

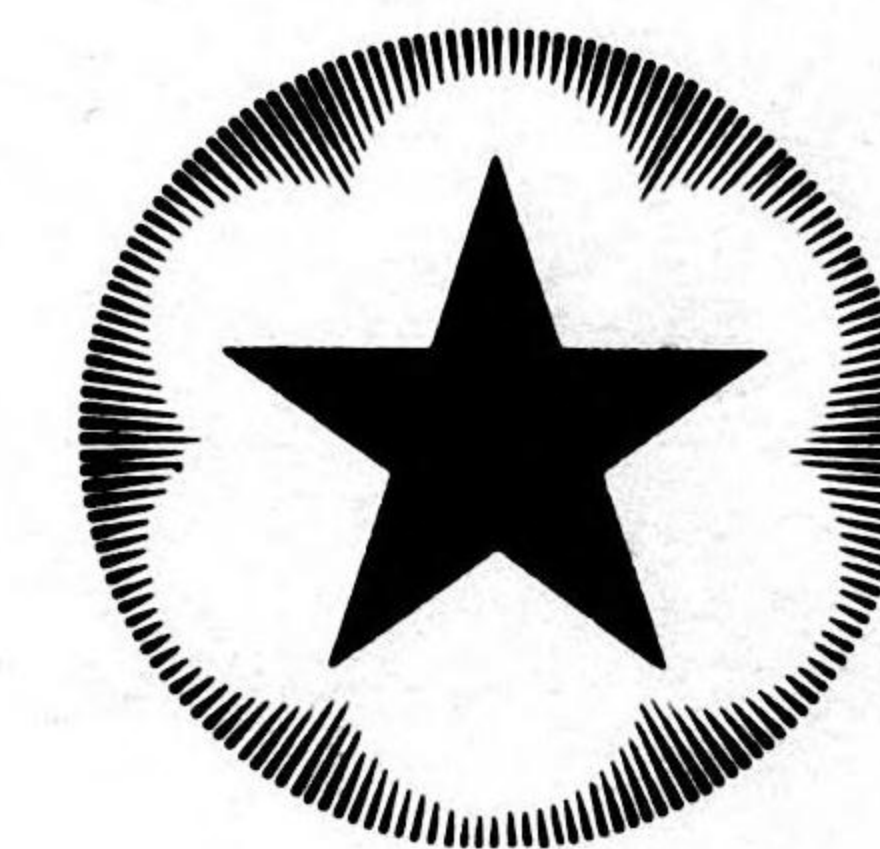
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ARMY SERVICE FORCES MANUAL

**M 354-23**

**CIVIL AFFAIRS HANDBOOK**

# **JAPAN**

**SECTION 23: FUKUOKA - KEN**



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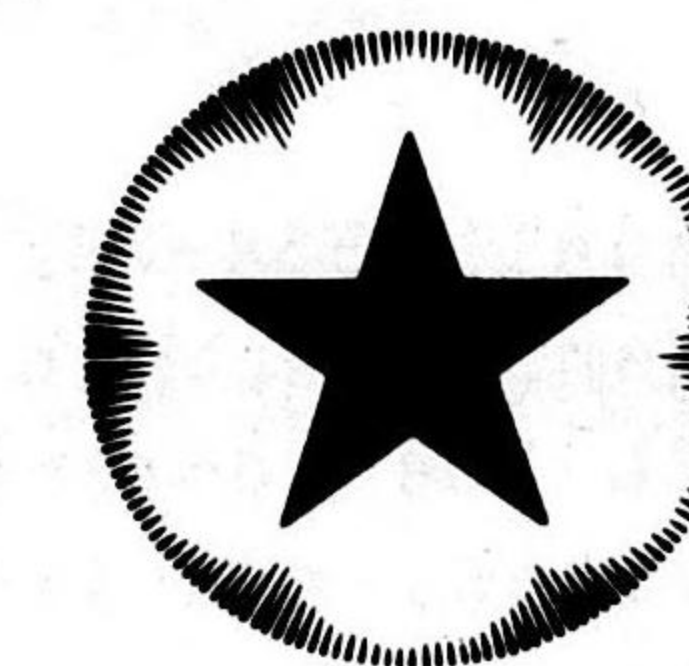
**HEADQUARTERS, ARMY SERVICE FORCES**

**7 AUGUST 1945**

CIVIL AFFAIRS HANDBOOK

JAPAN

SECTION 23: FUKUOKA - KEN



Headquarters, Army Service Forces 7 August 1945

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\* \* \*

HEADQUARTERS, ARMY SERVICE FORCES  
Washington 25, D. C. August 1945

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Chief of Staff

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## TOPICAL OUTLINE

1. Geographical and Social Background
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10. Public Works and Utilities
11. Transportation Systems
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16. Public Welfare
17. Cultural Institutions in Japan
18. Japanese Administration of Occupied Areas
- 19.- 64. Ken Studies

RESTRICTED

## INTRODUCTION

This manual is one of a series of studies designed to provide Military Government officers working on prefectural and local levels with a concise statement of available factual information.

Each manual covers one prefecture and includes information available at the Presidio of Monterey, California, on 1 August 1945.

### Purposes of the Civil Affairs Handbooks

The basic purposes of civil affairs officers are (1) to assist the Commanding General by quickly establishing those orderly conditions which will contribute most effectively to the conduct of military operations, (2) to reduce to a minimum the human suffering and the material damage resulting from disorder and (3) to create the conditions which will make it possible for civilian agencies to function effectively.

The preparation of Civil Affairs Handbooks is a part of the effort to carry out these responsibilities as efficiently and humanely as is possible. The Handbooks do not deal with plans or policies (which will depend upon changing and unpredictable developments). It should be clearly understood that they do not imply any given official program of action. They are, rather, ready reference source books containing the basic factual information needed for planning and policy making.

Restricted

## SUMMARY.

Fukuoka-ken is the northernmost prefecture on the island of Kyushu. It is among the five most highly industrialized prefectures in Japan. Fukuoka-ken has eleven cities, the largest and the capital of the prefecture, Fukuoka-shi, having a population of almost 325,000.

Manufacturing is the main occupation in this prefecture with concentrations of heavy industry in the Yawata-Tobata-Kokura, Fukuoka, and Omuta-Miike areas. The prefecture is a deficit area in agricultural production but fish production is normally sufficient to meet local needs. The prefecture has two major coal fields, Chikuho and Miike, which produce almost half of Japan's mined coal.

The prefecture is important for foreign trade having 4 open ports, Moji, Wakamatsu, Omuta and Fukuoka, whose total trade volume in 1939 contributed almost a tenth of the national total.

Fukuoka-ken is served by main and secondary railroads and highways. Two of Kyushu's north-south trunk lines terminate at Moji. Almost one-third of the total length of highways in Kyushu are in this prefecture. Fukuoka-ken has two major radio broadcasting stations, JOLK AND JO9K, and is the focal point for the majority of submarine cables entering Kyushu from Honshu. The electric power generating facilities of the prefecture produce almost 60 percent of the total power produced in the Kyushu Supply Area. The prefecture's 25 generating plants are connected to the Kokura-Tobata-Yawata transmission grid or to the West Kyushu transmission network.

Except in matters peculiarly local, the social organization and cultural institutions of the prefecture are similar to those existing in the rest of Japan. Fukuoka-ken is in the Kyushu Administrative Region with headquarters in Fukuoka-shi.

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Table of weights and measures



## I. PHYSICAL BACKGROUND.

## A. LOCATION AND SIZE.

Fukuoka-ken is the northernmost prefecture on the island of Kyushu, and is at approximate latitude  $33^{\circ}30'N$ , longitude  $130^{\circ}30'E$ . The prefecture has a north-south and east-west extent of 70 miles. Its area is 4,944 square kilometers (1,908 square miles), comprising 1.3 percent of the total area of Japan proper. It is slightly smaller than the state of Delaware and in 1940 had a population of 3,094,132 persons.

## B. TERRAIN REGIONS.

Fukuoka-ken is divided into 3 zones; the Northern Kyushu Lowlands, the Northern Kyushu Highlands, and the Central Kyushu Mountains.

The Northern Kyushu Lowlands and Highlands regions, which lie only partially in Fukuoka-ken, together form a long, narrow area of 100 by 25 miles, north and west of the large Central Kyushu Mountain region and extending northeast-southwest from Shimonoseki-kaikyo ( $33^{\circ}56'N$ ,  $130^{\circ}57'E$ ) to the head of Yatsushiro-wan ( $32^{\circ}20'N$ ,  $130^{\circ}26'E$ ). Dominant types of relief are low rugged mountains and hills and flattish lowlands.

The Central Kyushu Mountains consist of a belt of moderately high rugged mountains, aligned southwest-northeast across the island. The major portion of this region lies outside Fukuoka-ken; and that part within the prefecture is lower and less rugged than the rest and can be classified as merely upland.

1. Northern Kyushu Lowlands.

This region consists of a series of interconnected lowlands aligned north-south through the center of the region and flanked on the east and west by low but rugged uplands.

The larger of the lowlands which lie in Fukuoka-ken are the Saga Plain in the southwestern portion and the Fukuoka plain facing Fukuoka-wan ( $33^{\circ}37'N$ ,  $130^{\circ}20'E$ ). The latter is the largest of a number of lowlands along the northern coast. Approximately 25 percent of the total area of Fukuoka is included in these lowland areas.

a. The Saga Plain. The Saga Plain, also known as the Tsukushi Plain, is the largest lowland area on Kyushu Island and lies partially in Saga-ken and partially in Fukuoka-ken. It extends 31 miles southwest-northeast, from the head of Ariake-kai ( $33^{\circ}13'N$ ,  $130^{\circ}15'E$ ) past Kurume-shi ( $33^{\circ}18'N$ ,  $130^{\circ}30'E$ ) to the Futsukaichi corridor (10 miles north of Kurume-shi) and 16 miles northwest-southeast along the east side of Ariake-kai. Inland

near Kurume-shi, the plain narrows to 6 miles, but widens to 12 miles farther northeast.

The Chikugo-gawa separates the Saga Plain into 2 equal portions, the western portion lying in Saga-ken and the eastern portion lying in Fukuoka-ken. Approximately 15 percent of the area of Fukuoka-ken is included in the Saga Plain.

The plain is nearly flat and is divided into 1/2 to 2-mile blocks of wet rice land by a complex grid of stream channels and artificial ditches. Travel across country would be difficult unless these streams are bridged.

The seaward margin consists of low, newly reclaimed alluvial flats which are in dry and irrigated rice fields. Kurume-shi, near its center, is the only large urban area in the Fukuoka portion of the plain.

b. The Northern Coastal Lowlands. The Northern Coastal Lowlands consist of a narrow interrupted belt of lowlands including the Fukuoka Plain on the west, and curving around the northern end of the Chikuho upland to include the small Yukuhashi Coastal Plain on the Suo-nada (33°50'N, 131°30'E) arm of the Inland Sea. The lowland strip varies in width from 9 miles at Fukuoka-wan on the west to an average of 1/2 to one mile at the industrial-urban belt between Wakamatsu-shi (33°55'N, 130°47'E) and Kokura-shi (5 miles southeast of Wakamatsu). At 2 points, the base of Moji-hanto (10 miles east of Wakamatsu) and between Tobata (2 miles east of Wakamatsu) and the Onga-gawa (9 miles west of Wakamatsu) the lowland lies inland behind the coastal hill ranges. Low hill spurs cut completely across the lowland at several points in the section between Fukuoka-wan and the mouth of the Onga-gawa; and to avoid these, the main highway and the railway follow a series of transverse valleys 4 to 5 miles inland.

These lowland areas are chiefly covered with wet rice fields which are flooded or have deep mud from July to October. The rice field areas are divided into blocks one to 2 miles in extent by streams which flow out from the uplands.

Areas not covered with wet rice fields include the sand dune areas along the coast between Fukuoka-shi and Yukuhashi-machi and the built-up urbanized strip between Wakamatsu-shi and Kokura-shi.

The chief gateway from this region is through the Futsukaichi corridor (9 miles southeast of Fukuoka-shi) to the Saga Plain to the south. This passageway narrows to less than a mile near Futsukaichi-machi but widens rapidly north and south to 5 miles.

The corridor has a flat floor of loamy soil which is occupied

almost completely by rice fields. Two railway lines and 2 highways use the passageway. Hills on either side of the corridor rise 300 to 900 feet within 9 miles.

On the seaward margin of the Northern Coastal Lowlands are several small islands. The largest of these is O-shima (20 miles north of Fukuoka-shi). It extends 3 miles northeast-southwest and its maximum width is 2 miles. Shigano-shima (8 miles northwest of Fukuoka-shi) extends 2 miles north-south and averages slightly more than one mile in width. It has a sharp peak 645 feet high and is joined by a sand spit to a long narrow peninsula which forms the northern limit of Fukuoka-wan. Nokono-shima, 6 miles west of Fukuoka-shi, extends 2 miles north-south and averages about one mile in width. It is wooded and has a green summit 700 feet high. There are several smaller islands in this vicinity.

## 2. Northern Kyushu Highlands.

The portion of this region in Fukuoka-ken consists of 3 separate sections: the Seburi Upland in the western part, the Chikuho Uplands in the north and a small upland area in the southern portion. About 50 percent of the total of Fukuoka-ken is included in upland areas.

a. The Seburi Upland. Only a narrow northern margin of the Seburi Upland lies in Fukuoka-ken. It is a compact and relatively rugged block of mountains possessing typically bold, granitic features, and cut by numerous narrow, crooked valleys. It rises from the Fukuoka plain in steep slopes to sharp crests of 1,500 to 3,000 feet in elevation, reaching a maximum of 3,461 feet at Seburi-yama, 10 miles south of Fukuoka-shi, on the Saga-ken border.

There are no large towns or settlements in this area.

b. The Chikuho Highlands. The Chikuho Highland block is separated from the Seburi Upland area by the Futsukaichi Corridor, a tectonic fault valley. This upland area is not compact like the Seburi upland but consists of detached clusters of granite hills, mostly fault blocks, lower basin-like tertiary areas of dissected hill country, and considerable alluvial lowland. Many flat-bottomed valleys deeply penetrate, but do not cross, the hill belts. Elevations reach 600 to 1,000 feet in the hills, and 1,600 to 2,500 feet in the mountains. Most mountain slopes are steep, but the hillsides have only moderate inclinations. The broader valleys do not extend entirely across the region. Upper sections of the valleys, near passes, are narrow, but nearly level and straight. Commanding heights rise 600 feet to 1,000 feet above the narrow valleys.

Extending from north to south through the middle of this area

is a basin, 6 to 7 miles wide, drained by the Onga-gawa and its tributaries.

c. The Southern Upland. The upland area in southern Fukuoka-ken is a granitic rock upland rising to elevations of 1,500 feet in the western portion. Tertiary shales, sandstones and conglomerates flank the granites on the seaward side. Routes in this area follow narrow winding valleys which are usually less than 400 feet wide. Adjacent heights are heavily forested. Omuta-shi ( $33^{\circ}02'N$ ,  $130^{\circ}37'E$ ) on the seaward margin is the only large urban center of this area.

### 3. Central Kyushu Mountains.

The Central Kyushu Mountain area in Fukuoka-ken is cut into 2 approximately equal blocks by the Chikugo-gawa, east of Kurume-shi. These 2 blocks of rugged lava plateaus and hills comprise about 25 percent of the total area of Fukuoka-ken.

The lava plateaus have been altered by faulting and erosion with the result that they present a great confusion of features. Mesa and butte forms with steep bordering cliffs are common.

Although these mountains are not high, averaging 1,800 to 3,000 feet and reaching a maximum of 4,045 feet at Shakaga-dake (24 miles southeast of Kurume-shi), they are serious barriers to cross-country movement. No important routes cross this area into Oita-ken except the routes near the Chikugo-gawa. Most valleys are cut down 800 to 1,000 feet below the adjacent plateau masses and are winding and narrow at the bottom. There are no large settlements in this area.

## C. HYDROLOGY.

### 1. Lakes and Ponds.

No mapped lakes exist in Fukuoka-ken, but a large amount of natural storages is accomplished by means of the capacity of the wide, meandering Chikugo-gawa as it flows through the delta plains area at the head of the Ariake-kai.

### 2. Springs.

There is a recorded hot spring at Musashi ( $33^{\circ}29'N$ ,  $130^{\circ}31'E$ ) and cold springs at Funakoya ( $33^{\circ}11'N$ ,  $130^{\circ}30'E$ ) Watari ( $33^{\circ}32'N$ ,  $130^{\circ}53'E$ ), Hoshuyama ( $33^{\circ}25'N$ ,  $130^{\circ}52'E$ ) and Norimatsu ( $33^{\circ}48'N$ ,  $130^{\circ}42'E$ ).

### 3. Rivers.

All the boundaries of Fukuoka-ken with the exception of the portion along the Chikugo-gawa, are along the natural water sheds of the mountainous interior. Thus practically all the rivers have their sources within the prefecture and flow towards the

coastal boundaries of the prefecture.

The mountain streams of Fukuoka-ken have all the characteristics of those elsewhere in Kyushu. In the main they are either short in themselves or short tributaries of other rivers. Their individual collecting areas are small and are confined to gorges and steep valleys. Gradients are steep, run off is very rapid, and turbulent waters are common. Dams for power and conservation are frequent. The lower reaches of these rivers lose their gradients rather rapidly and as a consequence are choked with sand and gravel. In the flat gradients of the coastal plains areas, the rivers are less turbulent. Numerous earthen dikes and irrigation dams appear on these flats.

Rivers of the prefecture show consistent seasonal characteristics. Flash floods may appear at anytime, but most likely during the peak flow months of July, August and September. November through February is consistently a low water period. The mean annual precipitation for this area is approximately 62 inches, as represented by records taken at Fukuoka-shi.

In 1936, 159 urban communities sustained river flood damage in Fukuoka-ken. The total flood zone amounted to 11,656 acres, of which 196 acres were under cultivation at the time; 74 acres were permanently eroded or inundated, 92 buildings were damaged, total damage amounted to 739,787 yen, and the expended repair expense was 798,741 yen.

The principal river in Fukuoka-ken is the Chikugo-gawa, which forms part of the western boundary with Saga-ken. It has a drainage area of 1,102 square miles and has its source in Oita-ken. It is a typical mountain river until it reaches the broad, flat area about 45 miles from its mouth. Thereafter it meanders widely over its delta; about 6 miles from its mouth on the Ariake-kai, its distributary, the Hayatsue-gawa, leaves the main stream. The Chikugo-gawa is navigable for a distance of 50 miles upstream, but the bay approaches to its mouth are almost entirely blocked by mud flats. Between the years 1873 and 1921 many irrigation and flood control projects, designed also to facilitate navigation, have been installed on the flat reaches of the river.

On the Onga-kawa, in the extreme north, extensive irrigation and flood control projects have been installed between the years 1873 and 1921. For a distance of 4 miles above its outlet at Ashiya-machi extensive river widening and navigation aids have been undertaken. It flows through an important rice-growing area.

The Do-kai, which is the widened outlet of the Yawata-gawa at Yawata-shi, is about 6 miles long and a mile wide at points. It is the location of many dock and navigation improvements.

At Fukuoka-shi, 2 small rivers which flow through it have been canalized to permit barges to serve industries back of the waterfront.

D. CLIMATE AND WEATHER.

1. Seasons.

During the winter season, north to northwest winds of continental origin flow across Japan. As a result, frequent snows or rains prevail along the western and northern coasts. Fukuoka-ken has damp, cold, gloomy weather in this season.

During the summer, air flow over Japan is prevailingly from a southerly direction. These air streams are heavily laden in their lower levels with moisture which is readily precipitated in local showers all over Japan.

2. Temperatures.

The midsummer temperatures are high and the summer season is very sultry, uncomfortable, and enervating. It is comparable to that of the American Atlantic seaboard from Washington, D. C., to southern Georgia. The growing season is long; 203 days at Fukuoka-shi.

Winters are relatively mild, the coldest months having mean temperatures above freezing, but when it is overcast and a strong wind is blowing, the humid cold is raw and penetrating.

The temperature record at Fukuoka-shi is considered to be representative of the prefecture, (see Table 1).

TABLE 1

Temperatures, Fukuoka-shi, Fukuoka-ken.  
(In degrees Fahrenheit.)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
Mean daily max.	49	49	56	65	73	79	86	88	81	72	63	53	68
Mean daily min.	34	34	38	45	53	63	72	73	65	52	44	37	51

3. Precipitation, Humidity, Fog.

Annual precipitation varies from 60 to 80 inches over the prefecture, being much heavier during the summer than the winter. Humidity is high, but fog is not prevalent except during calm weather in Shimonoseki straits. Table 2 gives the record at Fukuoka-shi, which is assumed to be representative for the prefecture.

TABLE 2

Precipitation & Humidity, Fukuoka-shi, Fukuoka-ken.

	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
Mean precip.(in.)	2.8	3.3	4.4	5.1	5.1	10.2	7.7	5.2	8.1	4.2	2.9	3.0	62.0
Mean no. days with precip. of 0.004" or more	17	15	16	14	12	15	14	11	15	12	13	16	170
Mean no. days with trace or more of snowfall	5	6	2	0	0	0	0	0	0	0	*	3	16
Mean relative humidity,(percent)	73	73	74	77	78	82	81	82	83	80	77	74	78

\*Less than 0.5 day

4. Winds.

Table 3 gives the percentage frequency of various surface wind directions at Fukuoka-shi. The mean wind speed is 5.6 m.p.h., 6.5 m.p.h. in midwinter and about 5.0 m.p.h. in midsummer. There are about 7 gales per year from November through April.

TABLE 3

Surface Wind Directions, Fukuoka-shi, Fukuoka-ken.  
(percentage frequencies)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
N	13	16	21	23	21	19	18	19	20	20	15	14	18
NE	6	8	10	9	7	7	7	10	17	15	10	5	9
E	6	7	7	6	6	6	7	11	10	10	10	5	8
SE	26	19	18	19	22	25	24	24	21	23	26	26	24
S	16	16	14	13	13	15	19	14	12	12	15	17	14
SW	4	3	4	4	4	4	5	3	3	4	4	4	4
W	12	12	10	9	8	6	6	5	4	5	9	12	8
NW	14	16	14	12	13	11	8	7	6	6	10	16	11

5. Catastrophes.

Fukuoka-ken is located in the typhoon area but not in that portion of the area subject to greatest damage.

## II. POPULATION AND SETTLEMENTS.

## A. POPULATION.

In 1940 the population of Fukuoka-ken, (including those listed in the armed forces), was 3,094,132, or 4.2 of the total population of Japan. It had a population density of 626 persons per square kilometer, which placed it fourth among the most densely populated prefectures in Kyushu. Between 1935 and 1940 it experienced an enormous increase in population of 338,328 persons, or 12.3, more than double the national average. This growth was largely a result of migration to the prefecture.

It is estimated that as of April 1945 the population of Fukuoka-ken (excluding armed forces) was 2,935,000. It is believed that 265,000 persons left the prefecture as a result of population dispersal caused by bombings and governmental evacuation.

The population of Fukuoka-ken is concentrated in 5 areas: the Shimonoseki-kaikyo industrial area, the Fukuoka Plain, the Nogata-Iizuka area, the Saga Plain and the Suo-nada coastal paddy fields. Of these, the most densely populated is the Shimonoseki-Kaikyo industrial area.

In 1940 Fukuoka-ken contained 10 cities (shi): Fukuoka, Wakamatsu, Yawata, Tobata, Kurume, Omuta, Kokura, Moji, Nogata and Iizuka. Since that time, Tagawa has been incorporated as a shi. Fukuoka-ken ranks 6th. in urban population and 7th. in degree of urbanization among the prefectures in Japan. In 1940, 46.4 of its population, or 1,435,523 persons, lived in the 10 cities mentioned above. During the 20-year period 1920-40 it experienced a steady increase in urbanization; the rural population, on the other hand, increased at a much lower rate during the same period.

Fukuoka-ken and Nagasaki-ken are the only prefectures in Kyushu which show an excess of males over females. In Fukuoka, the sex ratio is roughly 103 males per 100 females. This excess is probably due to male migration to the industrial areas in the prefecture. In only 3 of the 10 cities (Fukuoka, Kurume and Iizuka) in 1940 did the females outnumber the males.

At the end of 1938 there were 55 foreigners in Fukuoka (Koreans not included).

Table 4 lists the population of Fukuoka-ken in 1940 by minor civil sub-divisions.

Table 4

Population, 1940, Fukuoka-ken\*

DIVISIONS	TOTAL
FUKUOKA-KEN	3,094,132
FUKUOKA-SHI	323,217
WAKAMATSU-SHI	88,901
YAWATA-SHI	274,335
TOBATA-SHI	84,260
KURUME-SHI	92,734
OMUTA-SHI	177,034
KOKURA-SHI	178,604
MOJI-SHI	138,997
NOGATA-SHI	47,026
IIZUKA-SHI	46,685
TAGAWA-SHI	70,225
KASUYA-GUN	111,007
Shime-machi	16,172
Sasaguri-machi	5,133
Kashii-machi	3,580
Umi-machi	18,481
Koga-machi	6,186
Okawa	4,202
Seto	7,289
Wajiro	4,503
Tachibana	1,687
Shiganoshima	9,858
Sue	12,248
Ono	2,180
Nakabaru	3,477
Aoyagi	2,259
Shingu	4,028
Tatara	5,340
Kubara	2,597
Yamada	1,807

## Restricted

DIVISIONS	TOTAL
MUNAKATA-GUN	44,054
Akama-machi	4,554
Togo-machi	3,755
Fukuma-machi	4,312
Tsuyazaki-machi	6,260
Konominato-machi	1,671
Yoshitake	1,923
Kato	2,188
Nango	3,665
Jingo	2,182
Kamisaigo	2,560
Katsura	2,253
Tajima	2,193
Ikeno	2,399
Misaki	2,528
Oshima	1,611
ONGA-GUN	116,771
Mizumaki-machi	24,740
Nakama-machi	31,578
Katsuki-machi	19,895
Orio-machi	13,026
Ashiya-machi	6,344
Okagaki	11,635
Onga	9,553
KURATE-GUN	110,838
Miyata-machi	36,989
Kotake-machi	14,321
Ueki-machi	4,183
Koyanose-machi	9,252
Wakamiya-machi	3,748
Tsurugi	11,256
Nishikawa	14,251
Kasamatsu	4,854
Yamaguchi	1,745
Kotsuki	4,652
Naka	1,852
Yoshikawa	3,735
KAHO-GUN	236,274
Yamada-machi	31,986
Okuma-machi	9,109
Futase-machi	20,505
Kobukuro-machi	13,587
Katsuragawa-machi	19,677
Usui	8,996
Senzu	3,779
Ashishiro	1,519
Miyano	2,378
Inatsuki	38,134
Shonai	19,379

## Restricted

DIVISIONS	TOTAL
Kaita	8,888
Chinzei	7,886
Honami	36,721
Daibu	4,613
Kamihonami	7,409
Uchino	1,708
ASAKURA-GUN	85,775
Haki-machi	3,548
Akizuki-machi	1,702
Amagi-machi	9,092
Koishiwara	1,949
Hoshuyama	5,476
Matsusue	2,221
Shiba	2,918
Kukimiya	2,169
Takagi	2,451
Asakura	2,732
Miyano	3,393
Daifuku	6,318
Minagi	4,014
Kanagawa	3,255
Ninashiro	2,984
Fukuda	2,805
Tateishi	2,861
Kamiakizuki	2,635
Yasukawa	2,997
Mada	3,590
Miwa	7,807
Yasu	8,860
CHIKUSHI-GUN	63,036
Futsukaichi-machi	7,790
Dazaifu-machi	4,935
Naka-machi	13,893
Ono	5,701
Mizuki	3,551
Yamaguchi	3,058
Chikushi	4,479
Mikasa	2,835
Minamihata	2,033
Kasuga	4,523
Iwato	2,820
Antoku	2,015
Osa	3,803
Yamaka	1,600
SAWARA-GUN	14,113
Taguma	4,508
Irube	2,156
Uchino	3,153
Wakiyama	2,270
Kanatake	2,026

DIVISIONS	TOTAL
ITOSHIMA-GUN	61,192
Maebaru	12,592
Fukuyoshi	4,042
Fukae	2,614
Ikisan	2,252
Nagaito	2,822
Ito	5,155
Susenji	2,782
Imazu	2,172
Motooka	2,938
Nogita	1,841
Sakurai	1,718
Kitazaki	5,109
Kaya	3,275
Keya	2,837
Kofuji	2,914
Ikatsuchi	3,200
UKIHA-GUN	56,316
Yoshii-machi	4,709
Tanushimaru-machi	4,848
Himeharu	5,021
Yamaharu	3,465
Oishi	3,390
Miyuki	5,346
Chitose	4,378
Enami	3,021
Fukudomi	3,031
Funakoshi	3,780
Mizuwake	2,911
Takeno	3,292
Shibakari	3,803
Mino	2,633
Kawai	2,688
MII-GUN	69,585
Kitano-machi	3,597
Kusano-machi	3,237
Zendoji-machi	3,763
Kodaraki	3,243
Aikawa	3,422
Yamakawa	3,317
Miyanojin	4,350
Yuge	2,156
Oki	3,673
Kaneshima	2,356
Oseki	3,523
Korauchi	3,101
Ajisaka	2,912
Ogori	4,054
Mihari	2,128

DIVISIONS	TOTAL
Tateishi	4,142
Mikuni	3,313
Tachiarai	5,182
Hongo	3,534
Yamamoto	2,521
Ohashi	2,061
MITSUMA-GUN	104,810
Daizenji-machi	4,437
Jojima-machi	6,158
Okawa-machi	15,408
Araki	5,760
Yasutake	3,897
Mitsuma	3,719
Inutsuka	4,997
Omizo	4,750
Egami	3,519
Aoki	4,113
Kimuro	5,446
Kisaki	4,443
Mitsumata	3,689
Kawaguchi	6,215
Taguchi	4,298
Kamachi	5,150
Oi	2,822
Nishimuda	3,677
Onoshima	3,193
Shodai	9,119
YAME-GUN	129,076
Fukushima-machi	8,041
Kuroki-machi	3,095
Hainuzuka-machi	9,553
Nagamine	2,784
Sango	3,601
Mitsutomo	5,193
Hebaru	4,269
Kushige	2,295
Koya	3,692
Obuchi	3,716
Yabe	6,062
Tovooka	3,093
Yokoyama (see Okayama)	
Kawasaki	3,686
Kitagawachi	2,750
Tadami	3,145
Kotsuma	4,037
Kamihirokawa	4,973
Nakahirokawa	5,060
Shimohirokawa	3,637
Okayama	6,246
Yawata	3,049

Restricted

DIVISIONS	TOTAL
Kitayama	2,119
Shiraki	3,114
Hoshino	9,266
Furukawa	3,416
Mizuta	12,931
Kasahara	2,390
<b>YAMATO-GUN</b>	<b>84,470</b>
Yanagawa-machi	6,563
Setaka-machi	16,178
Yamato	16,060
Higashimiyana	2,937
Shirouchi	1,949
Mibashi	14,676
Okinohata	4,673
Higashiyama	7,029
Yamakawa	8,116
Nishimiyana	2,058
Ryokai	4,231
<b>MIKI-GUN</b>	<b>13,034</b>
Hae	2,172
Takada	8,259
Hiraki	2,873
<b>KIKU-GUN</b>	<b>4,447</b>
Higashitani	4,447
<b>TAGAWA-GUN</b>	<b>123,729</b>
Kawara-machi	4,709
Soeda-machi	17,430
Kawasaki-machi	24,663
Itoda-machi	15,428
Kaneda-machi	7,013
Akaike-machi	14,025
Magarikane	5,928
Saidosho	2,539
Aka	3,696
Tsuno	2,166
Daito	7,149
Iigane	3,741
Hojo	11,816
<b>MIYAKO-GUN</b>	<b>68,458</b>
Kanda-machi	8,691
Yukunashi-machi	13,381
Saikawa-machi	7,146
Ohase	3,223
Shirakawa	1,817
Tsubakiichi	1,745
Isayama	1,636

Restricted

Restricted

DIVISIONS	TOTAL
Kubo	1,809
Kuroda	1,862
Hieda	2,019
Nobunaga	2,236
Imagawa	2,384
Minoshima	1,388
Imamoto	3,534
Nakatsu	4,005
Hariago	2,752
Izumi	2,245
Toyotsu	2,042
Kii	1,465
Irahara	1,640
<b>CHIKUJO-GUN</b>	<b>63,352</b>
Shiida-machi	4,134
Hachiya-machi	9,538
Higashiyoshitomi-machi	5,223
Kamikii	2,864
Shimokii	2,557
Tsuiki	3,899
Hatta	2,083
Suda	2,421
Nishisuda	1,997
Katsuragi	2,377
Yamada	2,244
Chizuka	2,477
Mikekado	3,413
Kurotsuchi	2,588
Yokotake	2,300
Gokawa	2,306
Iwaya	1,552
Nishiyoshitomi	1,854
Tomoeda	3,210
Tobaru	2,323
Ninamiyoshitomi	1,992

\*All divisions within gun not listed as machi are mura. Population figures listed in the table are those of 1940. Amalgamations and changes which have taken place since then have been reflected by adjusting the basic 1940 figures.

B. CITIES AND TOWNS.

1. Fukuoka-shi

Fukuoka-shi (population 323,217) is the capital and the largest city in Fukuoka-ken. In addition its function as an administrative center and its importance as the seat of the Kyushu Imperial University, it has

Restricted



been playing an increasingly active industrial role, a development strongly supported by the steadily mounting quantities of electric power available. Fukuoka's industrial functions were originally limited to the production of silk and cotton textiles and of a wide variety of porcelain and earthenware products. It now has ordnance and aircraft factories, and many firms are engaged in the manufacture of electrical products and small metal goods. Owing to its proximity to the coal fields, some of which are in the city limits, it has become one of the richest cities in Japan and is the center of the economic life of Kyushu.

Commercially, Fukuoka serves the adjacent Fukuoka Plain hinterland and, through the Mikasa-gawa valley, also serves the Saga Plain (see Chapter I, C). The leading imports of the city are petroleum (handled chiefly by the Asahi Sekiyu KK (Rising Sun Oil Company) at Saitozaki, across the bay), and timber for mine props. Coal outranks manufactured goods as an export.

