474.6	100	362,063.4
Petroleum	Operated	128	1,442,001.1	119	1,247,916.7
	Not optd.	274	866,651.9	266	908,875.1
Petroleum Asphalt	Operated	9	116,284.0	10	134,086.0
	Not optd.	3	2,959.0	3	2,959.0
Sulphur	Operated	30	213,856.5	32	222,651.9
	Not optd.	101	388,160.1	97	377,522.1
Other non-metals	Operated	2	24,749.0	—	—
	Not optd.	1	10,013.3	1	10,013.3
Total	Operated	1,099	21,037,812.1	1,113	20,806,803.8
	Not optd.	3,301	24,016,610.1	3,205	23,903,160.3

Kind of mineral		1933		1934	
		No. of mine-lots	Area	No. of mine-lots	Area
Metal	Operated	481	7,134,619.7	575	7,724,004.8
	Not optd.	1,549	10,253,456.5	1,559	9,862,597.4
Phosphorus	Operated	2	13,374.4	2	13,374.4
	Not optd.	6	60,475.7	6	60,475.7
Graphite	Operated	3	45,308.5	3	45,308.5
	Not optd.	12	40,890.7	12	40,890.8
Coal	Operated	488	12,549,253.3	546	13,459,991.1
	Not optd.	935	10,670,004.6	876	10,111,626.5
Lignite	Operated	99	627,782.4	99	593,322.4
	Not optd.	102	359,412.0	103	373,360.4
Petroleum	Operated	124	1,446,184.0	123	1,455,636.6
	Not optd.	263	842,514.0	261	859,510.4
Petroleum Asphalt	Operated	9	134,086.3	9	122,042.6
	Not optd.	3	2,598.9	3	2,959.0
Sulphur	Operated	35	224,807.7	37	284,310.2
	Not optd.	96	368,841.7	94	358,113.5
Other non-metals	Operated	—	—	—	—
	Not optd.	1	10,013.3	—	—
Metal and non-metals	Operated	—	—	1	25,104.1
	Not optd.	—	—	1	8,634.8
Total	Operated	1,241	22,175,416.3	1,395	23,723,094.7
	Not optd.	3,067	22,608,207.5	2,915	21,678,168.5

PRODUCTION OF MINERALS

Kind of Ore	Unit	1932		1933		1934	
		Quantity produced	Value yen	Quantity produced	Value yen	Quantity produced	Value yen
Gold	Gramme	12,469,285	25,924,770	13,701,200	33,790,368	15,094,094	44,906,708
Gold dust	"	27,881	48,186	27,390	55,634	52,491	134,595
Platinum dust	"	8,272	26,896	6,424	39,901	3,678	29,251
Silver	"	163,625,358	5,386,849	185,610,259	8,037,277	217,254,393	11,039,296
Silver dust	"	—	—	981	26	—	—
Copper	Kg.	71,876,556	39,120,840	69,032,756	50,771,985	67,002,370	46,746,330
Lead	"	6,414,643	1,071,842	6,824,687	1,357,829	7,030,311	1,415,177
Bismuth	"	47,646	212,025	57,100	382,570	50,354	376,062

Kind of Ore	Unit	1932		1933		1934	
		Quantity produced	Value yen	Quantity produced	Value yen	Quantity produced	Value yen
Tin	"	1,002,280	1,601,074	964,800	2,758,522	1,218,216	4,094,784
Tin dust	"	164	295	420	1,399	500	1,975
Tin ore	Metric ton	829	862,157	855	1,850,230	903	2,093,849
Antimony sulphide	Kg.	—	—	1,200	300	—	—
Antimony ore	"	67	6,369	134	13,126	106	15,349
Mercury	Metric ton	2,384	11,202	8,077	37,156	6,772	32,539
Zinc	"	27,084,432	6,032,611	30,657,632	9,746,556	32,145,458	9,516,702
Cast iron	"	165,332	5,149,221	244,149	11,015,524	357,150	15,039,962
Steel	Metric ton	71,629	4,297,740	128,933	11,603,970	186,046	13,240,306
Iron pyrites	"	726,073	7,514,695	903,129	9,974,995	1,090,454	10,733,989
Chromite	"	12,492	356,581	19,897	714,688	27,070	993,550
Manganese ore	"	5,419	167,592	10,845	325,070	10,637	336,366
Dioxide Metal	"	20,823	209,722	32,690	418,911	46,528	572,524
Scheelite ore	"	20	6,945	29	17,624	65	32,381
Arseneous acid	Kg.	2,637,408	273,633	2,375,092	383,579	2,734,331	322,792
Phosphate rocks	Metric ton	18,757	218,372	34,742	414,034	55,500	626,765
Graphite	"	495	15,300	869	44,270	969	43,931
Coal	"	28,053,375	141,976,783	32,523,746	195,467,264	35,924,989	245,555,471
Atan*	"	108,532	464,513	115,788	559,703	124,356	614,233
Crude Petroleum							
Crude Oil	hl.	2,534,966	7,509,873	2,255,655	8,958,927	2,838,630	9,429,848
Gasoline	100 cm.	512,660	892,955	419,176	821,797	471,214	785,770
Sulphur	Metric ton	84,530	4,616,084	114,426	7,500,318	135,412	9,018,901
Sulphur ore	"	2,633	24,218	2,700	29,340	4,782	53,304
Sulphuric acid	"	93,040	781,539	115,332	1,141,786	118,459	1,063,993
Total		—	254,781,908	—	358,240,658	—	432,307,812

* Brown or soft lignite.

Mining of Metals

Gold The removal of the gold embargo was effected in January, 1930, and the outflow of specie during that year reached ¥300,000,000. There was no sign of the outflow abating in the following year, and in consequence the specie holding of the Bank of Japan dwindled to a very low ratio. All these adverse conditions gave rise to demands for the encouragement of gold producing enterprises among the people and resulted in the establishment of a Central Refinery Station (Chuo Seirensyo) and of other means for conducting research work. As regards financial assistance extended to the enterprisers, it was so arranged that the Bank of Japan should advance low-interest loans against the mortgaging of the gold produced. The suspension of the gold standard by

Britain in September, 1931, greatly influenced the financial atmosphere of this country, the effect of which was to augment the outflow of gold and intensify the tendency, which had become rampant throughout the country, of cornering and hoarding the metal.

With the installation of the Seiyukai Cabinet in December, 1931, gold exports were prohibited and an unprecedented depreciation of the yen and appreciation of gold in inverse ratio took place.

Stimulated by various measures of encouragement, as has been said elsewhere, the production of gold was increased by 9.9% as compared with 1932, despite the fact that the gold refineries, the construction of which was started on the receipt of bounties, were still but half completed. The production in 1934 was 15,094,094 gm. at ¥44,906,708

against 13,701,200 gm. at ¥33,790,368 in the previous year. Chosen produced 12,427,000 gm. at ¥41,049,000 and Taiwan, 1,046 gm. in the same year. Gold is mostly refined by two large companies of Nihon Mining Co., Ltd. and Mitsubishi Mining Co., Ltd. The former has its smelteries at Hidachi in Ibaraki and Saganoseki in Oita, and produce about 200 kan a month. In addition to the old gold mine in Sado Island Mitsubishi has an alluvial gold mine at Kintei in Korea, which is producing from 20 to 30 kilogrammes of gold per month. The Kōnomai (in Iwami, Hokkaido) Refinery, which was under construction since 1932, was completed in October, 1933, its capacity being 20,000 metric tons per month. At Taifu, Oita, a refinery with a ca-

capacity of 1,500 metric tons per month was completed. Amoh, of Gifu, and Kushikino, and Yamagano, of Kagoshima, have all extended their refineries. At Mitsui-sanru (Teshio, Hokkaido), Amanuma (Gumma), Naguri (Saitama), Oshima (Yamanashi), and Amagi (Shizuoka) built new refineries. In each of the following mines a new refinery will before long be completed: Tsugaru (Aomori), Kuromori (Iwate), Matsukawa (Fukushima), Tajima (Hyogo), Katsuka (Kagoshima), and Suzumino and Hoshino (Fukuoka).

Gold bullion is sold to the Bank of Japan or disposed of in the open market. For quantity and value of production see table "Production of Minerals" above. How the quantities were disposed of is shown below:

Year	Sold to Bank of Japan		Placed on the Market		Market Price (yen) (momme)	Remarks
	Quantity (grammes)	Percentage	Quantity (grammes)	Percentage		
1927	—	—	8,029,566	100	5.151	
1928	—	—	8,908,297	100	5.345	
1929	411,641	4.6	8,560,028	95.4	5.343	
1930	4,853,028	45.8	6,223,567	56.2	5.040	
1931	7,893,306	62.7	4,572,251	37.3	1.366	Gold ban lifted in Jan., 1930. Gold export prohibited Dec., 1931.
1932		12,721,000	(both together)		2.107	
1933	19,880,250	—	—	—	2.687	
1934	16,995,819	—	—	—	3.269	

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 1934 production showing 217,245,393 grammes at ¥11,039,296 against 185,610,259 grammes at ¥8,037,277 in the previous year, the quantitative increase percentage being 17%.

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 5,260,000 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 organ-

ized 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.

Copper Production of copper, unlike those of tin, lead, zinc, or aluminium, was comparatively large in Japan, occupying an important position among metal industries, especially in arms industries. 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.

Demand as an indispensable requisite in the munition manufacturing industries its brisk tone was maintained in 1934 as it had been in

the previous year. In 1934 production dropped again to 67,002,270 kg. at ¥46,746,330 as against 69,032,756 kg. valued at ¥50,771,985 in the previous year. The copper market in Japan was long under influences of New York and London markets. But since the second half of 1932, owing to the depression of Yen and the increased tariff, it began to regain an independent position of foreign influences. The yearly average price dropped from ¥76.514 in 1933 to ¥71.766 in 1934 per 100 kg. in Osaka, from 32,524 lbs. per one ton to 30,281 lbs. in London. But in New York it arose from 7 cents per pound to 8.4 cents. The exports of copper reached 12,621,600 kg. in 1934 as against 8,512,100 kg. in 1933, while the imports reached 51,368,300 kg. in 1934, a great increase as compared with 17,617,700 kg. in 1933.

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. The 1935 year production is estimated at 69,407,000 kg.

DEMAND AND SUPPLY OF COPPER (kilogrammes)

	Production	Imports	Total	Exports	Home Consumption
1931	75,848,181	2,019,900	77,868,081	26,603,200	51,264,881
1932	71,876,557	1,966,800	73,843,357	23,121,900	50,721,457
1933	69,032,756	17,617,700	86,650,456	8,512,100	78,138,356
1934	67,002,270	51,368,300	118,370,570	12,621,600	105,748,970
1935 (estimates)	69,407,000	65,261,000	—	—	—

Lead The home production of lead barely satisfies 7% of the aggregate demand. In 1934 the total home production was 7,039,311 kg. and the import was 95,114,000 kg. The home consumption increased

from 73,291,187 kg. in 1933 to 100,071,311 kg. in 1934, indicating the growing demand for the metal as the industrial activities expand.

Zinc The origin and development of zinc mining in Japan is of com-

paratively 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 reached 54,700 metric tons, and smelting furnaces numbered 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 Miiké, Takata, and Hiroshima were able to weather the storm. The last named has been especially successful in manu-

facturing 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 40-55% 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, Korea	
Mimuné Kozan in Keiando, Korea.	

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

Year	Production		Imports	Exports	Consumption
	Quantity produced	Value			
	kg.	yen	kg.		kg.
1931	25,407,089	4,471,742	24,633,600	—	50,040,789
1932	27,043,432	6,032,611	26,571,600	—	52,615,032
1933	30,637,632	9,746,995	32,525,600	—	63,183,232
1934	32,145,458	9,516,702	33,208,100	—	65,353,558
1935 (estimates)	31,300,000	—	45,842,000	—	77,142,000

Iron and Steel Industry

Down to the Meiji Era The art of iron smelting is said to have been known even in prehistoric times in Japan, but no reliable record can be found. The granites found in large quantities in the Chugoku districts, i.e. Okayama, Hiroshima, Tottori, and Shimané prefectures were found to contain a good percentage of magnetite iron from which iron dust was extracted. These places became famous for their iron products and swordsmiths. In the middle of the 19th century, there were as many

as 300 smelting works in these districts, but before the Restoration the utility of iron was not well realized and the demand for it was naturally small. Therefore, the iron and steel industry in its modern garb can be said to have begun with the Restoration.

Since the Restoration Early in the Meiji Era, mines were mostly operated by the Government. As the iron and steel industry was considered very important from a military standpoint the Government placed Kamaishi mine in Iwaté prefecture, under its direct management, and es-

tablished there some smelting works with foreign experts called from abroad. In 1879, two furnaces with capacity of 25 tons each were installed, but, owing to a shortage of raw materials and fuels the enterprise failed.

After the Sino-Japanese War of 1894-1895, the necessity of establishing the iron and steel industry for manufacturing war supplies was very keenly felt, and the Yawata Iron Works was established in 1886. Owing to the increased demand for iron and steel by various expanding industries the Yawata Works were extended in 1906 and again in 1911.

Private iron and steel works have since been established in rapid succession. In 1905, Suzuki Shoten of Kobé established Kobé Seikojo, and in 1907, Nippon Seikojo was established in Muroran with English and Japanese capital. In 1912, Nippon Kokan Kaisha, Ltd., was established, while in Manchuria, Honkeikō Baitetsu Koshi was established in 1910 on joint account of Japan and China.

These iron and steel works expanded tremendously during the World War, and production increased with marvellous rapidity. The 1913 production of pig iron was 240,000 metric tons while the 1918 production had increased to 583,000 tons. During the same period the production of steel increased from 255,000 tons to 537,000 tons. The Mitsubishi Co. established their Iron Works in Kenjiho, Korea, about this time.