The city lies 35 miles southwest of Moji-shi, and stretches along the southeastern shore of the inner reaches of Hakata-wan, the northernmost inlet of any size on the western coastline of Kyushu. The city now comprises what were formerly 2 urban units: the old castle town of Fukuoka, and Hakata, a port city containing a number of manufacturing plants. Fukuoka-shi lies on the west side of the Naka-gawa; Hakata on the east. The entire built-up area is crescent-shaped, with horns extending north and west along the curving shores of the bay. Along the waterfront the curve is between 6 and 7 miles long. The outer curve bulges inland up to valleys of the Naka-gawa and the Mikasa-gawa in the vicinity of Hakata.

The commercial and administrative center of the city lies along and to the west of the canalized lower channel of the Naka-gawa. The old industrial area was established on the waterfront of Hakata, between the mouths of the Ishido-gawa (the lower Mikasa-gawa) and the Naka-gawa. New industries have developed on reclaimed land to the southwest, but many of the plants lie within residential areas on the inner border of the city. The most clearly defined residential area is around Hakozaiki, inland from the university district in the northeast; but even here there are industrial plants.

In the central area of the city there is a heavy concentration of population and buildings. This is interrupted by only 3 open areas: (1), the 200 acres of fortress grounds around Fukuoka castle; (2), West Park, dominated by the knob of Aratsu-yama, lying to the north

of the castle grounds on a blunt promontory of the shoreline; and (3), the university campus area which stretches for nearly 2 miles along the shore north of the Ishido-gawa. The Najima-gawa (Tatara-gawa) to the north and Muromi-gawa to the west mark the approximate limits of the built-up area along the bay. The sharp hillslopes south of Fukuoka-shi abruptly limit settlement there, but inland from Hakata, town settlement straggles irregularly along the streams, roads and rail lines.

Fukuoka-shi's harbor is located along the southeast shore of the bay and includes all of the Hakata waterfront. It has been enlarged by a filled extension which is capable of taking ocean-going ships. This made land is now covered with warehouses and has railroad connections with the Kyushu network.

Southeast of the wharf in Hakata is the large plant of Watanabe Tekkosho KK (Watanabe Iron Works), Plant No. 1, which produces ordnance and heavy machinery for the navy. The plant is low and made of wood. The Saibu Gas Co. tanks adjoining on the northeast are landmarks. South of this plant are the Hakata RR yards and station, at which urban rail lines converge. These have lost much of their former importance since the development of the Tosu Yards north of Kurume, but are still used. Further east is the Tatara Machinery Works, a modern plant producing ordnance and special types of coal-loading machinery.

North of the university is the Showa Iron Works Plant, a small plant producing ordnance and machinery. This plant has rapidly expanded since 1938. North of the plant are 2 railroad bridges and one highway bridge crossing the Najima-gawa (Tatara-gawa) to Najima. The Najima Steam Power Plant and Najima Seaplane Base are north of the river.

The most important industries in the city lie south of the university. The most southerly is the Nippon Gomu KK (Nippon Rubber Co.) producing rubber boots, shoes and tires. The buildings of this plant are modern, ferro-concrete and flat-roofed. The main building is 5 stories, the others are 2. Southeast of this plant is the Hakata Brewery. In the same area are plants of the Tofu Seifun KK (Tofu Milling Company) and Kanegafuchi Boseki KK (Kanegafuchi Spinning Company).

The Saitozaki Petroleum Center and the Fukuoka Air Station lie on the north side of the bay, some distance apart. The center has a large oil storage capacity and coal bunkering facilities.

The skyline silhouettes the many large, western style buildings which are chiefly grouped along the

lower Naka-gawa. However, the customary one story, tile roof, wooden building is the predominant structural type, even near the center of the city. The extensive University buildings compare favorably with those of many Western institutions. Other important buildings are:

Prefectural office (Tenjin-cho)  
 City office (Inaba-cho)  
 Mining inspection office  
 Tobacco monopoly bureau  
 Chamber of commerce and industry  
 Fukuoka products museum  
 12th Infantry Brigade Headquarters  
 Police station  
 Library  
 Gendarmerie headquarters  
 District court  
 Customs house, Public hall  
 Weather bureau and agricultural experiment station  
 Prison  
 Hakata Stock Exchange  
 Radio Station JOLK

Other large parks, in addition to West Park, are Obori Park, west of the castle grounds, and East Park, an extensive pine grove close to Yoshizuka Station. The Medical College and Hospital of Kyushu University are in this park.

## 2. Moji-shi.

Moji-shi (1940 population 138,997) lies on the extreme northern tip of Kyushu, on the south side of the Straits of Shimonoseki, at the western entrance of the Inland Sea. The city has had its principal development since 1887, when it was made the northern terminus of the Kyushu railroads and the Kyushu ferry. It ranks fifth among Japanese ports in the number and tonnage of foreign vessels handled, and is second only to Wakamatsu-shi as a coal shipping center. The city is now connected with Honshu by the Kammon Tunnel. It is the base for lighter service from the roadstead and port to the industrial cities to the southwest.

The city is situated on a narrow coastal plain and is backed by relatively high fortified hills. The city follows the coast line for about 5 miles, absorbing the town of Dairi to the south, but measures only 500 to 1,000 meters (about 2/3 mile) in width. The principal industrial section is concentrated in the western quarter of the city, in the vicinity of the great coal docks. Considerable variety of manufacturing plants occupy

waterfront locations.

The Moji Central Wharf in the northeast occupies about 1,000 feet frontage. The Moji Southern Wharf, 1/2 mile to the southwest, is the principal wharf of the straits area for deep draft vessels. The Moji-shi railroad station and yards are between both wharves. The principal industries of the city are the Asano Cement KK a large and conspicuous cement plant located at Shiroki Point in South Moji; Kobe Steel Works, producer of light metal equipment, at Komoriye; Furukawa Denki Seisakusho KK (Furukawa Electric Co.), located at Dairi and the producer of electric wire; and the Nippon Daki Yakin KK (Nippon Electric Metallurgical Co.) located near the Kobe Steel Works and a large producer of non-ferrous metals. The large Dairi marshalling yards are at the southern end of the city. Also on the waterfront are the Nippon Flour Mill and the Dairi-Sakura Brewery, (see AMS map 340462).

Moji-shi is a financial center of Japan and contains branches of most of the principal banks in the country. These include the Bank of Japan, Bank of Taiwan and the Mitsui Bank. There are a number of other private banks in the city. Other important buildings are:

Police station  
 Railway division office  
 Telephone exchange  
 Water police station  
 Customs office  
 Mitsubishi Co.  
 City office  
 Gendarmerie station  
 Railroad hospital

There are 4 parks in the city.

## 3. Kokura-shi.

Kokura-shi (1940 population 178,604) lies 8 miles southwest of Moji-shi. Although much the oldest of the cities on the Shimonoseki-kaikyo, Kokura-shi is as new as the others in its industrial aspects. Its industrial belt is continuous with that of Moji-shi, the principal waterfront plants being blast furnaces, steel mills, and chemical factories. Until the railroad era caused it to be displaced by Moji-shi, Kokura-shi was the terminus of land transportation for northern Kyushu; it remains one of the leading transportation centers of the island. One of the most important old castle towns of Kyushu, it is now the headquarters of an infantry brigade, an infantry regiment and 2 field artillery regiments. The vast army arsenal is one of the leading producers of ordnance, small

arms and ammunition in Japan. It contains an important steel plant as well as many other factories, and the largest railroad shops in Kyushu for both the construction and repair of equipment.

The city is located at a point on the southern shore of the straits where the coastal strand, otherwise narrow from Tobata-shi to Moji-shi, widens at the mouth of 3 streams, the central one of which is the Murasaki-gawa. Therefore the city is less linear in dimensions than Moji-shi, and is bordered on its land side by low paddy fields instead of terraced hillsides. The city is confined by hills to the east and west. The principal built-up area is about 2 miles long along the shoreline, and has an average width of 1 1/2 miles; it is roughly rectangular in shape. There are few open spaces, though the inland southern boundary is rather irregular. Its harbor facilities are undeveloped and it must therefore be served by lighters, principally from Moji-shi.

The Main industrial area in Kokura-shi extends less than 1.5 miles along the harbor and about 1.5 miles inland. The largest industrial plant is the Kokura Arsenal, in the center of the city south of the Kagoshima Main Line RR, on elevated ground southwest of the station. Less than 1/2 mile west of the station are the Kokura Railroad Shops, the most important in Kyushu and among the largest in Japan.

In recent years considerable industrial expansion has occurred in the western section of Kokura-shi. The most important plants known to be in this section, though not precisely located, are a Tokyo-Shibaura Denki Seiskakusho KK (Tokyo-Shibaura Electric Company) factory, producing communications equipment, and the new 50,000 k.w. steam power plant. Riken Jukogyo KK (Riken Heavy Industries) and the Nissan Jidosha (Nissan Automobile Co.) are reported to have established plants here.

Other important industries in the city include 3 steam power plants; Kokura Steel Works, located on reclaimed land on the city waterfront; Okuma Iron Works, a new factory which may be making aircraft fuselages and components; Tokyo Rope Mfg Co., in eastern Kokura between the railroad lines near the water front; an important manufacturer of wire and steel cables; and the Kyushu Special Steel co., on the waterfront. There are also paper and pottery factories in the city.

The principal Public buildings in the city are located between the arsenal and the waterfront. A series of temples and shrines are in the section off the west bank of the Murasaki-gawa. Other installations shown on AMS map 340463 include:

The city hall,  
2 Police stations,  
A Prison,  
A Library,  
and a hospital.

A garrison area 2 miles long and more than 1/2 mile wide on the southern out-skirts of the city contains a large number of barracks and other military buildings.

4. Tobata-shi.

Tobata-shi, (1940 population 84,260), a small fishing village when the iron and steel industry was established at Yawata-shi, is today a major fishing port of Japan, with docking facilities for a large fleet of steam trawlers. The life of the city is dominated by the overflow of heavy industry from Yawata-shi, including a branch of the Imperial Steel Works and a large glass factory. Functionally, it is a northern extension of the Yawata-shi urban area.

Tobata-shi is situated at the eastern head of Hon-ko, the entrance to Dokai-wan. It lies partly on a flat of limited extent between the slopes of Kompira-yama and the shore to the west, but with a somewhat wider area of low ground to the north. As in Yawata-shi, the industrial area lies along the water and the residential area inland. Small ocean-going vessels can dock in the harbor. Tobata-shi handles not only fish and the traffic of the industrial plants, but also shares with Wakamatsu-shi the export of coal.

Through Tobata-shi run both the main highway and the main railroad from Yawata-shi to Moji-shi, and it is connected with Yawata-shi by electric tramway as well. The narrowing of the coastal strand between Tobata-shi and Yawata-shi, with the road and railroad line crowded between the hills and the bay, has created a bottleneck for land transportation.

The principal industry in Tobata-shi, the plant of the Japan Iron Works (Imperial Iron and Steel), is located in northern Tobata between the railroad and Nagoya-saki. It is among the largest and most modern rolling mills in Japan. The other large industry, the Asahi Glass Co., has 2 separate plants located across the tracks from the Yawata plant of the Japan Iron Works. Other industries in the city include the production of arms and munitions, machines, machine tools, and electrical equipment.

The city is also the site of Meiji Technical College, the buildings and dormitories of the school being west of the industrial railroad connecting the 2 plants of the Imperial Iron and Steel Works. A hospital and city hall are also in the city, (see AMS map 340464.)

5. Wakamatsu-shi.

Wakamatsu-shi, 1940 population 88,901, is the chief coal exporting port of Japan, and, with Tobata-shi and Kokura-shi, has received part of the overflow of the heavy industry from Yawata. Its industries chiefly work on subcontracts for the plants on the southern shores of Dokai-wan. It also contains the headquarters of many mining companies operating in the Chikuho coal field to the south.

The city lies across the channel from Tobata-shi, along the shores of the peninsula which separates the body of Dokai-wan from Shimonoseki-kaikyo. The principal settlement is at the eastern tip, on the shores of Hon-ko across from Tobata-shi. Wakamatsu-shi occupies reclaimed land along the north of the bay (chiefly devoted to coaling docks), and on the shores of the strait; it spreads over the lower slopes of the hills which occupy most of the peninsula.

The Tochigi Co. shipyards on the Wakamatsu-shi harbor which consist of shipbuilding and repair yards for small vessels, is located south of the drydock. Directly on the waterfront and next to the Tochigi plant is the Tokai Steel Mfg. Co., a small plant producing rolled products. In the same area is the Hitachi Machine Works, one of the largest plants in Japan producing steel mill rolls. Lumber mills, railroad car repair, arms and munitions and chemicals are other industries in the city.

The important buildings in the city, (see AMS map 340464), are the city hall, hospital, post office, and police station.

6. Yawata-shi.

Yawata-shi, population 297,000, is now the second largest city in Kyushu and the largest and most industrial city along the Shimonoseki Straits. It is the site of the great Imperial Iron and Steel Works, by far the largest producer of pig iron and steel in the Japanese Empire, and is the principal focus of iron and steel manufacturing in Japan. The city was virtually born with the establishment of the first units of the steel plant about 50 years ago and has developed as a residential and servicing center for the personnel of the mill. Though steel industries have been established in the 3 nearby cities, the main plant remains far more important than all of the others combined. The Kurosaki industrial area, on the western outskirts of Yawata-shi, has developed from a suburban village to an urban and industrial adjunct. It too has important heavy industries, including one of the plants of the Japan Aluminum Company.

Yawata-shi lies near the eastern end of the southern shore of Dokai-wan. Prior to the extensive program of reclamation by dredging and filling, which has reduced the water area of the bay by half, Yawata was confined to a narrow strip of land, about  $\frac{1}{2}$  mile broad, along the southern and eastern shores of the bay between the hills and the water, and an area of flat land extending up the Yawata valley from the southeastern corner of the bay. The made land in the bay has more than doubled the area of the city.

The general shape of the Yawata-Kurosaki area is that of a right triangle with a short eastern boundary, a longer southern side, and a hypotenuse along the front of the reclaimed area, which is marked by the central channel of the bay. The eastern side is about 2, and the southern side about  $3\frac{1}{2}$  miles in length. On the low ground residential and industrial structures are crowded closely together; one of the few open spaces of any kind below the slopes of the hills is the baseball field about 7 blocks south of the railroad. The reclaimed land is interspersed with basins and channels.

Yawata-shi is sharply divided into 2 sections. The industrial area, devoid of living quarters, lies north and west of the railroad and includes all the reclaimed land on the Yawata side of the bay. The residential area is crowded between the railroad line and the mountains and up the Yawata valley. In it are buildings auxiliary to the plant, such as the administration building and the large hospital.

Next in importance to the steel plant on the waterfront, is the Nippon Aluminum Co. plant in Kurosaki, south of the harbor, and now a part of Yawata-shi. This compound covers an area of about 43 acres with 11 factory buildings. Also located on reclaimed land at Kurosaki is Nippon Synthetic Industry, a joint enterprise of Mitsubishi and Asahi Glass, producing various chemicals. At the Kurosaki Station, immediately north of the railroad, is the Yasukawa Electric Mfg. Co., one of the largest manufacturers of magnetos and small motors.

Important buildings marked on AMS map 340464 include: 2 hospitals, a police station, gendarmerie station, office for child care, and a post office.

#### 7. Iizuka-shi.

Iizuka-shi, 1940 population 46,685, is a mining city in the Onga-gawa valley, one of a series of mining settlements in the region which includes the cities of Tagawa and Nogata and Kobukuro-machi. Coal mines are in the entire area around the small built-up section. All of the lowland lining the rivers and ponds is put to rice.

There are several industries of minor importance in or near Iizuka-shi. These include Kobukuro Machinery Works, 1.6 miles north of Iizuka-shi, and the producer of various types of machinery and colliery equipment under navy supervision; Japanese Explosives Mfg. Co., manufacturing explosives for coal mine operations and located one mile SSW of the city; and Sangyo Cement Co. on the private railroad from Tagawa to Iizuka.

The location of the mines in the city area is shown on AMS map 340428. A sub-prefectural office, the city hall and the police station are among the identified buildings.

#### 8. Kurume-shi.

Kurume-shi, 1940 population 89,490, is an army center, a rail hub, a rubber-manufacturing point and the site of an arsenal. The city is centrally located in the Saga plain. The chief stream draining the plain, the Chikugo-gawa, passes the northwestern corner of Kurume-shi about 12 miles from its mouth.

The city is oblong in shape and extends for about 2 miles from east to west and one mile north to south. The main streets, surrounded by the most densely populated section, run approximately east-west through the center of the city. The chief industrial sections border the river in the northwest and the military areas are in the southeastern section.

Kurume-shi has an important concentration of rubber plants. The Bridgestone Tire Co., located in the northwest section along the south bank of the Chikugo-gawa, produces about 23 percent of Japan's rubber tires. It occupies a 5-acre compound jointly with the Nippon Rubber Co., which produces rubber shoes and boots. The plant of the Bridgestone Co. is a heavy concrete structure from 3 to 5 stories high. The Nippon Rubber Co. plant is 2 to 4 stories in height. A boiler house near the river furnishes the power supply for both plants. One mile south of the Bridgestone plant, on the east side of the river is the factory of the Tsuchiya Tabi Co., recently taken over by the Nikka Rubber Co. This factory, which is being expanded, is a large producer of rubber-soled shoes and boots. The buildings are mixed; brick walls reinforced with saw-tooth roofs, and modern ferro-concrete 4-storied buildings.

North of the Bridgestone plant is the Kurume Mill of Kanegafuchi Spinning Co. South of the Bridgestone plant, within the Kurume station area, are a large number of warehouses for military ordnance, oil and civilian materials; these buildings are mostly old, wooden structures.

The military installations within the city consist of the headquarters and barracks of the 12th Division. There are 2 separate groups of buildings, with the headquarters and an arsenal in the northern group. The arsenal is primarily an ordnance depot.

Governmental buildings within the city (all shown on AMS map 340436) are: a juvenile prison, medical school, tax office, public hall, police station, and hospital.

9. Omuta-shi.

The manufacturing city of Omuta (1940 population 177,034), the adjacent coal port of Miike (now a part of Omuta-shi) and the underlying Miike coal fields form an important concentration of industry of varied character. The Mitsui interests control the mines, the port and most of the factories, and the community is virtually a company town. The industrial plants, which employ Miike coal either as a fuel or as a raw material, include the largest zinc refineries in Japan and a synthetic oil plant. The port of Miike (Omuta) ranks sixth among Japanese ports in foreign tonnage; 90 percent of its exports are coal, and a large share of its imports are raw materials for the factories.

The Omuta-Miike area is located at the southern end of the Saga Plain. The city of Omuta is crossed by the Omuta-gawa and the Suwa-gawa; southwest of the mouth of the Suwa-gawa is Miike-ko, the port and the largest completely artificial harbor in Japan. Northeast of Omuta proper, across the Domen-gawa, is the Miike-machi section.

The streets of Omuta-shi run generally north-south, east-west. The chief industrial establishments are arranged in a semi-circle along a belt-line coal railroad; the majority are in the northeast. Large undeveloped tracts intervene between the older part of Omuta-shi and the port area; these 2 sections function to some extent as separate cities.

There are 3 separate important clusters of industry in the city. They include:

(1) Miike Harbor. This is one of the largest coal ports in Japan. To the east of the wet dock, which is in the inner harbor, are extensive railroad yards and loading tunnels. The Mitsui Railroad Workshops, which are used for the repair and maintenance of Mitsui Mines Railroad equipment, are southwest of the yards. East of the yards is the Omuta Steam Power Plant No. 1, one of 4 large steam power plants in the area. Omuta No. 2, the largest of the 4, is just southwest of the locks between the wet dock and the inner harbor. Omuta No. 3 is situated in the harbor area but has not been located exactly.

(2) Omuta-gawa mouth. North of the Omuta-gawa mouth on made land are 3 important industries: the large carbide plant of the Electro-Chemical Industry (Denki Kagaku) a part of the Mitsui Electrolytic Zinc Refinery; and the Oriental High Pressure Co. Plant B (Toyo Katsusho Kogyo), producer of fertilizer and acids. The buildings of the Mitsui refinery are heavy ferro-concrete.

(3) Eastern Omuta. The largest concentration of industry is on the eastern side of Omuta-shi. In this area is the important plant of the Miike Dyestuffs (Mitsui Senryo KK), producer of explosives, poison gases and other coal-tar derivatives. The buildings of this plant are mostly of modern construction. Adjoining this plant is the Mitsui Coal Liquefaction Plant (Sekitan Yuka Kojo) one of the larger Japan synthetic oil plants. Immediately southwest of the dyestuffs plant is the Oriental High Pressure Plant A, producer of ammonia. The buildings of this plant are asbestos sheeting over steel frame. In the same area is the Miike Machinery Works, a large plant which manufactures and repairs colliery machinery, large gas engines and electric motors. The construction of most of the buildings of this factory appear to be metal or asbestos sheeting over metal frame. Few are ferro-concrete. Between the Machinery Works and the Dyestuffs Plant is the main plant of the Mitsui Electrolytic Zinc Refinery (Miike Aen Mekki Seirensyo) the largest high grade zinc plant in the entire empire. The Kanegafuchi Spinning Mill is also in the area. The whole concentration of these industries in eastern Omuta lies within an area of less than one square mile. Several coal mines are also in eastern Omuta.

The government buildings are concentrated between the mouth of the Suwa-gawa and the Omuta-gawa, east of the Kagoshima Main Line RR, which runs north-south through the city. These buildings include: the city hall, a police station, an isolation hospital, the Mitsui Mining Office, and a medical clinic. In the same area are 5 parks. (All installations noted are located on AMS map 340438. The prostitution quarter is off the southern bank of the Omuta-gawa.

(10). Nogata-shi.

Nogata-shi (1940 population 47,026) lies in the heart of the Chikuho coal region, the largest in Kyushu. The city is principally a mining center but also contains a considerable amount of small industry. More than 125 small shops and factories, which in the aggregate produce a substantial number of parts for heavy machinery and mechanical equipment of various kinds, are located in the city.

The built-up section covers an area of less than 3/4 of a mile north-south along the west bank of the Onga-gawa, at the juncture of that river with the Hikosan-gawa. Along the narrow valleys of the Onga-gawa and the Inunaki-gawa, which flows to the west of the city, the land is covered with rice paddies; otherwise the surrounding land is hilly, with two high peaks directly east and west of the city.

Most of the mines in the area are located west and southwest of the city. They are mainly Mitsubishi-owned, and the city contains a group of Mitsubishi workers' houses. A series

of coal mines are in Miyata-machi, to the southwest. The principal buildings of the city (as shown on AMS map 340471) are: a tax office, the Public Works Office, the public hall, the city hall, the waterworks office, the Nogata Hospital, Otateyama Hospital, a prison and a police station. The licensed quarter is just east of the filtration plant in the southwest section.

The government buildings are concentrated between the mouth of the Gawa-gawa and the Gawa-gawa, east of the Kogatahama Line RR, which runs north-south through the city. These buildings include: the city hall, a police station, an isolation hospital, the Mitsui Mining Office, and a medical clinic. In the same area are 5 parks. (AMS map 340488). The prostitution quarter is off the southern bank of the Gawa-gawa.

(10) .(01) .(01) .(01)

Hogata-shi (1940 population 47,020) lies in the part of the Gifu coal region, the largest in Japan. The city is principally a mining center and also contains considerable amount of small industry. There are 150 small shops and factories, which in the aggregate produce a substantial number of parts for heavy machinery and equipment of various kinds, and located in the city.

The following section covers an area of about 1/4 of a mile north-south along the west bank of the Gawa-gawa, as the junction of that river with the Kogatahama Line. The narrow valleys of the Gawa-gawa and the industrial zone which flows to the west of the city, the area is covered with rice paddies; otherwise the surrounding land is largely a two high peaks directly west and east of the city.

Most of the mines in this area are located west and north west of the city. They are mainly of the iron-ore type and the city contains a group of Alsatian workers possess a series

III. ECONOMY

Number occupied (in thousands)

A. LABOR

1. Occupation.

The main occupations in Fukuoka-ken are manufacturing, commerce and agriculture. The prefecture ranks sixth in Japan in the number of people engaged in manufacturing. The concentration of war industries in this area has increased the influx of workers as well as the increase in plants and manufacturing. (Table 5).

TABLE 5  
Occupation, 1930 & 1944, Fukuoka-ken

Occupation	1930 Census		1944 Estimate**	
	Number occupied (in thousands)	Percent	Number occupied (in thousands)	Percent
Agriculture	364	29.9	340	26.1
Fishing*	17	1.5	14	1.1
Mining	99	9.0	156	12.1
Manufacturing	220	20.1	385	29.6
Commerce	176	16.1	150	11.5
Communication & transportation	63	5.8	85	6.5
Government & professions	86	7.9	120	9.2
Domestic	31	2.8	18	1.4
Others	43	3.9	32	2.5
Totals	1,099	100.0	1,300	100.0

\*Fishing totals are corrected to 1938.

\*\*1944 estimates are based on the changes in population between 1930 and 1944, taking into account the migration of workers and the reallocation and redistribution of labor, as well as the number of men in the armed forces.

The principal occupations in Yawata-shi are industry and commerce. Here are situated the largest producers of iron and steel in Japan. It is estimated that as of 1 April 1945 the labor force of all industries in this city was 144,000 persons, an increase of over 100 percent since 1930. Ninety thousand people are engaged in manufacturing (Table 6)

TABLE 6

Occupation, 1930, Yawata-shi, Fukuoka-ken

Occupation	Number occupied (in thousands)	Percent
Manufacturing	39.0	59.0

Restricted

Occupation	Number occupied (in thousands)	Percent
Commerce	14.6	22.0
Communications	6.0	9.0
Government & Professions	3.1	4.8
Others	3.5	5.2
Total	<u>66.2</u>	<u>100.0</u>

The principal occupations in Tobata-shi are fishing, manufacturing and commerce. Its docking facilities provides a good port for fishing and for steam trawlers, and its manufacturing consists largely of iron and steel plants. It is estimated that as of 1 April 1945 the total labor force in this city was 51,000 people, 30,000 of whom were engaged in manufacturing and 20,000 engaged in occupations other than agriculture. (Table 7).

TABLE 7

Occupation, 1930, Tobata-shi, Fukuoka-ken

Occupation	Number Occupied (in thousands)	Percent
Fishing	1.3	5.9
Manufacturing	9.7	45.5
Commerce	4.8	22.5
Communications	3.3	15.5
Government & professions	1.3	5.9
Others	.8	4.7
Total	<u>21.2</u>	<u>100.0</u>

The principal occupation in Fukuoka-shi is commerce and manufacturing. As the capital of the prefecture and of the Kyushu Administrative Region, it also has a large proportion of government employees, and it is the administrative center of the mining and industrial center in northwestern Kyushu. It is estimated that the labor force as of 1 April 1945 reached 155,000, 73,000 of whom are engaged in manufacturing, an increase of almost 200 percent since 1930. (Table 8)

TABLE 8

Occupation, 1930, Fukuoka-shi, Fukuoka-ken.

Occupation	Number occupied (in thousands)	Percent
Manufacturing	27.8	30.4
Commerce	31.8	34.9
Government & professions	14.0	15.3

Restricted

Restricted

Occupation	Number occupied (in thousands)	Percent
Others	17.6	19.4
Total	<u>91.2</u>	<u>100.0</u>

Moji-shi and Wakamatsu-shi are the leading coal shipping centers. The present estimate of the labor force in Moji (1945) is 75,000 people, 35,000 of whom are engaged in manufacturing; while the estimate for Wakamatsu-shi is 58,000 people, 24,000 of whom are engaged in manufacturing (Table 9)

TABLE 9

Occupation, 1930, Moji-shi & Wakamatsu-shi, Fukuoka-ken

Occupation	Moji-shi		Wakamatsu-shi	
	Number occupied (in thousands)	Percent	Number occupied (in thousands)	Percent
Manufacturing	10.9	24.2	5.1	21.1
Commerce	13.9	30.9	7.0	28.6
Communications & transportation	10.4	23.2	8.0	22.8
Government & professions	3.9	8.5	1.7	6.9
Others	5.9	13.2	2.5	10.6
Total	<u>45.0</u>	<u>100.0</u>	<u>24.3</u>	<u>100.0</u>

The principal occupations in Omuta-shi are mining, manufacturing commerce and communication and transportation. The total labor force has increased over 100 percent in the period between 1930 and 1945. The estimated 1945 total labor force in this city is 86,000 people, of whom 42,000 are engaged in manufacturing. (Table 10)

TABLE 10

Occupation, 1930, Omuta-shi Fukuoka-ken.

Occupation	Number occupied (in thousands)	Percent
Mining	9.0	24.4
Manufacturing	11.3	30.5
Commerce	9.4	25.2
Communications & transportation	2.1	5.6
Government & professions	2.3	6.1
Others	2.9	8.2
Total	<u>37.0</u>	<u>100.0</u>

Restricted



The principal occupation in Kokura-shi is manufacturing. The total number of people engaged in manufacturing increased 400 percent since 1930, while the total labor force increased 300 percent. The 1945 estimates are that there are 57,000 people engaged in manufacturing, and a total labor force of 105,000. In Kurume-shi, a city which is an administrative center for the adjacent agricultural plain, the 1945 estimates of the total labor force are 40,000 people, 21,000 of whom are engaged in manufacturing. (Table 11)

TABLE 11

Occupation, 1930, Kurume-shi &amp; Kokura-shi, Fukuoka-ken

Occupation	Kurume-shi		Kokura-shi	
	Number occupied (in thousands)	Percent	Number occupied (in thousands)	Percent
Government & professions	6.5	18.2	3.2	9.1
Commerce	10.7	29.9	10.0	28.3
Manufacturing	12.2	34.2	13.9	39.2
Agriculture			2.3	6.5
Communications & transportation				
Others	6.2	17.9	3.0	8.5
Total	35.6	100.0	35.4	100.0

As indicated by Table 12, Iizuka-shi has a very high proportion of its working force engaged in mining, while Nogata-shi has a diversified distribution of its occupational groups.

TABLE 12

Occupation 1930, Iizuka-shi &amp; Nogata-shi, Fukuoka-ken

Occupation	Iizuka-shi		Nogata-shi	
	Number occupied (in thousands)	Percent	Number occupied (in thousands)	Percent
Agriculture	1.1	6.7	3.6	22.0
Mining	4.5	25.6		
Manufacturing	3.4	19.7	3.2	19.7
Commerce	5.7	33.0	4.8	29.2
Communication & transportation			1.7	10.4
Others	2.7	15.6	3.1	18.7
Total	17.4	100.0	16.4	100.0

## 2. Industrial Employment.

In 1938 there were 1,810 factories in Fukuoka-ken employing 5 or more persons. These factories had a total employment

of 120,093 people, of whom 80 percent were males. This was an increase over the 1,384 factories employing 42,867 people (60 percent of whom were males) in operation in the prefecture in 1930.

In number of employees this prefecture ranked eighth in all Japan in machinery and tools, third in metals, fourth in chemicals, ninth in food products, sixth in ceramics, and fifth in printing. As indicated in Table 13 the most important industries in terms of employment in 1938 were textiles, particularly silk reeling and cotton spinning, metal-casting and the manufacturing of machinery and tools, metal processing and chemicals (particularly synthetic dyestuffs), the manufacturing of rubber products and industrial drugs.

TABLE 13

Factories &amp; Industrial Employment, 1938, Fukuoka-ken

Industry	Factories	Employees		Total
		Male	Female	
<b>TEXTILES</b>	212	1,416	6,666	8,082
Silk reeling (raw silk)	9	82	1,584	1,666
Spinning industry				
Cotton spinning	4	281	2,328	2,609
Hemp thread (rope)	1	40	87	127
Twisted thread				
Cotton	3	22	136	158
Silk	4	2	74	76
Other twisted thread	1		7	7
Woven goods				
Pure cotton	60	176	998	1,174
Other cotton	32	78	292	370
Pure silk	42	448	451	899
Synthetic silk fibre	4	44	100	144
Silk & cotton fabric	2	6	11	17
Stable fibre	2	5	30	35
Knitted goods				
Manufactured goods	13	3	156	159
Cord braided products	1	7	21	28
Cotton refining	20	144	326	470
Other textiles	1	2		2
Dyeing, Refining				
Thread dyeing	7	41	5	46
Textile Printing	2	10		10
Patternless dyeing	1	6	1	7
Refining, Bleaching	3	19	59	78

Restricted

Industry	Factories	Employees		Total
		Male	Female	
<b>METALS</b>	188	44,686	2,155	46,841
Metal refining & processing	24	37,056	1,155	38,211
Casting				
Pig iron	72	2,787	247	3,034
High grade wrought iron	1	10	4	14
Steel castings	3	1,752	180	1,932
Other metals	7	87	5	92
Metal mfg. goods bolts, nuts, washers	13	214	44	258
Needles	3	279	25	304
Chains	4	143	94	237
Cables	1	657	69	726
Springs	1	26	2	28
Steel nets	2	36	9	45
Tin cans	5	365	258	623
Metal plate goods	16	663	21	684
Construct. & furniture	5	44	2	46
Fixtures	1	5	3	8
Buildings and bridges	6	227	15	242
Toys	1		2	2
Other products	22	321	20	341
Plated goods				
Nickel	1	14		14
<b>MACHINERY &amp; TOOLS</b>	361	18,207	1,834	20,041
Steam boilers	3	65	-	65
Gas generators	2	16		16
Prime movers				
Internal Combustion engines	7	127	2	129
Water wheel	2	29	1	30
Electric mach. tools	15	1,556	401	1,957
Insulated electric wire and cables	1	97	43	140
Electric batteries	1	16	7	23
Agriculture mach.	12	115	7	122
Engineering and construction machinery	1	4		4
Mining machinery	49	1,632	67	1,699
Paper manufacturing machinery	1	27	5	32
Chemical industry	12	1,134	44	1,178
Food products machinery	10	149	7	156
Other machinery	8	249	2	251
Cranes	10	628	111	739
Pumps	10	268	37	305
Hydraulic machinery	2	168	7	175
Weights				
Weights & measures	6	36	9	45
Gas & water meters	2	26		26
Medical instruments	4	33		33
Illumination				
Electric light bulbs	1	34	135	169

Restricted

Industry	Factories	Employees		Total
		Male	Female	
<b>MACHINERY &amp; TOOLS</b>				
Vehicles				
Bicycles	7	485	89	574
Other vehicles	3	325	90	415
Ship riggings	2	11		11
Money safes	1	2		2
Valves and corks	3	367	23	390
Pulleys & gears	6	123	2	125
Other machinery & tools	180	10,485	745	11,230
<b>CERAMICS</b>	125	4,757	1,484	6,241
Porcelainware	13	526	608	1,134
Glass & Glassware	18	959	43	1,001
Bricks & Fireproof	25	1,047	543	1,590
Roof tile	37	108	53	161
Cement	6	1,474	56	1,530
Cement products	14	399	112	511
Lime	9	49	30	79
Enameled ironware	3	196	39	235
<b>CHEMICAL</b>	116	16,885	4,383	21,268
Medicines	1	6	2	8
Industrial drugs				
Soda ash	1	398	36	434
Industrial drugs	12	2,071	85	2,156
Dyestuffs				
Synthetic Dyestuffs	4	8,276	58	8,334
Paints & Cosmetics	4	15	4	19
Soap & Toilet Articles	3	29	16	45
Explosives	8	238	629	867
Coal Tar extracts	11	316	63	379
Vegetable wax	5	67	3	70
Candle	2	11	43	54
Treated oils processing	1	112	18	130
Rubber products	3	1,692	2,653	4,345
Pulp	1	134	6	140
Paper	18	388	204	592
Fertilizer				
Animal matter	1	16	4	20
Mineral matter	5	2,272	207	2,479
Carbon products	2	32	11	43
Other chemicals	34	812	341	1,153
<b>LUMBERING &amp; WOODENWARE</b>	151	1,526	217	1,743
Lumbering	68	697	82	779
Woodenwares				
Furniture & Fixtures	29	203	7	210
Wooden boxes barrels	20	274	60	334
Other woodenwares	34	352	68	420

## Restricted

Industry	Factories	Employees		Total
		Male	Female	
PRINTING & BOOKBINDING	92	1,695	289	1,984
Printing	91	1,690	284	1,974
Bookbinding	1	5	5	10
FOOD PRODUCTS	454	6,025	1039	706
Brewing				
Native wines	245	3,710	17	3,727
Beer	2	262	113	375
Soy sauce bean paste	79	605	105	710
Soft drinks	20	60	93	153
Milling	4	132	11	143
Starch	1	1	3	4
Sugar	6	423	70	493
Sweetmeats, Breads	27	369	230	599
Canned goods	27	86	285	371
Livestock Products	2	14	2	16
Marine products	15	209	48	257
Tea processing	4			
Ice	16	97	1	98
Wheat flour	3	26	3	34
Other food products	3	31	53	84
GAS & ELECTRICITY	10	748	3	751
OTHER INDUSTRIES	101	1,751	5137	6,888
Paper products	11	105	293	398
Bamboo products	3	31	11	42
Straw and hemp products	1	2	9	11
Wheat, straw wood shavings	7	28	46	74
Buttons	6	39		39
Brush	1	4	5	9
Lacquer	3	38	6	44
Rope and twine	4	24	127	151
Sewing industry	42	1,234	4401	5,635
Hat mfg.				
Hats	3	13	15	28
Medical materails	2	7	74	81
Native style umbrellas	3	42	66	108
Footgear	1	1	5	6
Stone mason	3	9		9
Other products	11	174	79	253

3. Mining Employment.

In 1930 the Chikuho coal field (see Chapter III, E) employed 75,440 men and 21,164 women in mines using more than 50 workers. The corresponding figures for 1933 were 75,208 men and 7,969 women.