Perhaps the iron and steel industry received a heavier blow than any other from the slump of 1920, a blow that was intensified by the decisions reached at the Disarmament Conference of 1921. The price of pig iron fell from ¥541 per ton, the highest price, in July of 1918 to ¥65 per ton in 1921, steel bars fell from ¥451 to ¥132, and steel sheets from ¥1,285 to ¥199. Twelve pig iron

manufacturing companies, four steel manufacturers and six steel materials manufacturing companies went out of business. Many small companies were amalgamated with or absorbed by bigger ones, until at present the whole iron and steel industry is controlled by a few powerful houses, Mitsui, Mitsubishi, Sumitomo, Okura, Asano and Okawa.

Many new industries were started during the Great War and as they progressed their demand for iron and steel expanded. Production increased to meet this demand and the 1923 output was greater than at any time during the Great War. The industry received blows from the great earthquake of 1923 and the financial panic of 1927, but with the finances of the largest concerns of the country behind it readjustments were soon made and as demand increased the industry steadily developed.

The Industry in 1933 The latter half of 1932 witnessed a brisk tone in the iron and steel manufacturing industry, owing evidently to such new factors as the activities in the munition and heavy industries, the depreciation in the exchange, tariff revisions, etc. This brought about a record demand for 3,270,000 metric tons of steel products. This surpassed the 1928 record of 2,800,000 tons. With pig iron, too, there was a large increase in demands. Consequently, seven furnaces were in full operation in 1933 with a total annual capacity of about 800,000 metric tons. New steel manufacturing hearths and compressors were installed and many equipments were added and perfected.

The 1933 pig iron production was 1,423,889 metric tons, exclusive of 160,000 metric tons of Chosen and about 430,000 metric tons of Manchoukuo, which represented 64% of the total home consumption and 92%

when the aforesaid production of Chosen and Manchoukuo was added. As for steel, whose production of the year was 2,863,155 metric tons, it covered nearly all home demand. In the year under review an epoch-making event took place in the steel and iron manufacturing industries of the country. It was the organization of the Nippon Seitetsu Kabushiki Kaisha under the newly enacted Nippon Seitetsu Kabushiki Kaisha (Japan Iron Manufacturing Co., Ltd.) Law, with an objective of ensuring self-satisfaction of iron and steel. The new corporation is, in addition to the Yawata Iron Works, composed of 6 iron and steel manufacturing corporations with an aggregate capital stock of ¥359,821,000. This is the sum total of capital of the component corporations plus ¥151,000 newly subscribed in the open market.

In this connection a few words should be added as to the supply of

iron and steel from Manchoukuo. The Manchurian incident in 1931 marked a turning point in the industrial relations of Japan with Manchuria. One of the most important events that took place since then was the separation of the Anshan Iron Works from the South Manchuria Railway Company as from June 1, 1933, and the Works became affiliated to the Showa Steel Works. The production estimates of the Showa Steel Works after March, 1935, in which month all the extension projects will be completed are estimated as follows:

	190,000	metric tons
Pig iron	180,000	metric tons
Steel materials	200,000	" "
Rails and big scales	70,000	" "
Small scales	33,000	" "
Black sheets	30,000	" "

The year 1934 witnessed a further advance in iron industry as it is shown in the following tables:

DEMAND AND SUPPLY OF IRON ORES IN JAPAN PROPER

(in metric tons)

Year	Amount produced	Amount imported	Amount imported from Colonies	Amount exported to Colonies	Demand	Percentage of production to demand
1928	187,706	1,616,974	225,389	—	2,000,060	8%
1929	177,556	1,944,786	314,134	4,299	2,432,177	7
1930	245,991	1,973,639	278,727	2,466	2,495,911	10
1931	208,181	1,549,919	176,585	5,176	1,929,509	11
1932	226,722	1,482,409	151,603	4,200	1,860,734	12
1933	320,670	1,523,627	255,320	5,600	2,009,617	15
1934 (estimate)	350,000	2,131,916	—	—	—	—

Pig Iron Pig iron is produced by Nippon Seitetsu Kabushiki Kaisha (Japan Iron Manufacturing Company). Coke is mostly used in its production, the amount produced with charcoal being so small that it

is hardly worth mentioning. The amount of production classified according to the mode of production and raw materials from which it is produced is as follows:

Year	From iron ore		Reproduced	From ores	Total
	with coke	with charcoal			
1927	884,341	—	10,905	925	896,171
1928	1,077,065	381	14,237	853	1,092,536
1929	1,065,908	2,000	19,138	82	1,087,138
1930	1,136,853	241	24,743	57	1,161,894

Year	From iron ore		Reproduced	From ores	Total
	with coke	with charcoal			
1931	896,445	—	20,897	—	917,342
1932	903,447	1,253	15,837	224	1,010,761
1933	1,403,502	—	19,924	463	1,423,889

During the war, Japan had the bitter experience of having her supplies of iron and steel cut off from Great Britain and the United States of America, and in view of this the Nippon (then Yawata) Works has steadily extended its production capacity. The 1930 production was 2.5

times that of 1919.

Japan requires about 1,500,000 tons of pig iron every year. Her own production is not enough to meet this requirement and the shortage is filled by importing from Korea, Manchoukuo and India.

PRODUCTION OF PIG IRON IN JAPAN AND MANCHOUKUO (in metric tons)

Year	Production in Japan Proper	Production in Korea	Production in Manchoukuo	Total
1928	1,092,536	146,159	254,675	1,523,370
1929	1,087,128	153,627	295,380	1,536,135
1930	1,161,894	349,415	150,524	1,661,833
1931	917,342	147,257	342,270	1,406,869
1932	1,010,761	161,940	368,181	1,540,882
1933	1,423,889	161,163	433,523	2,018,575
1934	1,714,417	175,502	471,715	2,361,634

DEMAND AND SUPPLY OF PIG IRON IN JAPAN (in metric tons)

	1931	1932	1933	1934
Production in Japan Proper	917,342	1,010,761	1,423,889	1,714,417
Imports from Cielons, Manchoukuo, and India	434,575	650,380	801,283	786,596
Total supply	1,411,917	1,660,489	2,225,170	2,501,013
Exports to Colonies	2,551	652	437	3,344
Demand in the country	1,409,366	1,661,141	2,224,733	2,497,669
Percentage of production to demand	65%	61%	64%	69%

Steel and Steel Materials Steel ingots are produced mostly from pig iron, principally by the open-hearth process. The Bessemer process is sometimes employed by small mills, but the number of mills which use

either this or the crucible method is small. Recently the electric process of production has been gaining ground. The amount of steel produced by different methods are shown below.

PRODUCTION OF STEEL INGOTS (in metric tons)

Method of production	1927	1929	1930	1931	1932	1933	1934
Open hearth	1,569,552	2,238,198	2,225,451	1,828,823	2,325,306	3,456,247	3,533,610
Bessemer	87,998	1,210	35	—	940	—	—
Electric	26,517	52,654	62,140	53,765	69,740	137,600	208,790
Crucible	1,175	1,778	1,711	1,537	2,296	2,192	1,120
Total	1,685,242	2,293,840	2,289,337	1,883,125	2,398,282	3,596,139	3,843,520

PRODUCTION OF STEEL MATERIALS
CLASSIFIED ACCORDING TO KINDS (in metric tons)

	1927	1929	1930	1931	1932	1933	1934
Round bars	460,837	683,841	483,556	467,333	568,446	846,997	778,451
Square ..	208,001	255,553	250,753	202,509	252,402	331,439	430,321
Thin plates	349,460	543,948	570,603	560,056	608,893	747,138	910,137
Steel pipes	50,491	78,492	88,336	63,491	95,890	117,287	136,969
Rails and fish plates	178,561	271,324	289,696	110,338	233,502	271,982	368,109
Wire rods	54,426	68,471	122,428	176,561	215,250	285,013	347,548
Black sheet	—	—	—	—	—	35,989	61,161
Others	33,783	26,048	31,709	21,513	36,724	53,110	63,522
Total	1,335,559	1,927,677	1,837,081	1,601,800	2,011,107	2,688,955	3,096,308
Wrought Steel materials	25,475	38,450	26,895	16,595	31,917	63,709	71,145
Cast steel	43,145	49,224	38,661	30,532	42,684	61,043	79,819
Special steel materials	10,942	18,529	18,429	13,931	27,929	49,448	57,912
Grand total	1,415,121	2,033,880	1,921,066	1,662,858	2,113,637	2,863,155	3,305,184

The annual requirement of steel materials in Japan is about 2,000,000 tons. Though the production in the country has greatly increased of late

a quite appreciable quantity is still imported. The following statistics show how the demand is met.

DEMAND AND SUPPLY OF STEEL MATERIALS (in metric tons)

	1929	1930	1931	1932	1933	1934
Production	1,720,489	1,921,066	1,662,858	2,113,637	2,863,155	3,305,184
Amount imported	824,237	437,103	265,548	235,165	409,862	426,658
Total supply	2,545,226	2,358,169	1,928,406	2,348,802	3,273,017	3,731,842
Amount exported	181,944	233,580	203,547	209,867	435,297	254,955
Home consumption	2,363,282	2,124,589	1,724,859	2,048,935	2,837,720	3,476,887
Percentage of production to consumption	73	90	96	103	101	95

Coal Mining

Coal surpasses all other mineral products both in quantity and money value, the 1934 production being 35,924,989 metric tons at ¥245,555,471. This production, compared with 32,523,746 metric tons in 1933

showed an increase of 3,401,243 metric tons (10.4%) and its money value, compared with ¥195,467,264 in 1933, an increase of ¥50,088,207 (25.6%).

The year 1934 was the most prosperous year for the coal industry. Details follow:

DEMAND AND SUPPLY OF COAL

	(In metric tons)	
	1933	1934
Coal actually marketed	32,523,746	35,924,989
Coal imported	3,441,000	3,997,000
Coal stocks at the beginning of	1,848,000	1,226,000
Total coal output	37,812,746	41,147,989
Coal exported	1,536,000	1,070,000
Coal stocks at the end of	1,226,000	678,000
Coal demand in Japan Proper	35,051,000	39,399,000

Japan's coal production since 1912 follows:

(In 1,000 metric tons)					
Year	Production	Year	Production	Year	Production
1912	19,639	1913	21,315	1914	22,293
1915	20,490	1916	22,910	1917	26,361
1919	28,029	1919	31,271	1920	29,245
1921	26,220	1922	27,701	1923	28,948
1924	30,110	1925	31,459	1926	31,426
1927	33,530	1928	33,860	1929	34,257
1930	31,376	1931	27,987	1932	28,053
1933	32,523	1934	35,924	1935	—

Business results of the coal-mining companies in recent five years were:

Year	No. of companies	Authorized capital	Reserve fund
1928	105	¥386,413,700	¥26,868,288
1929	100	368,593,200	30,326,664
1930	88	343,913,200	30,975,007
1931	87	365,800,700	30,149,827
1932	88	352,510,700	29,692,489
1933	99	—	31,822,000
1934	113	470,097,200	60,394,925

Year	Profit	Dividend	Net loss
1928	¥11,711,498	¥7,142,008	¥13,011,829
1929	12,706,871	8,568,725	3,093,942
1930	8,351,933	6,449,626	18,212,362
1931	4,424,070	4,183,130	5,654,419
1932	4,674,374	3,826,245	9,514,950
1933	—	—	—
1934	30,716,855	19,847,553	995,199

Coal Deposits No survey of coal resources was undertaken between the years 1911 and 1931, but in the latter year the Mining Bureau of the Department of Commerce and

Industry commenced a survey which took 2 years to complete. The results, compared with the 1911 survey, are:

	Investigation in 1932				
	Anthracite Natural Coal	Bitumin- ous Coal	Lignite	Total	Per- centage
Amount, already mined	29,888	984,130	6,965	1,020,483	5%
Amount, unminable	39,332	991,673	18,859	1,049,864	6%
Amount, minable	718,782	15,499,091	473,460	16,671,333	89%
Percentage	4%	93%	3%	100%	
Amount minable					
Actual deposits	454,745	5,439,905	65,765	5,960,415	36%
Probable deposits	131,944	3,780,975	132,582	4,045,501	24%
Possible deposits	182,093	6,278,211	275,113	6,685,417	40%

	Investigation in 1911			
	Coal	Lignite	Total	Percentage
Amount, already mined	233,200	—	233,200	3%
Amount, unminable	—	—	—	—

	Investigation in 1911			
	Coal	Lignite	Total	Percentage
Amount, minable	8,792,000	347,570	9,139,450	100%
Percentage	86%	4%	100%	
Amount minable				
Actual deposits	822,000	75,770	897,770	10%
Probable deposits	2,940,000	205,000	3,145,000	34%
Possible deposits	5,030,000	66,700	5,096,700	56%

Note: "Amount unminable" indicates the deposits, such as portions between pits, officially prohibited regions and where no pick is allowed.

"Probable deposits" as judged geologically and from conditions of coal seams and which can be presumed as available in future.

"Possible deposits" represent the deposits imagined to be there and are the most uncertain of all.

Petroleum

Production The home yield of crude oil until about 1916 was approximately 2,600,000 koku, by no means sufficient to satisfy domestic demand. Notwithstanding yearly increase in demand output was unable to keep pace with it so that by 1927 domestic production was only able to satisfy 25% of the home

consumption. The percentage has since increased and in 1932 was about 44%.

According to investigations conducted by the Nippon Petroleum Oil Company, the most important producer of crude oil, wells with a daily output of 20 kilolitres (approximately 111 koku) and over numbered no more than the following 7.

Location	Name of well	Date	Depth	Daily output during 10 days after successful date
Kashiwazaki	Warimachi Ro Style No. 3	Jan. 6	1,240 metres	24.60 kilolitres
"	Warimachi Ro Style No. 20	Feb. 11	1,246 "	27.13
"	Takamachi Ro Style No. 35	April 2	1,240 "	22.50
"	Takamachi Ro Style No. 36	April 24	1,240 "	34.08
"	Warimachi Ro Style No. 27	May 14	1,255 "	30.45
"	Warimachi Ro Style No. 14	June 11	1,325 "	32.83
"	Warimachi Ro Style No. 36	July 20	1,264 "	60.60

Demand and Supply One of the most conspicuous features in the oil production for the three years, 1931-1933 inclusive, was the marked increase in the use of foreign crude oil in the manufacture of heavy oil, 205,310 hl., 507,623 hl., and 1,062,168 hl. being the amount so manufactured in the three respective years. In sharp contrast to it the supply of the heavy oil manufactured out of home crude oil decreased in the same three years from

593,640 hl. to 314,203 hl. The imports of crude and heavy oil amounted to 28,162,810 hl. in 1934 as against 23,199,930 hl. in 1932, gasolene to 5,505,290 hl. as against 4,625,860 hl. in 1933, kerosene 877,780 hl. as against 576,510 hl. in 1933, and machine oil 389,620 hl. in 1934 as against 241,140 hl. in the previous year. Below are given detailed figures on the supply and demand of oil:

SUPPLY AND DEMAND OF OIL (in hl.)

Classification	Year	Production			Imports
		From home oil	From foreign oil	Total	
Gasolene Oil	1931	799,680	2,134,930	2,934,610	3,997,620
	1932	628,474	3,105,810	3,734,284	4,401,440
	1933	394,737	3,533,429	3,928,166	4,625,860
	1934	349,470	4,436,050	4,785,520	5,505,290
Kerosene Oil	1931	209,880	408,870	618,750	635,810
	1932	244,758	579,299	824,057	700,500
	1933	208,660	589,694	798,354	576,510
	1934	206,700	709,780	916,480	877,780
Light Oil	1931	889,490	1,033,610	1,923,100	—
	1932	733,672	1,483,508	2,217,180	—
	1933	563,824	1,404,971	1,968,795	—
	1934	663,730	1,332,810	1,996,540	—
Machine Oil	1931	524,620	1,118,810	1,643,430	376,610
	1932	511,969	1,133,088	1,645,057	353,890
	1933	455,520	1,555,840	2,011,360	241,140
	1934	592,160	1,761,540	2,353,700	389,620
Heavy Oil	1931	593,640	205,310	798,950	11,007,050
	1932	205,354	507,623	712,977	12,996,530
	1933	214,203	1,062,168	1,276,371	13,016,430
	1934	376,020	1,870,900	2,247,010	16,165,550
Total	1931	3,017,310	4,896,530	7,913,840	16,017,090
	1932	2,324,227	6,809,328	9,133,555	18,452,360
	1933	1,836,944	8,146,102	9,983,046	18,459,940
	1934	2,188,080	10,111,170	12,299,250	22,938,240

SUPPLY AND DEMAND OF OIL (in hl.)

Classification	Year	Total	Exports	Balance Consumed at home	
				Total	% of Production to Demand
Gasolene Oil	1931	6,932,230	—	6,932,230	42.3
	1932	8,135,724	—	8,135,724	45.9
	1933	8,554,026	—	8,554,026	45.9
	1934	10,290,810	—	10,290,810	47.0
Kerosene Oil	1931	1,249,560	33,570	1,215,990	50.5
	1932	1,524,557	120,140	1,404,417	58.7
	1933	1,374,864	51,000	1,323,864	60.3
	1934	1,794,260	44,320	1,749,940	52.0
Light Oil	1931	1,923,100	—	1,923,100	100.0
	1932	2,217,180	—	2,217,180	100.0
	1933	1,968,795	—	1,968,795	100.0
	1934	1,996,540	—	1,996,540	100.0
Machine Oil	1931	2,020,040	32,060	1,987,980	82.7
	1932	1,998,947	124,850	1,874,097	87.8
	1933	2,252,500	203,960	2,048,540	98.2
	1934	2,743,320	288,640	2,454,680	96.0
Heavy Oil	1931	11,806,000	—	11,806,000	6.8
	1932	13,709,507	—	13,709,507	5.2
	1933	14,292,801	—	14,292,801	8.9
	1934	18,412,560	—	18,412,560	12.0
Total	1931	23,930,930	65,630	23,865,300	33.2
	1932	27,585,915	244,990	27,340,925	33.4
	1933	28,442,986	254,960	28,188,026	35.4
	1934	35,237,490	332,960	34,904,530	35.0

Producers and Operatives

Companies engaged in Mining Industry were as follows:

Year	No. of Companies	Capital ¥	Reserve ¥	Net Profit ¥	Dividend ¥	Net Loss ¥
1925	325	1,036,396,495	111,915,601	35,901,885	25,406,558	6,804,390
1926	349	1,086,931,420	122,146,216	36,601,718	18,348,148	9,122,589
1927	363	1,006,506,935	121,941,624	41,842,808	29,969,452	18,180,059
1928	371	1,005,230,192	131,375,307	44,281,532	30,562,085	18,457,887
1929	394	1,060,690,693	116,771,370	57,316,880	34,158,513	19,019,463
1930	376	954,242,273	100,696,580	30,339,837	22,930,041	23,112,090
1931	383	961,868,883	97,793,798	19,027,144	15,651,820	15,857,406
1932	389	951,969,923	96,981,747	26,812,546	19,093,927	12,647,560
1933	427	975,954,664	96,736,497	50,605,374	31,914,230	5,509,475
1934	515	1,066,996,905	120,127,123	76,317,610	49,989,059	2,228,960

MINING COMPANIES IN 1934

(Prepared by the Department of Commerce and Industry)

Kind of mining	Number	Amount invested and authorized capital	Reserves (in yen)	Profits	Dividend	Net Loss
Metal	167	407,819,530	32,022,017	37,700,423	24,498,345	429,645
Coal	113	470,097,200	60,394,926	30,716,855	19,847,553	995,199
Petroleum	16	144,875,000	24,388,920	4,957,269	3,701,200	253,491
Others	20	11,368,000	2,390,490	2,353,091	1,637,337	2,600
Stone	199	32,837,175	930,770	589,972	304,624	548,025
Total	515	1,066,996,905	120,127,123	76,317,610	49,989,059	2,228,960

NUMBER OF OPERATIVES ENGAGED IN MINING

At the end of June	Under 16 years			16-50 years		
	Male	Female	Total	Male	Female	Total
1929	2,870	1,085	3,955	215,895	51,934	267,829
1930	2,224	879	3,103	200,687	41,114	241,801
1931	1,045	382	1,427	167,869	24,551	192,420
1932	759	293	1,052	158,635	19,991	178,626
1933	950	339	1,289	174,021	20,358	194,379
1934	1,197	375	1,572	204,484	22,927	227,411

	Over 50 years			Total		
	Male	Female	Total	Male	Female	Total
1929	13,095	2,085	15,180	231,860	55,104	286,964
1930	11,925	1,640	13,565	214,836	43,633	258,469
1931	7,458	1,050	8,508	176,472	25,983	202,985
1932	5,515	647	6,162	164,909	20,931	185,840
1933	5,969	683	6,652	180,940	21,380	202,320
1934	6,670	694	7,374	212,351	23,996	236,347

NUMBER OF OPERATIVES ACCORDING TO KIND OF WORKING

(At the end of June, 1934)

Kind of Mines	Working Place	Under 16 years		16-50 years	
		Male	Female	Male	Female
Metal Mines	Underground	13	—	30,617	27
	Out of ground	450	142	13,699	4,517
	Refineries	96	1	5,481	425
	Total	559	143	49,797	4,970

PRODUCERS AND OPERATIVES

Kind of Mines	Working Place	Under 16 years		16-50 years	
		Male	Female	Male	Female
Coal Mines	Underground	93	31	114,863	5,416
	Out of ground	496	177	30,782	11,821
	Total	589	208	145,645	17,237
Oil Mines	Oil field	9	—	3,184	113
	Refineries	—	—	807	38
	Total	9	—	3,991	151
Other Non-Metallic Mines	Underground	—	—	2,276	—
	Out of ground	15	15	1,968	421
	Refineries	25	9	807	148
	Total	40	24	5,051	568
Grand Total	Underground	106	31	147,756	5,443
	Out of ground	970	334	49,633	16,872
	Refineries	121	10	7,095	612
	Total	1,197	375	204,484	22,927

Metal Mines	Working Place	Over 50 years		Total		
		Male	Female	Male	Female	
Metal Mines	Underground	794	2	31,424	29	31,453
	Out of ground	753	142	14,902	4,801	19,703
	Refineries	318	29	5,895	456	6,351
Total	1,865	173	52,221	5,286	57,507	
Coal Mines	Underground	2,866	151	17,822	5,598	123,420
	Out of ground	1,499	329	32,777	12,327	45,104
	Total	4,365	480	150,599	17,925	168,524
Oil Mines	Out of ground	158	25	3,351	138	3,489
	Refineries	46	2	853	40	893
	Total	204	27	4,204	178	4,382
Other Non-Metallic Mines	Underground	99	—	2,375	—	2,375
	Out of ground	98	12	2,081	448	2,529
	Refineries	39	2	871	159	1,030
	Total	236	14	5,327	607	5,934
Grand Total	Underground	3,759	153	151,621	5,627	157,248
	Out of ground	2,508	508	53,111	17,714	70,825
	Refineries	403	33	7,619	655	8,274
	Total	6,670	694	212,351	23,996	236,347

CHAPTER XVIII

THE TEXTILE INDUSTRY

Introduction

The use of foreign-style machinery in Japan began in the Meiji Era, when cotton spinning equipment was imported from Europe and the United States. After that time the spinning industry gradually developed along modern lines, a development that was extended to weaving as well. The total capital invested in the Japanese textile industry amounts to ¥1,237,859,000, giving employment to more than 969,000 operatives, which corresponds to 44.8 per cent. of the total industrial operatives in Japan.¹ The products of spinning and weaving of all kinds account for 37 per cent. of Japan's industrial production. The total production of textiles in Japan for 1934 was ¥3,167,755,638, gaining ¥253,000,000 over 1933. Of this, the production of cotton yarns headed the list with ¥895,884,636 against ¥727,959,000 of 1933, followed by cotton fabrics ¥607,032,344 against ¥569,708,000 of 1933; raw silk ¥407,686,233 against ¥510,166,000 of 1933; silk fabrics ¥222,300,695 against ¥208,603,000 of 1933; wool, wool-cotton and other mixtures ¥183,071,439 against ¥177,096,000 of 1933; and knitgoods ¥76,981,374 against ¥62,878,000 of 1933. The year 1934 marked the pinnacle of Japan's fibre industry. Except raw silk, the industry was outstandingly prosperous.²

Japan profits about ¥300,000,000 a

¹ Figures given here and those following are for mills only which employ more than 5 operatives, unless otherwise stated.

² For a detailed description of silk see Chapter XIV.

year from the fibre industry. The country imports ¥900,000,000 worth of raw cotton and wool as materials for fibre manufactures and exports ¥1,200,000,000 worth of fibre. These exports for 1935 were as follows:

	1935 (In ¥1,000)	Compared with 1934
Raw silk	387,032	in. 100,230
Cotton fabrics	496,097	" 3,746
Woollen ..	32,400	" 2,532
Silk ..	77,444	de. 43
Rayon ..	128,260	in. 14,776
Rayon yarns	22,852	" 455
Cotton yarns	35,873	" 12,387

The fact that it has developed to this point is in large measure due to the adaptability of the Japanese people to this special type of industry, an abundant supply of labour, favourable climatic conditions, brisk domestic consumption of cotton yarn, the propinquity to large foreign markets, the constant efforts of manufacturers, and the protective policy of the Government. The Government and private firms have co-operated in furthering technical improvement by the rationalization of production by large mills and by production control and improvement in the quality of products through the organization into industrial guilds of the smaller mills. There were, in 1932, 127 such guilds throughout the country. This development and co-operation enable Japanese mills to supply the world's markets with goods of excellent quality at reasonable prices.

According to the new factory law of 1926, the employment of minors and women during night

hours was prohibited after July 1, 1929. As a result, workers are now divided into two shifts, each of 8½ hours, which means a 15 per cent. reduction in the operating hours as compared with the old system. In order to make good this loss the cotton spinning factories have been trying to increase efficiency in other ways. Two methods have been adopted. One is to improve the technical factors of operation, and the

other is to improve the workers by giving them better training, and the result has been larger individual output and the replacing of lower by higher quality goods.

Statistics The number of operatives, mills, etc. for almost all kinds of textile industry in 1934 show an increase over those of 1933, indicating that the industry as a whole was very prosperous in that year. The following table shows these figures:

NUMBERS OF OPERATIVES, MILLS, ETC. IN TEXTILE INDUSTRY IN 1934
AS COMPARED WITH THOSE IN 1933

Kind of industry	No. of mills		No. of mills using motors		No. of officials		No. of technician	
	1933	1934	1933	1934	1933	1934	1933	1934
Silk reeling	3,305	3,188	3,143	2,993	5,930	5,555	5,507	5,379
Cotton spinning	471	560	466	558	3,018	3,496	2,584	2,848
Twisted thread	1,191	1,358	1,161	1,520	360	413	251	261
Weaving	11,975	13,465	11,056	12,557	5,426	6,011	4,263	4,595
Hosiery	1,400	1,575	1,205	1,346	788	861	479	494
Dyeing, refining, bleaching, assorting	2,684	2,966	2,057	2,197	2,896	3,234	2,213	2,283
Miscellaneous	1,085	1,287	993	1,156	705	808	349	381
Total	22,180	24,399	20,066	22,127	19,121	20,878	15,646	16,341

Kind of industry	No. of operatives				Others		Total	
	Male		Female		1933	1934	1933	1934
Silk reeling	23,051	21,639	288,191	258,878	5,273	4,993	327,952	296,435
Cotton spinning	31,325	33,987	161,923	200,073	6,806	7,068	295,218	247,472
Twisted thread	3,344	4,638	12,476	15,316	197	278	17,128	20,906
Weaving	51,319	58,087	240,374	270,145	5,182	4,950	306,562	343,788
Hosiery	7,743	8,535	13,120	14,593	272	310	22,402	24,793
Dyeing, refining, bleaching, assorting	47,628	51,288	9,049	10,089	2,739	1,796	64,525	68,600
Miscellaneous	5,671	6,640	11,918	15,421	341	370	18,984	23,620
Total	170,581	184,805	737,050	784,515	20,873	19,765	962,771	1,025,704

Cotton Spinning

Recent Development

The Year 1935 Business result of mills belonging to the Japan Spinners' Association for 1935 realized some improvements over the year

before. Fixed assets, net profit, dividend, reserves, and balance carried forward showed better results than for 1934. Results of member companies belonging to the Association follow:

	First term		Second term	
	1934	1934	1935	1935
Paid capitalization	399,638	424,874	424,873	441,535
Reserves	253,486	264,537	264,536	270,444
Funded debt	116,268	131,747	131,747	126,669
Fixed assets	565,397	571,491	571,490	597,129
Applied to depreciation for term	20,325	24,358	—	—
Brought forward	36,853	53,936	—	—
Net profit or loss	35,948	37,065	37,064	35,732
Dividend	24,621	25,682	—	—
Applied to reserves	6,621	6,518	—	—
Carried forward	41,561	58,800	—	—
Average dividend	12.7	12.2	12.2	12.2

The lowest dividend rate in recent years was 7.6 per cent. for the second half of 1929. The rate was 10.6 per cent. for the first half and 10.8 per cent. for the second half, 1933; 12.7 for the first half and 12.2 for the second half of 1934; and 12.2 for the first half of 1935.