Restricted

## Restricted

4. Wage and Hours.

The wage scale in Fukuoka-ken was higher than that for most of Japan due to the skills required. As indicated in Table 14 the highest wages were paid to those engaged in the machinery and tool trades.

TABLE 14

## Wages &amp; Monthly Income, 1940, Fukuoka-ken

Occupation	Wage (in yen)	Working Days	Monthly Wage (in yen)
<b>Metal Industry</b>			
Flat furnace worker			
Casting worker	2.62	24.0	62.80
pressed steel worker			
Platers			
<b>Machinery &amp; Tools</b>			
Blacksmith	2.83	20.0	56.60
Woodform workers	2.48	23.0	57.00
Lathe operator	2.45	25.0	61.25
Milling Mach. operators			
Polisher			
Welder	2.48	28.0	69.40
Riveter			
Assembler	2.40	24.0	57.60
Finisher	2.42	24.0	58.00
<b>Ceramic Industry</b>			
Cement mfg. wker	2.42	26.0	62.90
Glass mfg. wker	2.00	25.0	50.00
<b>Food Products Mfg. Ind.</b>			
Wheat flour maker	1.94	25.0	48.50
Beer brewer	2.31	25.0	57.75
Sugar refiner	3.03	26.0	78.80
<b>Other industries</b>			
Lumber worker	2.15	23.0	
Type setter	2.04	27.0	55.10
Book mfg. (M)	2.36	28.0	66.10
Carriers (on land)	2.79	26.0	72.50

5. Employment Exchanges.

There were 13 branches of the National Labor Exchange in Fukuoka-ken. These were located in the following cities: Fukuoka-shi (2), Omuta-shi, Kurume-shi, Nogata-shi, Iizuka-shi, Yawata-shi, Kokura-shi, Moji-shi, Tobata-shi, Wakamatsu-shi, Tagawa-shi and Orio-machi. These exchanges have records

Restricted

of all employable persons with a history of their employment, their present occupation and a listing of their skills. In cities, towns and townships which do not have labor exchanges, these records will be found in the town hall or the city hall.

There are two other labor exchanges in this prefecture; one known as the North Kyushu Labor Exchange, and the other the North Kyushu Rodo. In addition to these there is a vocational guidance placement bureau in Fukuoka-shi.

## B. AGRICULTURE

### 1. Food Situation.

Including all sources, this prefecture is a deficit producing area based on the estimated Japanese national intake of 2,150 calories per capita per day. However, there is a surplus of wheat. Production of all foods provided a deficit of 200 to 1,000 calories per capita per day, in terms of average production for 1935, 1937, and 1939. The total deficit of foods produced in this prefecture, in terms of a caloric equivalent of brown rice, is estimated at 456 million pounds annually. Based on the national consumption estimate of 372 pounds per capita per year, this prefecture has a normal estimated deficit of 127 pounds per capita per year.

The aggregate annual production of foodstuffs in the prefecture, on a caloric basis, is estimated at 761 billion calories.

### 2. Agriculture in Relation to Physical Factors.

Fukuoka-ken has a growing season of from 200 to 210 days. (For information on temperature and rainfall, see Chapter I, D.)

### 3. Farm Organization and Methods.

a. Farm population. The number of farm households in this prefecture in 1939 was 139,765, or 2.5 percent of the nation's total. The average amount of cultivated land was 2.5 acres per household.

b. Land utilization. In 1939, the total amount of cultivated land in the prefecture was 350,000 acres, of which 257,000 acres, or 73 percent were used for rice growing.

The Fukuoka Plain, bordering Fukuoka-wan, and part of the Saga Plain, occupy a large part of the prefecture. There is more agricultural land, in proportion to the total area, than in most prefectures. Terraced paddy fields occupy the slopes bordering Saga Plain.

Rice is an extremely important crop in this prefecture, and an unusually large proportion of the total land area is devoted to rice production. In the northern part, about half of the land is used for growing rice, while in the southern part, about one-third of the area is rice land.

In the north, rice lands do not form a continuous solid block, but follow the river valleys. At the eastern end of the prefecture, a concentration of rice land surrounds Hachiya-

machi, and extends 8 miles to the southeast along the coast. The area has an average width of 6 miles. Another area, averaging 2 miles in width, nearly surrounds Yukuhashi-machi and extends north along the coast for a distance of 12 miles. A smaller area lies just to the south of Kokura-shi. Many isolated rice areas lying in river valleys, center around Ashiyamachi, Nogata-shi, Kawara-machi, Tagawa-shi, Iizuka-shi, and Okuma-machi, in the north central part of the prefecture.

In the northwestern part of the prefecture, in the region of Fukuoka-shi, about one-third of the land is used for rice growing. The areas in this district lie in the valleys of the many rivers emptying into the Japan Sea. The most important of these rivers are the Tatara-gawa, the Mikasa-gawa, and the Zuibaiji-gawa.

A large area of rice land is located in the valley of the Chikugo-gawa, which is about 8 miles wide at the coast and maintains this width for about 10 miles inland. From this point, it narrows as it approaches Kurume-shi. North and east of Kurume-shi, the ricelands take the shape of a rough triangle about 18 miles long and 12 miles deep.

c. Fertilizer requirements. Table 15 shows fertilizer requirements in Fukuoka-ken in 1930.

TABLE 15

Fertilizer Requirements, 1930, Fukuoka-ken.  
(in pounds per acre)

Crop	Nitrogen(N)	Phosphoric Acid(P <sub>2</sub> O <sub>5</sub> )	Potash(K <sub>2</sub> O)
Rice, paddy	81	78	95
Wheat	96	82	102

The allocation of fertilizers to prefectural fertilizer dealers and prefectural consumer cooperatives from 1 August 1939 to 31 July 1940 is shown in Table 16.

TABLE 16

Fertilizer Allotment, 1940, Fukuoka-ken.  
(in short tons)

Ammonium sulphate-----	55,489.7	short tons
Superphosphates-----	48,535.2	" "
Lime nitrogen-----	10,282.2	" "
Potash-----	3,102.9	" "

Figures for 1937 show a consumption of 826 short tons of sulphate of potash and 270 tons of muriate of potash. There

were 310,556 short tons of ammonium sulphate produced in the prefecture in 1938.

In 1940 agencies of the Japan Sulpha-Ammonia Corporation, first priority dealers, were located in 1 chome, Minato-cho, Moji-shi, 2 chome, Uchihama-cho, Moji-shi, Hamakoji-cho, Fukuoka-shi, Hon-cho, Fukushima-machi and Yame-gun, Minato-cho, Omuta-shi, Fuchibi-cho, Omuta-shi.

4. Crops.

a. Field crops. Rice is an extremely important crop in this prefecture. In 1939, a total of 257,000 acres, or 73 percent of the cultivated land, was devoted to rice culture. Production in 1939 was 358,500 short tons. In spite of this huge production, the prefecture does not produce enough rice to supply the needs of its large population. Wheat, ranking second among the grain crops, produced 126,256 short tons in 1939, or slightly more than a third of the rice for the same year. Barley and rye are also important grain crops. Production figures for rye are not available, but this crop occupied 46,197 acres in 1937.

Legume crops, including broad beans, soybeans, peas, kidney beans, and peanuts, occupied 12,024 acres in 1939. Production of legumes for that year was 7,115 short tons. (See table 17.)

The 1942 rice production of 347,099 short tons showed a decline of 13,965 tons from a 5-year average (1937-41). Statistics for 1923 showed different planting and harvesting dates for 2 important rice varieties. The Bantoshinriki variety, planted about 3 May, and harvested about 11 November, required a longer growing season than the Kairyoshinriki variety, planted about 15 May and harvested about 8 November. Stocks of rice in storage decline rapidly from spring to fall, as shown by the following figures for 1939:

Date	Rice in Storage (tons)
1 March	299,175
1 May	234,813
1 July	158,226
1 September	89,431
1 November	34,744

TABLE 17

Field Crops, Fukuoka-ken.

Crop	Av. prod.	1939 Acreage	1939	Est. prod.
	1935, '37, '39 (short tons)		Production (short tons)	1943-44 (short tons)
Rice *	362,510	257,000	358,500	355,000
Wheat	104,050	114,542	126,256	81,000
Barley	39,054	50,064	50,831	37,500
Naked	34,265	43,133	44,795	34,000
Common	4,789	6,931	6,036	3,500
Rye	---	46,197***	---	---
Broad beans	---	5,556	3,904	---
Soybeans	2,275	4,931	2,527	2,500
Buckwheat	---	2,402***	---	---
Millet	---	1,616	1,350	---
Foxtail	---	870	1,286	---
Proso	---	124	58	---
Barnyard	---	22	6	---
Peas	---	1,165	606	---
Kidney beans	---	365	67	---
Maize	---	107***	---	---
Oats	---	31	15	---
Peanuts	14	7	11	---

\* Rice production in 1942 was 347,099 tons or a decrease of 13,956 tons from a 5-year average (1937-41 inclusive).

\*\* 1936 figure

\*\*\* 1937 figure

b. Vegetables. As shown in Table 18, white radish was not only the leading crop from the standpoint of acreage in 1939 with 7,000 acres, but the production of 65,297 tons was more than double that of any other vegetable. Irish potatoes ranked second, with a production of 31,144 tons in 1939. Other vegetables of major importance in this prefecture are rape cabbage, sweet potatoes, and taro. In addition there were 9 vegetable crops which exceeded a production of 10 million pounds in 1939.

TABLE 18

Vegetables, Fukuoka-ken, 1936 & 1939.

Vegetable	1936	1939	1939
	Production (short tons)		
White radishes	66,709	6,979	65,297

Potatoes, Irish	31,925	5,717	31,144
Rape cabbage	---	3,226	27,497
Potatoes, sweet	30,965	5,975	22,496
Taro	23,550	4,009	19,476
Eggplant	9,885	1,994	10,746
Watermelons	13,615	1,375	10,566
Pumpkins	8,897	1,412	8,600
Cucumbers	6,880	1,302	8,210
Tomatoes	---	1,140	7,637
Mixed onions	7,935	1,165	7,443
Burdock	8,614	1,473	7,333
Turnips	---	875	5,278
Green onions	4,822	953	5,243
Cabbage	4,584	628	4,759
Lotus root	---	805	4,609
White cucumbers	---	546	3,443
Carrots	2,341	513	2,310
Cantaloupe	---	151	761

c. Fruits. Oranges and persimmons are the most important fruits in the prefecture. In 1939, oranges ranked first with a production of 13,705.0 tons. Over 73 percent of the oranges produced were of the mandarin type. In the same year, persimmon production totaled 9,984.0 tons. Japanese pears were fairly important, with a production of nearly 13 million pounds in 1939. Other fruits were of relatively minor importance. (See Table 19).

TABLE 19

Fruits, 1933 & 1939, Fukuoka-ken.  
(in short tons)

Fruit	1933 Production	1939 Production
Oranges	10,673	13,705
Mandarin	7,550	10,015
Bitter (Natsumikan)	2,472	2,945
Navel	650	744
Persimmons	13,252 *	9,984
Pears, Japanese	6,169	6,439
Grapes	2,892	3,293
Peaches	1,896	2,534
Citrus fruit (excl. oranges)	---	2,410
Plums	---	1,478
Loquats	---	929
Pears, foreign	70	33
Apples	24	30
Cherries	---	5

\* Does not include dried persimmons, of which there were 545.6 tons produced in 1933.

d. Industrial crops. Rape seed is the leading industrial crop in the prefecture. In 1939, this crop occupied 53,277 acres. Rape seed production figures are not available for 1939, but 495,030 hectoliters were produced in 1936. Silkworm production is fairly important, although the 1939 production of 4,151 tons of cocoons represented only 1.1 percent of the national total. In 1936, there were 23,353 families engaged in silkworm production.

Tea is a minor crop and the yield per acre is relatively low. The 2,899 acres occupied by tea in 1939 represented 2.9 percent of the national total, but the production of 668 tons in the same year was only 1.1 percent of the national total. In 1936, production of 4,425 short tons of rush, which is used for matting, indicates that this crop is relatively important.

Tobacco and sugar cane are produced in limited quantities. (See Table 20.)

TABLE 20

## Industrial Crops, Fukuoka-ken.

Crop	1936		1939	
	Production (short tons)	Acreage	Production (short tons)	Acreage
Rape seed	495,030*	53,277	---	---
Mulberry	---	12,652	4,151	---
Rush	4,425	---	---	---
Tea	---	2,899	668	---
Sugar	888***	---	---	---
Tobacco	367	627	---	---

\* Hectoliters

\*\* Cocoons

\*\*\* 1935, 1937, 1939 average production figure

5. Livestock.

As shown in Table 21, cattle increased in numbers in the prefecture from 1933 to 1939. They far exceeded in numbers any other type of livestock, except chickens and rabbits. A relatively small percentage of the cattle are kept for milk production. In 1936, there were 155 dairies with a total of 1,793 cows, or an average of 11.5 cows per dairy. There were 40 household, other than dairies, with a total of 259 head of milk cows.

The number of hogs showed a considerable decline from 1933 to 1939. During the same period, sheep and goats increased in numbers. Statistics for rabbits are not available

for 1933, but their number increased by nearly 9,000 from 1936 to 1939.

While statistics on poultry are not available for 1939, the importance of poultry is shown by the fact that there were over 2 million chickens in 1933 and only slightly less in 1936.

TABLE 21

## Livestock, Fukuoka-ken.

Type	Production (No. of head)		
	1933	1936	1939
Cattle, total	52,525	53,859	59,829
Cows	---	---	40,994
Oxen	---	---	18,835
Milk cows	1,720	2,052	---
Horses	39,473	39,458	---
Hogs	12,733	10,191	7,731
Goats	1,598	2,148	2,846
Sheep	39	70	871
Rabbits	---	48,442	57,411
Chickens	2,015,176	1,944,998	---
Ducks	32,540	40,221	---

6. Meat, Eggs, and Dairy Products.

Eggs were the most important animal product in the prefecture in 1936, with a production in excess of 110 million. Meat production is of minor importance. Only 4,073.1 tons of meat were produced from all cattle, horses and hogs slaughtered in 1936. (See Table 22.)

TABLE 22

## Meat, Eggs &amp; Dairy Products, 1936, Fukuoka-ken.

Product	1936	
	Head slaughtered	Quantity (short tons)
Cows	11,381	2,124.1
Hogs	13,418	1,017.6
Horses	5,950	856.5
Calves	738	74.9
Milk	---	5,070.2
Condensed milk	---	none
Butter	---	203.9
Butter, synthetic	---	79.4
Eggs (chicken)	---	110,785,000. (eggs)

7. Economic Position of the Farmer.

In 1939, of the total land cultivated in the prefecture, 166,000 acres, or 47.4 percent, were farmed by tenants. The average farm is small, as shown by the fact that 31.8 percent were of less than one-half hectare (1.235 acres), and 66.3 percent were of less than one hectare (2.471 acres) each in size, while only .0004 percent, or 60 farms, were larger than 5 hectares (12.3 acres). In 1936, out of 275,289 acres under paddy rice production, 142,791 acres, or 51.8 percent, were cultivated by tenants. The situation with regard to dry crops was more favorable. Of a total 76,568 acres of dry land crops, 28,668 acres, or only 37 percent, were cultivated by tenants.

Table 23 shows the amount of land tax by types of land in the prefecture for 1935. Over 50 percent of the total tax in that year was paid on paddy fields.

TABLE 23

## Land Taxes, 1937, Fukuoka-ken.

Type of land	Amount (in yen)
Rice fields	1,308,886
Dry fields	140,249
Homesites	797,128
Salt farms	308
Mineral springs	115
Marsh lands	880
Forests	34,275
Pasture lands	32
Uncultivated fields	8,676
Others	10,961
Total land taxes	2,301,510

8. Administration.

The following experiment stations, inspection stations and offices were engaged in agricultural work in the prefecture in 1938:

Agricultural Experiment Station	Kasuga-cho, Fukuoka-shi
Sericulture Laboratory	Ono-mura, Chikushi-gun
Sericultural Management Office	Hakozaki-machi, Fukuoka-shi
Grain Inspection Station	Fukuoka-shi, prefectural office
Moji Rice and Grain Office	Moji-shi
Poultry Breeding Farm	Dazaifu-machi, Chikushi-gun

(For information concerning agricultural schools and the offices of the Economics Department of the prefectural government, see Chapter V.)

## C. FISHERIES.

1. Production.

The average annual production of fish by Fukuoka-ken for the years 1935-39 was 176,586,000 pounds. This was 2.9 percent of the total production of Japan. The estimated production for 1943-44, adjusted for wartime changes was 141,000,000 pounds. The total value of the fisheries industry production in 1931-33 was 8,000,000 yen. Fish production in this prefecture is normally abundant to very abundant and furnishes a surplus for export to other provinces.

Table 24 gives the relative value of all coastal and fresh water fisheries products for 1936.

TABLE 24  
Fisheries Products, 1936, Fukuoka-ken.

Kind	Value (in thousand yen)
Sea. bream	494
Yellowtail	366
Horse mackerel	357
Sardines	311
Grey mullet	246
Macherel	244
Gilthead	----
Black sea bream	129
Flatfish	81
Tuna	56
Spanish mackerel	55
Eel	50
Flying fish	32
Fresh water trout	26
Bonito	20
Carp	19
Shark	9
Shellfish	
Shrimp, prawn	332
Squid	272
Lobster	
Octopus	217
Oysters	53
Clam	5
Seaweed	
Amanori	77
Hunori	8
Tengusa	23



Others

Total value	<u>1846</u>
	5,350

The value of deep sea fishing products in 1931 was 1,384,000 yen, and of processed fish products in the same year 2,309,5000 eyb. The total value of processed fish products in 1934 was 3,182,000 yen. Of this total, dried laver (hoshinoshi) came to 198,000 yen and dried sardines (maiwashi) 185,000 yens.

In 1936 there were 28,166 fishermen of whom 16,990 were full-time and 11,176 had fishing as a secondary occupation. In that year there were 6,625 fishing vessels, 1,932 of which had motors; of the latter 1,888 were gasoline operated and 44 were steam operated. Of the motorless boats, 4,649 were of less than 5 tons; 44 were between 5-20 tons.

## 2. Ports and Fishing Centers.

The following are the chief ports to which fish are delivered, and their chief products;

Tobata-shi; sardine, sea bream, mackerel

Moji-shi; sea bream

Imazu-mura; sea bream sardine yellowtail, mackerel, horse mackerel.

Suishima; sea bream, spanish mackerel

Fukuoka-shi and Tsuyazaki-machi are also listed as fishing ports.

Tobata is the main base port of the leading fish company of Japan, Japan Marine Products Co., (Nippon Suisan KK). The Amalgamated Fisheries Company, Kyodo Gyogya KK has offices located in Tobata between Yawata and Kokura on the Do-kai. This company was responsible for the construction of facilities and equipment that developed Tobata into a fishing port. (For further details on ports see Chapter IV,A, 3)

## 3. Coastal Fishing.

The sardine season occurs from December to April, but the main season is considered to be from February to April. One sardine spawning ground lies off the west coast of Kyushu. The majority of the aquatic products of this prefecture was taken in coastal waters.

## 4. Deep Sea Fishing.

In 1936, 76 steamship trawl fishing vessels were active in the East China and Yellow Seas (of 130° Long. and 25° N. Lat.)

The majority of these trawlers were based at Tobata. Six trawlers operated from Fukuoka-shi. To protect small village fishing, trawling is not permitted anywhere near the coasts and is carried on on the high seas only under strict licensing. The largest part of the trawl catch consists of creakers.

In 1932 the Kyodo Gyogyo had 6 trawlers of 300 tons and 42 trawlers of 200 tons. These operated in the Japan Sea, Chihili Gulf, Yellow Sea and Straits of Taiwan. The average catch per trawler was between 50 and 100 tons.

## 5. Processing.

Large freezing plants, belonging to Higashikane Company have been installed at Tobata to enable outlying districts to supply fresh fish to large urban markets. Other important processed fish products are dried laver (hoshinori) and dried sardine (maiwashi). In addition to these there were many other processed fish products. The Ariakikai Marine Food Canners Association is located at Okinohata-mura, Yamato-gun, Fukuoka-ken.

An agency of the Japan Whaling Company with its head office in Tokyo, was located in Fukuoka-ken. Whale meat obtained off Kyushu was sold chiefly in Tobata, Shimonoseki and Fukuoka-shi as well as in Osaka. The meat is marketed raw, canned, or corned.

## 6. Governmental Fishing Industry Activity.

There is a large Marine Fisheries Experimental station in Fukuoka-shi, Suzakiora-cho.

## D. FOREST RESOURCES.

1. Forest Land Area and Composition.

A relatively smaller proportion of the land area of Fukuoka-ken is in forest cover than is the case for the other prefectures in Kyushu. Probably less than one-fourth of the total is in large contiguous forest tracts. One such tract, located along the south border with Kumamoto-ken, consists mainly of temperate zone trees due to the high elevation. The other 2 stands lie along the Oita-ken border on the east and along the Saga-ken border on the west and are predominantly of semi-tropical broadleaved evergreen trees. Numerous small and scattered stands are found in the rougher lands throughout the prefecture, particularly on the eastern slopes. On the slopes facing west, grasslands generally provide the main cover. The important commercial timber species located in the prefecture are indicated in Table 25.

TABLE 25

Commercial Timber Trees,  
Fukuoka-ken.

Species	Japanese Name	Common Name	Uses
<i>Cinnamomum camphora</i>	Kuso	Camphor	Cabinets & camphor
<i>Buxus sempervirens</i>	Tsuge	Boxwood	Utensils & wooden-ware
<i>Quercus myrsinaefolia</i>	Kashi	Oak	Handles & furniture
<i>Zelkova acuminata</i>	Keyaki	-----	Woodwork, furniture, fuel
<i>Cryptomeria japonica</i>	Sugi	Cedar	High grade lumber
<i>Chamaecyparis obtusa</i>	Hinoki	Cypress	High grade lumber
<i>Pinus densiflora</i>	Akamatsu	Red Pine	Construction
<i>Pinus thunbergii</i>	Kuromatsu	Black Pine	Construction

2. Forest Administration and Management.

Large areas in Fukuoka-ken, amounting to about 38 percent of the total acreage are under public ownership, but the names and locations of public or Imperial forests are not available. It is likely that private forests are comparatively small in size and intermingles with public forests. One small national forest of 128 hectares is located near Fukuoka-shi and contains approximately 29,000 cubic meters of camphor timber. It apparently is more of a park than a commercial forest.

All forest land, public and private, is subject to ad-

ministrative controls of the Bureau of Forestry (Sanri-kyoku) of the Ministry of Agriculture and Commerce (Nosho-sho). A Forestry Administration Office is located in Kumamoto-shi for the whole island of Kyushu; this office, not only supervises management of all public lands, but enforces the basic forest law which applies to public and private lands alike. The enforcement of fire and cutting controls is handled by government forestry officials of the Forestry Administration Station. There is a forestry office in Nogata-shi, Monzen-cho. The selection system of management is generally applied to the hardwood and mixed stands except in those managed as fuelwood coppices. The coniferous stands have been managed under the shelterwood systems.

3. Forest Problems.

Fire presents only a slight danger to forests in Fukuoka even during the months of March and April when the forests are dry and hazards increase. Precipitation is abundant, so that only during dry years does danger develop. Intensive fire-protection systems maintain adequate fire control. Some damage results from floods, high winds, insects, disease and miscellaneous causes.

4. Forest Products.

Fukuoka-ken is one of Japan's lesser forest products sources in spite of the presence of some 85 sawmills with an output of nearly one percent of the national total. Rough timber products, including sawlogs, poles, piling, ties, etc. were valued at about 3.1 million yen. According to the 1930 census, 1,340 persons were engaged in forestry activities. Some fuelwood and charcoal is also produced from woods and mill waste as well as sprout growth; this amounted to about 1,200,000 yen in value.

Bamboo poles and shoots, bark for roofing, thatching, posts, poles, and camphor products are also of importance as forest products and byproducts.

Since the timber occurs mainly in steeper areas, logging is difficult. Very little mechanical equipment is used in the small tracts of this prefecture and no record is available to show the presence of logging railroads. It must be assumed that the more primitive methods of skidding and hauling by the use of hand power and carts are the rule.

## E. MINING.

Fukuoka is the most important coal mining and coal producing prefecture in Japan Proper, producing an estimated 47.5 percent of the coal mined in the country. Wartime expansion of coal production is believed to have been partially successful despite shortages of skilled miners, pit props, spare parts for mechanical equipment and new cutting and loading machines. Coal from Fukuoka-ken serves as the life blood of Japanese railroad and inter-coastal shipping, electric power plants and the varied industrial plants.

A small amount of copper, chrome and manganese ores is mined in the prefecture. A list of principal minerals found in Fukuoka-ken follows:

Mineral	Location
Andalusite	Kasuya-gun.
Chalcopyrite*	Nakakawachi mine, Yamada-mura, Kasuya-gun.
Chromite*	Daibu-mura, Kaho-gun.
Coal*	Chikuho, Fukuoka and Miike Fields.
Galena	Unknown
Gold*	Hoshino-mura, Yame-gun
Lepidolite	Miyako-gun
Limestone*	Unknown
Psolimelane*	Unknown
Pyrolusite*	Unknown
Pyrite*	Yamada-mura, Kasuya-gun
Scheelite	Sannoyama, Tagawa-gun
Silver	Hoshino-mura, Yame-gun
Tourmaline	Unknown

\* Commercially important.

See OSS map 7205 for location of mines mentioned in this chapter.

1. Non-ferrous Minerals.

a. Chromite. The Usagiyama mine (33°38'N, 130°35'E) in Daiou-mura, Kaho-gun, was a producer of chromite prior to 1932.

b. Copper. There are at least 4 small copper mines in Fukuoka-ken; the Nakawachi mine in Yamada-mura, Kasuya-gun (33°41'N, 130°32'E), the Saidosho mine in Saidosho-mura, Tagawa-gun (33°44'N, 130°51'E), the Shiraki mine in Ono-mura, Kasuya-gun (33°42'N, 130°32'E), and the Yoshikara mine in Chikushi-gun. No information on production at these mines is available.

c. Gold. In 1934, there were 161 gold mines reported in the prefecture, 30 of which were reported as being worked. The largest of these mines are reported to be in Hoshino-mura, Yame-gun (33° 14'N, 130° 48'E).

d. Manganese. The Imperial Manganese Company was reported as increasing manganese ore production in Fukuoka-ken in 1942.

2. Non-metallic Minerals.

a. Clay. The "Nankan" clay district is 4 miles northeast of Omuta-shi. Clay from this district is homogeneous soft plastic clay, found in beds 3 to 30 feet thick dipping at a 5° angle. Underground mining is necessary to recover the clay. The clay is used to make retorts for the Miike zinc retort plant of the Mitsui Kozan KK (Mitsui Mining Company) and for local pottery manufacture.

b. Sand. There is a large sand pit served by a feeder railroad of the Kobukuro RR in Kobukuro-machi, Kaho-gun.

3. Coal Fields. There are 2 major Japanese coal fields in Fukuoka-ken: the Chikuho field and the Miike field. Table 26 lists coal production of these two fields from 1934-1937.

TABLE 26

Coal production, Chikuho and Miike Fields, Fukuoka-ken.

Year	Production(short tons)
1934 (78 largest mines )	21,400,798
1935 (91 largest mines)	22,763,058
1936 (48 largest mines)	22,579,627
1937 (6 months. 46 largest mines)	14,061,513

a. Chikuho Field. This coal field covers an area of about 290 square miles in Manakata, Onga, Kurate, Kaho, and Tagawa guns, and is drained by the Onga-gawa and its tributaries. Development of the field has been rapid because of the availability of labor and supplies, the temperate climate and the location of the field close to deep-water ports. The great industrial plants attracted to locations near the field have greatly increased the demand for coal.

As many as 20 coal seams have been found. Mineable seams vary from 1 to 15 feet in thickness. Chikuho coal is bituminous and in general non-coking, but some mines produce a poor coking coal. It averages 45.8 percent fixed carbon, and 42.9 percent volatile matter. There are 9,300 to 13,100 British Thermal Units per pound and 5,170 to 7,300 calories per kilogram.

Coal Production costs in the field are given in Table 27.

TABLE 27  
Production Costs, Chikuho Coal, 1929, Fukuoka-ken.  
(per metric ton)

Item	Yen
Labor in mine	2.20
Surface labor	1.00
Supplies	1.00
Power	.80
Overhead *	.80
Taxes	.70
Total	6.50 **

\* Includes interest on 24.00 yen investment per ton of coal mined.

\*\* Add 1.10 yen per metric ton for railroad freight for 27.8 mile (average) haul to seaport.

The following is a list of coal mines in the Chikuho Field, arranged alphabetically by gun and by name of mine. Name of owners follows location. All production figures are in short tons. Items 134-174 give data on mines whose locations in the prefecture are not known.

ASAKURA-GUN

1. Nakazaki. 33°24'N, 130° 52'E. Hoshuyama-mura. Transportation by road.

CHIKUSHI-GUN

2. Hayami. 33° 34'N, 130° 31'E. Ono-mura. Near Hakatawan railroad Line.

3. Katsuta-tanko. 33° 33'N, 130° 33'E. Ono-mura. Mitsubishi Mng. Co. Production: 1936, 290,000; 1940, about 290,000; plan to increase to about 725,000 short tons. Improvements under way (1940). Near station at end of Hakatawan Railroad Line.

4. Otani-tanko. 33° 33'N, 130° 31'E. Ono-mura. Otani Coal Mining Co. Production: 1943, 141,561; 1935, 161,498; 1936, 155,922; 1937, 208,032. Served by Hakatawan Railroad Line.

FUKUOKA-SHI

5. Imajiku. 33° 35'N, 130° 16'E. Imajiku, Fukuoka-shi. Intelligence of August, 1944 states mine at Imajiku seems active.

KAHO-GUN

6. Chinzei. 33° 38'N, 130° 37'E. Chinzei-mura. Jinroku Watanabe. Production; 1934, 20,100; 1935, 18,200. Location is in doubt. Assumed to be located in Chinzei-mura.

7. Futase. 33° 39'N, 130° 40'E. Futase-machi. Nippon Steel Co. Production: 1934, 951,928; 1935, 1,020,342; 1936, 1,070,273; 1937, 1,024,336. Poor coking; used for coking. Served by Kobukuro Railroad Line.

8. Gongendo. 33° 42'N, 130° 43'E. Kaita-mura. Feeder railroad connects with Kurata tramway.

9. Haji. 33° 34' N, 130° 41'E. Katsuragawa-machi. Feeder railroad connects with Chikuho Main Line.

10. Iba. 33° 34 'N, 130° 44'E. Yamada-machi. Served by Chikuho Main Line.

11. Iizuka. 33° 37'N, 130° 41'E. Honami-mura. Iizuka Mng. Co. Production: 1934, 612,000; 1935, 588,000; 1936, 654,000; 1937, 745,000. Bituminous. Served by Chikuho Main Line.

12. Inatsuki. 33° 36'N, 130° 42'E. Inatsuki-mura. Nippon Seitetsu Co. Production: 1934, 182,000; 1935, 200,000; 1936, 299,000; 1937, 248,000. Good coking. Served by connecting railroads to Kobukuro Railroad Line.

13. Inohana. 33° 34'N, 130° 46'E. Yamada-machi. Hisatsume Mng. Co. Production; 1934, 1,010,000; 1935, 1,190,000; 1936, 1,810,000; 1937, 1,160,000. Feeder railroad to Chikuho Main Line. Company was capitalized in March, 1920 with 5,000,000 yen to exploit the Shitsuo Coal Mine. Later extended activities to the Inohana Mine.

14. Iwasaki. 33° 36'N, 130° 43'E. Inatsuki-mura. Shige-yoshi Kiso. Production: 1934, 142,000; 1935, 102,000. Spur railroad to Iizuka-shi.

15. Kaho. Kamihonami-mura. Kaho Mng. Co. Production, 1934, 294,000; 1935, 342,000; 1936, 350,000; 1937, 362,000.

16. Kakinokida. 33° 36'N, 130° 41'E. Honami-mura. Served by Chikuho Main Line.

17. Kamoo. 33° 36'N, 130° 44'E. Railroad served mine.

18. Kashiwamori. 33° 38'N, 130° 43'E. Spur railroad to Chikuho Main Line.

19. Kawamiya.  $33^{\circ} 41'N, 130^{\circ} 41'E$ . Kaita-mura. Served by Sangyo Line.
20. Kiuraki.  $33^{\circ} 42' N, 130^{\circ} 44'E$ . Kaita-mura. Feeder railroad to Ida Railroad Line.
21. Kumagahata.  $33^{\circ} 33' N, 130^{\circ} 47'E$ . Yamada-machi. Feeder railroad to Chikuho Main Line.
22. Kurota.  $33^{\circ} 36'N, 130^{\circ} 44'E$ . Yamada-machi. Served by Chikuho Main Line.
23. Kuwano. Kaita-mura. Production: 1937, 5,000. Quality fourth grade. Adjoins Venno mine to north. Observations made during 1938-42 indicate about 5,000 short tons of fourth grade coal per year at that time. Belonged to a cooperative known as Kotoge Kogyosho. (See Oda Colliery, No. 118.)
24. Mameta (Maineda?)  $33^{\circ} 35'N, 130^{\circ} 39'E$ . Katsuragawa-machi. Aso Shoten Co. Production: 1934, 188,000; 1935, 203,000; 1936 220,000; 1937, 218,000. Quality: slightly coking. 11,600 BTU. Spur railroad to Chikuho Main Line. 1,318,775 tsubo
25. Motoshiharu.  $33^{\circ} 34' N, 130^{\circ} 38'E$ . Daibu-mura. Mikasatanko. Served by Muroki Railroad Line.
26. Matsuo. Kaita-mura. Production: 1937, 5,000. Quality sixth grade. 3000 meters N.W. of Takeuchi Mine. Observations made during 1938-42 indicate about 5000 short tons of sixth grade bituminous coal per year production at that time. Belonged to a cooperative known as Kotoge Kogyosho. ( See Oda Colliery, No. 118.)
27. Nakakago.  $33^{\circ} 35' N, 130^{\circ} 44'E$ . Inatsuki-mura. Road to railroad. Power line to mine.
28. Nakatsuru.  $33^{\circ} 40'N, 130^{\circ} 41'E$ . Kobukuro-machi. Taisho Mng. Co. Production: 1934, 66,000; 1935, 705,000; 1936, 816,000; 1937, 790,000. Quality: 11,400 BTU. (See Arate mine No. 52.) regarding location. Further information on Nakatsuru places it in Nakama-machi, Onga-gun. PW interrogation source quoted under Arate states: 1,000 workers at Nakatsuru #1. 2 sloping pits and 2 shafts. 88 workers at Nakatsuru #2. 2 sloping pits, both subject to flooding; electric pumps operated 24 hours a day. Power supplied from an outside source. Another more reliable source states that the most modern equipment is used.
29. (Name of mine unknown)  $33^{\circ} 39'N, 130^{\circ} 40'E$ . Futasemachi. Nakano Co.

30. Namazuta.  $33^{\circ} 40'N, 130^{\circ} 42'E$ . Kaita-mura. Mitsubishi Kogyo KK Procution: 1934, 791,000; 1935, 804,000; 1936, 843,000; 1937, 849,000. Quality: non-coking, 12,600 BTU. Served by Kobukuro Railroad Line.
31. Nishishakano.  $33^{\circ} 41'N, 130^{\circ} 37'E$ . Kobukuro-machi. Taisho Mng. Co. Production: 1937, 780,000. Location in doubt, assumed to be near Shakano. Road to railroad.
32. Okuma.  $33^{\circ} 33'N, 130^{\circ} 45'E$ . Okuma-machi. Kanamari Ng. Co. Production: 1934, 41,400; 1935, 51,900. Served by Chikuho Main Line.
33. Onoura. (Onodani )  $33^{\circ} 31'N, 130^{\circ} 46'E$ . Ashishiro-mura. Kaijima Coal Mng. Co. Production: 1934, 1,465,000; 1935, 1,490,000; 1936, 1,640,000; 1937, 1,850,000. Quality: high grade. Assumed to be at Onodani.
34. Oshiro.  $33^{\circ} 42'N, 130^{\circ} 44'E$ . Kaita-mura. Railroad to Nogata-shi.
35. Sasawara.  $33^{\circ} 33' N, 130^{\circ} 42' E$ . Usui-mura. Kyushu Coal Mng. Co. Quality: high grade gas coal, 12,000 BTU. Formerly operated by the Taikei Kogyo under which management considerable trouble with flooding encountered. New management overcame the trouble, and the Niide Main shaft and Niide #3 shaft were active (1943). Ogigaura, a new shaft, was sunk in 1941. November 1942 production was valued 380,000 yen. A special electric railway was built and operated connecting to the Chikuho Main Line.
36. Shimo-Ushinokuma.  $33^{\circ} 34'N, 130^{\circ} 44' E$ . Yamada-machi. Feeder railroad to Chikuho Main Line.
37. Shimo-Yamada.  $33^{\circ} 34' N, 130^{\circ} 45' E$ . Yamada-machi. Furukawa Coal Mng. Co. Production: 1934, 340,000; 1935, 362,000; 1936, 338,000; 1937, 306,000. Quality: 12,500 BTU. Feeder railway to Chikuho Main Line.
38. Shirakae.  $33^{\circ} 32' N, 130^{\circ} 47' E$ . Yamada-machi. Feeder railway to Chikuho Main Line.
39. Shirokado.  $33^{\circ} 36' N, 130^{\circ} 43' E$ . Inatsuki-mura. Railroad spur to Iizuka-shi.
40. Shoji.  $33^{\circ} 40' N, 130^{\circ} 40' E$ . Kobukuro-machi. Kiyoshi Saikawa Shoji Mng. Co. Production: 1934. 19,900; 1935, 24,800. Road to Kobukuro Railroad Line.

41. Shonaiyin.  $33^{\circ} 41' N, 130^{\circ} 37' E$ . Aike. Production; 1937, 15,000. Quality: fifth grade. Northeast of Watanabe colliery. Observations made in 1938-42 indicate about 15,000 short tons of fifth grade coal per year at that time. Belonged to a cooperative known as Kotoge Kogyosho. (See Oda Colliery, No. 118.)

42. Tadakuma.  $33^{\circ} 39' N, 130^{\circ} 41' E$ . Honami-mura. Sumitomo Coal Mining Co. Production: 1934, 455,000; 1935, 482,000; 1936, 492,000; 1937, 471,000. Quality: Coking 11,700 BTU. Served by Chikuho Main Line. Power line to mine.

43. Tagawa.  $33^{\circ} 38' N, 130^{\circ} 40' E$ . Honami-mura. Mitsui Mng. Co. Production: 1934, 1,270,000; 1935, 1,325,000; 1936, 1,510,000; 1937, 1,860,000. Quality: Gas coal 12,000 to 13,100 BTU. Two mines about 1.2 miles apart. Uses for the coal from Tagawa mine include naval fuel, producer gas manufacture for steel industry, ceramics, and cement manufacturing. Employees total 9,300, including 2,090 miners (1937). Average production per miner was  $4\frac{1}{2}$  tons, working 70 percent of the time. Extensive workman's dormitories were built.

44. Takarabe-Shakano.  $33^{\circ} 40' N, 130^{\circ} 42' E$ . Kaita-mura. Takarabe Shoten Co. Production: 1935, 15,800. Served by Kobukuro Main Line.

45. Tsunawaki.  $33^{\circ} 38' N, 130^{\circ} 44' E$ . Shonai-mura. Aso Shoten Co. Production, 1934, 500,000; 1935, 497,000; 1936, 475,000. Served by a spur railroad to the Chikuho Main Line. Power line to mine.

46. Urushio.  $33^{\circ} 35' N, 130^{\circ} 45' E$ . Yamada-machi. Hisatsune Mng. Co. Production: 1934, 126,500; 1935, 116,000; 1936, 117,000; 1937, 123,000. Feeder railroad to Kobukuro Railroad Line.

47. Usui.  $33^{\circ} 33' N, 130^{\circ} 43' E$ . Usui-mura. Road to Chikuho Main Line.

48. Yamada.  $33^{\circ} 35' N, 130^{\circ} 44' E$ . Yamada-machi. Yamada Coal Mng. Co. Production 1934, 180,000; 1935, 231,000; 1936, 292,000; 1937, 313,000. Feeder railroad to Iizuka-shi. Power line to mine.

49. Yamano.  $33^{\circ} 36' N, 130^{\circ} 43' E$ . Mitsui Kozan KK Production: 1934, 611,000; 1935, 706,000; 1936, 789,000; 1937, 1,090,000. Quality: Bituminous, 1,280 BTU. Served by Chikuho Main Line. Power line to mine.

50. Wakabashi (Wakabayashi?)  $33^{\circ} 35' N, 130^{\circ} 37' E$ . Daibumura. Served by railroad spur to Chikuho Main Line.

51. Yoshikuma.  $33^{\circ} 35' N, 130^{\circ} 41' E$ . Katsuragawa-machi. Aso Shoten Co. Production: 1934, 225,000; 1935, 243,000; 1936, 272,000; 1937, 322,000. Quality: Coking, 11,700 BTU. Served by Chikuho Main Line. Power Line to mine. Area: 2,091, 726 tsubo.

## KASUYA-GUN

52. Arate. Seto-mura. Yeheikobayashi. Production: 1934, 149,500; 1935, 155,000; 1936, 143,000; 1937, 156,000. Only information is contained in a P W interrogation report which contains many conflicts. Report states Arate mine is 2 miles south of Nakama railroad Station, near Nakazuru. Collieries #1 & 2, and 4 miles north of Katsuki-machi. Report places Nakama Station at the intersection of a single-track railroad, and a double-track railroad between Nogata-shi and Orio-machi in a known coal mining region. Stated to employ 300 men. Two sloping pits. Subject to flooding and operates electric pumps on a 24 hour basis. Power supplied by transmission lines from power plant  $\frac{1}{4}$  mile north of Nakama Station. Served by a 6-mile single track railroad spur extending from Nakama-machi to Katsuki-machi.

53. Asahi.  $33^{\circ} 40' N, 130^{\circ} 37' E$ . Kotake-machi. Production: 1937, 24,000?; Quality: high grade. About 7 miles south of Asahi-Tanko. (See No. 71.) Twenty small mines. Employed 1,000 workers, 20 of whom were women. One 10-hour shift. A sloping pit 600 feet long by  $5\frac{1}{2}$  feet high with smaller tunnels branching off at the far end to the coal runs which are said to be about 2 feet thick. Pit props of pine were spaced at 5-10 feet intervals. All mining, including drilling, blasting and loading was manual. There were only 4 narrow-gauge mine cars. These cars were hauled to the large metal bin by electricity. Coal was transported from the bin to the rail head by 3 wheeled gasoline-driven motorcycles over a 500 meter motor road to the railhead. It was then deposited on a conveyor belt where sorting was done by 40 women who put the graded coal into chutes which dumped it into waiting railway cars. Electric power is available.

54. Hirao.  $33^{\circ} 35' N, 130^{\circ} 28' E$ . Shime-machi. Road to Fukuoka-shi and to Chikuzen Sangu Railroad Line.

55. Kaigun-Shimhami.  $33^{\circ} 34' N, 130^{\circ} 31' E$ . Sue-mura. Navy Coal Mine. Production: 1934, 510,000; 1935, 567,000; 1936, 595,000; 1937, 556,000. 3 mile road to Hakatawan Railroad Line.

56. Kasue.  $33^{\circ} 35' N, 130^{\circ} 31' E$ . Sue-mura. Road to Hakatawan Railroad Line.

Restricted

57. Katsuta-tanko.  $33^{\circ} 33' N, 130^{\circ} 33' E$ . Ono-mura. Mitsubishi Kogyo. Production: 1937, 240,000. Served by Hakatawan Railroad Line. Improvements were being made in 1940 when yearly output was about 264,000 short tons. It was planned to increase output to 725,000 short tons.

58. Kido.  $33^{\circ} 37' N, 130^{\circ} 34' E$ . Seto-mura. Kido Coal Mng. Co. Production: 1934, 149,000; 1935, 184,000; 1936, 232,000; 1937, 482,000. Road to Sasaguri-machi. Bituminous coal.

59. Kubara.  $33^{\circ} 39' N, 130^{\circ} 31' E$ . Kubara-mura. Served by a feeder railroad to Sasaguri Railroad Line.

60. Minamizato.  $33^{\circ} 36' N, 130^{\circ} 28' E$ . Shime-machi. Served by road to Chikuzen Sangu Railroad Line.

61. Mokota.  $33^{\circ} 34' N, 130^{\circ} 29' E$ . Shime-machi. Served by road to Chikuzen Sangu Railroad Line.

62. Otouche.  $33^{\circ} 36' N, 130^{\circ} 30' E$ . Sue-mura. Served by Hakatawan Railroad Line.

63. Sakaida.  $33^{\circ} 35' N, 130^{\circ} 30' E$ . Sue-mura. Served by Chikuzen Sangu Railroad Line.

64. Sasaguri-tanko.  $33^{\circ} 36' N, 130^{\circ} 32' E$ . Seto-mura. Sasaguri Coal Mng. Co. Production: 1934, 20,600. Served by a road to Sasaguri Railroad Line. Power line at Sasaguri-machi.

65. Shinayashiki.  $33^{\circ} 35' N, 130^{\circ} 28' E$ . Shime-machi. Served by Chikuzen Sangu Railroad Line.

66. Sue.  $33^{\circ} 38' E$ . Sue-mura. Served by Hakatawan Railroad Line.

67. Takada.  $33^{\circ} 38' N, 130^{\circ} 31' E$ . Kubara-mura. Meiji Mng. Co. Production: 1934, 264,000; 1935, 278,000; 1936, 273,000; 1937, 306,000. Quality: 12,300 BTU. Served by feeder railroad to Sasaguri Railroad Line. Bituminous coal. 3,495,306 tsubo.

68. Tanaka.  $33^{\circ} 37' N, 130^{\circ} 31' E$ . Served by Sasaguri Railroad Line.

69. Ueki.  $33^{\circ} 36' N, 130^{\circ} 30' E$ . Sue-mura. Served by road to Hakatawan Railroad Line.

70. Yoshinara.  $33^{\circ} 34' N, 130^{\circ} 30' E$ . Tadami-machi. Served by Chikuzen Sangu Railroad Line.

Restricted

Restricted

KURATE-GUN

71. Asahi-tanko.  $33^{\circ} 46' N, 130^{\circ} 39' E$ . Nishikawa-mura. Served by Muroki Railroad Line.

72. Furokawa-shakano.  $33^{\circ} 48' N, 130^{\circ} 39' E$ . Nishikawa-mura. Furokawa Coal Mng. Co. Production: 1934, 344,000; 1935, 331,000; 1936, 356,000; 1937, 378,000. Motor road to coast.

73. Kaijima.  $33^{\circ} 42' N, 130^{\circ} 40' E$ . Miyata-machi. Kaijima Mng. Co., a subsidiary of Kaijima Gormi Kaisha. A gassy mine. Served by Kobukuro Railroad Line. Kaijima Coal Mng. Co. has its main office in Shimonoseki-shi, in Yamaguchi-ken. This company is known for progressive employer-employee relationships, and has established company schools, hospitals and amusements at the mines, and a Mines Safety Research Bureau.

74. Kirinootanko.  $33^{\circ} 42' N, 130^{\circ} 39' E$ . Miyata-machi.

75. Kotaki.  $33^{\circ} 41' N, 130^{\circ} 43' E$ . Kotake-machi. Jitaro Aoyagi. Production: 1934, 16,400; 1935, 13,800. Served by Kobukuro Railroad Line.

76. Mikasa-tanko.  $33^{\circ} 45' N, 130^{\circ} 39' E$ . Kasamatsu-mura.

77. Miseya.  $33^{\circ} 34' N, 130^{\circ} 43' E$ . Kotake-machi. Served by a feeder railroad to Kurate Tramway.

78. Muroki-tanko.  $33^{\circ} 44' N, 130^{\circ} 39' E$ . Kasamatsu-mura. Served by feeder railroad line to Kurate Tramways.

79. Nakaizuma.  $33^{\circ} 43' N, 130^{\circ} 44' E$ . Kotake-machi. Served by Ida Railroad Line.

80. Seibu.  $33^{\circ} 42' N, 130^{\circ} 41' E$ . Kotake-machi. Koga Colliery Co. Ltd. Said to have an excellent organization and equipment and to produce superior coal amounting to 70 percent of Koga Colliery Co's production. Served by feeder railroad to Kobukuro Railroad Line.

81. Shakano-o.  $33^{\circ} 42' N, 130^{\circ} 41' E$ . Koga Colliery Co. Ltd. This mine was developed in 1896. Is one of several managed by Koga Colliery Co.

82. Sensui.  $33^{\circ} 47' N, 130^{\circ} 39' E$ . Nishikawa-mura. Served by a railroad to the coast.

Restricted

83. Shinda Colliery.  $33^{\circ} 46' N, 130^{\circ} 39' E$ . Nishikawa-mura. Sugawara Kogyo Goshi Kaisha, established in 1935 by Makoto Sugawara, also operates the Yamashiro Colliery at Yamashiro-machi, Nishimatsuura-gun, Saga-ken.

84. Shirogashiro-tanko.  $33^{\circ} 41' N, 130^{\circ} 42' E$ . Kotake-machi. Feeder railroad line to Kobukuro Railroad Line.

85. Shodani.  $33^{\circ} 44' N, 130^{\circ} 40' E$ . Wakamiya-machi. Served by road to Kurate Tramways

86. Sugamuta-tanko.  $33^{\circ} 42' N, 130^{\circ} 41' E$ . Miyata-machi. Served by feeder railroad to Kurate Tramway.

87. Takarabe-komatsu.  $33^{\circ} 47' N, 130^{\circ} 36' E$ . Kasamatsu-mura. Takarabe-Shoten Co. Served by Muroki Railroad Line. Production: 1935, 12,900.

## MUNAKATA-GUN

88. Ikeda.  $33^{\circ} 31' N, 130^{\circ} 33' E$ . Ikeno-mura. Kihara Mng. Co. Transportation appears to be by road. Location is in doubt. Production: 1935, 62,000.

89. Tsuji.  $33^{\circ} 52' N, 130^{\circ} E$ . Misaki-mura. Kijima Mng. Co. Production: 1937, 480,000. Transportation appears to be by road. Location is in doubt.

90. Ebitsu.  $33^{\circ} 49' N, 130^{\circ} 38' E$ . Yoshitake-mura. Kamamari Mng. Co. Production: 1934, 80,500, 1935, 69,500. Served by feeder railroad to the north.

## ONGA-GUN

91. Futajima. Nissan Coal Mines. Said to be a very large coal mine consisting of four mines all connected underground by a conveyor belt by which coal is conveyed direct to the Nissan Coal Liquefaction Plant at Futajima.

92. Hirayama.  $33^{\circ} 52' N, 130^{\circ} 34' E$ . Okagaki-mura. Hirayama Mng. Co. Production: 1934, 256,000; 1935, 270,000; 1936, 329,000; 1937, 309,000. Transportation appears to be by road. Location is in doubt.

93. Kasuya. Mizumaki-machi. Nippon Coal Mng. Co. Production: 1934, 141,000; 1935, 149,000; 1936, 198,000; 1937, 205,000.

94. Miyoshi. Miyoshi Mng. Co. This company started coal mining along the Onga-kawa in 1904 and opened another mine, the No. 2 Miyoshi, in 1910. Then absorbed the Takamatsu mine and took over several neighboring small mines. It does business in cooperation with the Igimi Mng. Co. It is capitalized at 2,000,000 yen, fully paid up (1934). Miyoshi Co. is reported to hold 3,672, 888 tsubo in the Wakamatsu district and to have 22,259,000 tsubo still undeveloped (1932). Production was 695,000 short tons in 1933. Coal from Miyoshi went to Osaka, Nagoya, and Tokyo.

95. Takamatsu Colliery. Mizumaki-machi. Nissan Kagako Kogyo. Production: 1934, 436,000; 1935, 419,000; 1936, 500,000; 1937, 515,000. Quality good grade. The coal produced by this colliery to be used as material for liquid fuel and to be operated by Nissan Liquid Fuel Co. which is estimated to produce 10,000 hectoliters of gasoline annually (1939).

## SAWARA-GUN (and FUKUOKA-SHI)

96. Fukuoka. Fukuoka-shi. Sawara Mng. Co. Production: 1937, 289,000. Quality: excellent. The property extends from Nishishimmachi and Hamamachi to Ikimura, Fukuoka-shi. Sawara Co. first operated in 1914 as the Meihama Mng. Co. and reorganized in 1929 as the present company. Work is done by a combination of very modern machinery and hand work, women doing much of the manual labor. The working day is 11 hours at 90 sen per day. A tunnel was being driven to mine coal under Fukuoka-wan (Hakatan) (1940). Coal is said to be of excellent quality, hard and suitable for boilers.

97. Sawara. Sawara Mng. Co. Production: 1934, 334,000; 1935, 355,000; 1936, 360,000, 1937, 360,000. (See Fukuoka mine, No. 96.) Other than the discrepancies in production, there is no evidence as to whether Sawara mine and Fukuoka mine are separate mines owned by the same company or the same mine. They are both owned by Sawara Mng. Co.

98. Torikai.  $33^{\circ} 34' N, 130^{\circ} 22' E$ . Fukuoka-shi. Served by the Hokuchiku Railroad Line.

99. Hiyoshi.  $33^{\circ} 35' N, 130^{\circ} 26' E$ . Fukuoka-shi. Kyodo Coal Co. Production: 1934, 41,800; 1935, 36,000. Served by the Kagoshima Main Line.

## TAGAWA-GUN

100. Akaike.  $33^{\circ} 41' N, 130^{\circ} 46' E$ . Akaike-machi. Meiji Mng. Co. Production: 1934, 453,000; 1935, 430,000; 1936, 412,000; 1937, 528,000. Served by the Ida Railroad Line.



101. Aramaki. Akaike-machi. Quality: Fourth grade. Observations made between 1934 and 1938 state 250 persons were employed. 5000 meters northeast of Shonaigin mine.

102. (Name unknown). Kawasaki-machi. Furukawa Kogyo KK. Production: 1937, 300,000. Company also operates Furukawa-Shukano (No. 72) in Kurate-gun. Employed 3,000 workers and produced an average of 800 metric tons per day (1942). Coal is hauled in cars to electric trams and shunted to railway yards. Nippon Seitetsu KK is the mine's main customer.

103. Higashi Kawasaki. 33° 36' N, 130° 49' E. Kawasaki-machi. Served by road to Miyatoko.

104. Hojo. 33° 41' N, 130° 48' E. Hojo-mura. Mitsubishi Kogyo KK. Production: 1934, 430,000; 1935, 470,000; 1936, 525,000; 1937, 588,000. Quality: Non-coking, 13,000 BTU. Served by the Ida Railroad Line. Electric Power plant at the mine. Controls 3,948,546 tsubo.

105. Hokoku. 33° 39' N, 130° 47' E. Kaneda-machi. Meiji Mng. Co. Production: 1934, 592,000; 1935, 531,000; 1936, 555,000; 1937, 556,000. Served by Sangyo Line.

106. Ikejiri. 33° 36' N, 130° 48' E. Kawasaki-machi. Served by Miyatoko Railroad Line.

107. Itomachi. 33° 37' N, 130° 47' E. Iigane-mura. Torao Aibe. Production: 1934, 21,000. Assumed to be same as Ito mine. Served by road to Miyatoko Railroad Line.

108. Itotabi. 33° 39' N, 130° 50' E. Magarikane-mura. Shukichi Ota. Production: 1935, 91,000. Served by feeder railroad to Ida Railroad Line.

109. Kamiyamada. 33° 33' N, 130° 46' E. Akaike-machi. Hashigami Mng. Co. Production: 1934, 109,000; 1935, 111,000. Served by Ida Railroad Line.

110. Kamiyama. 33° 40' N, 130° 47' E. Akaike-machi. Hashigami Mng. Co. Production: 1934, 109,000; 1935, 110,000. Served by the Ida Railroad Line.

111. Kigyokomatsu. 33° 38' N, 130° 48' E. Kawasaki-machi. Kyushu Mng. Co. Production: 1934, 52,000; 1935, 100,000; 1937, 161,000. Served by Ida Railroad Line.

112. Kihara-Kawasaki. 33° 36' N, 130° 50' E. Kawasaki-machi. Minejiro Kihara. Production: 1935, 21,400. Served by Miyatoko Railroad Line.

113. Kurauchi. 33° 34' N, 130° 52' E. Soeda-machi. Kurauchi Kogyo KK. Production: 1937, 550,000. Quality: good. Main office is at Soeda-machi, Tagawa-gun. The mines are along the Hikoyama-gawa, measure 4 kilometers in length and extend over 3 towns. 2600 people were employed and 500,000 metric tons of good quality coal was produced in 1936.

114. Miyao. 33° 39' N, 130° 51' E. Magarikane-mura. Miyao Mng. Co. Production: 1934, 97,400; 1935, 84,000. Served by the Kokura Railroad Line.

115. Miyatoko. 33° 39' N, 130° 47' E. Kaneda-machi. Served by the Sangyo Line.

116. Moriasu. 33° 37' N, 130° 48' E. Kawasaki-machi. Served by the Miyatoko Railroad Line.

117. Nakatsubara. Magarikane-mura. Nakatsubara Kogyo KK. Production: 1934, 18,000; 1935, 24,000. Company is located in Magarikane-mura. Its 270,000-tsubo coal deposit in the Nakatsubara district had 2 shafts in operation and one scheduled to be in operation soon (1939). Also operates in Kaho-gun.

118. Oda. 33° 41' N, 130° 46' E. Akaike-machi. Production: 1941, 10,000. Quality: second and third grade. This mine with 15 other small mines in the vicinity belonged to a cooperative known as Kotoge Kogyosho of Kaita-mura, Hako-gun. Oda produced 10,000 short tons in 1941. Of this, 4,000 were second grade product of the Oda washing plant. There was only one sloping pit 1,500 feet long and 6-7 feet high, at the lower end of which radiated smaller pits. Coal was blasted from 3½ feet, cleaned and loaded into small mine cars. Cars were tipped automatically into two bins. Trucks drew from these bins and hauled over four Km of asphalt road to a loading platform from which a 500-meter railway spur connected to the Ida Line at a point equidistant between Akaike-machi and Kaneda-machi Stations. The small washing plant was located 3000 meters southwest of the pit entrance. The colliery had an electric substation and power was supplied by public utilities company for use in hauling, lighting the main pit, and operation of ventilating fans in the mine. As there was no water problem, pumps were not used. There were 70 employees, of which 20 were women, working one shift from 0800 to 1500, six days a week.

119. Omine. 33° 35' N, 130° 50' E. Daito-mura. Kurouchi Mng. Co. Production: 1934, 226,000; 1935, 244,000; 1936, 278,000; 1937, 267,000. Served by the Miyatoko Railroad Line.

120. Oyaba. 33° 48' N, 130° 38' E. Kaneda-machi. Served by the Sangyo Line.

121. Shichikubaru. 33° 39' N, 130° 51' E. Magarikane-mura. Served by the Tagawa Railroad Line.

122. Shimadai. 33° 36' N, 130° 51' E. Daito-mura. Served by the Miyatoko Railroad Line.

123. Shin-Itotabi. 33° 39' N, 130° 50' E. Kaneda-machi. Asatarokakudo. Production: 1937, 147,000. Served by the Kokura Railroad Line.

124. Sho. 33° 34' N, 130° 51' E. Kawasaki-machi. Served by Miyatoko Railroad Line.

125. Soeda. 33° 35' N, 130° 51' E. Kawasaki-machi. Served by Miyatoko Railroad Line.

126. Takeuchi. Akaike-machi. Production: 1937, 7,000?. Quality: fourth grade. Located a few thousand meters northeast of Watanabe mine. Observations made between 1938 and 1942 indicate about 7,000 tons of fourth grade bituminous coal per year at that time. Belonged to a cooperative known as Kotoge Kogyosho. (See Oda Colliery, No. 118.)

127. Tanigawa. 33° 40' N, 130° 46' E. Kaneda-machi. Served by the road to Sangyo Line.

128. Veno. Akaike-machi. Production: 1937, 7,000. Quality: Third grade. Located a short distance west of Ikeda No. 1. Observations between 1938-42, indicate about 7,000 tons a year of third grade bituminous coal at that time. Belonged to a cooperative known as Kotoge Kogyosho. (See Oda No. 118.)

129. Yagashira. Akaike-machi. Located about 5,000 meters northeast of Shonaiyin Mine. Employed about 250 people. One of a group of 15 small mines which belonged, with Oda (See 118.) to a cooperative known as Kotoge Kogyosho.

130. Yasukawa. Akaike-machi. Quality: Second grade and fourth grade. Unreliable information states: Situated at the southern end of the 500-meter double-tracked railway spur serving the Oda Colliery's loading platform (See No. 118). Conflicting information on production states: 4,400 underground workers produced only 100,000 tons in 1941; 3,500 miners produced over 3,000,000 tons in 1941, or three tons per day per worker, on a 300-day year. Yasukawa mines are 4 in number. Electrically operated cutters and blasting used in all pits. Cutters cut the coal to a height of one foot above the floor and to a depth of 2 feet. Electric drills bored 1½-inch holes. Pit 3 used electric detonators while pits 1, 2, & 4 used fuzes. Informant stated it

was customary to blast 3 times in an 8-hour shift. Coal was hand-shoveled into an electrically operated link conveyor which emptied into 7/10-ton coal cars underground. Pit No. 1 had a 150-foot vertical shaft with 2 cages which were used to transport workers to and from the small tunnels below. Pit No. 1 had a 2,100-foot sloping pit, at the end of which radiated 4 or 5 smaller tunnels ranging in length from 50 to 100 feet by 6 feet. Mines 2 to 4 had sloping pits of about 1,800 feet by 7 feet. Each tunnel was equipped with narrow gauge (19") tracks; electric wiring, lighting and pumps. At the point where the smaller tunnels converged was located an electrically operated hoist. When each 14 mine cars were loaded in the smaller tunnels, they were hauled to this point, from which the primary hoist hauled them to the surface. The primary hoist could handle 22 empty cars on the descent. Each pit was equipped with "snail" type pumps manufactured by Hidate Tekkosho and the pump motors (HP not known) were manufactured by Yasukawa Tekkosho (both located at Tobata-shi, Fukuoka-ken). Pits 1 and 2 were equipped with 7 or 8 pumps; pit 3 had twice that number, due to continued threat of flooding; and pit 4, being little affected by water, had only one or 2 pumps. When cars reached the surface they were rolled down hill to an "endless" (?) which bodily lifted up each car and moved it to the coal-loading platform where the coal was dumped into chutes according to grades and then dumped into railway cars for shipment via a 500-meter double-tracked spur through Akaike-machi to Wakamutsu-shi. Other buildings included a mine car repair shop, electrical repair works, forge and machine shop. Power is obtained from the power plant in Akaike-machi about 50 meters west of the Ongawa.

Conflicting sources indicate 4,400 underground workers, 3,500 miners and 1,000 Japanese and 4,000 Korean workers in 1942. Collieries 1, 2 and 4 worked 2 11-hour shifts, whereas No. 3 worked 3 8-hour shifts. Miners worked in groups of 9 to 11 men, 4 to 6 of which were assigned to drilling and blasting and 5 to each electric cutter. Grades of bituminous coal, as well as height of seams, varies according to pits. No's 1, 2, and 3 were all fourth grade with heights of 5 feet, 4 feet, and 8 feet respectively. Pit 4 produced second grade coal from a seam having a height of only 2 feet. Explosions and cave-ins caused work stoppages of from a week to 2 weeks each year. In 1941 a fire in pit 1 caused a shut-down of 2 weeks, and an explosion in pit 3 took 83 lives. Accidents limit the working year to about 300 days.

## YAMATO-GUN

131. Takao. 33° 07' N, 130° 26' E. Nippon Kogyo KK. Production: 1936, 200,000.

132. Yamato. 33° 09' N, 130° 30' E. Yamato-mura. Sajuro Sugimoto. Production: 1935, 44,500.

## YAME-GUN

133. Taio. Yabe-mura. Kuhara Mng. Co.

## LOCATION NOT KNOWN

134. Aida. Chozaburo Akiyama. Production: 1934, 90,500; 1935, 87,000; 1937, 113,000. Quality: Weak coking. 11,900-12,500 BTU.

135. Akiyoshi. Owner: Tagomori Mng. Co. Production: 1935, 13,500.

136. Atago. Owner: Kama Mng. Co. Production: 1934, 29,300; 1935, 67,000.

137. Chorei. Owner: Takamatsu Nakajima. Production: 1934, 74,300; 1935, 121,000; 1936, 99,700.

138. Fukasaka. Owner: Sukizo Iwasaki, Fukasaka Coal Mng. Co. Production: 1935, 106,500; 1936, 129,300; 1937, 77,500.

139. Genno. Tagamori Mng. Co. Production: 1934, 57,200; 1935, 35,100.

140. Gongenyama. Gongenyama Coal Mng. Co. Production: 1935, 19,200.

141. Hommiyao. Shigeo Ueno. Production: 1936, 19,600; 1937, 34,600.

142. Hojusan. Hojusan Mng. Co. Productions: 1935, 46,200; 1936, 53,600.

143. Hoshu. Nogami Mng. Co. Sandai Fukuda. Production: 1934, 138,000; 1935, 123,500; 1936, 132,100; 1937, 137,000.

144. Inahana. Owner: Sadao Hisatsuna. Production: 1937, 198,500.

145. Kaharu. Kaharu Mng. Co. Production: 1934, 45,400; 1935, 18,400.

146. Kameyama. Taho Coal Mng. Co. Production: 1934, 185,000; 1935, 191,000; 1936, 184,200; 1937, 110,500 for the first part of the year. Quality: Non-coking. 11,800-12,900 BTU.