Spindles, Looms, Capitalization During the last nine years Japan witnessed an increase of 3,446,000 spindles. This means an average yearly increase of 382,000 spindles and a monthly gain of 32,000 spindles. The number of spindles and looms for the last nine years and the capitalization and equipment for the past twenty-one years follow:

	Spindles (Rings)	Looms
1926	5,644,772	77,043
1927	6,079,272	78,352
1928	6,425,500	81,209
1929	6,795,502	77,898

SPINNERS' CAPITAL AND EQUIPMENT

Year	Cos.	Paid Cap. (000s)	Reserves (000s)	Mills	Ring Spindles	Mule Spindles	Doubling Spindles	Looms
1915	41	86,012	38,663	161	2,754,124	53,390	355,313	30,068
1916	40	99,642	48,952	161	2,825,944	49,960	370,681	31,295
1917	43	115,623	70,037	170	3,008,568	51,910	383,458	36,181
1918	42	138,495	92,426	177	3,175,768	51,910	384,872	40,391
1919	54	165,758	139,074	190	3,435,932	52,330	410,690	44,401
1920	56	276,536	165,697	198	3,761,250	52,330	466,460	50,583
1921	61	295,648	182,041	217	4,116,616	44,510	533,384	54,994
1922	64	317,148	202,774	235	4,472,112	45,500	602,032	60,765
1923	70	376,273	217,408	241	4,422,428	14,370	510,031	64,460
1924	69	398,163	219,043	247	5,100,056	25,150	685,995	68,579
1925	64	382,715	223,531	243	5,413,094	34,090	759,632	73,381
1926	64	391,305	231,149	247	5,644,772	35,080	789,688	77,043
1927	64	391,551	238,367	257	6,079,272	36,994	787,490	78,352
1928	70	419,792	249,679	259	6,425,500	41,674	804,520	81,209
1929	70	429,415	259,757	258	6,795,502	41,014	808,324	77,898
1930	74	425,346	252,095	263	7,171,527	42,474	803,094	79,466
1931	72	398,855	240,828	263	7,498,152	36,994	801,594	77,782
1932	71	397,675	245,940	265	7,929,530	35,320	810,492	79,277
1933	69	403,899	255,398	268	8,608,608	35,320	842,808	86,343
1934	61	438,573	273,315	275	9,495,254	35,320	868,440	91,146
1935	74	441,535	270,444	276	9,320,000	—	—	93,200

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.

	Spindles (Rings)	Looms
1930	7,171,527	79,466
1931	7,498,152	77,782
1932	7,929,530	79,277
1933	8,608,608	86,343
1934	9,495,254	91,146
1935	9,961,000	93,200

COTTON SPINNING PROGRESS

	Daily Average Working Cotton Spindles Yarn (000s) Output (Bales ¹)		Operatives	
	Male	Female	Male	Female
1927	4,831	2,530,692	58,929	131,385
1928	4,843	2,451,862	6,353	117,697
1929	5,784	2,792,586	35,223	124,440
1930	5,897	2,524,699	30,202	108,811
1931	5,904	2,567,133	23,661	98,016
1932	6,304	2,810,437	21,154	105,651
1933	6,737	3,099,856	19,295	110,128
1934	7,502	3,472,442	21,303	148,811
1935	8,259	3,559,051	—	—

1 Bale=180 kilogrammes.

2 Output restriction of 23.6 per cent. enforced

Operatives The year 1933 saw the first expansion in the number of workers employed in weaving for some time. With more inexperienced hands on the job, the figure on operatives per 1,000 looms (including power house and other workers) rose slightly. The tendency to replace with women exaggerated this tendency. But the figure again declined in 1934 and 1935.

OPERATIVES PER 1,000 LOOMS

	Male	Female	Total
1908	158.1	948.2	1,102.2
1913	142.0	959.4	1,101.4
1918	148.9	827.9	976.8
1923	166.5	765.0	931.5
1924	151.2	785.7	936.9
1925	136.1	741.4	877.5
1926	140.7	756.0	896.7
1927	132.4	659.6	792.0
1928	118.2	515.8	634.0
1929	122.4	496.6	619.0
1930	113.3	430.1	543.4
1931	90.1	357.1	447.2
1932	79.1	367.8	446.9
1933	71.5	392.3	463.8
1934	65.8	385.6	451.4
1935	59.5	384.0	443.5

Import of Cotton

Since Japan practically does not produce any cotton, almost the whole of her requirements of ginned cotton is imported from abroad, which increases every year in quantity. The total imports in 1934 amounted to 13,525,151 bales of which 6,486,727 bales or 47.9 per

cent. was from the U.S.A., 5,792,383 bales or 42.7 per cent. from British India, 549,550 bales or 4.1 per cent. from Egypt, 330,644 bales or 2.4 per cent. from China and the balance from other countries. The Japanese boycotting of 1933 to purchase Indian cottons, owing to the Indian tariff action against Japanese goods, explained elsewhere in this chapter, which reduced imports from India sharply in the year, did not last long. The import from India rose once more to 42.7 per cent., while the American share fell again to 47.9 per cent. from 60 per cent. This decline of import from America was not due to a slump in price in this market, but to the more favourable price position of Indian cotton, coupled with the Indo-Japanese Trade Agreement. Under this agreement, Japan is required to purchase 1,000,000 bales a year from India, in return for which she is allowed to sell 325,000,000 yards of piecegoods in India. She may sell 1,500,000 yards more for every 10,000 bales over 1,500,000 bales of raw cotton she buys, until a total of 400,000,000 yards is reached. Purchase of 1,931,000 400-pound bales in the calendar year of 1934 gave Japan the right to sell roughly 385,000,000 yards of piecegoods in the piecegoods year which ended March, 1935.

Details follow:

RAW COTTON IMPORTS

(in units of 100 kin or 133 pounds)

From	1930	1931	1932	1933	1934
China	702,846	713,151	530,696	562,212	330,644
British India	4,725,444	4,807,479	2,741,052	3,976,857	5,792,383
Straits Settlements	697	1,608	11,966	—	609
Dutch East Indies	19,757	4,363	—	2,697	10,455
French Indo-China	—	—	450	283	60
U. S. A.	3,883,488	5,321,022	9,101,698	7,434,873	6,486,727
Egypt	182,586	257,168	330,362	280,454	549,550
Others and Total	9,543,896	11,135,402	12,713,615	12,457,818	13,525,151
Seed cotton	29,262	21,424	26,541	31,383	29,701

CONSUMPTION OF COTTON

(Compiled by the Japan Cotton Spinners' Association)

(in kilogrammes)

	Indian	American	Chinese	Egyptian	African	
1923	293,759,329	133,390,616	11,626,586	9,963,244	—	
1924	253,786,155	126,988,661	26,499,803	11,771,141	4,508,145	
1925	288,139,808	171,020,929	21,257,723	11,770,616	3,847,395	
1926	299,095,073	218,908,938	8,980,391	13,690,931	5,909,891	
1927	348,207,074	252,941,265	7,128,701	14,012,775	3,723,784	
1928	231,727,684	232,100,809	27,636,750	12,748,245	3,989,411	
1929	291,836,453	256,534,391	13,156,298	13,905,904	5,572,560	
1930	284,672,288	212,634,672	5,190,675	11,585,719	4,162,196	
1931	263,497,489	255,348,623	1,179,784	14,721,146	1,182,088	
1932	150,411,008	412,251,821	920,678	16,970,179	74,254	
1933	209,200,192	394,741,035	3,563,944	18,438,758	5,023,702	
1934	276,035,861	388,724,040	5,173,796	24,023,621	8,429,535	
	Annamese	Chosen	Others	Total		
1923	1,133,771	5,424,405	3,568,234	458,866,185		
1924	657,799	9,199,661	2,644,800	436,056,165		
1925	1,225,313	8,581,939	4,401,705	510,245,426		
1926	455,123	5,630,824	3,943,530	556,614,720		
1927	1,331,385	4,395,866	3,363,323	535,104,173		
1928	754,478	5,013,551	3,206,689	517,177,616		
1929	259,620	6,747,870	3,293,085	591,306,180		
1930	876,334	9,194,138	2,871,536	531,187,538		
1931	552,548	6,389,591	2,194,039	545,015,308		
1932	218,708	2,292,566	3,259,450	586,398,664		
1933	260,933	7,556,580	4,909,466	643,695,510		
1934	583,740	7,806,260	10,634,134	720,910,987		

Yarn Exports

Whether Japan has a favourable or unfavourable trade balance in cotton yarn depends not only upon prices, but also upon conditions prevailing in China. If the Chinese are boycotting Japan, they first direct their attention to the Japanese-owned

mills in Shanghai and elsewhere. Such mills, when they cannot sell their products in China, send their stocks to Japan proper. Thus, the seesaw movement in Japanese yarn imports, shown in the following table, becomes understandable in the light of political as well as financial events.

EXPORTS OF COTTON YARN

(In units of 100 kin or 133 pounds)

To	1930	1931	1932	1933	1934	1935
Manchoukuo	—	—	5,601	33,638	36,189	18,979
China	34,507	6,451	11,019	1,293	971	419
Kwantung	6,508	5,101	11,171	6,459	5,171	—
Hongkong	39,523	9,258	24,504	3,426	1,059	3,518
British India	60,118	48,596	152,963	55,296	72,955	44,880
Dutch East Indies	5,754	5,441	21,978	11,953	13,556	—
Philippines	3,971	4,104	2,907	1,929	3,254	2,509
Siam	400	153	1,114	893	1,448	—
Egypt	9,245	967	5,301	3,571	2,235	—
Others	18,822	17,106	32,235	26,458	57,645	26,277
Total	178,848	38,374	268,816	144,916	194,533	95,583

PRODUCTION, CONSUMPTION, IMPORTS AND EXPORTS OF COTTON YARNS SINCE 1931

Year	Domestic output	(in bales)			Domestic consumption
		Imports	Exports		
1931	2,567,133.5	115,533	31,724	2,650,942.5	
1932	2,810,437.0	28,586	89,604	2,749,419.0	
1933	3,099,856.0	58,966	48,307	3,110,515.0	
1934	3,462,442.5	54,517	64,844	3,462,116.5	
1935	3,559,051.0	17,514	95,583	3,485,825.0	

Cotton Textiles

It may be safely said that to-day the Japanese cotton spinning industry is practically occupied in the manufacture of cotton textiles, and, therefore, the rise or fall of the industry depends on the growth or decline in the export of these textiles.

There are about 60 members in the Japan Cotton Spinners' Association. This organization also reports on the yarn output of 10 outsiders, which among them have but 11 mills and a paid capitalization of only

¥10,400,000. But these are all spinners, some of whom also weave. It must be remembered, however, that less than a third of cotton yarn consumed in this country is taken by the spinning mills in their cloth production. The balance goes to hundreds of little weaving plants, scattered all over the country. Some of them are one-loom sheds, worked by a family as household industry. The following table shows the output of cotton textiles by the member companies of the Japan Cotton Spinners' Association.

COTTON CLOTH PRODUCTION DATA IN MEMBER MILLS

Terms	Working Looms	Yards Output (000s)	Yds. per day per loom	Pounds Yarn Used (000s)	Pounds Waste (000s)	Operatives	
						Men	Women
1930a	67,571	578,907	62.97	160,941	1,553	8,186	31,810
1930b	62,767	629,516	57.98	135,651	1,239	6,607	24,103
1931a	63,817	682,557	62.01	146,313	1,360	5,988	23,047
1931b	64,967	722,111	62.88	154,919	1,380	5,636	23,000
1932a	66,725	749,279	64.74	159,417	1,447	5,425	23,797
1932b	69,332	783,572	63.16	166,491	1,491	5,334	26,234
1933a	74,835	840,462	64.80	184,201	1,593	5,301	28,876
1933b	73,098	833,419	65.50	178,100	1,558	5,291	29,150
1934a	78,850	877,820	65.37	189,329	1,625	5,207	30,319
1934b	80,410	916,025	64.66	195,631	1,703	5,282	31,099
1935a	82,515	943,578	65.05	200,736	1,726	5,141	32,718
1935b	82,279	899,893	61.86	191,905	1,802	4,909	31,608

VALUE OF COTTON CLOTH PRODUCTION IN JAPAN PROPER

(Prepared by the Ministry of Commerce and Industry)

Year	Production in value (in ¥1,000)
1925	774,872
1926	743,315
1927	725,419
1928	784,634

Year

Year	Production in value (in ¥1,000)
1929	736,534
1930	498,021
1931	423,023
1932	531,915
1933	704,893
1934	816,361
1935	875,793

Note: Figures include production by small factories which employ less than 5 persons.

Apparently gains in efficiency have gone just about as far as they can go under present conditions and with present machinery. Conditions at present are not entirely conducive to more efficient operation, for most of the big companies are making profits and are not watching the fine details as carefully as they were forced to do not so long ago. However, there have been vast gains in the last few years and most of these are being retained.

Import of Cotton Textiles Until 1931 Japan used to buy a considerable amount of cotton cloth from abroad. This was due largely to the fact that mills in this country concen-

trated principally on weaves intended for the export market and did not make the finer grades of cloth. With the geographical as well as volume expansion of exports, however, markets for the fine weaves began to open up and Japan commenced to make them. The negligible size of the 1934 imports shown in the following table indicates that the market here has been all but wiped out.

Year	Volume (in 1,000 sq. yds.)	Amount (in ¥1,000)
1931	11,630	4,375
1932	10,110	4,130
1933	9,077	2,754
1934	1,392	947
1935	1,528	1,158

IMPORTS OF COTTON CLOTH BY COUNTRIES

From:	1933		1934		1935	
	Volume (1,000 sq. yards)	Value (1,000 yen)	Volume (1,000 sq. yards)	Value (1,000 yen)	Volume (1,000 sq. yards)	Value (1,000 yen)
England	2,150	1,212	1,133	736	1,248	909
Switzerland	26	403	174	96	190	113
U. S. A.	890	45	66	56	—	47
Others	6,033	1,292	19	63	89	88
Total	9,099	2,954	1,392	952	1,328	1,158

Export of Cotton Textiles Taking advantage of the decline in the yen exchange, the export trade manifested great activities since 1932. In particular, the export of cotton

tissue has made tremendous gains in 1933-1935. Exports of cotton textiles by countries in recent 5 years follow:

EXPORTS OF COTTON CLOTH

(In 1,000 sq. yards)

	1931	1932	1933	1934	1935
Manchoukuo	—	8,971	91,911	170,430	161,293
China	239,445	193,623	113,248	59,443	56,046
Kwantung	37,934	88,838	86,921	83,529	68,087
Hongkong	63,450	23,406	28,692	36,292	49,384
British India	404,411	644,685	451,791	451,640	561,510
Straits Settlements	41,305	82,228	95,789	90,989	47,359
Dutch East Indies	212,107	352,234	422,755	440,870	372,242
Philippines	33,423	21,410	34,918	75,709	37,451
Siam	5,884	24,458	39,826	60,555	70,012
Turkey	25,150	41,529	11,157	7,835	19,480
United States	488	1,646	7,485	17,379	48,336
Chile	2,360	1,263	6,534	31,787	26,838
Argentina	10,540	22,461	34,942	66,365	103,377
Uruguay	490	396	2,611	9,559	—
Egypt	103,799	195,435	210,349	233,695	163,737

	1931	1932	1933	1934	1935
South Africa	39,033	36,316	26,101	16,173	26,239
Australia	20,939	35,092	54,999	74,547	86,634
New Zealand	670	1,238	2,622	2,835	—
Hawaii	813	1,152	931	903	—
Others	171,539	254,441	367,568	646,665	796,864
Total	1,418,780	2,031,722	2,090,230	2,677,237	2,725,109
Value (¥1,000)	198,732	288,713	383,215	492,351	496,097

Cotton Industry in 1935

Spindles in Japan According to the Japan Spinners' Association, there were 10,296,528 spindles installed in the mills of its members at the end of 1935. This set a new record. The gain over the year before was 991,114. Since the replacement of the gold embargo a good many companies have been adding to their spindles, due to the prosperity of the export market. During 1931 the gain was 400,000. In 1932 it rose to 470,000, in 1933 to 690,000 in 1934 to 760,000 and in 1935 to 991,114. But for the enforcement of a scheme calling for voluntary restriction in the number of new spindles, which took effect in November, the gain would have topped 1,000,000. The Association is trying to extend its restriction on increasing spindles to the mills in Korea and in the Kwantung Leased Territory. The Kanegafuchi Spinning Company was fighting against any restriction in Korea on reason that the present status of Korean industrial civilization is very low, in spite of the fact that it was annexed a quarter-century ago. It is further argued by the company that the best way to elevate the position of Korea would be to industrialize it, and the expansion of the Japanese spinning industry to the peninsula would be a welcome means to that end. Mr. Shingo Tsuda, president of that company, is credited with the following statement on this question:

"The Chinese and Indian industries are following the Japanese industry.

Japanese spinning must go beyond the spinning industries of those countries to avoid their competition. Therefore, our spinning industry must be elevated to a high standard. In the future Japanese spinners will have to sell high-grade manufactured goods to the United States and other countries. Therefore, the manufacturing of low-grade cloth must be left to Korea and to Manchoukuo. For these reasons, we need the unanimous efforts of all Japanese mills to develop the industry, but, notwithstanding this, the spinners' association is following negative policies, such as production curtailment, restrictions on increased installations of spindles and blockading Japanese spinners out of Korea. This is deplorable. As long as Japanese spinners follow such policies, the Japanese spinning industry is doomed to ruin."

Expansion to North China The Toyo Spinning Company, one of the "Big Three" cotton spinning concerns in Japan, last year purchased a tract of 46,000 tsubo in the old Belgian concession of Tientsin with the object of erecting a spinning factory. Work started in April, 1936, on a plant which will be equipped with 50,000 spindles and 1,000 looms. It will also have a power station capable of generating 5,000 k.w.

The new mill will be operated by the Shanghai Yuhō Spinning Company, a subsidiary of Toyo Spinning. There are now three Chinese mills in Tientsin which are being managed by Japanese concerns. These are the Yuta Spinning Company, which has

more than 40,000 spindles, the Pelyang Spinning Mill, with more than 25,000 spindles, and the Hua Hsin Spinning Mill, with 25,000 spindles.

The Feng Yuan Spinning Mill, which has 35,000 spindles and 310 looms, will resume operation in March, for a Japanese concern has supplied it with working capital of ¥1,600,000. Two other concerns are still suspended.

The Nanking Government is contemplating a plan to counteract the expansion of Japanese spinning interests in North China. It has had three large spinning mills organize a federation with the ultimate object of including small mills, as well. It will be formally organized June 10, 1936.

The Kanegafuchi Spinning Company has taken over the assets and liabilities of the Yu Yuan Spinning Company of Tientsin. Itochu has purchased the Yu Ta Spinning Company of Tientsin and is operating its plant with satisfactory results.

Discrimination against Japanese Cloth Out of 127 countries in the world importing Japanese cloth at the end of 1935, 51 countries are importing freely, 33 countries are adopting discriminatory tariff rates and 43 countries are restricting import amounts. After all, 76 countries are more or less restricting imports of Japanese cloth against 51 countries raising no barriers. These countries are classified as follows:

	No discrimination	Discrimination tariff	Restriction
Asia	8	5	12
Europe	16	2	3
North America	2	1	—
Central America	4	7	14
South America	4	6	1
Africa	13	8	11
Oceania	4	4	2
Total	51	33	43

Indo-Japanese Agreement The Indo-Japanese trade agreement, which

was concluded in January, 1934, expired at the end of March, 1937. The second Indo-Japanese trade conference will be held in April, 1937, in Simla.

A Japanese consular report from Bombay says that in the foreign trade of British India for 1935-36 (ending March last) Japan occupied second position. Imports from Japan for the year amounted to 218,354,800 rupees and exports to Japan were 218,667,000 rupees. The Indo-Japanese trade situation thus has been placed on an equal basis. The Japan-Turkey barter agreement expired at the end of 1935. Negotiations were concluded between the two Governments for the extension of the agreement. The trade relations of the two countries are based on one to one. Exports from Japan to Turkey from July 26, 1934, when the barter agreement was enforced, up to the end of December, 1935, amounted to ¥4,600,000 and imports into Japan from Turkey ¥4,240,000, each less than a half the maximum amount of ¥10,000,000. Cotton cloth totalling ¥4,373,000 was the largest commodity from Japan and raw cotton totalling ¥2,724,000 and opium totalling ¥1,371,000 were the two largest goods from Turkey.

Exports of Cotton Cloth Exports of Japanese cotton cloth for 1935 amounted to 2,711,265,000 square yards, worth ¥496,097,000, setting an all-time record in both volume and value, according to the Export Cotton Yarn and Cloth Traders' Association. Since 1933 Japanese cloth has been leading in the world's export market, topping the British product. Last year's exports were 92 per cent. greater than those for 1931, gaining 1,299,233,000 square yards. Exports in the earlier year totalled only 1,412,032,000 square yards. The heaviest gains, however, were made in 1934, as follows:

	Export quantity (square yard)	Export value (In yen)
1931	2,087,345,000	383,215
1934	2,557,630,000	492,351
1935	2,711,265,000	496,097

Japan exports more than half the cotton cloth exported by the world. Gains in 1936 cannot be large, due to the Egyptian tariffs, the trouble with the Philippines and the Dutch East Indies. All these are most important markets, or have been in the past. There are prospects for larger exports to Manchoukuo, the Near East, Africa and Europe. The Association figures that the 1936 total will be about the same as that for 1935. At home, however, the weavers are expected to turn their attention to the making of better cloth for shipment to the civilized nations. The 1935 production of cotton yarn in Japan amounted to 3,560,724 bales, the highest figure so far, according to the Japan Spinners' Association. This amount is contrasted to 3,472,436 bales for 1934, 3,093,856 bales for 1933, 2,810,437 bales for 1932 and 2,567,135 bales for 1931. Spinning mills increased their production curtailment ratio from 15 per cent. to 62.2 early last year to counteract the drop of market price. Measures against the increase of spindles also were enforced in November last year. However, many companies increased their spindles before November because of continued export prosperity and this resulted in the largest output of yarn. Imports of cotton yarn into Japan during 1935 amounted to 17,440 bales, dropping 60 per cent., or 36,151 bales, from 1934, according to the Japan Spinners' Association. Imports totalled 115,504 bales for 1931, 27,845 bales for 1932, 58,660 bales for 1933, and 53,592 bales for 1934. Imports from various places were 2,856 bales from Shanghai, 1,246 bales from Tsingtao, 10,354 bales

from Kwantung, 2,901 bales from Great Britain and 81 bales from others.

Imports of Raw Cotton Imports of raw cotton into Japan during 1935 amounted to 3,677,577 bales, falling 702,735 bales from 1934. American raw cotton decreased 444,729 bales and Indian raw cotton 196,392 bales from the year before. Korea, Rangoon, Brazil and other miscellaneous cotton increased, but Egyptian and other African cotton, Turkish and Persian cotton decreased. Imports of Egyptian at first were expected to increase, but, due to the fact that both Italy and Great Britain purchased a very large amount following the Italo-Abyssinian trouble, the amount purchased by Japan went off heavily. Details of cotton imports compared with the 1934 imports are:

Kinds of cotton	1934	Compared with 1934
	(In bales)	
Indian	1,709,282	de. 196,392
American	1,470,829	de. 444,729
Egyptian	84,560	de. 25,878
African	2,451	de. 66,083
Rangoon	63,350	in. 7,829
Chinese	204,875	de. 11,709
Korean	54,476	in. 13,461
Turkish	3,711	de. 9,116
Peruvian	37,345	in. 34,694
Brazilian	14,832	in. 4,567
Others	29,365	in. 25,818
Total	3,677,577	de. 702,735

Imports for 1930 amounted to 3,182,205 bales; those for 1931 were 3,637,220 bales; those for 1932 were 3,779,999 bales; those for 1933 were 3,747,720 bales; and those for 1934 were 4,380,312 bales. Imports of Egyptian raw cotton into Japan from September 1, 1935, the beginning of the 1935-36 import season, to December 31 amounted to 19,083 bales, dropping 21,254 bales, or 50 per cent., from the year before. This reflected the feeling of Japanese cotton cloth manufacturers and raw cotton importers against Egypt which abrogated its trade agreement with Japan

unilaterally on July 18, 1935. Many of them have boycotted against Egyptian raw cotton since then. Egyptian cotton imported here during the import year which ended August 31, 1935, amounted to 110,345 bales, gaining 33,717 bales over the year before. The sinking tendency since the beginning of the import year will continue pending the conclusion of a new trade agreement.

When it was known that the Egyptian Government was going to raise its tariff rate, the Japan-Egyptian Trade Society tried hard to have Japanese cotton importers import as much cotton as possible to readjust the one-sided trade balance against Egypt. This resulted in large imports for the season. Imports for the present season follow:

	1935-36 year	Compared with the year before
(In bales)		
September	1,195	de. 4,708
October	1,237	de. 2,046
November	11,607	de. 1,732
Dec. 1-10	2,601	de. 7,979
Dec. 10-20	2,533	de. 4,789
Total	19,083	de. 21,254

The Egyptian Government has applied an exchange indemnity tariff of 40 per cent. ad valorem to imports of Chinese cotton and rayon textiles. That Government means to prohibit imports of these Japanese goods, as it believes they are imported into Egypt after being exported to China.

Japanese cotton exporters point out that a small amount (about 200 bales) of sheetings manufactured by Japanese spinning mills in Shanghai was imported into Cairo. This is supposed to have caused the Egyptian Government to apply the exchange indemnity tariff to them. It is also argued that goods manufactured by Japanese mills in China, like those by British mills in that country, are required to have bear a mark "Made in China" when they

are exported and that the marks were quite genuine. They also contend it is impossible as a matter of fact to re-export Japanese cotton cloth from China.