147. Kanda. Makoto Sugawara. Production: 1934, 47,600; 1935, 55,600; May be at Kanda-machi, 133° 47' E, 131° 00' N., Miyako-gun.

148. Katsubara, Chikayoshi Akimoto. Production: 1935, 24,000.

149. Kijio (Kijo). Takamatsu Nakajima. Production: 1934, 77,600; 1935, 93,600.

150. Koyanose. Chikoku Mng & Ry Co. Kyushu Mng. Co. Production: 1934, 150,000; 1935, 148,000; 1936, 183,000; 1937, 219,000. May be at Koyanose-machi, 33° 46' N, 130° 44' E, Kurate-gun.

151. Kurate. Kanamaru Mng. Co. Production: 1935, 16,400.

152. Maoka. Okazake Kyodo Co. Production: 1935, 21,700.

153. Meiji. Meiji Mng. Co. Production: 1934, 51,500; 1935, 44,300; 1937, 225,000. Quality: Weak coking, 9,300-12,200 BTU.

154. Midori. Kanamari Mng. Co. Production: 1934, 69,500; 1935, 75,000.

155. Minechi. Kurauchi Mng. Co. Production: 1934, 294,000; 1935, 296,000; 1936, 514,000.

156. Momotachi. Sanzao Matsuo. Production, 1935, 11,000.

157. Namae. Takeo Iwasaki. Production: 1935, 38,700.

158. Ominae Bunko. Kurauchi Mng. Co. Production: 1934, 26,300; 1935, 24,800.

159. Omine-Sanko. Kurauchi Mng. Co. Production: 1934, 193,000; 1935, 177,500; 1936, 170,000.

160. Otsuji. Kaijima Coal Mng. Co. Production: 1934, 425,000; 1935, 422,000; 1936, 480,000; 1937, 280,000 for the first six months of the year. Poor coking. 11,010 to 12,300 BTU.

161. Saisho Kogyosho. Meiji Mng. Co.
162. Shikishima. Isaburo Amagasaki. Production: 1934, 26,600; 1935, 26,700.
163. Shinnyu. Mitsubishi Mng. Co. Production: 1934, 445,000; 1935, 455,000; 1936, 470,000; 1937, 524,000. Non-coking. 12,600 BTU.
164. Shinshakanou. Fujii Mng. Co. Production: 1934, 42,000; 1935, 52,500.
165. Shintakae. Yuhei Kobayashi. Production: 1935, 25,400.
166. Showa. Tokumatsu Nakajima. Production: 1934, 183,000; 1935, 232,000; 1936, 224,000; 1937, 116,000 for the first six months of the year.
167. Taisei. Fujii Mng. Co. Production: 1934, 95,000; 1935, 84,000.
168. Takae. Takae Coal Mng. Co. Production: 1934, 26,600; 1935, 21,500.
169. Takao. Kanamari Mng. Co. Production: 1934, 26,600.
170. Takao. Nippon Coal Mng. Co. Production: 1936, 200,000.
171. Tsukushi. Yoshiro Fukundai. Production: 1934, 159,000; 1935, 207,000; 1936, 187,000; 1937, 179,000.
172. Tsukushi. Yoshiro Fukundai. Production: 1934, 17,100; 1935, 17,500.
173. Umenoki. Nippon Coal Mng. Co. Production: 1934, 123,000; 1935, 135,000; 1936, 132,000.
174. Yokoshima. Meiji Mng. Co. Production: 1935, 14,3000.
175. Yoshinoya mine. New pit (1943) 6-foot beds at 15-16 feet underground.

b. The Miike Field. The Miike field lies in Omuta-shi, Miike-gun, and Yamato-gun in the extreme southwest corner of the prefecture and extends into Kumamoto-ken. That section of the Miike field which lies in Fukuoka-ken has five mines, including the recently opened Mikawa mine. The Miike field, owned by Mitsui Kozan KK, is the only major field in Japan where ownership and production are directed by a single company.

The Miike field is approximately 11 miles long, north and south, (along and under the Ariake-wan) and 5 miles wide east and west. Of the 8 coal seams found in the field, only 2 are mineable. They occur in the Omuta beds of the Komenoyama sedimentary series. The highest or "Miike seam" averages 8 feet in thickness and has been extensively mined. Six to 10 feet below the Miike seam is the "second seam" 5 feet in thickness, which is also mined. Structurally the field is simple, with the coal-bearing beds dipping 5 to 10 degrees southwest. Many faults with small displacements are found underground.

The field is delimited on the east by granite ridges, to the south-west, down dip, the coal seams extend beneath the borrom of Ariake-wan. In 1912 the field had a proven area of ten square miles and actual reserves of 66,000,000 short tons of coal. In the same year the probable reserves were 770,000,000 short tons in a 70 square mile area.

Coal from the field is poor coking bituminous, but has at times been used in coke ovens. A large tonnage was formerly used for bunker fuel. Reliable reports indicate that the coal being mined is becoming more powdery and of lower grade. Table 28 gives an analysis of the coal.

TABLE 28

Miike Coal Analysis, 1913, Fukuoka-ken.

Constituent	Percentage
Water	0.66
Volatile matter	41.74
Fixed carbon	45.24
Ash	9.36
Sulphur	3.64
Calories per kilogram:	7,460
British thermal units per pound:	12,300 to 13,427

Coal mined per year is shown in Table 29 below:

TABLE 29

Miike Coal Production, 1934-1937, Fukuoka-ken.

Year	(short tons)	(average tons per day)
1934	2,560,000	7,000
1935	2,722,000	7,460
1936	2,900,000	7,940
1937	3,175,000	8,700

All reports indicate a continued increase in annual production. A new mine, the Mikawa, see below, was reported as being placed in operation in 1943. Production from this mine should more than offset the decline in production from the eastern section of the field which has virtually been worked out.

Coal from all mines in the field except the Yotsuyama Mine (Kumamoto-ken) and possibly the Mikawa mine is hauled by electric trains to a coal washing plant in Omuta-shi.

(1) Miyanoura Mine. Coal mines in the field include the Miyanoura Mine in Omuta-shi, located on the main coal field railroad in the field. The mine is developed by a 2 compartment vertical shaft having a reinforced concrete headframe. No coal is hoisted through this shaft but it is used as an air and supply shaft.

(2) Kattochi Mine. The Kattochi mine, also in Omuta-shi, is the most eastern mine in the field. It is reported that this mine has been worked out.

(3) Mikawa Mine. The newest mine in the field, the Mikawa mine, was reported placed in operation in 1943. The mine is located in Miike-gun, in the west central part of the field.

4. Mining Administration.

The headquarters for the Kyushu district of the Munitions Ministry (Gunju-sho) is located in Fukuoka-shi. All Japanese government mining laws and regulations covering mining districts and individual mines in Fukuoka, Oita, Saga, Nagasaki, Kumamoto, Kagoshima, Miyazaki and Yamaguchi prefectures are enforced through the Fukuoka-shi office. Mine maps, production records and mining reports covering all mines in the district are maintained at district headquarters. The Japanese Government owns and operates a coal mine Experiment Station in Nogata-shi. At the station "permissible" type coal mining equipment is tested and approved. Studies are made of the causes of coal mine explosions and the methods to be used to prevent explosions.

F. MANUFACTURING

Fukuoka-ken is one of the 5 most highly industrialized prefectures in Japan. It has good ports giving access to raw materials of the Asiatic mainland and other parts of Japan, and a well-developed transportation system allowing the chief industrial centers of the prefecture, Yawata, Tobata, Kokura, Moji, Fukuoka, and Omuta, to tap the extensive coal deposits and other resources of Kyushu.

In 1938 Fukuoka-ken ranked fourth among the prefectures of Japan in the value of production from non-government factories with 5 or more operatives, (Table 30). Production from government factories and from other unreported items, such as war materiel, may have been so great as to merit a higher ranking for this prefecture.

TABLE 30

Principal Manufactures, 1938, Fukuoka-ken,  
(in non-government plants employing 5 or more persons)

Industry	Value (millions of yen)	(Rank among prefec- tures)	Percent of value of total manufactures Japan Proper Fukuoka-ken Plants		
Ore & metal processing	978.7	1	21.9	58.2	188
Chemicals	372.2	3	10.1	22.2	116
Food processing	108.4	6	6.1	6.4	454
Machinery & tools	84.5	6	2.3	5.0	361
Ceramics	58.7	2	13.8	3.4	125
Textile	30.0	27	*	1.7	212
Printing	17.5	3	6.4	1.0	92
Lumber & wooden ware	5.6	20	1.2	*	151
Other	30.4	6	4.4	1.8	101
Total	1,685.9	4	8.7	100.0	1,800

\* Less than one percent.

At Yawata and Tobata Japan built its first modern integrated steel plant and associated coke ovens and since then the area has become Japan's Pittsburgh. It is the outstanding modern source not only of iron and steel products, but also of the products of allied industries, particularly chemicals, cement, and glass coke production, and other coal processing provides fuel for the steel furnaces; and the by products are used as the raw materials for important chemical output. Blast furnace slay, coal, and limestone, the major material requirements of cement producers are in good supply. The availability

of raw material, including fuel, encouraged Fukuoka-ken to become Japan's outstanding producer of window and plate glass and in 1938 her second largest producer by value of ceramics and firebrick.

Fukuoka-ken is outstanding among the prefectures in the manufacture of primary metal products, especially of iron and steel. Production of machine tools, machinery parts, and finished equipment and ordnance items is not on the same scale as that of the raw metal and semi-finished goods, but the prefecture nevertheless ranks sixth in the production of these commodities.

The 1938 value of food processing in Fukuoka-ken did not compare with metal and chemical production, but it did represent the third largest group of manufactured products in the prefecture, and placed the prefecture sixth in Japan in this category. Fukuoka-ken was third in 1938 in value of printing industry products and sixth for miscellaneous manufactured products.

Fukuoka-ken's smaller communities have become increasingly active in manufacturing, especially of light finished goods and war material. Small scale manufacturing in Japan is not satisfactorily measured by available statistics. The 1936 value of manufactures from shops with less than 5 workers in Fukuoka-shi was reported to be nearly 50 million yen, or nearly 27 percent of the city's total for that year. These shops in 1936 employed a reported 21,374 persons or over half the city's workers engaged in manufacturing. Somewhat in contrast, Moji-shi shops with less than 5 workers had a 1937 output valued at nearly 76 million yen, or 4.4 percent of the city's total manufactures, and employed 10,076 workers, or nearly 16 percent of the total engaged in manufacturing.

#### 1. Food Products.

In 1938, the output of food and beverage processing industries was valued at 108,364,399 yen, which was 6 percent of the 1938 total value of processed foods produced in Japan proper, and over 6 percent of the total industrial output of the prefecture. Moji-shi was the principal food processing center in the prefecture and ranked eighth among the cities of Japan in output of food products in 1938. However, Fukuoka-shi and some of the other cities in the prefecture also had important food products industries.

In 1938, the major industries in this group, in order of importance, were breweries and distilleries, sugar mills, and flour mills, (see Table 31.) Also of importance in the pref-

ecture, but of less importance in terms of total value of production, were soy and confectionery products. The production of both alcoholic beverages and sugar refining has been curtailed during the present war.

The 247 breweries and distilleries reported in 1938 accounted for 7 percent of the value of alcoholic beverages produced in Japan in that year. The 1938 value reported for refined sake was 60 percent of the value of all alcoholic beverages produced in Fukuoka-ken and accounted for 6 percent of the value of national sake production. The best rice for sake brewing, however, is not grown in this prefecture. The largest breweries were the 2 German-type plants, on the Sakura Biiru KK located in Moji-shi, and the other the Dai Nippon Biiru KK in Fukuoka-shi. Both are nation-wide concerns with breweries in other parts of Japan and on the Asiatic continent. They accounted for nearly 11 percent of the beer production of Japan proper.

Formerly Fukuoka-ken led all other prefectures in sugar refining. In 1938 its 6 refineries produced over 95 million hectolitres of refined sugar. Principal plants were the 2 at Moji of the Dai Nippon Seito KK and the Meiji Seito KK at Tebata.

Third in importance among food processing industries in Fukuoka-ken in 1938 was flour milling, which produced 8 percent of Japan's total 1938 flour output. There are 4 large mills of which the Tofu Seifun KK Company at Fukuoka-shi is the largest. The other large mills are: Kitoku Seifun KK at Fukuoka-shi, the Nippon Seifun KK at Moji-shi, and the Nisshin Seifun KK at Kokura-shi.

Fukuoka ranks third among the prefectures in manufactured ice: 162,891 metric tons in 1938, which was 8 percent of the total production of manufactured ice in Japan proper that year.

Of the 27 establishments reported as engaged in production of confectionery and bakery products, only one produced bakery products. Eight plants produced mizu-ame, which is a honey-like product used as a syrup and also as candy. The remaining 18 plants produced various kinds of candy.

Twenty-seven canneries are located in the prefecture. They can fruits and vegetables and, to a lesser extent, beef, mackerel and whale meat. The names and locations of only 3 of these canneries are available. An association of canners, the Ariake-kai Marine Food Canners Association, is located in Akinohata-mura, Yamato-gun. There is a branch factory of the Oriental Can Co. in Tobata-shi.

Other small industries in the prefecture are: salt manufacture (from sea water); liquor dregs (a by-product of brewing and distilling industries); vinegar; sauces and condiments; tea processing; wheat flour products such as vermicelli and macaroni.

TABLE 31

## Food Products Industries, 1938, Fukuoka-ken.

Industry	Plants	Value (thousand yen)
Breweries & distilleries	247	42,286
Sugar mills	6	29,338
Flour & feed mills	4	19,197
Confectioneries & bakery products	27	4,986
Soy sauce, pastes & vinegar plants	79	4,556
Canning	27	1,982
Marine products (not including canned fish)	15	1,482
Soft drink plants	20	1,012
Ice manufacturing plants	16	976
Other (inc. liquor dregs, livestock & dairy products, wheat flour processing, etc.)	13	2,549
<b>Total</b>	<b>454</b>	<b>108,364</b>

2. Textiles.

While this prefecture has the largest textile production on Kyushu, it represent only a small part of Japan's total production. In 1938 there were 212 textile plants employing 5 or more persons, of which the main categories were: 9 silk reelers, 8 silk throwsters, 4 cotton spinners, 142 weavers, 13 knit goods manufacturers, and 36 miscellaneous plants. The value of production was ¥30,049,116 or almost one percent of that of Japan Proper.

The most important plants were the 4 branch plants of the Kanegafuchi Boseki KK, which has headquarters in Tokyo. According to recent information, the Fukuoka-shi (Hakata) plant has been converted to aircraft, the Kurume plant was sold to the Japan Tire Co., and the Omura-shi (Miike) plant was sold to Mitsui Kozan KK. No details are available regarding the fourth branch.

Textile production in 1938 in terms of value is shown in Table 32.

TABLE 32

## Textile Production, 1938, Fukuoka-ken.

Type	Value (in yen)
Cotton yarn	11,488,002
Cotton fabrics	6,233,645
Raw silk	4,432,147
Silk fabrics	2,997,576
Cotton batting	2,832,728
Dyeing and finishing	1,337,929
Thrown silk	583,140
Staple fibre yarn	558,101
Knit goods	383,877

3. Chemicals.

Chemical production is of great importance in Fukuoka-ken. Industrial chemicals, fertilizers, rubber goods, and dyes and intermediates account for the largest yen values among chemical products. Raw materials for much of the chemical production is derived from the coking of coal. The coking process yields gas, light oil, and tar, from which are produced hundreds of compounds including explosives pharmaceuticals, dyestuffs, synthetic rubber, varnishes, lacquers, plastics, and antiseptics. The coke produced is used principally in the smelting of iron but serves also as a raw material for the production of synthetic petroleum.

Fukuoka-ken is a large producer of sulphuric acid. The largest use of this product is in the manufacture of fertilizer. Two of the 5 large dye intermediate plants of Japan are located in the prefecture. These are Nippon Soka Kogyo KK at Yawata-shi and Mitsui Kozan KK at Omura-shi.

The yen values of production for principal chemical products in 1938 are shown in Table 33.

TABLE 33

## Chemical Products, 1938, Fukuoka-ken.

Products	Value (in million yen)
Industrial chemicals: (includes important percentages of sulphuric acid, soda ash, caustic soda, bicarbonate of soda, calcium, carbide oxygen, hydrogen, chlorine, naphthelene, salicylic acid.)	91.0
Coke	96.5

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Products	Value (in million yen)
Miscellaneous chemicals	57.5
Fertilizers, (largely ammonium sulphate)	52.7
Rubber goods, (largely tires & shoes)	27.5
Dyestuffs & intermediates	18.0
Vegetable, animal & manufactured oils, (largely rape seed & soy bean oil)	13.3
Paper & pulp	7.0
Soap, about 4 percent of Japan's laundry soap	1.4
Other	7.3
<b>Total</b>	<b>372.2</b>

The importance of the production of certain key chemicals in Fukuoka-ken is shown in Table 34.

TABLE 34

Selected Chemicals, 1935-1939 average, Fukuoka-ken.

Product	Percent of total production for Japan
Benzene	91
Toluene	58
Synthetic oil	7
Rubber	15
Dyes	34
Intermediates	25
Calcium cyanamide	30

The location and importance of the 3 principal coke-producing plants in the prefecture are given in Table 35.

TABLE 35

Coke Producing Plants, 1944 Estimated, Fukuoka-ken.

Plant	Rank among coke plants in Japan	Percent of coke production in Japan (est. 1944)
Nippon Seitetsu KK (Yawata-Tobata)	1	33.2
Nippon Kasei Kogyo KK (Yawata-Tobata)	3	6.3
Mitsui Kozan KK (Omuta-shi)	4	6.3

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TABLE 36  
Iron, Steel, & Steel Product Capacity, 1944\*, Fukuoka-ken.  
(in thousand of metric tons)

Area and Company	Section A		Total
	Pig	Iron (rated**)	
<b>Fukuoka-ken</b>			
Nippon Kogyo, Hachiya-machi, Chikujio-gun	---	---	---
Fujikoshi Kozai Kogyo (formerly Kyushu Tokushu Tokushuko) Kokura-shi	---	---	---
Kokura-Seiko, Kokura-shi	256	---	256
Tokai Kogyo, Wakamatsu-shi	---	---	---
Nippon Seitetsu, Tobata-shi	214	---	214
Nippon Seitetsu, Yawata-shi	1,965	---	1,965
Prefectural total	2,435	---	2,435
Kyushu total	2,435	---	2,435
Japan Proper total	8,312	362	8,674
Japanese-controlled areas, total	13,332	922	14,254



Section B.

Company and Area	Steel furnace capacity****			Total
	Open hearth	Electric	Bessemer	
<b>Fukuoka-ken</b>				
Nippon Kogyo, Hachiya-machi, Chikujo-gun	---	---	---	---
<b>Fujikoshi Kozai</b>				
Kogyo (formerly Kyushu Tokushu Tokushuko) Kokura-shi	---	2	---	2
Kokura Seiko, Kokura-shi	243	13	---	256
Tokai Kogyo, Wakamatsu-shi	---	---	---	---
Nippon Seitetsu, Tobata-shi	---	---	---	---
Nippon Seitetsu, Yawata-shi	2,795	90	260	3,145
Prefectural total	3,038	105	260	3,403
Kyushu total	3,087	220	260	3,567
Japan Proper total	9,921	1,952	760	12,633
Japanese-controlled areas, total	12,234	2,332	760	15,326

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Section C

Company and Area	Rolled steel products						Total rolled steel products
	Rails, structural shapes	Plates	Sheets, strip, tinfoil	Bars, rods, wire rods	Pipes, Tubes	Misc.	
<b>Fukuoka-ken</b>							
Nippon Kogyo, Hachiya-machi, Chikujo-gun	---	4	24	---	---	---	28
<b>Fujikoshi Kozaki</b>							
Kogyo (formerly Kyushu Tokushu Tokushuko) Kokura-shi	---	---	---	---	---	---	---
Kokura Seiko, Kokura-shi	120	---	---	313	---	---	433
Tokai Kogyo, Wakamatsu-shi	45	47	---	---	---	---	92
Nippon Seitetsu, Tobata-shi	---	100	300	---	---	---	400
Nippon Seitetsu, Yawata-shi	606	430	150	631	---	60	1,877
Prefectural total	771	581	474	944	---	60	2,830
Kyushu total	771	656	474	944	---	60	2,905
Japan Proper total	1,583	2,491	1,487	3,123	411	525	9,620
Japanese-controlled areas, total	1,959	2,631	1,537	3,361	491	530	10,509

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\* Capacity figures are believed to be minimum estimates of the potential output. Some estimates are based on data 6 or more years old.

\*\* Rated iron capacity is based on full operation for a 365-day year. Allowances for maintenance and operational factors are not made.

\*\*\* Includes sponge iron and output of electric furnaces and equipment other than blast furnaces.

\*\*\*\*Capacity of equipment assuming adequate raw material supplies.

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4. Ore and Metal Processing.

Metal and metal products have been the most valuable manufactures of Japanese industry, in 1938 exceeding the value of chemicals, the second major group, by 800 million yen. Fukuoka-ken was Japan's most important producer of iron and steel. In 1938 its production of all metals was valued at 867 million yen, or 27.3 percent of the reported value of all metal produced in Japan proper. Table 36 shows the relative position of Fukuoka-ken in Japan in iron, steel, and product capacities.

Iron, steel, and rolled steel production capacity was 28, 27, and 29 percent respectively of the total for Japan proper and included nearly all the capacity on Kyushu.

a. Nippon Seitetsu KK Yawata Plant. The most important Fukuoka-ken factory group and largest industrial establishment in Japan is the Yawata plant of the Nippon Seitetsu KK (Japan Iron Manufacturing Company). The Yawata plant is the largest fully integrated iron and steel mill in Japan. Its employees have been reported to number 16,604 persons as shown in Table 37. All the mills of this company had an estimated nearly 42, over 43, and over 37 percent, respectively, of the iron, steel, and rolled steel product capacity in Japan proper in 1944.

TABLE 37

Iron, Steel, & Steel Product Capacity, 1944\*,  
Nippon Seitetsu Plants.  
(in thousand of metric tons)

Location of plants, (Japan proper only)	Rated iron**	Steel furnace capacity***	Rolled steel products
Yawata-shi	1,965	3,145	1,877
Hiro-mura	730	800	550
Muroran	1,171	664	200****
Kamaishi	537	619	425
Tobata-shi	214		400
Kawasaki-shi		81	68
Osaka-shi		187	172
Total Nippon Seitetsu	3,617	5,496	3,692
Percent of Japan proper	42 (-)	43 (+)	37 (+)
Japan proper (all companies)	8,674	12,633	9,620

\* Capacity figures are believed to be minimum estimates of the potential output. Some estimates are based on data 6 or more years old.

\*\* Rated iron capacity is based on full operation for a 365-day year. Includes pig iron and sponge iron.

\*\*\* Capacity of equipment assuming adequate raw material supplies.

\*\*\*\* Primary rolled steel capacity was estimated at 500,000 metric tons, but 200,000 tons only for secondary rolled products.

This steel plant has depended on imported iron ore, chiefly from Korea, China, the Phillipines and Indo-China. The approximately 2,000,000 metric tons of coal used per year have moved by rail from mines in the nearby Chikugo field.

(1) Pig iron. The reported iron production from the blast furnace in 1934 was 1,148,000 short tons; in 1935, 1,205,000 short tons; and in 1936, 1,462,000 short tons. The estimated annual capacity at the end of 1944 was 2,160,000 short tons.

Available data on number and capacity of blast furnaces at the Yawata plant are shown in Table 38.

TABLE 38

Blast Furnaces, Iron Production Capacity  
Yawata Iron Works, 1936-38, Fukuoka-ken.  
(Capacity (in short tons))

Number	Per day		Annually (total, each capacity)*
	(each)	(total)	
1	770	770	271,000
1	550	550	200,000
2	440	880	321,000
1	460	460	168,000
1	390	390	140,000
1	360	360	132,000
1	320	320	114,500
2	1,000	2,000	803,000

\* Installed by 1936, except last 2 which were installed by 1938.

(2) Steel. The Yawata Works 1936 open hearth steel production\* (from an unknown number of hearths) was reported as 2,290,000 short tons of ingots. An estimated annual open hearth capacity of 3,060,000 short tons of ingot steel was reached in 1942. This was after a continued expansion beyond the 1937 addition of five 120-ton furnaces. By 1937-38 there were 40 to 50 open hearths installed.

\*Production of one metric ton of Japanese steel in 1939 required 451 kg. of pig iron or hot metal; 616 kg. of scrap; 204 kg. of coal; 105 kg. of limestone; 59 kg. of iron ore; 10 kg. of manganese ore; 3 kg. of coke; and 3 kg. of fluor-spar.

This works had two 12-ton capacity Bessemer converters in 1935, one basic and one acid. The basic converter annual capacity was estimated at 66,000 short tons and that of the acid converter at 220,000 short tons.

Electric furnace capacity reached a combined estimated annual total of 100,000 short tons of ingots by 1942. This was after expansion from 29,000 short tons in 1936 and 63,000 short tons in 1938.

The electric furnaces included one 5-ton, one 6-ton, two 10-ton, and two 15-ton furnaces plus an undetermined number of unknown sizes, and an unknown number of high frequency 1-ton induction furnaces.

(3) Steel products. Rolling mills at this plant include Japan's largest mill for rolling rails, structural shapes, bars, rods, and wire, and the third largest plate sheet strip, and tin-plate mills.

Primary rolling mill capacity is estimated at 2,970,000 short tons of blooms, billets and slabs. In 1930 there were 7 primary mills. Detailed information is lacking, but in 1937 one 2-high reversing blooming mill with an annual capacity of 530,000 short tons was rolling slabs for the plate mill and blooms for the sheet, bar, and structural mills.

The plant is known to have large medium, and small bar mills with annual capacities of 495,000 short tons, 200,000 short tons, and 137,500 short tons, respectively, or a total of 832,500 short tons.

Structurals and shapes capacity was estimated at over 323,000 short tons at the end of 1944. In 1936 the plant produced 294,000 short tons of shapes. The plant had in 1937 one old hand-operated mill and one new electrical driven structural mill. Plate capacity estimated at 473,000 short tons has been installed since 1937. Production for 1936 was 362,000 short tons of heavy plate and 32,200 short tons of light plate. A 2-high steam-driven Mesta plate mill was in operation in 1937.

Rail mill (light and heavy) capacity is estimated at 344,000 short tons per year. The 1936 production was 307,000 short tons.

Sheets and tin plate annual capacity is about 165,000 short tons of sheets and 110,000 short tons of tin plates. In 1937 the works had 20 2-high hot mills for sheets and the same number and type of mills for sheets.

Wire rod mill capacity is estimated at 155,000 short tons per year. A new wire and rod mill was installed in 1942-43.

Forgings amounting to yearly 13,150 short tons were reported produced in 1935. In 1936 there were approximately 12,800 short tons of steel castings produced. Present forging and castings produced. Present forging and casting capacity is believed to be much higher than in the mid-thirties.

The plant is equipped to produce a number of miscellaneous products including round and square merchant shapes, nails of all sizes, bolts and boilers. Miscellaneous rolled products amounting to over 62,000 short tons were produced in this plant in 1936.

Auxiliary plants and equipment are known to include: (1) a sintering plant for fine ores. This plant was sintering, leached chalcopyrite-pyrite concentrates, from an Osaka copper recovery plant as early as 1929. (2) Power plants (see Chapter IV, C, 4 and Appendix III). (3) Three batteries of by-product coke ovens and 2 coke by-product plants. (4) Two refractory brick plants.

b. Nippon Seitetsu KK Tobata Plant. The Tobata plant of the Nippon Seitetsu KK is located along Shimonoseki-kaikyo north of Tobata-shi at 33°54'N, 130°50'E. Since 1934, when the plant was acquired from Toyo Seitetsu KK, it has been administered by the company's Yawata plant 4 miles to the southwest.

The plant has one 330-ton and one 315-ton per day blast furnace. Their combined annual capacity is 235,000 short tons of pig iron. The 1935 iron production was 218,000 short tons. The plant has the largest and most modern sheet, strip, and tin plate mill in Japan and the sixth largest plate mill. A 43-inch continuous tandem hot strip mill, built in the United States in 1937, began operating at the plant in 1942-43 on slabs from the Yawata plant. This mill is capable of rolling both plates and strips. Plate capacity is 110,000 short tons per year and the annual capacity for rolled strip or sheets from strip is 330,000 short tons. The plant has one 42-inch, 5 stand Mesta cold mill with an annual capacity of 130,000 to 165,000 short tons of tin plate. Sheets and strip are shipped to other plants of the company for finishing.

c. Kokura Seiko KK. The Kokura Seiko KK (Kokura Steel Manufacturing Co.), largely controlled by the Asano interests, operates blast furnaces, open hearths, and rolling mills in Konomi-cho, Kokura-shi. The plant at Kokura-shi was the fourth largest producer of shops and rails in Japan. There are 2 blast furnaces at the works. One is known to be a 350-ton furnace. The combined capacity of both furnaces is estimated at 280,000 short tons of pig iron annually.

The plant probably has at least 7 open hearth furnaces. Their yearly capacity has been estimated at 267,000 short tons of steel ingots.

Electric furnace annual capacity is estimated at 138,600 short tons which is considerably above the approximately 4,800 short tons of electric steel which were produced in 1936.

Bar mill capacity in 1937 was estimated to exceed 100,000 short tons. The 1935 bar production was 84,500 short tons.

Annual wire rod capacity at this works is believed to have exceeded 244,000 short tons from 2 wire rod mills, one installed by American engineers. Shapes and structurals rolling capacity was estimated at 132,000 short tons per year.

d. Kyushu Tokushu Seiko KK. The Kyushu Tokushu Seiko KK (The Kyushu Special Steel Co.) operates a plant at Kokura-shi. This Kokura works is affiliated with Fujikoshi Kozai Kogyo (Fujikoshi Steel Materials Industry) which has 5 plants in Toyama-ken. The Kokura plants 1939 capacity was estimated to exceed 2,000 short tons of electric steel.

e. Tokai Kogyo KK. Two steel works in Fukuoka-ken produce rolled products but have no iron output or steel furnace capacity. One of these, the Tokai Kogyo KK (Eastern Sea Steel Industry Co.), Wakamatsu-shi, 70 Hamamachi, produces rolled steel products from ingots obtained from Nippon Seitetsu.

The 1936 steel plate production was reported as 46,550 short tons. The plant is reported to have 2 shape mills with a total annual capacity of 50,000 short tons. The works produced some 400 odd tons of tinplate in 1936. Company products are supplied to the Imperial Railroad Ministry and other Imperial Government Bureaus.

f. Nippon Kogyo KK. The Nippon Kogyo KK (Japan Mining Co.) has a rolled steel products plant at 2554 Shida-machi, Chikujo-gun. The plant produced 22,800 short tons of steel sheets and 3,700 short tons of plates in 1935, which was probably chiefly consumed by the company's various enterprises.

g. Tokyo Seiko KK. The Tokyo Seiko KK (Tokyo Rope Manufacturing Co.) operates an important wire and steel cable plant near the Shimonoseki-kaikyo waterfront in Kokura-shi.

h. Nippon Denki Yakin KK. Nippon Denki Yakin KK (Japan Electric Metallurgy Company) was reported to operate a plant in Moji-shi, which produced tungsten and molybdenum alloy steels. This plant was reported to produce 5 percent of Japan's metallic tungsten output.

i. Nippon Aruminumu KK. Two alumina plants, both using the Bayer process, are reported in Fukuoka-ken. The Nippon Aruminumu KK (Japan Aluminum Co.) operates a plant at Kuro-saki-machi, Yawata-shi. The 11-building plant is about  $\frac{1}{2}$  mile west of the Yawata Steel Mills. It is built on reclaimed land at the extreme southwest end of Dokai-wan and covers an area of 43 acres. Imported bauxite from Bintan and other East Indies Islands was treated at the plant. The alumina formerly produced was shipped to the company's aluminum plant at Karenko, Formosa. In 1943, the plant was reported to be operating at fuel capacity of 17,500 short tons per year. In February 1945, plant capacity was estimated at 26,500 short tons per year, but the shortage of bauxite indicated a production of 8,000 short tons for 1945.

j. Toyo Aluminum KK. The Toyo Aluminum KK is reported to own a 40,000-short-ton-per-year alumina plant in Omuta-shi. In February 1945 the plant was estimated to be operating at 30 percent capacity.

k. Mitsui Kozan KK. A zinc retort plant in Omuta-shi, is operated by the Mitsui Kozan KK (Mitsu Mining Co.). The largest in Japan, its 3,456 retorts are reported to have an annual capacity of 27,500 short tons of zinc spelter. Operation of the plant since 1941 has been curtailed by shortage of concentrates. Estimated 1943 production was 11,000 short tons of zinc spelter. The plant treats zinc concentrates from Mitsui's Kamioka zinc-lead mine and mill in Gifu-ken. Formerly imported Canadian and American zinc concentrates were also treated. Retorts are made from local clay, and producer gas manufactured from Miike coal is used as fuel.

Zinc slabs, zinc sheets, zinc dust, and zinc sulphate are manufactured at the plant. The sulphurdioxide gas from the roasters is used to make sulphuric acid. Located near the zinc refineries are the Mitsui's 35,000-ton-per-year lead-chamber acid and 98,000-ton-per-year contract acid plants.

Mitsui Kozan operates an electrolytic zinc refinery in Omuta-shi. The Refinery treats zinc concentrates from the

company's Kamioka zinc-lead mine and mill in Gifu-ken. Imported concentrates were also treated before 1942. The plant was reported operated at capacity in 1943 and produced 6,600 short tons of electrolytic zinc. Electric power requirements are estimated at 3,500 KW per ton of electrolytic zinc produced.

1. Other metal processing. Fukuoka-ken metal fabrications are highly important to Japan. Valued at 111 million yen in 1938, they included 5.1 percent of Japan's castings, 6.2 percent of her stamping, forgings and other fabrication, and 27.9 percent of her plating. However, the value of Fukuoka-ken finished products ranked fourth in that year, following those of Osaka, Tokyo, and Hyogo prefectures, which had 374, 325, and 121 million yen respectively.