Japan-British Cotton Cloth Competition The Japan-British competition in their exports of cotton cloth has established the spheres of their own. Except the Dutch East Indies, Egypt, Ceylon and the Strait Settlements, the Japanese cloth has asserted itself firmly over all other countries, while the British cloth is gradually losing its ground everywhere, except West Africa. Since 1931 exports of Japanese cloth have kept advancing remarkably against the tariff walls, quota systems, and various other restrictive steps resorted to by other Powers. Last year's exports set an all-time record high of 2,725,000,000 square yards in contrast to the total British exports of 1,949,000,000 square yards. The Japanese cloth occupied about a half the world's total export cloth of 5,700,000,000 square yards. On the other hand, exports of British cloth has been declining since 1932 and outstripped by Japanese cloth since 1933. The difference of export amount of these cloths is widening. The export amount of Japanese and British cloth since 1913 has been as follows:

	Export Japanese Cloth (in million square yards)	Export British Cloth
1913	235	7,075
1914	337	5,736
1915	403	4,748
1916	535	5,254
1917	794	4,793
1918	1,006	3,699
1919	883	4,324
1920	827	4,435
1921	689	2,902
1922	781	4,184
1923	812	4,140
1924	1,009	4,440
1925	1,298	4,438
1926	1,435	3,834
1927	1,483	4,117
1928	1,419	3,866
1929	1,791	3,672
1930	1,572	2,497
1931	1,414	1,716

	Export Japanese Cloth (in million square yards)	Export British Cloth
1932	2,082	2,197
1933	2,090	2,031
1934	2,577	1,993
1935	2,725	1,949

It is noteworthy, however, that, while the expansion of Japanese cloth has become somewhat slackened, the retrogression of British cloth has ceased to be very pronounced. The comparison of export cloth according to countries of destination reveals that the decrease of exports of Japanese cloth to the Dutch East Indies, Egypt, the Straits Settlements and Ceylon was caused either by the enforcement of quotas or exchange indemnity tariff. A decrease of exports to Manchoukuo was the result of uneasiness over its currency system and that to China and the Kwantung Leased Territory was of uncertainty over silver. Exports to British India increased, due mostly to re-exports. Exports to countries such as Siam, Iraq, Aden, North America, Argentina, British Sudan, Australia, European countries and others also gained. Except Sudan, all others are free markets. Cloth to Sudan used to be imported by way of Egypt, but, as the result of tariff increase by Egypt, goods were imported direct through Port Sudan. More or less gain was witnessed over

exports to British Malay, British Borneo, British East Africa and British West Africa.

As regards British cloth, exports to India lost heavily. Lancashire weavers who tried to secure their greatest market, India, by causing India to restrict imports of Japanese cloth lost 40,000,000 square yards. This was the result of development of the native Indian spinning industry. British cloth also decreased in Australia, as it was outstripped by Japanese cloth in competition. It also rivalled with Japanese cloth in Canada, Mediterranean Sea countries, Europe and South America, while in British West Africa the amount gained nearly 100,000,000 square yards. Summarizing the export markets for Japanese and British cloth, (1) Japanese cloth is exported to the amount of 70 per cent. of its total exports to Asia, but British exports 36.7 per cent. to Asia, 20.4 per cent. to Africa, 14.5 per cent. to Europe, 12.8 per cent. to South America and 8.2 per cent. to Oceania and (2) Japanese cloth occupies a dominant position in Asia, Africa and Central America, but is inferior to the British position in South America, Oceania, North America and Europe, which, therefore, promise good market for Japanese cloth in the future.

Silk Textile Industry

Silk Weaving Districts As early as the days of the Emperor Suijin, 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 has been known as a very prosperous weaving centre for cen-

turies. This district is in Gumma and Tochigi prefectures and includes great weaving centres such as Ashikaga, Kiryu, Isézaki, Sano and Tatebayashi. The district may be likened to Paterson, New Jersey, U. S. A. The main products of the Ryomo weaving district are silk textiles for domestic use.

Another important weaving district is Fukui, followed by Kyoto.

Ishikawa and Tokyo in the order named. Among silk weaves habutaé, taffetas, poplin, chiffon, pongee, fuji silk, crêpe, etc. are well-known abroad. In addition to these, however, there are many other varieties, which are used by the Japanese at home. The width of these weaves are generally narrow. To give the names of some of them: omeshi, ro, sha, meisen, nishijin, etc. These narrow weaves are almost solely manufactured for domestic consumption.

The Industry in 1934 Continued prosperity featured the silk weaving industry in Japan for 1934. The low exchange, low price of silk and low wages account for this. Exports again increased in 1934. Though British-India and some countries in Europe tried to bar import of the Japanese silk weaves, the depreciation in currency enabled Japan to push her export in spite of that, and her export of silk weaves experienced an unprecedented boom. In 1934 the number of silk weav-

ing factories in Japan proper was 72,907 with 301,721 looms and 267,345 operatives.

Production of Silk Weaves Owing to the increase of consumption both at home and abroad the production showed great gains. Except Kyoto weavers, most weavers in other districts turned to weaves intended for export, so that those engaged in weaving textiles intended for domestic consumption were also kept busy and prosperous. The total production in 1934 reached ¥600,870,662, a gain of ¥99,775,398 on the previous year. Of the total, crêpes amounted to ¥73,721,241 and showed an increase of ¥7,615,600 over 1933; habutaé totalled ¥27,174,707 making a gain of ¥7,893,001; and fuji silk ¥31,155,051 with a loss of ¥2,061,438. Other weaves which are mainly consumed at home, such as omeshi, nishijin, meisen, etc. also showed increases in production. The industry as a whole profited through the low price of silk. Production of silk weaves since 1926 follows:

PRODUCTION OF SILK TEXTILES¹

(Compiled by the Ministry of Commerce and Industry)

Year	Crêpes and Kabe-ori		Habutaé		Pongee	
	Quantity in 1,000 metres	Value in ¥1,000	Qt'y in 1,000 metres	Value in ¥1,000	Qt'y in 1,000 metres	Value in ¥1,000
1926	24,703	38,215	58,835	39,816	25,873	18,719
1927	23,426	32,434	61,957	40,385	21,963	14,683
1928	31,385	43,116	60,392	42,965	29,809	16,606
1929	30,511	42,244	64,244	39,156	26,834	12,564
1930	32,233	33,606	45,545	21,434	20,665	7,091
1931	34,646	27,964	31,213	11,907	33,071	9,655
1932	45,812	33,546	36,060	13,273	32,550	11,164
1933	85,385	66,105	48,735	19,281	35,636	12,609
1934	124,950	73,721	109,110	27,174	37,109	10,790

Year	Broad Weaves		Satin		Others & total
	Qt'y in 1,000 metres	Value in ¥1,000	Qt'y in 1,000 metres	Value in ¥1,000	
1926	34,993	32,197	11,307	16,019	169,004
1927	45,128	34,986	9,665	12,703	159,899
1928	56,050	40,726	10,229	13,888	181,074
1929	60,872	40,085	14,104	15,896	194,288
1930	51,220	26,862	21,581	16,653	150,657
1931	51,551	24,851	25,490	14,268	137,251
1932	56,619	28,896	45,799	20,048	175,640
1933	65,945	33,216	45,527	21,904	235,902
1934	39,439	31,155	74,577	26,546	273,097

Narrow Weaves

Year	Omeshi		Crêpes and Kabé		Habutaé, etc.	
	Qt'y in 1,000 tan	Value in ¥1,000	Qt'y in 1,000 tan	Value in ¥1,000	Qt'y in 1,000 tan	Value in ¥1,000
1926	895	17,040	4,763	64,587	2,951	34,536
1927	891	16,751	4,537	54,457	3,720	31,159
1928	1,082	19,988	6,388	69,782	4,074	35,103
1929	1,020	18,003	5,236	55,607	3,077	25,321
1930	1,208	17,954	7,248	59,511	3,986	24,158
1931	1,783	22,577	10,650	67,670	3,701	20,475
1932	2,102	21,195	9,611	60,982	3,495	20,241
1933	1,493	15,809	10,979	69,207	2,911	17,553
1934	1,783	17,398	15,199	93,761	3,748	19,389

Year	Ro and Sha		Meisen, etc.		Others & total
	Qt'y in 1,000 tan	Value in ¥1,000	Qt'y in 1,000 tan	Value in ¥1,000	
1926	1,125	11,980	7,609	57,915	233,978
1927	1,129	11,889	7,419	57,861	215,030
1928	1,197	13,021	10,229	75,353	260,714
1929	1,321	13,353	12,386	71,003	221,026
1930	1,368	11,111	14,432	68,500	209,774
1931	1,347	8,352	13,526	57,017	207,898
1932	2,130	12,231	12,601	48,132	198,860
1933	1,804	11,819	12,117	46,096	197,340
1934	2,717	12,868	12,735	49,641	234,353

Year	Special Weaves	Total of Silk Textiles	Silk-Cotton Mixtures	Grand total
	Value in ¥1,000	Value in ¥1,000	Value in ¥1,000	Value in ¥1,000
1926	23,931	426,914	67,460	494,374
1927	36,180	411,104	58,305	469,408
1928	40,893	482,682	57,986	540,669
1929	30,234	445,549	48,301	493,850
1930	31,175	391,606	33,532	425,138
1931	31,599	376,749	30,107	406,857
1932	33,351	407,860	31,159	439,019
1933	30,931	454,183	36,912	501,095
1934	47,091	554,542	46,328	600,870

Note: (1) Figures given here show products by all mills, regardless of the size of mills, or the number of operatives employed.

Export of Silk Weaves The production of silk weaves for export in 1934 amounted to 5,280,200 units and showed an increase of 748,000 units over 1933. During the first half of the year the demand in Europe, British India, the South Sea Islands, Australia, North and South

America, and Africa was very strong, though it was reduced in the latter half owing to the increased tariff in various countries. Value of crêpe production increased by ¥9,358,000 over 1933, fuji silk by ¥1,399,000 and habutaé by ¥1,492,000. Exports during the last four years follow:

EXPORTS OF SILK WEAVES

Kind	1931	1932	1933	1934	1935	
Habutaé	{ Quantity in 1,000 kin Value in ¥1,000	6,921 6,552	7,078 6,333	663 6,823	911 8,314	— 9,844
Satin	{ Quantity in 1,000 S yards Value in ¥1,000	2,593 1,394	3,322 1,822	2,988 1,744	7,215 4,442	— 4,043
Fuji silk	{ Quantity in 1,000 S yards Value in ¥1,000	17,722 9,353	30,333 15,014	32,449 17,179	32,267 18,578	— 13,670
Crêpes	{ Quantity in 1,000 S yards Value in ¥1,000	21,175 17,968	23,785 18,893	23,844 25,188	42,953 34,546	— 38,827
Pongee	{ Quantity in 1,000 S yards Value in ¥1,000	25,630 7,062	24,222 6,520	31,075 9,668	22,011 6,732	— 5,085
Others and Total	Value in ¥1,000	43,052	50,286	63,543	77,487	77,444

Rayon

Rise of Rayon Industry

In 1926, the total production of rayon yarn in Japan amounted to only 5,000,000 lbs. while in 1932 it increased to more than 64,000,000 lbs. The 1933 output is estimated at 158,790,000 lbs., thus making Japan one of the chief producing countries in the world. Only a few of the existing rayon manufacturing companies, such as Teikoku and Asahi, were established before 1926. Since then, quite a number of new companies have been added, including Nihon, Tokyo, Showa and Kurashiki.

Causes of Development What are the causes of such a rapid rise of this new industry in Japan? First of all, rayon came to fill a long-felt want. Japanese dress styles change very rapidly. Special designs and different colour schemes are in vogue each season. The obi, or sash, is the decorative centre of the native Japanese costume, and women want variety in them. The natsubobi, or the sash for summer wear, is worn for but a few weeks, and the next year its colour may be out of fashion. Under these circumstances the comparatively low price of rayon is especially tempting, for it enables women to keep close to the styles without unduly straining their means.

Rayon was at first regarded with much distrust, but it has since proved thoroughly serviceable. The manufacturers have been making vigorous efforts to improve the quality of the yarn. Some makers are now turning out multifilament yarns, which consist of a larger number of finer filaments compared with ordinary yarn of the same size. Multifilament yarns are more supple

than ordinary ones and when woven the cloth is practically free from the creases which are unavoidable in textiles made of ordinary yarn. A further innovation is that dull lustre yarns are being made in some factories.

The public has been educated in how to handle goods made of rayon—how to wash them, and so forth, and the ways in which rayon is being used have considerably increased during recent years. In 1907, it appears that rayon was used almost exclusively for making ribbons. In 1920, weavers commenced adopting rayon for necktie materials. In 1921, they started using it in women's obi, a particular line which has since much developed.

It is hardly necessary to extol the superior quality of natural silk, its beauty, soft feel, and durability, but sometimes, it is more expensive than one can afford, and a trade in mixed rayon and silk fabrics, which are obtainable at reasonably low prices, has arisen. Such textiles are finding more and more favour with the public, and both silk and rayon are being given more opportunities of use. This weaving in silk and rayon mixture has made a unique development in Japan, and has attracted world-wide interest.

The mixed fabrics enable dyers to produce a pleasing effect by cross-dyeing, that is, by applying at separate times the dye that affects silk only and the one that affects rayon only. Such stuffs are increasingly popular for making into kimono. Likewise, cotton and rayon mixtures are being woven with excellent results. The same principle has already been applied to several other fibres, such as hemp and wool, with success.

The Output Observation of the development of the rayon industry in Japan discloses that, while in 1928 the output was only 4.5 per cent. of the world output, in 1931, it represented over 10 per cent., with the result that, in point of production of rayon, Japan now ranks second to the United States and is on a par with Great Britain, Italy and Germany.

This rapid development is traceable primarily to the cheapness of fibrous material in this country,

but partly to the improvement in the quality of the product, the progress of technical skill and the extension of the use of rayon during the last few years and, moreover, to the extensive markets that Japanese products enjoy in China, India, the Dutch East Indies, the Straits Settlements and the Philippines.

Production The table below shows the development of the production of rayon yarn and its exports and imports during the years 1924-35.

RAYON YARN

Year	Production	(in pounds)		
		Imports	Exports	Real Supply
1924	1,868,000	895,655	—	2,263,655
1925	3,200,000	824,285	—	4,024,285
1926	5,000,000	3,288,149	—	8,288,149
1927	10,500,000	791,650	87,724	11,254,126
1928	19,652,000	255,768	58,155	16,840,608
1929	25,716,000	624,080	153,877	25,187,103
1930	35,959,000	842,467	3,204,863	38,597,104
1931	46,764,120	1,154,634	8,555,621	45,863,238
1932	70,880,000	876,184	7,294,785	63,471,049
1933	90,428,000	509,147	8,879,500	82,078,447
1934	1,589,932,700	600,100	221,825,100	1,368,817,700
1935	2,290,214,000	433,000	804,279,000	2,290,447,000

* Exports before the year 1927 are negligible both in quantity and value.

Japan's Rayon Exports

The 1935 exports of rayon textiles set an all-time record high with 424,000,000 square yards. These exports hurdled high over tariff barriers into old and new markets. The largest amount was shipped to Australia and New Zealand combined and the second heaviest to British India. Egypt and African countries combined were the third largest buyers. Exports of rayon yarn for 1935 also created the heaviest record, totalling 22,930,000 kin, worth ¥22,794,000, in contrast to 16,738,000 kin and ¥22,320,000 for 1934 and only to 2,403,000 kin and ¥2,236,000 for 1930.

Exports of Rayon Textiles Exports of Japanese rayon textiles for 1935 were concentrated on high grade textiles woven with special rayon fibers. Exports of ordinary weaves and inferior ones have not increased very much. For instance, export habutaé weaves (mixed with raw silk) gained 58 per cent. over 1934, taffeta 59 per cent., satin 8 per cent., crêpe 37 per cent., and fancy weaves 50 per cent., but voile decreased 14 per cent. and miscellaneous weaves dropped 29 per cent. The total gained 23 per cent. over the year before. Hereafter, the increasing tendency of high grade rayon weaves is expected to become more pronounced than ever before. The comparison of ex-

port rayon weaves for 1935 with 1934 follows:

	1935	1934
	(Square yards)	
Habutae	79,773,939	59,614,728
Taffeta	9,853,173	6,223,919
Satin	63,696,805	59,086,792
Crêpe	124,212,824	90,562,861
Voile	42,872,504	49,324,025
Fancy weaves	75,701,178	50,358,701
Total including others	424,141,437	345,655,789

Production of "meisen" silk weaves which are exclusively for domestic consumption for 1935 amounted to 4,521,096 hiki, one hiki being 50 yards, falling 902,279 hiki, or 16 per cent., from 1934. However, the rayon-silk mixed meisen weaves for the same year amounted to 675,506 hiki, gaining 260,864 hiki, or 63 per cent., over the year before. This shows that rayon has come to be demanded heavily in the weaving of meisen cloth. The 1935 exports of export rayon textiles gained 78,485,000 square yards or 22.8 per cent. over 1934. The rate of gain, however, was the smallest during the last five years, although the export amount set an all-time record high, as follows:

	Whole Year Exports	Gain over the year before
	(square yards)	(per cent)
1931	189,520,000	53.3
1932	241,719,000	73.2
1933	280,054,000	7.5
1934	345,655,000	32.9
1935	424,141,000	22.8

Exports of Japanese rayon yarn for 1935 were 30,427,000 pounds, rising 36.9 per cent. over 1934. This was caused by general expansion of the European and Oriental outlets

for the fibre, due to the withdrawal of Italy from the field following the outbreak of the Italo-Abyssinian war. Japanese yarn found its way to Latin America, Africa and Australia in large quantities. Exports of high grade yarn were especially pronounced to Australia and to Argentina. Exports for 1935 and 1934 were:

	1935	1934
	(1,000 pounds)	
Kwantung Leased Territory	7,184	7,184
China	3,170	942
Hongkong	1,541	652
British India	10,133	8,448
Canada and United States	637	1
Central America	2,377	1,536
South America	1,111	320
Australia	1,540	45
Europe	897	122

Demand for rayon yarn in Japan for 1935 was very satisfactory. The 1935 production for both the member companies and outsiders of the Japan Rayon Association totalled 224,387,500 pounds, gaining 82,000,000 pounds over the 1934 production of 142,000,000 pounds. Percentages of export and domestic consumption have been as follows for the past several years:

	Exports	Domestic consumption
	(Per cent)	
1931	51.9	48.1
1932	70.0	30.0
1933	54.3	45.7
1934	54.0	46.0
1935	44.2	55.8

Rayon yarn companies tried to keep their plants busy, but at the same time to prevent over-production by making multifilament yarn.

EXPORTS OF RAYON FABRICS

	(In 1,000 yards)				
	1931	1932	1933	1934	1935
China and Hongkong	4,912.0	352.0	822.9	2,323.9	13,037.9
Manchoukuo and Kwantung	205.7	1,216.3	6,156.2	16,344.1	28,343.3
India	27,110.8	92,571.9	61,982.3	76,283.4	74,679.5

	1931	1932	1933	1934	1935
Dutch East Indies	27,496.5	59,393.1	60,798.1	46,726.1	49,987.3
Other Southern Asia	18,246.3	18,232.3	20,553.2	36,361.4	63,242.6
Europe	863.9	1,368.4	4,499.6	5,301.4	11,892.8
North America	5,572.9	2,616.7	631.6	852.1	1,455.4
Central America	575.8	3,074.5	9,930.5	20,748.8	15,565.7
South America	584.3	1,682.2	4,814.0	13,882.5	20,838.4
Egypt and Africa	15,130.6	45,644.8	50,395.9	68,156.7	69,878.3
Australia and New Zealand	1,400.4	9,214.2	22,749.2	46,402.1	75,228.7
Others	3,588.1	6,305.8	15,272.1	12,773.0	—
Total	139,529	241,719	280,054	345,655	424,000.0
Total Value (in ¥1,000)	39,712	60,539	77,381	113,484	128,260

Note: Figures of the Jinken Rengokai.

EXPORTS OF RAYON YARN

	(In case of 100 lbs.)				
	1931	1932	1933	1934	1935
China and Hongkong	19,500.8	33,924.8	5,116.5	24,786.0	38,230
Manchoukuo and Kwantung	416.3	3,616.0	57,354	81,858.0	71,878
India	1,629.2	21,247.9	13,503	84,303.5	101,331
Dutch East Indies	16.3	82.5	554.0	3,000.0	6,989
Other Southern Asia	124.8	148.7	652.7	6,940.3	12,315
Europe	137.0	1,565.7	4,168	1,212.6	8,922
North America	—	376.2	95.0	9.5	3,418
Central America	9.0	940.1	3,432	15,329.8	23,769
South America	2.2	165.1	105.4	500.3	10,768
Egypt and Africa	—	296.4	16.6	3,198.0	11,111
Australia and New Zealand	3,714.8	10,581.1	3,630.9	449.9	15,548
Others	—	—	4.0	183.8	—
Total	25,550	72,944	88,627	221,771	304,270
Total Value (in ¥1,000)	2,244	5,860	9,483	22,397	22,852

Note: Figures of the Jinken Rengokai.

Rayon Industry in 1935 A sad drop of rayon yarn price was a discouraging factor for the rayon business during 1935. This was largely caused by fears of surplus production. Production for the year finally increased to 223,000,000 pounds. Japan thus firmly established itself the largest producing country in the world second to the United States. Its second largest position has been secured since 1933, but in that year and the following year the difference of production was very wide with 60,000,000 to 100,000,000 pounds, but last year's difference was narrowed to only about 30,000,000 pounds, in spite of the fact that a production curtailment was observed during the second six months of last year. This large output was

caused by effects of a heavy demand for the first half of 1935. The ratio of increase of rayon production for 1927 over the year before was 11 per cent.; for 1928 was 5.7 per cent.; that for 1929 was 6.3 per cent.; that for 1930 was 3.3 per cent.; that for 1931 was 3 per cent.; that for 1932 was 3.8 per cent.; that for 1933 was 5.3 per cent.; that for 1934 was 5.4 per cent.; and that for 1935 was 4.3 per cent. Exports of rayon textiles and yarn for 1935 set an all-time record high each, but the fact must not be lost to sight that the rapidity with which they used to increase was perceptibly slackened last year. In the former the exports totalled 424,000,000 square yards and in the latter the exports were 22,930,000 kin. The combined profit of five

large rayon making companies during the second six months of the year totalled ¥16,984,000 with the average profit rate of 27.6 per cent. Their combined profit and their average interest rate and dividend rate of the last eight terms show their business conditions have been falling gradually as follows:

	Profit (¥1,000)	Rate of interest (In per cent)	Dividend rate
1st h. 1932	6,708	23.4	7.5
2nd h. 1932	9,274	32.0	8.4
1st h. 1933	18,725	59.2	18.3
2nd h. 1933	23,471	50.3	14.4
1st h. 1934	30,375	56.5	17.3
2nd h. 1934	24,318	46.0	16.0
1st h. 1935	20,525	35.1	15.0
2nd h. 1935	16,984	27.6	14.7

	1931	1932	1933 (¥1,000)	1934	1935
Pure Rayon Weaves:					
Broad weaves	70,094	89,303	111,471	154,142	147,330
Narrow weaves	13,114	12,813	20,073	24,921	39,841
Special weaves	21,535	19,705	18,476	21,908	27,410
Total	104,773	121,741	150,019	200,971	213,630
Cotton-Rayon Mixtures:					
Cotton-Rayon	7,422	13,387	20,372	33,225	35,152
Hemp-Rayon	3	28	136	82	28
Wool-Rayon	10,532	14,796	19,377	23,380	30,848
Total	17,958	28,210	39,886	56,689	66,029
Grand total	122,731	149,951	189,905	257,661	279,658
Gain over year before	13,020	27,220	39,954	67,756	22,007
Ratio of gain in per cent	11.9	22.2	25.6	35.7	8.5

Staple Fibre Industry Staple fibre has come into the limelight in Japan in recent years. It is otherwise known as artificial wool. Staple fibre is made by cutting royan yarn into short lengths and then spinning it. This process allows more air to be caught in the interstices of the yarn or of the cloth into which it is made and consequently makes for greater warmth. Alive to a heavy demand for fibre, many companies have started installing necessary equipment for the manufacture of the fibre. Japan had the productive capacity of about 53 tons a day at the beginning of 1936, which is expected to be increased to about 177 tons at the end of the same year. The list of staple fibre manu-

Production of rayon yarn by five large companies for the first six months of 1935 totalled 760,200 boxes and that for the second six months was 845,500 boxes. The production gained by 11 per cent., but their profit went off by ¥3,500,000. Fearing the falling business, every effort was taken by the Rayon Association to improve the situation, but nothing effective was not taken. Production of rayon textiles during 1935 also set an all-time record high with ¥279,668,000, but the rate of gain over the previous year was 8.5 per cent., the smallest during the last five years. Details of products for the five years follow:

facturing companies at the beginning of 1936 and their estimated increased capacity at the end of the year follows:

Companies	Jan. 1 (In tons a day)	Dec. 31
Toyo Rayon	8	20
Asahi Bemberg	5	15
Kurashiki Rayon	2	2
Tokyo Rayon	2	4
Japan Rayon	2	2
Teikoku Rayon	—	15
Teikoku Rayon No. 2	—	10
Japan Spinning	12	30
Shinko Fiber	10	17
Toho Staple Fiber	4	15
Japan Fiber	4	10
Kanegafuchi Spinning	2	10
Kobe Spinning Machine	1	2.1
Nippon Jinso Sen-i	2	2
Myosho Rayon	1	1
Artificial Wool	1	15
Fuji Fiber	1	3
Niigata Rayon	1	1
Others	1	3
Total	53	177

Woollen Industry

Introduction

The establishment of a Government woollen textile mill in Senju, Tokyo, in 1876, was the origin of this industry in Japan. Many private companies were organized after the Sino-Japanese and Russo-Japanese Wars, but owing to the pressure of foreign competition only a few companies were able to survive. By the World War the industry was given a further good opportunity for trial at development, an opportunity that was not neglected, and which turned out more successful than previous attempts, as a very big demand for woollen goods was created.

The production of woollen goods in Japan is carried out by two classes of manufacturers. The first are the large scale producers, all joint-stock companies, who carry through the whole process of spinning the yarns, weaving them on power looms and dyeing them. The other class is that of the small producers who buy yarns from others and weave by hand looms. There are about 30 companies which belong to the former class, while there are numerous weavers who belong to the latter class and who produce considerable quantities of serge, muslin, etc.

Woollen textiles are manufactured from wools mostly imported from Australia. Japan does not produce any wool herself. Formerly, in addition to greasy wools, tops were imported in large quantities, but, as the facilities for preparing tops from greasy wools have been greatly improved, the importation of tops has recently been drastically reduced.

Present Condition

Woollen industry is one of beneficiaries of the depreciation of the

yen currency. While almost every country, with the exception of Great Britain, has been recording a decrease in production in recent years, the Japanese woollen industry alone has more than doubled its output since 1928. Japan to-day stands second only to Great Britain as a consumer of raw wool and is the fifth in the list of exporting countries.

The prosperity of the industry was, however, at its height in 1933. Great profits in 1932 resulted in the usual rush of outsiders to get a share of the business. New mills were set up, and the old mills expanded their facilities. Owing to the impoverished state of the farming districts, which have practically no purchasing power, domestic consumption did not increase. The result was shown in the increase of stocks, which, in June, 1934, totalled as much as 8,967,000 lbs. But owing to the increase of demand with the better economic condition in salary earning circles the imports of raw wool in 1935 made the heaviest record, totalling 245,312,800 lbs. worth ¥193,090,000. Japan's imports of wool in the past five years are shown below:

JAPAN'S IMPORT OF RAW WOOL¹

	Quantity in 1,000 lbs.	Value in ¥1,000
1930	115,990	73,919
1931	191,374	86,518
1932	206,853	88,321
1933	242,620	165,818
1934	184,379	187,567
1935	245,312	193,090

Note: (1) including tops and goat and camel hair.

The output of woollen yarn and cloth showed its high water mark in 1933. The figures for 1934 show

decline in quantity in every one of these, but the figures for 1935 a little better as the following tables show:

PRODUCTION OF WOOLLEN YARN

	Quantity in metric tons	Value in ¥1,000		Quantity in metric tons	Value in ¥1,000
1930	17,927	59,720	1933	30,550	108,659
1931	23,971	61,024	1934	28,495	126,490
1932	26,367	67,230	1935	29,110	—

WOOLLEN TEXTILE MANUFACTURING FACILITIES

(at the end of the year)

	1929	1930	1931	1932	1933
Number of woollen textile factories	924	960	1,039	1,138	1,178
Number of weaving machines	21,280	21,497	22,484	26,554	26,923
Number of operatives	39,020	34,562	37,955	41,606	41,811
Number of worsted spindles ¹	446,202	443,412	563,710	581,564	667,390
Number of weaving machines ¹	9,274	8,992	9,391	10,043	9,871
Number of woollen spindles ¹	73,664	69,528	75,096	87,893	88,403

Note: ¹ Only member companies of the Woollen Industrial Association.