Tables 39-41 show the categories of fabrication and processing in which Fukuoka-ken production for 1938 was valued at or above one percent of national production in its field.

TABLE 39

## Castings, 1938, Fukuoka-ken.

Metal used	Percent of national total	Value (thousand yen)
Iron (excl. of wrought iron)	4.6	15,796
Steel	6.7	6,158
Wrought iron	16.5	3,842

TABLE 40

## Non-Cast Metal Fabrication, 1938, Fukuoka-ken.

Product	Percent of national total	Value (thousand yen)
Sheet metal	9.3	16,856
Steel cables	23.8	7,486
Nails, wood screws	15.9	6,012
Steel construction fittings	3.7	3,017
Nuts bolts, washers	2.7	1,552
Rivets	6.0	782
Chains	6.9	775
Wire nettings	2.3	233
Builders' hardware	1.5	131

TABLE 41

## Metal Plating, 1938, Fukuoka-ken

Type of Plating	Percent of national total	Value (thousand yen)
Tin	57.4	44,827
Zinc	1.6	835
Nickel	2.0	24

5. Ordnance.

The Kokura Arsenal, located in Kokura-shi, is one of the 3 largest army arsenals in Japan. It is probable the most important producer of light automatic weapons and smaller type AA and AT guns in Japan. It is estimated that several thousand guns are produced per month at this arsenal. Other, but smaller plants producing ammunition and ordnance are located in Fukuoka-shi, (2), Wakamatsu-shi, Yawata-shi, and Chiyo-machi (Chikushi-gun).

6. Machinery, Tools, and Appliances.

In production of machinery, machine tools and appliances; Fukuoka-ken ranked sixth among Japanese prefectures in terms of 1938 values. This prefecture produced 8 percent of the hoisting machinery, 5 percent of miscellaneous machine parts, and 4 percent of the auxiliary machinery (pumps, blowers, compressors and hydraulic presses) manufactured in Japan in 1938. Machinery and appliance production is largely concentrated in the 4 cities of Fukuoka, Yawata, Kokura, and Nogata. Among the more important products of all 4 are non-electrical machinery; the first 3 produce indicating instruments, while Kokura also produces incandescent lamps and Yawata produces small motors and generators, and medium and heavy motors.

The Yasukawa Denki Seisakusho KK, in Yawata-shi, is one of the 6 factories located in southwest Japan which together produce well over  $\frac{1}{2}$  the total output of small generators in Japan. It is estimated that the Yawata factory produced 9 percent of the electric motors manufactured in Japan in 1938.

The Hitachi Seisakusho KK, in Wakamatsu-shi, is one of the largest plants in Japan producing steel mill rolls. It is especially important because it manufactures the largest steel rolls for rolling mills made in Japan.

The Furukawa Denki Kogyo KK factory in Moji-shi, is one of 3 factories which together manufacture 14 percent of Japan's production of electric wire.

The Tokyo Shibaura Denki KK has 3 subsidiary plants in Fukuoka-ken. The Kokura-shi plant in conjunction with the

Osaka plant produced 75 percent of the incandescent lamp made in southwest Japan. The subsidiary plant in Moji-shi, known as Nippon Yakin KK, produced 10 percent of all drawn tungsten filaments made in Japan. The subsidiary plant in Fukuoka-shi, the Nippon Tungsten KK, manufactures 10 percent of Japan's production of drawn tungsten filaments.

The Kurume area in the southern part of Fukuoka-ken is important chiefly because it produces mining machinery and equipment and repair items used in operating the extensive Mitsui coal mines. In this area the outstanding plants are the Miike Machinery Works in Omuta-shi, which supplies the Mitsui mines, and the Kobukure Machinery Works in Iizuka-shi. There are a number of smaller factories in Nogata-shi.

Machinery, tools, and appliance production reported for 1938, by value, is shown in Table 42.

TABLE 42

## Machinery, Tools, &amp; Appliances, 1938, Fukuoka-ken.

Products	Value (in yen)
Motor, electrical	13,926,604
Mining extraction, sorting & refining machinery	7,338,518
Insulated electric wire	6,694,684
Chemical industrial machinery	4,859,403
Winches, conveying equipment	4,653,766
Bicycles, carts, parts & accessories	4,290,111
Wheels, axles, bearings	3,667,364
Bulbs	3,498,256
Valves & cocks	2,168,831
Misc. manufacturing & processing machinery	1,707,373
Pumps	1,100,599

7. Transportation Equipment.

The factories of Watanabe Tekkosho, Maeda Kokonkogyo, Tachiarai Seisakusho KK and Tobata Hikoki KK are important aircraft facilities in this prefecture.

Tochigi Shoji KK operates one of southwest Japan's second-class shipyards. Four smaller yards are reported engaged in wooden shipbuilding and 5 yards in ship repair.

The Kyushu Heiki KK and Miyata Seisakusho KK formerly manufactured automobile parts; and the latter company manufactured motorcycles.

8. Wood Products.

Excluding pulp and paper mills, the wood-using industries of Fukuoka-ken do not seem to have a very important place in the national or prefectural industrial picture. In 1938, the wood-using industries of this prefecture accounted for only 1.2 percent of national production of wood products and only 0.3 percent of the industrial production of the prefecture. Fukuoka-ken did rank second in Kyushu in value of production of lumber and manufactured wood products.

There were 68 lumber and veneer mills reported in the prefecture in 1938, and their products were valued at 2,828,933 yen; there were 83 other wood-working plants with nearly an equal value of output. The latter plants included 29 producers of furniture and fixtures, 20 wooden container plants and 34 unclassified woodworking plants or shops. Because Fukuoka-ken is not heavily forested the sawmills are not as active as in most other parts of Kyushu, but this is more than made up for by the activity of the other wood-working industries which process imported woods. This prefecture had by far the largest output of wooden containers in Kyushu: in 1938, over 1,500,000 yen in value. One of the major products of the unclassified wood-working shops was 1,250,000 pairs of wooden clogs.

Fukuoka-ken has a few important paper mills and is second in paper production in Kyushu, but it is not one of the most important paper producing centers in Japan. In 1938 there were 18 paper mills reported in the prefecture, but some of these were probably small plants producing only native, Japanese type of paper. The output of the 18 paper mills amounted to 7,013,232 yen in 1938, which was about 2 percent of national production. The paper mills, even more than other wood-using industries, depended on external sources of raw materials. None of the local timber is used for pulp and there is only one wood pulp mill in the prefecture.

9. Other Factory Production.

a. Clothing. Factory production of clothing in Fukuoka was valued at 7.3 percent of the nation's production for 1938. Tabi, or bifurcated socks, accounted for about 75 percent of the total value. Substantial quantities of leather and rubber footwear, hats, underwear, and western style outer garments were also produced. The principal pro-

ducts of the knitting industry in Fukuoka-ken were cotton gloves and hosiery.

b. Ceramics. Factory produced ceramics, in Fukuoka-ken, have been important to both the prefecture and the national economy. In 1938, Fukuoka ranked second among the prefectures in value of ceramics manufactured. Table 43 gives the salient facts of this production. None of the minor products included in the table's term "others" amounted to as much as one percent of the value of national production in that category. (See Chapter III, G for data on cement plants.)

TABLE 43

Ceramic Manufactures, 1938, Fukuoka-ken

Product	(in yen)	As percent of nat'l. total	(in yen)	As percent of nat'l. total
Cement			17,480,661	15.9
Glass			20,277,840	19.3
Window & plate	15,817,248	42.6		
Bottles	4,326,663	10.0		
Medical wares	23,267	1.4		
Acid & heat resistors	18,000	1.4		
Others	92,662			
Clay products			11,579,350	17.8
Fire brick	10,006,478	21.8		
Common brick	209,216	4.1		
Others	1,363,656			
Porcelain			3,152,556	4.5
Cooking & Table- wear	1,692,600	6.0		
Sanitary ware	1,191,500	41.1		
Pipes	118,656	5.5		
Others	149,800			
Cement products			3,045,917	11.5
Slate	2,407,838	21.9		
Pipe	533,142	6.0		
Others	104,937			
Lime			2,225,100	14.9
Enamelled ironware			868,160	3.9
Others			44,711	

c. Minor factory production. A number of other products are manufactured in the smaller Fukuoka-ken plants. Those produced in plants employing 5 or more in 1938 included paper, bamboo, straw and other mattings, brushes and parasols. The prefecture ranked eighth in value of factory-produced lacquerware and thirteenth in ropes and nets. The value of its print-

ing products exceeded 17,000,000 yen, but the product of its food manufacturers was valued at only 15,150 yen.

## G. CONSTRUCTION AND CONSTRUCTION MATERIALS

1. Construction.

The types of construction in Fukuoka-ken are similar to those throughout Japan. Most large industrial plants built in the last decade are of re-inforced concrete, but older factories are usually of wood and brick construction. Most commercial establishments are of wood-frame construction, often with brick facings. Urban residences are primarily of wood, generally with paper partitions and tile roofs. Thatched roofs are common in the rural areas.

2. Construction Materials.

a. Lumber. Fukuoka-ken has limited stands of commercial timbers in the high mountain regions. Since stands of the best construction timbers are very widely scattered, this prefecture has very little to offer. In 1938, 85 sawmills produced one percent of the total national production.

b. Cement. Fukuoka-ken has eight major cement plants:

(1) Asano Semento KK Moji plant, located in Moji-shi, has an annual capacity of 741,600 metric tons. It is equipped with nine rotary kilns: four 3.743 x 3.048 x 60.960 meters and five 2.134 x 24.384 meters. It uses the dry process and produces Portland and High-Early-Strength cements. (See Appendix IV for its power equipment.)

(2) Asano Semento KK Kawara plant, located in Kawara-machi, #812, Tagawa-gun, has an annual capacity of 384,840 metric tons. It is equipped with two F.L. Smidth wet rotary kilns, each 71.50 meters long. It uses the wet process and produces Portland cement.

(3) Denki Kagaku Kogyo KK Omuta plant, located in Shingai-cho, #1, Omuta-shi, has an annual capacity of 24,000 metric tons. It is equipped with one rotary kiln, 45.75 x 2.28 meters. It uses the wet process and produces Portland cement. This plant has a by-product, lime, from the manufacture of ammonium sulphate and clay.

(4) Hokoku Semento KK Moji plant, located in Kanda-machi, Miyako-gun, has an annual capacity of 402,000 metric tons. It is equipped with six rotary kilns: two with concentra type multi-cylinder coolers, made by Krupp, and four of the most modern type, made by Allis Chalmers.

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This plant is also equipped with an aerial conveying system for the transport of limestone from nearby quarries. It uses the dry process and produces Portland cement. Its power equipment consists of three waste heat boilers and three turbo-generators.

(5) Nippon Seitetsu KK Yawata Iron Works, located in Fujita-cho, Yawata-shi, has an annual capacity of 120,000 metric tons. It is equipped with two "Lepol" rotary kilns with a daily capacity of 200 metric tons, each.

(6) Onoda Semento Seizo KK Yawata plant, located in Fujita-cho, Yawata-shi, has an annual capacity of 112,800 metric tons. It produces Portland cement.

(7) Sangyo Semento Tetsudo KK, located in Yugeta-cho, Tagawa-shi, has an annual capacity of 240,000 metric tons. It is equipped with two Krupp rotary kilns with automatic coolers. It produces Portland cement. Its power equipment consists of one boiler of 987 square feet of heating surface, one 2,500 k.w. generator, and three 1,500 k.v.a. single phase transformers.

(8) Toyo Semento Kogyo KK Kokura plant, located in Higashitani-mura, Kiku-gun, has an annual capacity of 360,000 metric tons. It is equipped with two rotary kilns made by F. L. Smidth, each 3.8 x 74.0 meters. It produces Portland cement. White marble and clay quarries are reported in the vicinity of the plant. The lime content of the marble is claimed to be 99%. Silica contents vary from a high percentage to a low. This plant owns a private electric power plant with exhaust heat boilers.

c. Structural Steel. Fukuoka-ken has 5 principal active steel mills with capacity for rolled products. Their 1944 estimated rolled products capacities are shown in Table 44.

TABLE 44  
Steel Mills, 1944, Fukuoka-ken

Name	Location	Production (metric tons)
Kokura Seiko KK	Kokura	410,000
Nippon Seitetsu KK	Yawata-Tobata	2,250,000
Hitachi Seisakusho KK	Yawata-Tobata	1,000
Nippon Kogyo KK	Hachiya-machi	28,000
Tokai Kogyo KK	Wakamatsu	92,000

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d. Brick. In 1938, brick yards located in this prefecture produced 18% of the total national production.

e. Roofing Tile. In 1938, roofing tile producers in Fukuoka-ken produced three percent of the total national production.

f. Slate. In 1941, a plant producing slate products was reported located in Moji

g. Lime. In 1938, lime producers in this prefecture produced 15% of the total national production.

h. Glass. In 1938, plants producing industrial glass products accounted for 20 percent of the total national production. In 1942, major plants were reported located in Yawata, Wakamatsu, and Tobata.

The Asahi Garasu KK plant located in Yawata produces window glass in large volume as does the Nippon Itagarasu KK plant.

#### H. TRADE AND COMMERCE

##### 1. Foreign Trade.

Fukuoka-ken is one of the most important foreign trade areas in Japan, having four open ports whose total trade volume in 1939 was approximately 8.5 percent of the national total of 6½ billion yen. The national standing of these four ports was as follows: Moji-shi, fourth with 5.1 percent; Wakamatsu-shi, sixth with 3 percent; Omuta-shi, 17th with .23 percent; Fukuoka-shi, 21st with .18 percent. Among Japan's 47 open ports only three, Yokohama, Kobe, and Osaka, exceeded Moji in volume of foreign trade. These three together handled over 75 percent of the national volume.

a. Moji-shi. Total value of imports and exports for Moji-shi is shown in Table 45.

TABLE 45

Imports & Exports, 1935-40, Moji-shi, Fukuoka-ken (in yen)

Year	Exports	Imports
1935	62,754,161	89,363,350
1936	64,732,198	98,011,650
1937	66,407,181	175,086,803
1938	89,362,323	188,298,892
1939	127,190,092	205,778,849

Year	Exports	Imports
1939 (1st qtr.)	22,831,271	46,197,098
1940 (1st qtr.)	30,558,158	69,038,880

The most important exports ad valorem from Moji-shi in 1938 were: food (especially sugar, beer, tobacco) 17,579,100 yen; machinery (especially locomotives and electrical machinery) 15,360,500 yen; ores and metals and metal products, 10,492,400 yen; wheat flour, 7,842,600 yen; paper products 6,111,000 yen; cement 4,825,500 yen and glass, 4,113,800 yen. Other relatively important exports consisted of chemicals, 3,300,000 yen; machine oil, 2,886,100 yen; artificial indigo 2,261,200 yen; and rubber-soled shoes, 2,032,900 yen.

The imports of Moji-shi accounted for 68 percent of her foreign trade and consisted chiefly of oils and fats (probably mostly petroleum) 60,141,300 yen; ores and metals, 60,075,100 yen; miscellaneous machinery 13,394,100 yen; salt, 12,930,500 yen; crude rubber, 6,936,600 yen; potash and ammonium salts 6,295,100 yen; bean cake 4,214,500 yen; ginned cotton 3,856,100 yen; beans, 3,395,000 yen; coal, 3,250,000 yen and fodder, 1,679,600 yen.

Moji-shi's trade with China is shown in table 46.

TABLE 46

Trade with China, 1940 (1st qtr.), Moji-shi, Fukuoka-ken (in yen)

	Exports	Imports
North China	7,348,518	1,713,998
Central China	2,270,029	2,982,451
South China	144,990	3,840
Manchukuo	11,211,511	1,498,953
Hong Kong	159,608	30,283

b. Wakamatsu-shi. Total value of imports and exports for Wakamatsu-shi is shown in Table 47.

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TABLE 47

Exports & Imports, 1935-40, Wakamatsu-shi, Fukuoka-ken  
(in yen)

Year	Exports	Imports
1935	26,071,727	72,444,898
1936	22,428,382	74,247,819
1937	17,990,046	118,064,155
1939 (1st qtr.)	10,365,037	28,187,856
1940 (1st qtr.)	7,937,282	24,226,743

The most important exports ad valorem from Wakamatsu-shi in 1938 were ores and metals, 18,658,000 yen; sugar, 2,741,400 yen; creosote, 1,492,400 yen, and vegetable oil, 1,458,200 yen. Other relatively important exports consisted of drugs and chemicals, cement, metal products and machinery and lumber.

The imports of Wakamatsu-shi accounted for 75 percent of her foreign trade and consisted chiefly of ores and metals, 45,497,100 yen; coal, 17,500,800 yen; soya beans, 8,348,700 yen; salt, 6,145,400 yen; and seeds, 2,105,300 yen.

Wakamatsu's trade with China in 1938 is shown in table 48.

TABLE 48

Trade with China, 1938, Wakamatsu-shi, Fukuoka-ken (in yen)

	Exports	Imports
North China	406,487	16,164,846
Central China	1,963,474	1,537
Total	2,369,961	16,166,383

c. Omuta-shi. Total value of imports & exports is shown in table 49.

TABLE 49

Exports &amp; Imports, 1935-40, Omuta-shi, Fukuoka-ken (in yen)

Year	Exports	Imports
1935	7,086,191	5,377,175
1936	6,150,109	5,926,862

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Year	Exports	Imports
1937	5,629,930	4,861,622
1938	6,895,734	2,565,971
1939	6,629,276	8,944,214
1939 (1st qtr.)	974,093	1,406,319
1940 (1st qtr.)	1,278,929	711,978

The most important exports ad valorem from Omuta-shi in 1938 were coal, 6,693,000 yen; and coal tar products, 76,000 yen.

Omuta-shi's imports accounted for 27 percent of her foreign trade and consisted chiefly of coal, 804,900 yen; ores and metals, 651,800 yen; salt, 425,400 yen; and sugar, 140,000 yen.

Omuta-shi's trade with China is indicated in table 50.

TABLE 50

Trade with China, 1940 (1st qtr.), Omuta-shi, Fukuoka-ken  
(in yen)

	Exports	Imports
North China	----	45,900
Central China	569,129	6
South China	----	----
Manchukuo	68,820	----
Kwantung Province	5,022	----
Hong Kong	309,676	----

d. Fukuoka-shi. Total value of exports and imports of Hakata, the foreign trade port of Fukuoka-shi, is shown in table 51.

TABLE 51

Exports & Imports, 1935-40, Hakata, Fukuoka-shi, Fukuoka-ken  
(in yen)

Year	Exports	Imports
1935	3,886,025	4,117,679
1936	5,028,203	4,443,703
1937	6,975,707	4,787,664

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Year	Exports	Imports
1938	8,555,485	3,313,550
1939	10,044,977	2,084,072
1939 (1st qtr.)	1,583,841	753,051
1940 (1st qtr.)	2,844,529	1,075,528

The most important exports ad valorem from Fukuoka-shi in 1938 were wheat flour, 2,224,290 yen; athletic shoes tabi, 2,416,700 yen; lumber, 813,100 yen; and machinery, 748,750 yen. Other relatively important exports were food products, papers, tires, and cotton products.

The imports of Fukuoka-shi accounted for 28 percent of her foreign trade and consisted chiefly of oils and fats (probably petroleum), 2,730,800 yen; and beans, 460,000 yen.

Fukuoka-shi's trade with China is indicated in table 52.

TABLE 52

Trade with China, 1940 (1st qtr.), Fukuoka-shi, Fukuoka-ken (in yen)

	Exports	Imports
North China	1,587,223	5,378,167
Central China	1,078,792	851,981
South China	56,114	----
Manchukuo	62,983	3,386,332
Kwantung Province	4,750,834	363,799
Hong Kong	----	20

2. Domestic Trade.

The principal inter-island commerce of Japan is the movement of coal from Kyushu to Honshu. Pig iron, rolled steel products, cement, refined metals, and probably chemical products also flow from Kyushu to Honshu.

Fukuoka-ken has important ports for domestic trade moving by water. Of these, Moji-shi is the most important. In 1936 it rated fourth among the nation's ports for domestic trade. Exports were 4,910,000 metric tons, valued at 416,431,000 yen of which rice, scrap iron and machinery were the most important items. Imports amounted to 4,164,000 metric tons of 442,017,000 yen value and the principal items were foreign papers, kerosene and sugar.

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Wakamatsu-shi rated seventh among the nation's ports in volume of domestic trade in 1936, with exports of 13,665,000 metric tons valued at 425,623,000 yen, of which the most important items were coal, steel, copper plates, and steel wire. Imports were 3,619,000 metric tons with a value of 114,822,000 yen, of which fresh fish, shell fish, and soy beans were the principal items.

Fukuoka-shi rated 26th among Japan's domestic trade ports in 1936 with exports of 1,464,000 metric tons valued at 31,171,000 yen, of which coal, naphtha and petroleum were the principal items. Imports were 233,000 metric tons of 20,790,000 yen value, of which the most important items were fresh fish and shell fish, lumber and gold articles.

Omura-shi had the relatively small volume of 157,000 metric tons of exports valued at 3,363,000 yen of which coal, ceramics, and medicines were the principal items. Imports amounted to 59,000 metric tons valued at 2,989,000 yen and the principal items were fresh fish, shell fish, mineral oil, and machinery.

3. Warehousing.

a. Fukuoka-shi. Principal storage facilities are located in the Hakata port section of Fukuoka. There are many warehouses adjoining the wharves in the Hakata port district, principally along the southeast side of the basin. The railroad station has many sidings, long covered platforms, warehouses, and a passenger station.

b. Saitozaki (Shiganoshima-mura, Kasuya-gun). The Asahi Sekiyu KK at Saitozaki having a total floor space of 8,400 square feet. These are of galvanized sheeting over wood or metal frames. It is probable that some of the recently reclaimed land in the area could be used for supply dumps. Asahi Sekiyu also has storage tank facilities at the tank farm in the southwestern part of Saitozaki as shown in table 53

TABLE 53

Storage Tanks, Asahi Sekiyu KK, Saitozaki  
(Capacity in barrels of 42 U. S. gallons)

Tanks	Unit Capacity	Total Capacity
6	27,600	165,600
2	24,150	48,300

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Tank	Unit Capacity	Total Capacity
1	10,350	10,350
1	3,450	3,450
2	2,760	5,520
3	2,070	6,210
2	552	1,104
7	414	2,898
	Total	243,432

There are also coal storage facilities at Saitozaki.

c. Kokura-shi. The Kokura arsenal is equipped to store poisonous gases in underground chambers.

a. Moji-shi.

(1) Warehouse companies in Moji include the Mitsubishi Soko KK, (2, Higashiminato-cho); Shibuzawa Soko KK, (7, Hama-cho); and Toshin Soko KK, (9 Hama-cho).

(2) Port storage facilities.

(a) There probably are grain storage facilities at the Nippon Flour Mills at Dairi and the rice mills at Komorie. It is believed that there are in excess of 800,000 sq. ft. of warehouse space in the harbor area, mainly in Moji and its suburbs. The warehouses are, in the main, served by railroad sidings.

(b) The Standard-Vacuum Oil Company has storage plants and godowns at Dairi and Moji. Asahi Sekiyu KK has 2 tanks with a capacity of 45,500 barrels, believed to be used for gasoline, in the southern part of Deshimachi. At Moji the Standard-Vacuum Oil Company has a plant known as the Sotohama godown, located behind the foreign trade zone. Also at Dairi, this company has 2 tanks for gasoline with a capacity of 31,000 barrels each, and 2 tanks for kerosene with capacities of 39,200 and 18,200 barrels, respectively. There are reported to be 2 tanks in Moji for fuel oil with capacities of 6,500 and 5,200 barrels, respectively. These are owned by Japanese firms.

The Moji Ordnance Storage depot for the repair and storage of ordnance is located 2000 feet north of Moji Central Wharf.

e. Wakamatsu-shi. The quays at Wakamatsu-shi are provided with sheds and warehouses. In 1930 there were

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228 acres of coal storage area at Wakamatsu on the southern side of Kaba-shima, on the southeastern side of the main harbor, on the northern and western sides of Kazura-shima and on the northern side of the inner harbor. An unknown number of fuel oil tanks are available, including those of the Nissan Liquid Fuel Company.

f. Kurume-shi. Warehouses are concentrated near the railroad station and yards in the western part of the city. The only known warehouse company is the Sato Shoten Company, at 55 Kyomachi.

g. Omuta-shi. Buildings on the northwestern and southwestern side of the wet dock can probably be used for covered storage. Large areas for coal and coke dumps are adjacent to both basins. On the north side of Miike-ko is an area of about 70 acres used for coal storage, while a small area of about 23 acres is used for coke storage. It is probable that a substantial portion of reclaimed ground reported as being under construction on Omuta-ko also could be used for open bulk storage. Several chemical plants have tanks storing liquid fuels and industrial gases. It is probable that warehouse space is available at various industrial plants.

I. FINANCE

1. Private Finance.

a. Relative position of Fukuoka-ken. Table 54 shows the relative position of Fukuoka-ken in private finance, as compared with the rest of Japan, as of the dates indicated.

TABLE 54

Bank Deposits, Savings & Life Insurance, 1936 & 1944  
Fukuoka-ken

	Total for Fukuoka-ken	Percent of national total
Population (1936)	2,756,000	4.0
Total bank deposits (banks with head offices in prefecture) (1936)	396,550,000 yen	3.1
Deposits in postal savings transfer accounts (1936)	131,348,000 yen	9.8
Amount of ordinary life insurance in force (1936)	132,295,000 yen	4.0
Savings goal* (1944)	1,350,000,000 yen	3.75

\*An estimate which includes net increases of bank deposits,

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postal savings, trust deposits, deposits of financial cooperatives, insurance reserves, deposits of mutual financing companies, private investment, bond purchases, etc.

b. Banking. As of 1940 there were 27 provincial banks with head offices and a total of 108 branches, and 18 agencies in Fukuoka-ken. There were 7 branches of 6 provincial banks with their head offices in other prefectures. A total of 21 branches were maintained in Fukuoka-ken by the five "big" ordinary banks, two central banks each had 2 branches, and 2 special banks each had 1 branch, in the prefecture in 1940. Three prefectural savings banks carried on operations from their offices in the prefecture, none of them had any branches.

As of 1942 clearing houses were located in the following cities: Kokura, Wakamatsu, Kurume, and Fukuoka.

Following is a list of the banks and branches that were known to exist in Fukuoka-ken in 1940, with salient data as to their operations.

Since the recent trend among provincial banks in Japan has been toward the merging of all prefectural banks in each prefecture into one bank, it is quite probably that some, or possibly even all, of the prefectural banks listed here have been merged, either with the big banks or with each other.

(1) Provincial Banks.

Jushichi Ginko:

Main office: Fukuoka-shi  
 Branches: 26, agencies: 1 (All in Fukuoka-ken)  
 Location of branches in Fukuoka-ken:  
 Fukuoka-shi, Kuramoto-machi  
 Fukuoka-shi, Tenjin-machi 52  
 Fukuoka-shi, Shin-daiku-machi 7  
 Fukuoka-shi, Daigaku-dori 1 chome  
 Yawata-shi, Okura  
 Yawata-shi, Fujita-machi, 1444  
 Kokura-shi, Osaka-machi  
 Tobata-shi, Tobata  
 Nogata-shi, Furu-machi  
 Kurume-shi, Sanbonmatsu-machi  
 Omuta-shi, Tsuki-machi  
 Iizuka-shi, Iizuka

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Fukuoka-shi  
 Munakata-gun, Togo-machi  
 Onga-gun, Orio-machi  
 Tagawa-shi  
 Asakura-gun, Amagi-machi  
 Mitsuma-gun, Okawa-machi, Enokitsu  
 Mitsuma-gun, Jojima-machi  
 Yame-gun, Hainuzuka-machi  
 Yame-gun, Fukushima-machi  
 Karatsu-shi, Karatsu 1800  
 Miyako-gun, Yukuhashi-machi, Ohashi 2882  
 Nakatsu-shi, 1552  
 Tagawa-shi

Total assets	175,357,000	yen
Securities	82,637,000	"
Cash on hand	15,349,000	"
Total loans	62,483,000	"
Uncalled capital	5,512,000	"
Total liabilities	175,357,000	"
Deposits	153,648,000	"
Reserves	1,697,000	"
Net profit (6 mos.)	343,000	"
Paid up capital	4,688,000	"

Hakata Ginko:

Main office: Fukuoka-shi, Shimo-doi-machi, 3  
 Branches: 12 in Fukuoka-ken and 3 in Saga-ken  
 Location of branches in Fukuoka-ken:

Fukuoka-shi, Haruyoshi  
 Fukuoka-shi, Yorozu-machi  
 Fukuoka-shi, Baba-shin-machi 74  
 Fukuoka-shi, Mizu-chaya-machi  
 Fukuoka-shi, Nishi-shin-machi 221  
 Fukuoka-shi, Meihama-machi 3080  
 Fukuoka-shi, Meihama-machi 24  
 Itoshima-gun, Maebaru-machi  
 Itoshima-gun, Susenji-mura  
 Kurume-shi, Hiyoshi-machi  
 Chikushi-gun, Futsukaichi-machi  
 Fukuoka-shi, Hakozaki-machi 24

Total assets	21,175,000	yen
Securities	10,104,000	"
Cash on hand	4,547,000	"
Total loans	4,798,000	"
Uncalled capital	1,115,000	"
Total liabilities	21,175,000	"
Deposits	18,272,000	"
Reserves	296,000	"
Net profit (6 mos.)	55,000	"
Paid up capital	1,035,000	"

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Yanagawa Ginko:

Main office: Yamato-gun, Yanagawa-machi, 9  
 Branches: 8, Agencies: 8 (All in Fukuoka-ken)  
 Known locations of branches in Fukuoka-ken:

Mitsuma-gun, Kasaki-mura	
Mitsuma-gun, Okawa-machi, Enokitsu	
Mitsuma-gun, Omizo-mura, Yokomizo	
Total assets	17,428,000 yen
Securities	6,411,000 "
Cash on hand	3,538,000 "
Total loans	6,035,000 "
Uncalled capital	810,000 "
Total liabilities	17,428,000 "
Deposits	14,839,000 "
Reserve	665,000 "
Net profit (6 mos.)	58,000 "
Paid up capital	690,000 "

Kiyoshi Ginko:

Main office: Ukiha-gun, Yoshii-machi, 1151  
 Branches: One agency in Fukuoka-ken

Total assets	5,808,000 yen
Securities	1,776,000 "
Cash on hand	728,000 "
Total loans	2,633,000 "
Uncalled capital	422,000 "
Total liabilities	5,808,000 "
Deposits	3,808,000 "
Reserves	573,000 "
Net profit (6 mos.)	61,000 "
Paid up capital	678,000 "

Miike Ginko:

Main office: Omuta-shi, Agahi-machi, 1 of 2  
 Branches: 5 in Fukuoka-ken and 1 in Kumamoto-ken  
 Location of branches in Fukuoka-ken:

Omuta-shi, Mikawa-machi, 2 no 1	
Miike-gun, Takada-mura	
Omuta-shi	
Yamato-gun, Setaka-machi, (2)	
Total assets	18,031,000 yen
Securities	7,050,000 "
Cash on hand	3,320,000 "
Total loans	5,533,000 "
Uncalled capital	569,000 "
Total liabilities	18,031,000 "
Deposits	14,824,000 "
Reserves	539,000 "
Net profits (6 mos.)	49,000 "
Paid up capital	631,000 "

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Yasu Ginko:

Main office: Asakura-gun, Miwa-mura, Nomachi  
 Branches: 4. In Fukuoka-ken: 4. Agencies: 3  
 Location of branches in Fukuoka-ken:

Asakura-gun, Amagi-machi, Amagi	
Asakura-gun, Haki-machi, Ikeda	
Asakura-gun, Yasu-mura, Shinokuma	
Asakura-gun, Kanagawa-mura, Ushizuru	
Total assets	7,026,000 yen
Securities	1,991,000 "
Cash on hand	1,018,000 "
Total loans	3,182,000 "
Uncalled capital	650,000 "
Total liabilities	7,026,000 "
Deposits	5,425,000 "
Reserves	233,000 "
Net profit (6 mos.)	34,000 "
Paid-up capital	550,000 "

Shiida Godo Ginko Consolidated:

Main office: Chikujo-gun, Shiida-machi, Shiida  
 Branches: 2. In Fukuoka-ken: 2.

Location of branches in Fukuoka-ken:	
Chikujo-gun, Suda-mura, Matsue	
Chikujo-gun, Shimokii-mura, Yasutake	
Total assets	3,269,000 yen
Securities	1,454,000 "
Cash on hand	247,000 "
Total loans	931,000 "
Uncalled capital	625,000 "
Total liabilities	3,269,000 "
Deposits	1,991,000 "
Reserves	132,000 "
Net profit (6 mos.)	27,000 "
Paid-up capital	525,000 "

Kosan Ginko:

Main office: Ukiha-gun, Yoshii-machi, 1262  
 Branches: 2. In Fukuoka-ken: 2. Agencies: 2  
 Location of branches in Fukuoka-ken:

Ukiha-gun, Enami-mura, Shinji	
Ukiha-gun, Miyuki-mura, Asada	
Total assets	3,676,000 yen
Securities	467,000 "
Cash on hand	584,000 "
Total loans	1,729,000 "
Uncalled capital	705,000 "

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Total liabilities	3,676,000 yen
Deposits	2,472,000 "
Reserves	91,000 "
Net profit (6 mos.)	15,000 "
Paid-up capital	300,000 "

Mizuta Ginko:

Main office: Yame-gun, Mizuta-mura, Mizuta  
 Branches: 2. In Fukuoka-ken: 2. Agencies: 4  
 Location of branches in Fukuoka-ken:

Yame-gun, Hainuzuka-machi, Yamanoi	
Yame-gun, Mizuta-mura, Oshima	
Total assets	3,473,000 yen
Securities	971,000 "
Cash on hand	752,000 "
Total loans	1,399,000 "
Uncalled capital	262,000 "
Total liabilities	3,473,000 "
Deposits	2,238,000 "
Reserves	134,000 "
Net profit (6 mos.)	28,000 "
Paid-up capital	738,000 "

Hokuho Ginko:

Main office: Chikujo-gun, Hachiya-machi, 1458  
 Branches: 2. In Fukuoka-ken: 2  
 Location of branches in Fukuoka-ken:

Chikujo-gun, Hachiya-machi, Ujima	
Miyako-gun, Yukuhashi-machi, Ohashi 5	
Total assets	3,573,000 yen
Securities	1,336,000 "
Cash on hand	566,000 "
Total loans	1,085,000 "
Uncalled capital	320,000 "
Total liabilities	3,573,000 "
Deposits	2,320,000 "
Reserves	73,000 "
Net profit (6 mos.)	24,000 "
Paid-up capital	670,000 "

Kurate Ginko:

Main office: Nogata-shi, Nogata, 804  
 Branches: 5. In Fukuoka-ken: 5  
 Location of branches in Fukuoka-ken:

Fukuoka-shi, Shimo-koyama-machi, 31	
Iizuka-shi	
Kurate-gun, Wakamiya-machi	
Kurate-gun, Koyanose-machi	
Kurate-gun, Kotake-machi	

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Total assets	1,913,000 yen
Securities	598,000 "
Cash on hand	1,179,000 "
Total loans	1,719,000 "
Uncalled capital	375,000 "
Total liabilities	1,913,000 "
Deposits	1,398,000 "
Reserves	Unknown
Net profit (6 mos.)	8,000 "
Paid-up capital	625,000 "

Tanushimaru Ginko:

Main office: Ukiha-gun, Tanushimaru-machi  
 Branches: 2, both in Kumamoto-ken

Total assets	3,471,000 yen
Securities	1,014,000 "
Cash on hand	958,000 "
Total loans	1,009,000 "
Uncalled capital	420,000 "
Total liabilities	3,471,000 "
Deposits	2,864,000 "
Reserves	31,000 "
Net profit (6mos.)	8,000 "
Paid-up capital	580,000 "

Yame Ginko:

Main office: Yame-gun, Fukushima-machi  
 Branches: 3. In Fukuoka-ken: 3  
 Location of branches in Fukuoka-ken:

Hoshino-mura	
Kuroki-machi, Kuroki	
Hainuzuka-machi, Yamanoi	
Total assets	6,962,000 yen
Securities	1,957,000 "
Cash on hand	1,200,000 "
Total loans	2,853,000 "
Uncalled capital	616,000 "
Total liabilities	6,962,000 "
Deposits	5,774,000 "
Reserves	50,000 "
Net profit (6 mos.)	12,000 "
Paid-up capital	384,000 "

Noda Ginko:

Main office: Yame-gun, Kotsuma-mura, Kitoin  
 Branches: 2. In Fukuoka-ken: 2.

Location of branches in Fukuoka-ken:	
Yame-gun, Fukushima-machi 32	
Yame-gun, Kuroki-machi 130	

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Total assets	9,125,000 yen
Securities	1,175,000 "
Cash on hand	2,235,000 "
Total loans	4,132,000 "
Uncalled capital	727,000 "
Total liabilities	9,125,000 "
Deposits	7,502,000 "
Reserves	257,000 "
Net profit (6 mos.)	19,000 "
Paid-up capital	273,000 "

Chikugo Ginko:

Main office: Ukiha-gun, Mizuwake-mura  
Branches: 1. In Fukuoka-ken: 1.  
Location of branches in Fukuoka-ken:  
Ukiha-gun, Tanushimaru-machi, Tanushimaru

Total assets	1,783,000 yen
Securities	225,000 "
Cash on hand	409,000 "
Total loans	551,000 "
Uncalled capital	570,000 "
Total liabilities	1,783,000 "
Deposits	846,000 "
Reserves	81,000 "
Net profits (6 mos.)	7,000 "
Paid-up capital	230,000 "

Amagi Ginko:

Main office: Asakura-gun, Amagi-machi 1829  
Branches: 1 in Fukuoka-ken. Agencies: 1 in Fukuoka-ken.  
Location of branch and agency in Fukuoka-ken:  
Branch: Asakura-gun, Akizuki-machi, Shimo-skizuki  
Agency: Asakura-gun, Miyano-mura, Hira

Total assets	2,730,000 yen
Securities	941,000 "
Cash on hand	370,000 "
Total loans	1,125,000 "
Uncalled capital	235,000 "
Total liabilities	2,730,000 "
Deposits	1,777,000 "
Reserves	237,000 "
Net profits (6 mos.)	21,000 "
Paid-up capital	415,000 "

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Kusano Ginko:

Main office: Mii-gun, Kusano-machi  
Branches: 3 (all in Fukuoka-ken)  
Location of branches:  
Kurume-shi, Higashi-machi  
Mii-gun, Yamamoto-mura, Jino  
Onga-gun, Orio-machi, Orio

Total assets	2,773,000 yen
Securities	377,000 "
Cash on hand	531,000 "
Total loans	1,675,000 "
Uncalled capital	None
Total liabilities	2,773,000 "
Deposits	2,092,000 "
Reserves	105,000 "
Net profits (6 mos.)	26,000 "
Paid-up capital	520,000 "

Daito Ginko:

Main office: Ukiha-gun, Miyuki-mura, Asada  
Branches: 2, one in Fukuoka-ken  
Location of branches in Fukuoka-ken:  
Ukiha-gun, Oishi-mura, Takami

Total assets	1,688,000 yen
Securities	398,000 "
Cash on hand	392,000 "
Total loans	675,000 "
Uncalled capital	75,000 "
Total liabilities	1,688,000 "
Deposits	989,000 "
Reserves	155,000 "
Net profit (6 mos.)	22,000 "
Paid-up capital	425,000 "

Kitano Ginko:

Main office: Mii-gun, Kitano-machi, Imayama  
One branch and 3 agencies, all in Fukuoka-ken  
Location of branches and agencies:  
Kurume-shi, Hiyoshi-machi  
Kurume-shi, Higashi-machi  
Mii-gun, Tateishi-mura Matsuzaki  
Mii-gun, Hongo-mura

Total assets	Unknown
Securities	1,068,000 yen
Cash on hand	297,000 "
Total loans	2,210,000 "
Uncalled capital	150,000 "
Total liabilities	Unknown
Deposits	3,101,000 "
Reserves	165,000 "
Net profits (6 mos.)	31,000 "
Paid-up capital	350,000 "

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Meiju Ginko:

Main office: Mii-gun, Ajisaka-mura  
 No branches, one agency located at Mii-gun, Kitano-machi

Total assets	1,190,000 yen
Securities	271,000 "
Cash on hand	104,000 "
Total loans	531,000 "
Uncalled capital	175,000 "
Total liabilities	1,190,000 "
Deposits	587,000 "
Reserves	68,000 "
Net profit (6 mos.)	15,000 "
Paid-up capital	325,000 "

Chikuhi Ginko:

Main office: Mii-gun, Zendoji-machi  
 Three branches, all in Fukuoka-ken  
 Location of branches:  
 Ukiha-gun, Shibakari-mura  
 Mii-gun, Yamakawa-mura  
 Kurume-shi

Total assets	2,946,000 yen
Securities	1,110,000 "
Cash on hand	377,000 "
Total loans	1,039,000 "
Uncalled capital	217,000 "
Total liabilities	2,946,000 "
Deposits	2,246,000 "
Reserves	135,000 "
Net profits (6 mos.)	15,000 "
Paid-up capital	283,000 "

Chikushi Ginko:

Main office: Chikushi-gun, Futsukaichi-machi, 852  
 Six branches, all in Fukuoka-ken  
 Location of branches:  
 Chikushi-gun, Dazaifu-machi  
 Chikushi-gun, Chikushi-mura, Harada  
 Chikushi-gun, Ono-mura Zoshokunokuma  
 Fukuoka-shi, Miyake-machi  
 Asakura-gun, Yasu-mura  
 Kasuya-gun, Umi-machi

Total assets	unknown
Securities	848,000 yen
Cash on hand	679,000 "
Total loans	1,061,000 "
Uncalled capital	285,000 "

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Total liabilities	unknown
Deposits	2,366,000 yen
Reserves	38,000 "
Net profits (6 mos.)	14,000 "
Paid-up capital	215,000 "

Takeishi Ginko:

Main office: Chikushi-gun, Futsukaichi-machi  
 One branch located at Fukuoka-shi, Miyake-machi, 345

Total assets	2,180,000 yen
Securities	337,000 "
Cash on hand	375,000 "
Total loans	1,057,000 "
Uncalled capital	300,000 "
Total liabilities	2,180,000 "
Deposits	1,310,000 "
Reserves	295,000 "
Net profit (6 mos.)	24,000 "
Paid-up capital	200,000 "

Mikasa Ginko

Main office: Chikushi-gun, Futsukaichi-machi  
 Three branches located as follows:  
 Chikushi-gun, Dazaifu-machi  
 Chikushi-gun, Chikushi-mura, Shitami  
 Chikushi-gun, Naka-machi, Mugino

Total assets	2,411,000 yen
Securities	611,000 "
Cash on hand	346,000 "
Total loans	1,083,000 "
Uncalled capital	300,000 "
Total liabilities	2,411,000 "
Deposits	1,779,000 "
Reserves	67,000 "
Net profit (6 mos.)	12,000 "
Paid-up capital	300,000 "

Minagi Ginko:

Main office: Asakura-gun, Minagi-mura  
 Two branches located as follows:  
 Asakura-gun, Dazaifu-mura, Hitochi  
 Asakura-gun, Miyano-mura, Hiramatsu

Total assets	1,211,000 yen
Securities	99,000 "
Cash on hand	263,000 "
Total loans	512,000 "
Uncalled capital	300,000 "
Total liabilities	1,211,000 "
Deposits	647,000 "
Reserves	46,000 "
Net profit (6 mos.)	6,000 "
Paid-up capital	200,000 "

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Oita Godo Ginko (Oita Consolidated Bank):

Main office: Oita-ken, Oita-shi  
Branch in Fukuoka-ken in Moji-shi

Nakatsu Ginko (Nakatsu Bank):

Main office: Oita-ken, Nakatsu-shi  
Branch in Fukuoka-ken in Chikujo-gun, Hachiya-machi

Toyomae Ginko (Toyomae Bank):

Main office: Oita-ken, Nakatsu-shi  
Branch in Fukuoka-ken in Tobata-shi, Tobata-cho

Kao Ginko:

Main office: 1  
Branches: 4, agencies: 1 (locations unknown)  
Total assets unknown  
Securities 10,104,000 yen  
Cash on hand 4,547,000 "  
Total loans 4,798,000 "  
Uncalled capital 1,115,000 "  
Total liabilities unknown  
Deposits 18,272,000 "  
Reserves 296,000 "  
Net profit (6 mos.) 55,000 "  
Paid-up capital 830,000 "

Tanushimaru Jitsugyo Ginko:

Main office: Ukiha-gun, Tanushimaru-machi  
Uncalled capital: 525,000 yen  
Paid-up capital: 475,000 "  
No other information available

Saga Chuo Ginko:

Main office: Saga-ken, Karatsu-shi  
Location of branches in Fukuoka-ken:  
Itoshima-gun, Maebaru-machi  
Fukuoka-shi, Mishini-cho

Saga Hyakuroku Ginko:

Main office: Saga-ken, Saga-shi  
Location of Fukuoka branch: Yamato-gun, Yanagawa-machi

Omura Ginko:

Main office: Nagasaki-ken, Nagasaki-shi  
Location of Fukuoka branch: Tobata-shi

Teikoku Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi, Higashi Hon-machi (2 branches)  
Kokura-shi  
Kurume-shi  
Wakamatsu-shi  
Fukuoka-shi (2 branches)  
(Note: these were formerly all branches of the  
Dai-ichi Ginko or the Mitsui Ginko, which were  
merged to form the Imperial Bank.)

Sumitomo Ginko:

Main office: Osaka-shi  
Location of branches in Fukuoka-ken:  
Moji-shi, Hon-machi  
Kokura-shi  
Kurume-shi (2 branches)  
Wakamatsu-shi  
Fukuoka-shi

Yasuda Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi, 3102, Baba  
Wakamatsu-shi  
Fukuoka-shi

Mitsubishi Ginko

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Kurume-shi  
Fukuoka-shi  
Tobata-shi

Sanwa Ginko:

Main office: Osaka-shi  
Location of branches in Fukuoka-ken:  
Kurume-shi  
Fukuoka-shi

## (3) Central Banks.

Nippon Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi  
Fukuoka-shi

Oita Godo Ginko (Oita Consolidated Bank):

Main office: Oita-ken, Oita-shi  
Branch in Fukuoka-ken in Moji-shi

Nakatsu Ginko (Nakatsu Bank):

Main office: Oita-ken, Nakatsu-shi  
Branch in Fukuoka-ken in Chikujo-gun, Hachiya-machi

Toyomae Ginko (Toyomae Bank):

Main office: Oita-ken, Nakatsu-shi  
Branch in Fukuoka-ken in Tobata-shi, Tobata-cho

Kao Ginko:

Main office: 1  
Branches: 4, agencies: 1 (locations unknown)  
Total assets unknown  
Securities 10,104,000 yen  
Cash on hand 4,547,000 "  
Total loans 4,798,000 "  
Uncalled capital 1,115,000 "  
Total liabilities unknown  
Deposits 18,272,000 "  
Reserves 296,000 "  
Net profit (6 mos.) 55,000 "  
Paid-up capital 830,000 "

Tanushimaru Jitsugyo Ginko:

Main office: Ukiha-gun, Tanushimaru-machi  
Uncalled capital: 525,000 yen  
Paid-up capital: 475,000 "  
No other information available

Saga Chuo Ginko:

Main office: Saga-ken, Karatsu-shi  
Location of branches in Fukuoka-ken:  
Itoshima-gun, Maebaru-machi  
Fukuoka-shi, Mishinii-cho

Saga Hyakuroku Ginko:

Main office: Saga-ken, Saga-shi  
Location of Fukuoka branch: Yamato-gun, Yanagawa-machi

Omura Ginko:

Main office: Nagasaki-ken, Nagasaki-shi  
Location of Fukuoka branch: Tobata-shi

Teikoku Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi, Higashi Hon-machi (2 branches)  
Kokura-shi  
Kurume-shi  
Wakamatsu-shi  
Fukuoka-shi (2 branches)  
(Note: these were formerly all branches of the Dai-Ichi Ginko or the Mitsui Ginko, which were merged to form the Imperial Bank.)

Sumitomo Ginko:

Main office: Osaka-shi  
Location of branches in Fukuoka-ken:  
Moji-shi, Hon-machi  
Kokura-shi  
Kurume-shi (2 branches)  
Wakamatsu-shi  
Fukuoka-shi

Yasuda Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi, 3102, Baba  
Wakamatsu-shi  
Fukuoka-shi

Mitsubishi Ginko

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Kurume-shi  
Fukuoka-shi  
Tobata-shi

Sanwa Ginko:

Main office: Osaka-shi  
Location of branches in Fukuoka-ken:  
Kurume-shi  
Fukuoka-shi

## (3) Central Banks.

Nippon Ginko:

Main office: Tokyo-to  
Location of branches in Fukuoka-ken:  
Moji-shi  
Fukuoka-shi

Yokohama Shokin Ginko:

Main office: Kanagawa-ken, Yokohama-shi  
 Location of branches in Fukuoka-ken:  
 Moji-shi, 18 Sanbashi-dori  
 Fukuoka-shi

(4) Special Banks.

Nippon Kogyo Ginko:

Main office: Tokyo-to  
 Location of branch in Fukuoka-ken:  
 Fukuoka-shi, 80 Tenjin-no-cho

Nippon Kangyo Ginko:

Main office: Tokyo-to  
 Location of branch in Fukuoka-ken:  
 Fukuoka-shi

(5) Savings Banks.

Chikuho Chochiku Ginko

Main office: Nogata-shi, Nogata, 536  
 No branches, one agency

Total assets	8,731,000	yen
Securities	5,204,000	"
Cash on hand	1,261,000	"
Total loans	1,791,000	"
Uncalled capital	450,000	"
Total liabilities	8,731,000	"
Deposits	7,817,000	"
Reserves	156,000	"
Net profit (6 mos.)	16,000	"
Paid-up capital	150,000	"

Miike Chochiku Ginko:

Main office: Omuta-shi, Asahi-machi, 1 no 2  
 No branches or agencies

Total assets	5,756,000	yen
Securities	4,468,000	"
Cash on hand	348,000	"
Total loans	534,000	"
Uncalled capital	375,000	"
Total liabilities	5,756,000	"
Deposits	5,005,000	"
Reserves	348,000	"
Net profit (6 mos.)	12,000	"
Paid-up capital	125,000	"

Kaho Chochiku Ginko

Main office: Iizuka-shi, Iizuka, 374  
 No branches or agencies

Total assets	5,398,000	yen
Securities	4,468,000	"
Cash on hand	808,000	"
Total loans	155,000	"
Uncalled capital	375,000	"
Total liabilities	5,398,000	"
Deposits	4,719,000	"
Reserves	81,000	"
Net profit (6 mos.)	13,000	"
Paid-up capital	125,000	"

c. Insurance. The following marine and fire insurance companies maintained branches in Fukuoka-ken in 1940-41: Hokoku Fire Insurance Co.; Nippon Fire Insurance Co.; Nippon Kyoritsu Fire Insurance Co.; Nissan Fire and Marine Insurance Co.; Osaka-Sumitomo Marine and Fire Insurance Co.; Taifuku Marine and Fire Insurance Co.; Taihoku Fire, Marine, and Transport Insurance Co.; Taisho Marine and Fire Insurance Co.; Tokyo Marine and Fire Insurance Co.; Yasuda Marine and Fire Insurance Co. and Okura Marine and Fire Insurance Co.

As of 1936 there were 1,009,598 ordinary life insurance policies in force in Fukuoka-ken, with a total value of 132,295,000 yen. As of 1940-41, there were branches of the following life insurance companies in Fukuoka-ken: Meiji Life Insurance Co.; Mitsui Life Insurance Co.; Nippon Life Assurance Co.; Teihei Life Insurance Co.; Teikoku Life Insurance Co.; and Yasuda Life Insurance Co.

d. Postal savings. Postal savings are very important in the financial picture of the prefecture, since the ordinary individual uses the post office as his bank both for savings and also as a checking account, through postal transfer accounts. Postal savings in Fukuoka-ken totaled 410,160,000 yen as of June 1942.

e. Credit associations. Credit associations are important to the individual, both as a place to invest his money and as a source from which small loans can be obtained. In 1936 there were 376 such associations operating in Fukuoka-ken with a total investment of 12,246,000 yen.

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f. Mutual financing associations (Mujin). In common with the credit associations the mujin were important to the ordinary individual as a place for investment and a source for small loans. Statistics are given below for 1936:

Main offices	12
Branch offices	36
Authorized capital	1,350,000 yen
Paid-up capital	617,000 "
Number of association accounts	3,895
Number of individual accounts	157,186

2. Public Finance.

a. Relative position of prefecture. Table 55 shows the relative position, in regard to public finance, of Fukuoka-ken, compared with the rest of Japan as of 1938.

TABLE 55

Public Finance, 1938, Fukuoka-ken

	Total for Fukuoka-ken (in yen)	Percent of total for all prefectures
Prefectural revenue	24,200,000	4.0
Prefectural expenditures	24,200,000	4.0
National business profits tax collection:		
(1) Individuals	1,448,000	5.2
(2) Corporation	1,485,000	2.3
Total taxable income	163,790,000	3.5
National income tax collect.	8,106,000	3.0

b. Income of prefectural government. In the 1938-39 fiscal year the income of the prefectural government of Fukuoka-ken was derived from the following sources.

	Amount (in thousand yen)
Total income	24,200
Surtaxes on direct national taxes	
Land tax	2,153
Income tax	2,214
Other	1,578
Special land tax	168
House tax	1,272
Business tax	296
Miscellaneous taxes	2,307

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Property income	28
Employment and handling fee	2,392
National grants in aid	3,255
Prefectural loans	2,884
Balance from previous fiscal year	483
Other	5,171

c. Expenditures of prefectural government. Expenditures in the fiscal year 1938-39 were as follows:

	Amount (in thousand yen)
Total expenditures	24,200
Council expenses	74
Police expenses	3,531
Public works	6,098
Education	5,840
Encouragement of industry	2,297
Health and sanitation	573
Social welfare	288
Prefectural loan expenses	2,480
Handling of prefectural expenses	526
Official's expenses	1,465
Other	1,028

d. Income of cities. Revenue of cities in Fukuoka-ken for the fiscal year 1938-39 were as follows:

	Amount (in thousand yen)
Total revenue	28,609
Surtaxes on direct national taxes	
Land tax	546
Income tax	278
Other	1,763
Surtaxes on prefectural taxes	
Special land tax	5
House tax	1,889
Business tax	225
Miscellaneous taxes	1,712
Special tax	2,278
Property income	166
Employment fee and handling fee	4,834
Delivery and subsidy	1,874
City loans	6,170
Balance from previous year	2,250
Other	4,621

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e. Expenditures of cities. Expenditures of cities in Fukuoka-ken for the fiscal year 1938-39 were as follows:

	Amount (in thousand yen)
Total expenditures	28,609
Council expense	118
Office expense	2,047
Public works	3,308
Education	6,575
Health and sanitation	6,701
Social welfare	1,308
Police	319
Encouragement of industry	825
Municipal loan expense	4,178
Liability expense	17
Planning	1,431
Maintenance expense (property)	257
Electric and gas construction	134
Other	1,392

f. Income of towns and townships. Revenue of the towns and townships in Fukuoka-ken for the fiscal year 1938-39 were as follows:

	Amount (in thousand yen)
Total revenue	17,007
Surtax on national taxes	
Land tax	1,217
Income tax	4
Other	1,076
Surtax on prefectural taxes	
Special land tax	131
Personal property tax	240
Business tax	103
Miscellaneous taxes	1,089
Special taxes	5,558
Estate incomes	312
Rents and commissions	501
Subsidies	3,030
Towns and village loans	972
Amount carried forward from previous year	748
Other	2,026

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g. Expenditures of towns and townships. Expenditures of the towns and townships in Fukuoka-ken for the fiscal year 1938-1939 were as follows:

	Amount (in thousand yen)
Total expenditures	17,007
Council expenses	136
Office expense	2,787
Public works	1,857
Education	7,586
Health and sanitation	532
Social welfare	326
Police	291
Encouragement of industry	336
Public loan expense	1,115
Various taxes and burdens	68
Building funds	721
Electricity and gas enterprise	none
Other	1,222

h. Public debt. The local public debt in Fukuoka-ken as of 1936, totaled 78,001,000 yen. The following is a breakdown of this according to areas and objectives for which the debt was incurred:

	Amount (in thousand yen)
By area	
Prefectural	29,442
Municipal	36,940
Town and village	11,638
Water supply (district)	none
By objective	
Education	7,627
Health and sanitation	19,087
Services expenses	7,551
Disaster repair	7,870
Ordinary construction	29,091
Electric and gas works	104
Public welfare	4,699
Other	1,972

i. Incidence of national income tax. Some indication of the incidence of the tax burden is given by the following figures which show the number of persons in the prefecture in the various income tax brackets as of 1936:

	Number of individuals
Total number paying income tax	56,462
Number paying less than 10 yen	16,683

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10 to 15 yen	11,557
15 to 20 yen	5,171
20 to 30 yen	6,217
30 to 40 yen	5,105
50 to 100 yen	5,257
100 to 200 yen	3,473
200 to 500 yen	1,974
500 to 1,000 yen	581
1,000 to 2,000 yen	249
2,000 to 5,000 yen	125
Over 5,000 yen	70

j. Location of finance offices in prefecture. There were, as of 1943, seven branch offices of the Revenue Bureau in Fukuoka-ken located in the following places: Fukuoka-shi, Kurume-shi, Kokura-shi, Omuta-shi, Yawata-shi, Nogata-shi, and Iizuka-shi. There were three customs houses in the prefecture as of 1943, located in: Moji-shi, Wakamatsu-shi, and Fukuoka-shi. The Fukuoka branch of the Kumamoto District Monopoly Bureau was located in Fukuoka-shi in 1943, and the Kyushu branch office of the National Financial Control Association was in the same city as of 1943.

As of 1938, tax collector's offices were located in the following places in Fukuoka-ken: Fukuoka-shi, Daimyo-cho; Fukuoka-shi, Dote-machi; Iizuka-shi, Iizuka-aza; Nogata-shi, Shinmachi-aza; Kurume-shi, Sasayama-cho; and Kokura-shi, Konya-cho.

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## IV. PUBLIC SERVICE

## A. TRANSPORTATION

1. Railroads.

a. Pattern and importance. Two of Kyushu's north-south trunk lines, following the east and west coasts of the islands, terminate at Moji in the north of the prefecture and run along parts of the east and west margins of Fukuoka-ken. Connecting these 2 trunk lines is a line running east and west in the south of the prefecture. The great central section is served by many lines and railroads, radiating from a hub around Iizuka-shi, Tagawa-shi (Gotoji-machi), and Nogata-shi and connecting with the border lines. In the north and west, important electric lines connect the major cities.

Railroads of primary importance are the Kagoshima Main Line (1)\*, Nippo Main Line (2), Chikuho Line (3), Kyudai (Daito) Line (5), Kita-kyushu RR (8), Kyushu Electric RR (13), Saga Line (14), Kyushu Electric Tramway (29).

Railroads of secondary importance are the Sangyo Line (4), Ida Line (6), Miyatoko Line (7), Chuo Line (9), Kyushu Hichiku Line (10), Kokura Line (11), Tagawa Line (12), Hakatawan RR (16), Asakura RR (20), Yanagawa Line (21), Fukuoka Electric Tram (30), Wakamatsu Electric Tram (31), Omuta Electric Tram (32).

Railroads of tertiary importance are the Coal Line (15), Sasaguri Line (17), Chikuzen Sangu Line (18), Kubukuro Line (19), Railroad (22), Hokuchiku Line (23), Nanchiku RR (24), Ungshima RR (25), Kurate Tramway (26), Shin-Ryochiku RR (27), Muroki Line (28), Railroad-Mii-Yoshi-Amaki (39), Railroad, Yanagawa-Daizenji (33).

Railroads of minor importance are the Mining RR (34), Coal Mining RR (35), Mining RR (36), Coal Mining RR (37), Cart Track RR (38), Coal Mining RR (40).

b. Administration. The regional railroad administration office for Fukuoka-ken is at Moji-shi.

## c. Yards and shops.

(1) Yards in Moji-shi: At the terminal, 3/4 of a mile to the southwest of the center of Moji-shi, the railroad yard is 20 tracks wide and about 3,000 feet long. There are 2 loading platforms 900x700 feet, 5 warehouses averaging 210x35 feet, a large number of small shops and a roundhouse. On 18 June 1944, there were 245 cars in the yard.

\*Numbers refer to OSS Map 7205.

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Farther west, but east of the large marshalling yards at Dairi, there is the Shirokisuki Yard serving the Moji southern wharves and coal storage area. It is 3,650 feet long and 15 tracks wide. There are about 12 buildings, probably warehouses, about 150x200 feet, and a traveling crane covering the dock for about 1,000 feet. Farther west at Komorie, a 15-track yard serves the ferry slips.

At Dairi are the principal terminal yards of the north Kyushu railway system. These yards extend over 1.6 miles and are 50 tracks wide at the widest point. There are 8 covered loading platforms ranging from 300 to 800 feet long, a station 220x70 feet overall, a car repair shop 270x70 feet with an extension of 90x60 feet, a roundhouse with 19 stalls and an extension 100x75 feet, turntable 60 feet in diameter, 2 saw-tooth roofed shops 220x125 feet and 200x90 feet, 10 probable shops ranging from 110x60 feet to 45x30 feet, one 40x30 foot building with stack adjacent, a water tank 30 feet in diameter, and numerous small buildings. On 18 June 1944, this yard contained 1,250 cars and at least 8 locomotives. At the north end of this yard is the entrance to the 2-mile Kammon tunnel connecting Dairi with Hiko-shima, Yamaguchi-ken. An electric railroad leads from the tunnel entrance past loading platforms to the car repair shop in the center of the Dairi yard. (For the details concerning this tunnel, see Construction, d.)

(2) Kokura-shi: In Kokura-shi, just west of the Arsenal, is one of the most important shops on Kyushu and one of the largest repair shops in Japan. Both cars and locomotives can be repaired here. The yard containing these shops is about 2,000 feet long and 13 tracks or 1,060 feet wide. The yards contain a monitor-roof, factory-type building 620x150 feet, 11 shop-type buildings ranging from 300x200 feet to 165x90 feet, a power plant 45x45 feet with a large stack, 6 warehouse buildings averaging 150x45 feet, a water tank, and 31 miscellaneous buildings. Northwest of the city at the Tokyo Rope and Steel Co. factory, is a railroad marshalling yard, 2,640x270 feet with some 29 tracks and car repair shops 135x45 feet and 75x45 feet.

(3) Yawata-shi: A marshalling yard west of the Yawata plant of the Japan Iron Works is 2,500x470 feet and approximately 21 tracks wide. It contains a turntable 60 feet in diameter, and 2 repair shops, 120x45 feet. Its primary use is to serve the iron works. Another yard 1,400x150 feet and about 4 tracks wide, is mainly for passenger cars. A third yard serving the Yatsukawa Machine Works is approximately 1,900x100 feet and 6 tracks wide. At the Kukino, Oka (Dooka) plant, spurs and rails are very extensive.

(4) Wakamatsu-shi: Important repair shops for cars only, flat-switching marshalling yards, and a roundhouse are located here.

The shops are located about 1½ miles southwest of the city. There is one building approximately 200x65 feet and 8 small buildings about 50x25 feet. A single track with 3 spurs serves the shops. The yards extend along Dokai-wan for about one mile, about 1,000 feet of which is served by a traveling crane and a single track. A 4-track line starting at the shop area runs into the terminal in south Wakamatsu. This terminal has a yard about 1,000x500 feet with 10 tracks. There are some 14 buildings, 2 of which are warehouses, approximately 100x30 feet long.

(5) Nogata-shi: At this city there are railroad yards of the flat-switching type and repair shops. No details available.

(6) Yukuhashi-machi: Railroad repair shops.

(7) Kurume-shi: Sidings but little marshalling.

(8) Fukuoka-shi (Hakata Station): Marshalling yard.

(9) Yoshizuka Station: Marshalling yard and roundhouse.

(10) Sasaguri-machi: a 3-track yard 700x200 feet is approximately one mile southwest of the city. A 2-track 1,500x150 foot yard and station with one short additional siding are located in the city. A 900x150-foot yard and 45x30-foot station, 3 tracks wide, are located 2 miles southwest of the city. A 5-track yard and 45x35-foot station, serving a coal loading yard and connected with coal mines nos. 28 and 29 by narrow-gauge tracks, are located 2 miles south of the Onga-gawa near Sasaguri. 2 miles north of this yard is a 6-track yard with a 30x20-foot station and a short siding, serving coal area and mine no. 35.

#### d. Construction.

(1) The standard rail for express lines is 40 feet long and weighs 100 pounds per yard. However, the only specific information on lines in Fukuoka-ken are on (a) the Kokura Line (11), 60-pound rails, (b) the Kyushu Electric RR (13), 75-pound rails on the section between Fukuoka-shi and Kurume-shi, and (c) the Kyushu Electric Tramway (29), 60- and 108-pound rails.

(2) Kammon Tunnel, from Shimonoseki to Moji: This is 24 feet in diameter and 124 feet below sea bottom at maximum depth. It is built of steel rings and is concrete-lined. The length of the tunnel is about 10,000 feet, and is believed to be between Moji and Hiko-shima with a concrete viaduct from Hiko-shima to Shimonoseki-shi. It is possibly double-tracked.

(3) A second tunnel, combined railway and highway, has been reported, but as yet its completion is unconfirmed.

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TABLE 56

Railroads, Fukuoka-ken.  
Mileage in

Key	Railroad	Owner	Power	Prefecture	Gauge	Track	Stations	Terminals
1	Kagoshima Line	Govt	Steam	72	3'-6"	Double	31	Kagoshima <sup>Ⓞ</sup> & Moji
2	Nippo Line	"	"	39	"	Single	11	Kagoshima <sup>Ⓞ</sup> & Moji
3	Chikuho Line	"	"	57	"	Single**	21	Wakamatsu & Haruda
4	Bangyo Line	Govt 1945	"	10	"	Single	7	Iizuka, Yoji & Kanada
5	Kyudai (Daito) Line	Govt	"	22	"	"	9	Tosu <sup>♠</sup> & Oita
6	Ida Line	"	"	10	"	Double	5	Nogata & Tagawa (Ida)
7	Railroad (Miyatoko)	Private	"	19	"	Single	4	Tagawa (Gotoji) and Yoake
8	Kitakyushu R.R.	"	"	28	"	"	14	Imari <sup>♠</sup> & Fukuoka (Hakata)
9	Chuo Line	Govt	"	6	"	"	2	Tajiro <sup>♠</sup> & Amaki
10	Kyushu Hichiku Line	"	"	7	"	"	5	Yanagawa & Nishikuchi
11	Kokura Line	Govt 1945	"	28	"	"	9	Tobata & Solda
12	Tagawa Line	Govt	"	18	"	"	7	Tagawa (Gotoji) & Yukuhashi
13	Kyushu R.R.***	Private 1942	Elec., Gas & Steam	78	3'-6" & 4'-8 1/2"	Double	54#	Fukuoka & Omuta
14	Saga Line	Govt	Steam	9	3'-6"	Single	3	Saga <sup>♠</sup> & Setaka
15	Coal Line	"	"	6	"	Double	0	Omuta
16	Hakatawan, R.R.***	Private 1942	Elec., Gas & Steam	32	"	Single	23	Miyaji & Umi
17	Sasaguri Line	Govt	Steam	7	"	"	3	Fukuoka & Sasaguri
18	Chikuzen Sangu Line	"	"	9	"	"	7	Fukuoka & Haruda
19	Kofukuro Line	"	"	9	"	"	6	Nogata & Iizuka
20	Asakura R.R.	Private	"	20	Prob. 2'-6"	"	25	Amaki & Haki
21	Yanagawa Line	Govt	"	4	3'-6"	"	4	Yanagawa & Setaka
22	Railroad	Private	"	4	Prob. 2'-6"	"	8	Yanagawa & Wakatsu
23	Hokuchiku Line	Govt	"	13	"	"	16	Kamuri & Nishi-jin
24	Nanchiku R.R.	Prob. Private	"	11	"	"	14	Hainuzuka & Kuroki

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25	Unoshima R.R.	Private	Steam	11	Prob. 2'-6"	Single	10	Unoshima & Yabake
26	Kurate Tramway	Private 1942	Steam & Gas	9	3'-0"	"	7	Fukumaru & Chukuho
27	Shin-Ryochiku R.R.	Private	Steam	3	Prob. 2'-6"	"	3	Amaki & Akizuki
28	Muroki Line	Govt	"	7#	3'-6"	"	4#	Muroki
29	Kyushu Electric Tram	Private 1942	Elec.	25	4'-8 1/2"	"		Moji & Orio
30	Fukuoka Electric Tram	Private 1942	"	17	"	"	15#	Fukuoka
31	Wakamatsu Electric Tram	Private 1942	"	1	3'-6"	"	#	Wakamatsu
32	Omuta Electric Tram	Private 1942	"	3	4'-8 1/2"	"	#	Omuta
33	Railroad	Private	Steam	7	Prob. 2'-6"	"	#	Yanagawa & Daizenji
34	Mining R.R.	Private	Prob. Steam	5	Prob. 2'-6"	"		West of Nogata 4 miles
35	Coal Mining R.R.	Private	"	3	"	"		Sasaguri
36	Mining R.R.	"	"	5	"	"		Iizuka
37	Coal Mining R.R.	"	"	3	"	"		Kotake
38	Cart Track R.R.	"	"	2	"	"		Tsuyazaki & Miyaji
39	Railroad*	"	Steam	18	"	"		Amaki & Mi
40	Coal Mining R.R.	"	"	2	"	"		South of Nogata 2 miles

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\*Existence doubtful.  
 \*\*Double track from Kochinoharu to Waramatsu.  
 \*\*\*West Japan R.R. Co. (1943).  
 #Incomplete information.  
 ⓄIn Kagoshima-ken.  
 ♠In Saga-ken

## 2. Highways.

a. Importance and pattern. As in all of Japan, highway transportation in Fukuoka-ken is local in character and is exceeded in volume by both railroads and waterways in long distance transportation. Fukuoka-ken has approximately 1/3 of the highways in all of Kyushu, amounting to 110 miles of national highways, 2,000 miles of prefectural roads and 15,000 miles of municipal roads. Many of the latter, however, are only trails and impassable even to carts. The density of highways in the prefecture is greatest in the valley south of Kurume-shi, but these roads are nearly all local. The Kyushu (National) Highway goes from Fukuoka-shi north to Moji-shi and south to Kagoshima-shi. The mountain range running north and south along the Fukuoka-Oita boundary is impassable in nearly all places. The exceptions are a highway crossing the range between Kurume and Hida, and one from Hainuzuka-machi, east into Oita-ken.