Another noteworthy fact in connection with woollen industry of 1934 was the great increase in stock. Beginning with September, 1933, stocks started a movement upward which extended to June, 1934, when 8,967,000 lbs. of woollen yarn were stored in Japanese godowns. To check this distressing tendency, which was reducing prices, the Wool Industrial Association decided to curtail output of its members by 48 per cent. This was again extended to the end of the year and for the first quarter of 1935 the rate was cut to 36 per cent. These drastic measures have

brought about an encouraging reduction in stocks, although the association members did not get much profit from it. The outsiders who were not members of the association were benefited by the self-sacrifice of the members.

Imports of wool into Japan in 1935 totalled 810,000 bales, worth ¥191,760,000, including 767,000 bales from Australia worth ¥182,000,000; 24,000 bales from New Zealand worth ¥4,000,000; 8,000 bales from South Africa worth ¥1,872,000 and 3,000 bales from Argentina worth ¥600,000.

JAPAN'S EXPORTS OF WOOLLEN GOODS

	Yarn		Muslin		Cloth and Serge		Others
	Quantity in 1,000 lbs.	Value in ¥1,000	Quantity in 1,000 sq. yards	Value in ¥1,000	Quantity in 1,000 sq. yards	Value in ¥1,000	
1931	698	861	660	280	727	695	—
1932	1,289	1,697	1,516	569	2,854	2,531	3,157
1933	3,168	5,292	2,559	1,199	7,654	8,020	8,564
1934	5,919	12,184	4,202	2,185	16,128	19,098	8,757
1935	5,277	9,688	2,397	1,227	—	23,415	—

The Japan Wool Industrial Association in co-operation with the traders interested in the trade of Japan with

the Union of South Africa adopted a policy of buying possibly large South African wool, to counteract a pos-

sible increase of tariff by the Union on Japanese goods imported there in a large amount. With the understanding of the Foreign Office the Association and traders decided to buy larger wool from there. This has come to bear fruit in 1934. In 1933 Australia supplied 94.8 per cent. of Japan's wool requirement. In 1934 this percentage fell down to 84.8 per cent. This is due to Japan's attempt to expand sales to the South American countries. These all have, however, exceedingly difficult exchange regulations and the only way Japan can expand sales to them is to buy more from them. They have only a few products which Japan

wants in any quantity, and raw wool is one of them. One might almost say that a drive is under way to encourage purchase of raw wool from Uruguay, Argentine and other non-Australian producers, including South Africa. Freights are against this kind of a switch, but export-import guilds are charging export fees to subsidize wool purchases from the South American suppliers. Australia still has a tremendous favourable trade balance in its trade with Japan and the Japanese scheme is to reduce it to make possible greater exports elsewhere. The following table shows the tendency of raw wool imports:

IMPORT OF RAW WOOL

Origin	1932		1933		1934		1935	
	Quantity in 100 kin	Value in ¥1,000	Quantity in 100 kin	Value in ¥1,000	Quantity in 100 kin	Value in ¥1,000	Quantity in 100 kin	Value in ¥1,000
Australia	1,483,198	84,246	1,705,653	156,514	1,165,820	159,241	—	182,007
New Zealand	—	—	—	792	—	9,904	—	4,006
Argentina	8,095	481	30,918	2,427	59,392	7,552	—	611
Federation of South Africa	17,386	1,031	28,096	2,529	36,961	5,780	—	1,872
Chile	835	22	12,442	465	7,659	934	—	875
Great Britain	4,263	376	9,200	1,051	6,256	905	—	756
Others and Total	1,543,992	87,559	1,805,842	164,191	1,372,660	186,455	—	191,760

As regards import of woollen yarn it has steadily decreased since 1931, and its figure in 1934 has become a negligibly small one. On the other hand, export of yarn has increased almost in inverse ratio with import. Compare the two in the following table:

IMPORTS AND EXPORTS OF WOOLLEN YARN

	(in 1,000 lbs.)	
	Imports	Exports
1929	7,483	371
1930	8,010	617
1931	9,549	668
1932	3,219	1,289
1933	1,624	3,168
1934	912	5,919
1935	1,075	5,277

PRODUCTION OF WOOLLEN TEXTILE GOODS

Year	Muslin		Serge for Japanese clothes		Serge for foreign clothes	
	Quantity in metre	Value in yen	Quantity in metre	Value in yen	Quantity in metre	Value in yen
1925	108,830,066	82,520,800	18,441,078	28,030,180	3,729,172	13,186,425
1926	148,761,608	87,563,887	18,212,026	26,604,904	5,400,150	16,133,503
1927	151,504,365	87,456,216	18,243,816	23,103,617	5,475,992	13,745,387
1928	167,767,956	96,128,166	18,278,821	26,006,582	11,241,774	25,933,480
1929	155,520,238	86,382,054	17,981,742	25,477,646	8,087,637	17,767,617
1930	144,761,911	59,238,243	19,191,778	20,509,696	5,584,950	14,454,176
1931	150,123,006	47,541,759	21,115,651	16,531,059	17,492,010	25,228,168
1932	160,905,369	48,245,070	19,221,823	14,963,040	18,759,694	30,804,399
1933	130,698,059	47,974,272	13,660,552	13,733,495	23,311,081	47,538,799
1934	126,563,482	52,769,710	14,431,770	13,817,615	28,223,375	47,713,751

Year	Woollen cloth		Flannel		Blankets (including travelling rugs)		Total in yen
	Quantity in metre	Value in yen	Quantity in metre	Value in yen	Quantity in metre	Value in yen	
1925	5,621,408	14,908,487	14,164,655	13,949,667	752,023	16,070,398	184,964,990
1926	6,338,701	19,512,850	14,529,252	14,469,609	512,027	2,746,512	172,755,585
1927	4,295,625	12,156,580	2,528,866	4,045,635	485,991	3,228,532	163,077,070
1928	9,707,449	29,362,162	2,445,326	4,249,922	479,084	3,109,202	190,418,285
1929	11,375,568	32,419,984	2,154,519	3,844,022	821,178	3,512,149	176,895,582
1930	8,916,418	21,546,853	2,510,269	3,039,433	743,293	3,066,618	182,539,962
1931	10,514,367	19,765,358	2,494,499	2,662,740	1,283,660	3,786,538	129,279,670
1932	12,104,818	21,641,679	3,180,952	2,944,438	1,492,742	4,397,015	127,910,049
1933	13,516,375	29,573,573	2,260,368	2,504,560	1,553,527	5,801,610	154,639,423
1934	19,127,217	45,569,431	1,525,375	2,018,748	1,790,142	6,185,739	181,436,303

	Carpet in yen	Rug in yen	Plush and Velvet in yen	Others in yen	Total in yen
1925	—	220,720	11,140,370	5,137,943	184,964,990
1926	585,250	326,010	121,014	4,692,037	172,755,585
1927	156,649	38,964	219,766	13,925,724	163,077,070
1928	493,504	97,106	452,848	4,585,363	190,418,285
1929	177,399	154,151	800,596	6,859,964	176,895,582
1930	215,696	204,146	590,269	9,674,832	182,539,962
1931	150,980	203,082	606,856	3,803,130	129,279,670
1932	199,939	163,054	565,167	4,176,248	127,910,049
1933	291,267	285,872	805,695	6,130,280	154,639,423
1934	394,565	183,904	904,195	11,938,645	181,436,303

CHAPTER XIX

MACHINERY AND ENGINEERING

Machinery

Introduction

The manufacture of machinery in Japan started after the Restoration. The progress, however, 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 investment in this kind of industry. Progress was 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 World War, imports were stopped, and a great stimulus was thereby given to the home manufacture of machinery. During the war years she 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 other kinds of machinery, as well as shipbuilding-yards, were established in many parts of the country, and these profited not only financially but in the experience they acquired in skilled mechanical work of various kinds. The great boom in shipbuilding stimulated the estab-

lishment of many new works for the turning out of engines and other equipment for steamers, while the difficulty of obtaining imported machines for spinning, weaving, paper-making, 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 was suffering of late years, the machinery production industry was also heavily depressed. The outbreak of trouble in Manchuria, however, 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. The growth of the machinery manufacturing industry can be gathered from the following table (Governmental mills are excluded.):

GROWTH OF MACHINERY INDUSTRY

(Unit: ¥1,000)

Kind	1914	1919	1921	1926	1929
No. of mills	388	590	526	4,429	5,296
No. of operatives	80,862	195,227	162,724	273,269	190,154
Value of production	110,906	716,241	568,322	538,917	682,162
Kind	1930	1931	1932	1933	1934
No. of mills	5,604	6,479	6,738	7,850	9,181
No. of operatives	205,308	—	230,896	249,323	314,669
Value of production	615,682	443,340	543,842	888,195	1,159,167

The production of machinery in the factories where more than five persons are employed (exclusive of Government factories) for 1934 totalled ¥1,159,167,614, and compared with the figure of 1933, it showed an increase of over ¥270,972,302. This was the largest figure for the last decade, the previous recorded figure being ¥888,195,312 for 1933. Classified according to the size of mills, production by mills employing from 5 to 30 operatives amounted to about ¥154,000,000 or 13.3 per cent., by those employing from 30 to 100 operatives about ¥153,000,000 or 13.3 per cent., by those employing from 100 to 200 operatives about ¥108,000,000 or 9.3 per cent., and by those employing more than 200 operatives about ¥742,000,000 or 64.1 per cent. In examining the number of mills classified according to the number of operatives employed, those which employed from 5 to 30 operatives were 7,796 or 84.9 per cent. of the total, those employing from 30 to 100 operatives 1,024 or 11.2 per cent., those employing from 100 to 200 operatives 182, or 2.0 per cent., and those employing more than 200 operatives 179 or 1.9 per cent. Thus, the amount of production per mill differs extensively according to the class of mills. In the instance of mills employing from 5 to 30 employees the average production per mill was ¥19,853, in those employing from 30 to 100 operatives ¥150,283, in those employing from 100 to 200 operatives ¥593,421 and those employing more than 200 operatives ¥4,148,017.

The classes and kinds of machinery are so many and varied and they are divided into the following classes for convenience:

Ordinary Machinery
Electrical Machinery
Locomotives and Rolling Stock
Aircraft

Automobiles

Shipbuilding

and a brief account of some of representative ones in each class will be given in the following columns.

Ordinary Machinery

Manufacturing Machinery The manufacturing machinery has made a rapid progress owing to big demand. All makers are very busy to enlarge their mills. But on account of difficulty in delivery of domestic makes within the time required, advantages are being taken by imported machineries. The large makers have formed an association for export, which promises future development.

Casting and Casting Machinery Castings which are related with service supplies industry and machinery for exports are active, although those related with agricultural implements are still inactive.

The tendency to perform casting by machinery has suddenly become strong in recent years along with the activities of service supplies industries. This tendency is especially noticeable in automobile and aeroplane manufacturing plants. Though high-class castings are still imported from Germany and America, machines like sandblast, moulding machines, cupola, etc. are successfully made in Japan.

Air Machine Recently the demand for air machines has considerably increased and Japanese machine manufacturers quickly caught the opportunity so that most of air machines are now self-supplied. Especially pneumatic tools such as air-compressor, rock-drill, and pick-hammer, air motor and air hoist are manufactured in great numbers.

Machinery for Chemical Plants It is only in recent years that machinery used in chemical industry drew atten-

tion of large machine manufacturing mills. The progress and development of chemical industry, however, has been so great that the manufacture of chemical machinery now forms an important part in machine manufacturing industry. In foreign countries makers of chemical machines are at the same time contractors for the plants and are responsible for their success or failure, but the manufacturers of Japan have not attained that stage yet.

Wood-Working Machine Activity of shipbuilding and rolling stock industries has stimulated the manufacture of wood-working machines and the Japanese machines have almost expelled imported ones and are exported to America, South Sea Islands, India and Siam in a considerable amount.

Cranes Cranes made by Japanese factories went in a large number to iron, steel, cement and chemical mills and mines, and they are going to check the import of foreign machines in the near future.

Spinning Machine It is needless to say that spinning industry in Japan achieved a wonderful progress in recent years. One of the causes of the success is due to the excellent spinning machines invented in Japan. Almost all machines in spinning mills are now manufactured in Japan and it is rather difficult to find foreign spinning machines used in most of new advanced mills in Japan.

Pumps At present pump manufacturing is altogether independent of foreign technique. Pumps for public works are constantly improved to meet new demands and the manufacture of pumps made of materials acid-proof or alkali-proof which are used in chemical and rayon industries has made a great progress.

Engines and Boilers Great activities shown in new constructions and extension works of power houses and

of various manufacturing companies would tell at once what would be the effect on engine manufacturing, the activities of which industry are unprecedented. Mills of Toyo Babcock Co., Ltd. and others have orders on hand to the fullest extent. This manufacturing is making new records in type, in capacity, steam pressure etc. Largest orders are coming from power houses, steamers and battleships for supplementary use, chemical industries, artificial silk mills, and other textile industries in the order named.

Agricultural Machinery and Agricultural Implements The demand for equipments for supplying water, for cleaning rice, etc. increased fifty per cent. in number as compared with that of two years ago. Owing to the high cost of raw materials, however, the profit of manufacturers is not so large.

Machinery for Mining Stimulated by the activities in the heavy industries, both coal and metal minings have been extremely active since 1932, and it is anticipated that there will be no depression in this industry for several years to come. Under the circumstances, manufacturers of mining machines are enjoying almost unprecedented boom. These machineries are classified into mining, selecting and smelting machines, of which the latter are more important and vary to a great extent in kinds, etc.

Machinery for Building and Public Works The Government's policy to undertake public works as relief measures for farmers has naturally opened a way for big demand on machinery for building and public works. The purchase of road rollers, locomotives, crushers, etc. has been considerable.

Printing Machines As to printing machinery high speed and high grade machines are in vogue. To