Little information is available on the highways in the industrial area of Moji-Yawata-Wakamatsu. It is reported that the national highway is concrete surfaced and 4 lanes wide from Moji-shi to Fukuoka-shi. South of Fukuoka it is still 4 lanes wide but is probably gravel surfaced. Where it passes over the mountain at the prefecture border it narrows to 2 lanes. South of Akama-machi it passes through dry rice fields to Fukuma-machi where it parallels the coast as far as Fukuoka. From Fukuoka to Futsukaichi-machi it again passes through dry rice fields and from Futsukaichi to Harisuri it runs parallel to the Asakura RR. From Harisuri to Tajiro (in Saga-ken) it goes over a small mountain spur, and from Tajiro to Kurume-shi again passes through dry rice fields. From Kurume-machi it parallels Kyushu RR, still passing through dry rice fields to Kanematsu where it goes through a mountain gorge to Yamaga-machi in Kumamoto-ken. Where the highway crosses the mountains at the prefectural boundary, its maximum elevation is about 1,000 feet and it abounds in curves.

The national highway from Kokura-shi to Nakatsu-shi in Oita-ken is reported to be a 2-lane, hard-surfaced road excepting near Kokura where it is 4 lanes wide. It is level and fairly straight.

The Japanese report that a highway tunnel connecting the national highways at Moji-shi and Shimonoseki-shi has been completed. To date this has not been verified.

The map of Fukuoka-ken (OSS Map 7205) shows prefectural highways as being primary and secondary. In general, primary highways connect small cities and towns, and the secondary ones connect the primary highways. Both the primary and secondary are reported as being passable. Not shown on the map are innumerable trails and footpaths possible only for carts and bicycles.

b. Administration. The construction and maintenance of national highways in Japan is a function of the Ministry of Home Affairs and administration is uniform throughout Japan. Prefectural, municipal, town and village roads are planned, constructed and maintained by the local authorities.

c. Construction. Detailed information on the construction and surfacing of individual highways within the prefecture is not available with the exception of the national highways discussed above. (See a.). In all of Kyushu it is reported that 15 percent of national highways, and 2 percent of prefectural highways are paved. Most of the others are constructed of gravel and sand, and maintained by adding more gravel. Through irrigated rice fields the highways are raised 2 or 3 feet above the inundated area. In mountains, retaining walls are often built to support the road. Fukuoka-ken is within the typhoon belt, and washouts are common, causing serious interruptions in highway transportation. Because of the lack of hard surfacing on nearly all of the highways, the movement of a large number of military vehicles would probably create serious maintenance problems.

## d. Primary prefectural highways.

(1) Fukuoka-shi to Tagawa-shi via Iizuka-shi and Itoda-machi. Fairly level and straight from Fukuoka to Sasaguri-machi east of which it rises to 900 feet elevation in 4 miles. At this point there are many curves. From here it crosses a plateau for a distance of 4 miles after which it crosses another peak, then drops into the valley at Iizuka. From here to a point 1.5 miles north of Tagawa on the Nogata-Tagawa highway it is fairly level and straight excepting where it crosses a ridge just west of Itoda.

(2) Fukuma-machi to Nogata-shi via Fukumaru. A narrow mountain road from Fukuma to Fukumaru. From here to Nogata it is level and goes through dry rice fields.

(3) Tsuyazaki-machi to Fukuma-machi. Coastal road, level and straight.

(a) Nogata-shi south to national highway via Iizuka-shi. Level, straight road from Nogata to 6 miles south of Iizuka-shi. Here it starts across a mountain range, paralleling the Chikuho RR. At the peak the railroad passes through a tunnel, but the highway passes over top of the range and is steep and curving.

(4) Ashiya-machi southeast to Soeda-machi via Nogata-shi and Tagawa-shi. Little information from Ashiya to Nogata. South of Nogata to Soeda it is level. From Tagawa to Soeda there is a road on each side of the Hikoyama-gawa. South of Soeda the road goes into the mountain and becomes impassable.

(5) Yukuhashi-machi southwest to Tanushimaru-machi via Kawara-machi, Tagawa-shi, Okuma-machi and Amagi-machi. Fairly

level for about 6 miles southwest of Yukuhashi where it crosses a high mountain ridge, going through the Chuai tunnel, approximately 1,500 feet long. It then goes down into the valley of Kawara and Tagawa, and about 3 miles south of Tagawa again goes into mountainous terrain. Between Okuma-machi and Akizuki-machi the terrain is very mountainous, and the road is very narrow. From Amagi to Tanushimaru it passes through dry rice fields. North of Tanushimaru it crosses the Chikugo-gawa on a long-span wooden bridge.

(6) From national highway southeast of Futsukaichi-machi through Amagi southeast to Oita-ken. From beginning point to Haki-machi it follows the road bed of the Asakura RR. It is level and straight to Oita-ken, where it enters the mountains.

(7) Tajiro to Amagi-machi. A good level road. For most of the distance it follows the roadbed of the Chuo RR.

(8) Kurume-shi east through Tanushimaru-machi to Oita-ken border. A good level road, passing through thickly populated agricultural terrain.

(9) Enokitsu (near the mouth of the Chikugo-gawa) easterly through Fukushima-machi to Oita-ken boundary. From beginning point to about 3 miles east of Fukushima it is a good straight road, passing through thickly populated terrain. From here east to Oita-ken border it is mountainous, rising to the peak at the prefectural border, where the elevation is about 2,000 feet.

(10) Kurume-shi directly south through Hainuzuka-machi and Minaminoseki-machi (in Kumamoto-ken) to Omuta. From Kurume for 13 miles south the road passes through thickly populated agricultural terrain. At Haranomachi (Yamato-gun) it enters a mountain gorge to Minaminoseki-machi. From here to Omuta it crosses the mountains at the prefectural boundary and becomes a straight, level road at the outskirts of Omuta.

(11) Kurume-shi to Yanagawa-machi. A good main road through a thickly populated valley.

(12) Kurume-shi to Wakatsu (near the mouth of the Chikugo-gawa). Good level road close to the Chikugo-gawa.

(a) Wakatsu to Omuta-shi via Yanagawa-machi. A good coastal road over its entire length to Omuta. Does not cross river to Saga. There is probably a ferry.

(13) Yamagawa-machi through Setaka-machi east to Road 9. A good level road across the valley to mountains on the east.

(14) Iizuka-shi to Oita-ken via Okuma-machi and Koishiwara-mura. Passes through narrow valley of dry rice fields to 6 miles south of Okuma where it starts over mountains. Reaches peak in about 2 miles and then follows mountain gorge to Morosuji, just over the Oita-ken border. In Oita-ken it turns toward the Amagi-machi-Hida-machi Highway, joining it 5 miles west of Hida.

(15) Nogata-shi to Yawata-shi. Reported to be a main highway, but no information as to construction. Passes through level land.

### 3. Water Transport.

Total unloading capacity of prefectural ports accessible to ocean vessels is 18,450 short tons per 10-hour day, not including Moji-shi. The combined capacity of Moji-Shimonoseki harbor facilities is 17,850 short tons per 10-hour

All prefectural shipping is administered under jurisdiction of Moji Marine Transport Bureau, a local branch of the Ministry of Transportation and Communications.

See AMS Map L571 and H.O. charts 2305, 2310, 2475, 5318, 5319, 2737, 5316 and 5676. For description of rivers, see also Chapter I-C-3. Order of description of harbors: on north coast, from west to east; on south coast, from north to south.

The following minor ports, generally used as fishing ports, are not discussed in detail: Kamuri, Funakoshi-mura, Nogita-mura, Nishinoura, Genkai-shima, Imazu-mura, Shiga-shima, Tsuyazaki-machi, Oshima-mura, Kaminominato, Shiranoe, and Hishakuda.

#### a. Fukuoka-wan (Hakata).

(1) Location. Large bay on northwest coast of prefecture.

(2) Harbor. The harbor, east of Nokono-shima, comprises 19,750 acres. It is sheltered by a long narrow sandy peninsula to north, by Nokono-shima to west, and by the mainland to south and east. The following ports, described separately below, lie along harbor shore: Fukuoka-shi (including Hakata, Meinohama and Hakozaki, Najima, and Saitozaki).

Depths in general are less than 5 fathoms; north entrance channel, 7 to 10 fathoms; south entrance channel, 2.5 to 6.5 fathoms. Tides have a mean high water interval of 9 hours 24 minutes; springs rise 6.25 feet; neaps rise 4.5 feet. There are 16 500-yard anchorages in 35 feet, northeast of Nokono-shima; 41 400-yard anchorages in 25 feet; 420 300-yard anchorages in 15 feet.

(3) Unloading capacity. Estimated capacity of all ports in harbor: 4,600 short tons per 10-hour day (1,000 short tons per 8-hour day at known deep water berths. 1938 activity through all ports in harbor: 84 steamers (136,853 tons) entered; 94 (128,062 tons) cleared. 16 sailing vessels (1,334 tons) entered; 36 (3,848 tons) cleared.

b. Fukuoka-shi. (Meinohama)

(1) Location. Western outskirts of Fukuoka-shi, and within Fukuoka harbor limit.

(2) Harbor. Open. Several mooring buoys off the town.

(3) Clearance. Rail and road.

c. Fukuoka-shi (including Hakata). See OSS Map 3806).

(1) Location. Southeast shore of Fukuoka-wan.

(2) Harbor. The port is principally a coal export center. The artificial harbor is protected by two breakwaters, one detached, enclosing water area with approximate radius of .75 miles. There are 2 municipal basins in harbor; Fukuoka-ko, west end of harbor, 75-yard entrance, L-shaped, north arm 165x165 yards, south arm 440x225 yards; and Hakata-ko, central waterfront, 135-yard entrance, rectangular, 575x100 yards. Main approach channel, between breakwaters is 175 yards wide.

General harbor depth is 2.25 fathoms; Fukuoka-ko, entrance 14 feet, south arm 15 to 16.5 feet; Hakata-ko, entrance 10.5 feet, basin 9 feet; main approach channel, 24 to 25.5 feet. There are a number of mooring buoys within breakwaters in dredged area.

The main quay is immediately east of Hakata-ko, charted length 1,640 feet, berthing length 1,312 feet, depth of 25.5 feet alongside. Hakata-ko is quayed inside and outside. The pier on the north side of Fukuoka-ko extends to 2.5 fathoms, with .75 fathoms alongside.

(3) Clearance. Rail: extensive connections; facilities at Hakata-ko. Road: improved coastal highway. Water: small steam vessels make several round trips to Saitozaki; probably railway ferry service to Fusan, Korea, joining Korean and Japanese railway systems.

(4) Storage. Recently reclaimed land provides large open storage areas.

(5) Supplies. Water: five hydrants at Fukuoka-ko; city water supply available at Hakata-ko; 2 water boats with pumps of 44 and 33 short ton per hour capacity. Coal: supply unlimited; 80 coal barges, total capacity of 2,865 short tons.

Oil: Available (see Saitozaki, below).

(6) Repairs. There is a graving drydock with extreme length, 250 feet; bottom length, 230 feet; top width, 40 feet; distance below chart datum level of sill .08 feet. There are 2 small building slips.

(7) Administration. Hakata Harbor Construction Office is located in the Customhouse at Hakata-ko.

d. Fukuoka-shi (Hakozaki).

(1) Location. Northeast outskirts of Fukuoka-shi and within Fukuoka harbor limits.

(2) Harbor. Protected by a series of breakwaters close to shore, three of which are detached and awash at high tide. Hakozaki Fishery Association Basin fronts the town at reclaimed land; size, 120x85x165 yards, depth, 6.5 feet.

(3) Clearance. Rail and road.

e. Najima.

(1) Location. Close north of Hakozaki.

(2) Harbor. Small basin with 7.5-foot depth at seaplane base. Two hammerhead cranes extending out over basin at seaplane base.

(3) Clearance. Rail and road.

f. Saitozaki.

(1) Location. End of peninsula opposite Fukuoka-shi, and within Fukuoka harbor limit.

(2) Harbor. The fourth Naval Fuel Depot is located here. The harbor is open. Reclaimed land to north and east. Several mooring buoys. There are 22 small piers equipped with belt conveyors for loading coal lighters. 200-foot floating pipeline through which black products and kerosene can be discharged at an average rate of 1,035 barrels per hour and diesel oil at 1,240 barrels per hour.

(3) Clearance. Rail: direct connections to coal mines near Fukuoka-shi and general rail system. Good waterfront facilities. Water: small steam vessels make several round trips daily to Fukuoka-shi.

(4) Storage. Warehouses: Rising Sun Oil Company has warehouses totalling 8,400 square feet of floor space. There is an open storage area on reclaimed land. A coal depot is

located there. The Rising Sun Oil Company has oil storage of 24 tanks with 243,432 barrel total capacity.

(5) Supplies. Water is supplied at piers; the daily capacity is 110 short tons. Oil is obtainable at the Naval Fuel Depot; bunkering rate 150 tons per hour. Coal is likewise obtainable at the Naval Coal Depot.

g. Fukuma-machi

- (1) Location. 12.5 miles north-northeast of Fukuoka-shi.
- (2) Harbor. Protected by breakwater. One pier.
- (3) Clearance. Rail and road.

h. Ashiya-machi and Onga-gawa.

(1) Location. Ashiya-machi is at the mouth of Onga-gawa, which flows north to the sea from coal mining district near Iizuka-shi.

(2) Harbor. In river mouth, 4.5 to 10.5 feet deep. Entrance channel, 600 feet wide, 4.25 to 10.5 feet deep. There possibly is a quay in river mouth. The river is navigable by river craft, which transport coal for considerable distances.

(3) Clearance. Road and rail.

i. Wakamatsu greater harbor.

(1) Location. Harbor limits include Wakamatsu-shi, Yawata-shi, and Tobata-shi.

(2) Harbor. Wakamatsu-shi is the chief coal exporting port of Japan; Tobata-shi and Yawata-shi are specialized ports principally designed for handling bulk coal and ore. The harbor is divided into three parts; outer, main, and inner. The outer harbor includes semicircular area with a radius of 2 nautical miles from bend in breakwater. Breakwater which forms west side of entrance to main harbor projects 1.3 miles north and then 1.8 miles north-northeast into outer harbor. Embankment, which partly uncovers during low water, extends west-northwest 1.1 miles from middle of breakwater. An L-shaped 95-acre basin in outer harbor (1025x390 yards) entered through 155-yard gap in breakwater. On east side of entrance to main harbor a large area has been reclaimed. The entrance to main harbor is a dredged channel adjacent to east side of breakwater. Basin fronting Tobata-shi on east side of entrance channel is 575x55 yards with 50-yard entrance width. The main harbor is a 196-acre area lying between Kaba-shima to north and Katsura-shima to south. Length, 2,000 yards; maximum width, 875 yards; minimum width, 325 yards. Wakamatsu-shi lines to west and Tobata-shi to east of main harbor. The inner harbor comprises Dokai-wan (Kukino-umi), an extensive inlet lying west-southwest of

main harbor and west of the important basin south of main harbor, adjacent to Yawata-shi. Combined water area, 4.4 miles long and 775 to 1,500 yards wide, totals 2,515 acres. 100-yard wide channels lie along both north and south shores of Dokai-wan. On south side of Dokai-wan are 2 basins lying west of Yawata basin. Yawata basin is 1.4 miles long, 535 to 200 yards wide; the entrance is 250 yards wide. There is an L-shaped basin on southeast side of Yawata basin and another small basin on northeast side.

The general depths of the outer harbor is 1 to 5 fathoms; L-shaped basin, 2 to 17 feet. The channel at the entrance to main harbor is 3.25 fathoms; the bar off entrance is sometimes dangerous to cross. The Tobata basin is 4.5 to 9 feet. Depths in main harbor are 17 to 25 feet. Inner harbor at Dokai-wan has shallow depths in middle which dry; north Dokai-wan channel is 3 to 16 feet; south Dokai-wan channel is 10.5 to 15.5 feet. Of the basins on south side of Dokai-wan, the west basin dries; the central basin is 9 to 21 feet; Yawata basin is 18 to 28 feet; L-shaped basin off Yawata basin is 7 to 9 feet; small basin off northeast side of Yawata basin is 7.5 to 9.5 feet. Tides: interval, 9 hours 56 minutes; springs rise 4.5 feet, neaps rise 3.25 feet.

The main anchorage is in 5 fathoms 2 nautical miles northwest of bend in breakwater in outer harbor. There are 230 300-yard anchorages in 15 feet; 23 mooring buoys in main harbor in 19.75 to 21.5 feet; 10 mooring buoys in Yawata basin in 21.5 to 28 feet; 3 mooring buoys in central basin off Dokai-wan. Tugs are available.

(3) Landing facilities The outer harbor has a total wharfage of 34,120 feet. Wakamatsu-shi has the following quayage in L-shaped basin:

Length in feet	Depth in feet
2650/565	3 to 10.25
1670/700/475	.25 to 13.75
565/1975	1 to 10.75.

At Tobata-shi, 4 piers are constructed off reclaimed land, all 2700x500 feet and placed 640 feet apart, with 16 feet at head and 4.5 to 9 feet alongside. The main harbor has a total wharfage of 6,890 feet. At Wakamatsu-shi there is the following wharfage, from north to south:

Length in feet	Depth in feet
670/410/345	4.25 to 10.5
55/900	4.25 to 16
550/885/430/1000	6 to 11

At Tobata-shi there is the following wharfage, south to north:

Length in feet	Depth in feet
790/65/175	15 to 23
6 piers, each 50 feet long, 615	16.5 (at heads) 20.5

The inner harbor has a total wharfage of 42,324 feet. At Wakamatsu-shi, north side of Dokai-wan, there are 11 slips, the 4 largest of which have 6 to 7 feet. This area provides following wharfage, east to west:

Length in feet	Depth in feet
2236/1345/615/105	7.25 to 11.75
650/415/565/100	7.25
50/625/475/525	4.25 to 7.25
130/555/490/500	6 to 7.25
65/530/500	6
1050/200	6.5
2090/1655/715	6.5
785/925	6.5

At Yawata-shi there is the following wharfage at basin lying west of Yawata-basin, west to east:

Length in feet	Depth in feet
2165	11.75
415	6.5 to 9
875/460/660	4.5 to 11.75
415/475	4.5 to 6.5
130/140	6.5 to 10.5

There is the following wharfage in Yawata basin, listed counter-clockwise:

Length in feet	Depth in feet
860/115/230/2760/1680	5.25 to 32.75
1325/3350	23.25
570/725/165/890/825	7 to 10.5
370/480	10.25 and 20.75 to 22.25
1280/800	11.5 to 24
435/230/300	7.5 to 9.5
525/190/300/300	5.5 to 16

The following table shows the crannage in Wakamatsu greater harbor.

TABLE 56-A

Crannage, 1944 Wakamatsu Greater Harbor			
Number	Capacity	Type	Location
1	35 tons	hoist	Main harbor, Wakamatsu-shi
1	27 tons	crane	Main harbor, Wakamatsu-shi
3	6700 tons per day, combined	traveling cranes	Main harbor, Tobata-shi
17	18,000 tons per day combined	coal load- ing bridge cranes	Inner harbor, Wakamatsu-shi
1	25 tons	crane	Inner harbor, Yawata basin
2	2 tons	crane	Inner harbor, Yawata basin
2	1.5 tons	crane	Inner harbor, Yawata basin
6	5 tons	stationary unloading crane	Inner harbor, Yawata basin
9	Unknown	traveling crane	Inner harbor, Yawata basin (unconfirmed)

(4) Unloading capacity. Based on incomplete information, unloading capacity of Wakamatsu greater harbor and including Kokura harbor is estimated at 11,000 short tons per 10-hour day. In 1938, 974 steamers (2,334,321 tons) entered; 783 (1,897,439 tons) cleared; 36 sailing vessels (3,498 tons) entered; 26 (2,296 tons) cleared

(5) Clearance. By rail, the harbor is connected to Kyushu system and to nearby coal mines. There are excellent facilities on both sides of main and inner harbors. Adequate road connections exist. A ferry connects Wakamatsu-shi and Tobata-shi. A plan has been formulated for construction of an undersea tunnel between the two cities.

(6) Storage. A large amount of space in sheds and warehouses is provided on quays. There is extensive open coal storage throughout harbor area. Reclaimed land borders outer harbor. An unknown number of tanks are available for oil storage.

(7) Supplies. Water is available at quays and from waterboats. There is an unlimited supply of coal. Oil is available.

(8) Repairs. There is a 380-foot drydock at the Tochigi Dockyard, which is in the outer harbor's L-shaped basin at Wakamatsu-shi. There are 3 railways at extreme northwestern side of Yawata basin. There are 2 ship-ways, 400 and 120 feet long, at the Tochigi Dockyard at Wakamatsu-shi. Additional

facilities for construction of prefabricated steel cargo ships are on north side of basin.

(9) Administration. Harbor police office is located on Wakamatsu-shi waterfront at point opposite Kaba-shima. Customhouse is located on Wakamatsu-shi waterfront 3 blocks west of harbor police office. There is a branch office of the National Vessel Transportation and Operation Society; and also a branch office of NYK (Minami-kaigan-dori, 1-chome, 954), a corporation organized and operated under the National Vessel Transportation and Operation Society.

j. Kokura-shi (including Akasaka district).

(1) Location. Adjacent to Tobata-shi on the east, and within Kammon-ko harbor limit. (See AMS Map Kokura.)

(2) Harbor. Harbor consists of three basins. The Murasaki or western basin is located at the mouth of Murasakigawa, and consists of two smaller basins both protected by breakwaters. The eastern one is 230x150 yards; the western, 325x70 yards. The Sunatsu or central basin is located at the mouth of Sunatsu-gawa and is protected by breakwaters; it is 600x400 yards. The Akasaka, or eastern basin, is protected by breakwaters. Depths: Murasaki basin, eastern part, 9 feet; Murasaki basin, western part, 1.5 feet; Sunatsu basin, 29.5 feet; Akasaka basin, shallow.

(3) Landing Facilities. Total wharfage is 13,405 feet. Not a safe port for lightering. The quay between Murasaki and Sunatsu basins is 2,700 feet long in 8 feet. Wharfage is shown in Table 56-B.

TABLE 56-B

Wharfage, 1944, Kokura-shi.

Basin	Length in feet	Depth in feet	Location
Murasaki	650/820	9	south and east sides
Murasaki	525	less than 9	inside river mouth
Murasaki	105/325/1050	less than 9	west side
Sunatsu	960/295/750	29.5	east side
Sunatsu	460/1500	29.5	west side
Akasaka	2025	4.5 to 9	west inlet (coal loading)
Akasaka	380	unknown	next east
Akasaka	660	6	next east
Akasaka	200	unknown	next east

(4) Unloading capacity. See combined figures for Wakamatsu greater harbor.

(5) Clearance. Connected by rail with Kyushu system; excellent facilities along waterfront. Adequate road connections exist.

(6) Storage. Warehouses are located on east side of Sunatsu basin. There is open storage space available on reclaimed land.

(7) Supplies. Coal is available.

k. Shimonoseki-kaikyo.

(1) Location. Straits between Kyushu and Honshu extending from off Kokura-shi to the northeast past the cape north of Moji-shi.

(2) Description. The westward approach has a minimum depth of 5.5 fathoms, but in the eastern approach the least depth in the fairway is 4.5 fathoms. In bad weather, no vessels will be seen in straits. During good weather, owing to their attempt to get through the channel in one tide in large numbers they frequently obstruct the fairway. Tidal streams are weak.

l. Moji-shi.

(1) Location. Extends along east coast of Shimonoseki-Kaikyo from Dairi to Moji-saki. It is a part of Kammon-ko, the harbor administrative district including Shimonoseki-shi, Moji-shi, and surrounding areas.

(2) Harbor. The port is the center of maritime transportation for Kyushu and an important coaling port. The harbor is open on the straits, except for three basins: the basin south of coaling wharf protected by detached breakwater; the basin at Customs pier; the basin north of central wharf protected by detached breakwater. Depths of the general harbor are 5 to 6 fathoms; of basin south of coaling pier, 2 to 2.5 fathoms; of basin at customs pier, 1 to 1.5 fathoms; of basin north of central wharf, .75 to 2 fathoms. Tides: springs rise 7.5 feet, neaps 5.5 feet. Anchorages are in a 250-acre water area in depths from 21 to 33 feet; there are 10 or more mooring buoys. Tugs are available.

(3) Landing facilities. The total berthage for Kammon-ko is 8,960 feet in 22 to 33 feet; 6,665 feet in 12 to 22 feet; 12,800 feet in 6 to 12 feet; with additional small jetties, ferry landings, and 6 small boat basins. Berthage for Moji-shi alone is shown in Table 57.

TABLE 57

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Berthage, 1944, Moji-shi, Fukuoka-ken

Number	Length (ft).	Draft	Location from north to south
5	200	12	Central wharf, north part of harbor.
1	250	16	Central wharf, north part of harbor.
1	Passenger-freight boat	16	Customs pier.
7	450	33	Moji (southern) wharves
1	450	20	Coaling wharf.
8	200	12	Coaling wharf.
1	200	12	Brewery pier at Dairi

In addition, there are general cargo quays in 3 to 9 feet in basin north of central wharf; boat landings in 3 to 12 feet in basin at customs pier and at small pier extending from customs pier; ferry landings in 10 to 16 feet at two small floating piers extending from customs pier; and a barge landing for loading coal in basin south of coaling wharf. Most of larger facilities are of masonry-quay type construction, although some are of the timber deck on timber-piling type. Cranage facilities are shown in Table 58.

TABLE 58

Cranage, 1944, Moji-shi, Fukuoka-ken

Number	Capacity	Type	Location
1	5 tons	Fixed, hand operated	Central wharf
1	1.5 tons	Railroad crane	Central wharf
Unknown	small	Cranes	Customs pier
1	3 tons	Locomotive crane	Moji wharves
1	15 tons	Electric crane	Moji wharves
1	Unknown	Stationary coal conveyor	Coaling wharf
2	Unknown	Traveling coal conveyor	Coaling wharf

The estimated capacity of the combined Shimonoseki-Moji harbor is 17,850 short tons per 10-hour day (15,120 short tons per 8-hour day at known deep water berths). At Moji, in 1938 3,436 steamers (10,028,444 tons) entered; 3,389 (9,906,321 tons) cleared. 63 sailing vessels (5,849 tons) entered; 101 (9,215 tons) cleared.

(4) Clearance. Moji-shi is the northern terminus of Kyushu rail system. Rail traffic to Honshu is carried in two tunnels and a number of railway ferries which carry 7 to 10 cars. 3 hours required to transfer rolling stock across

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strait by ferry, 20 minutes by tunnel. Excellent facilities along waterfront. Road connections are adequate. There is a ten minute ferry service to Shimonoseki-shi.

(5) Storage. Transit sheds: 53,000 square feet of floor space at central wharf; 356,000 square feet at Moji wharves. Warehouses: 800,000 square feet of floor space in combined Shimonoseki-Moji harbor area, most of which is in Moji-shi. Open storage: 16 acres served by railroad at coaling wharf. Oil storage: naval oil storage of 400,000 tons (2 tanks with total capacity of 11,700 barrels); in Dairi district 2 gasoline tanks with total capacity of 62,000 barrels and 2 kerosene tanks with a total capacity of 57,200 barrels; additional tanks of unknown capacity behind central wharf. Grain storage: probable facilities in Dairi district.

(6) Supplies. Water is piped to wharves near south side of basin at Customs pier. Other wharves may be served. Water boats are available. 500,000 to 1,000,000 tons of coal are stored. Coal piers, equipped with mechanical conveyors, are accessible to barges and lighters only. Coal is handled by basket from lighters.

(7) Repair facilities are available at Shimonoseki-shi. Salvage tugs if Imperial Salvage Company are based here.

(8) Administration. All port facilities within Shimonoseki-kaikyo are administered jointly as Kammon-ko. The following offices are in Moji-shi: two harbormaster offices, one at southern end of Moji wharves near gas works, one at northern end of Moji wharves three blocks west of railroad station; water police station at northwest end of Moji wharves; three custom houses, one at northern end of Moji wharves, one on southern tip of central wharf, one at Customs pier; Marine office on northern end of Moji wharves. Shipping is administered by the Moji Marine Transport Bureau, a local branch of the national Maritime Transportation Section. This bureau has jurisdiction over the following prefectures: Fukuoka, Nagasaki, Yamaguchi, Oita, Saga, Kumamoto, Miyazaki, Kagoshima, and Okinawa. There is a branch office of Vessel Transportation and Operation Society, and branch offices of NYK (Aza Moji, Sanbashi-dori, 1-1), Osaka Shosen KK, Dairen Steamship Corporation, East Asia Sea Transportation Corporation (Higashi-minami-cho, 1), all being corporations organized and operated under the Vessel Transportation and Operation Society.

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m. Hachiya-machi ( Unoshima-ko).

(1) Location. 3 miles west of Nakatsu-shi.

(2) Harbor. Principally a coal exporting port. Main harbor is enclosed by breakwaters, one of which is detached, with entrance to north. In southeast corner of main harbor is a small inner basin which dries. One mile to southwest of main harbor is a small boat basin protected by breakwaters. Depths of main harbor, 16.4 feet; inner harbor dries. Tides have a mean high water interval of 8 hours 46 minutes; springs rise 11 feet; neaps rise 8.2 feet.

Quay in 7 feet provides 508 - 410 feet of berthage. Small pier projects 100 feet from north end of quay, with 11.5 feet of water on all sides. Railroad coal-loading pier, 300 feet long and 70 feet wide, projects north at southeast corner of main harbor; dries alongside at low water. 200-yard slip close west of coal loading pier, depths unknown.

(3) Clearance. Rail, with facilities at coal-loading pier, south side of inner basin, and small boat basin to west. Road.

(4) Supplies. Coal available.

n. Wakatsu

(1) Location. 5 miles within mouth of Chikugo-gawa, on east bank, and 5 miles southeast of Saga-shi.

(2) Harbor. In river. River channel to harbor has least depth of 0.25 fathom. Small vessels can enter at high water. Large vessels anchor off buoy lying in approach to main channel in Ariake-kai 7 miles southeast of river mouth in 5 fathoms. The Chikugo-gawa is navigable by river craft at least as far as Kurume-shi.

o. Omuta-shi (including Miike district).

(1) Location. East central coast of Shimabara-wan. (See AMS Map L 902 Omuta 138373.)

(2) Harbor. Principally a coal exporting port. Consists of an outer harbor and two major basins, Miike-ko to the south and Omuta-ko to north, between which the Suwa-gawa empties. Miike-ko consists an artificial inner harbor and a wet dock. Inner harbor is entered through a dredged channel, one mile long and 150 feet wide, between 2 parallel jetties 450 feet apart. Wet dock of 32 acres entered from inner harbor through channel, 120 feet wide with navigable width of 62 feet at dock gate. Omuta-ko consists of an improved section of Omuta-kawa, which flows through north section of city, including a

wet dock on north side and dredged basin on south side. Harbor entered through river channel. The Suwa-gawa is navigable at high water by small vessels for three-quarters of a mile to first bridge.

Entire shore is bordered by drying mudflat extending 1.5 to 2 miles. Three fathom contour lies 300 to 900 yards beyond zero tide line. Depths at outer harbor are 3.25 to 8 fathoms; at Miike-ko entrance channel, 24 feet; at inner Miike-ko harbor, 31 to 36 feet; in entrance to wet dock, 28 feet over sill; wet dock, 28 feet maintained. Depths at Omuta-ko at entrance channel, 2 feet; at wet dock, 13 feet maintained; at dredged basin, 3.25 to 5 feet. In the Suwa-gawa, vessels drawing less than 6 feet can proceed as far as first bridge. Tides: (semidiurnal) mean lunitidal interval, 8 hours 56 minutes; springs rise 16.5 feet; neaps rise 12.0 feet. Fifteen 500-yard anchorages in 5.25 to 8 fathoms, holding ground seemingly poor. A number of powerful tugs are available.

(3) Landing facilities. Terminals have been constructed in Miike-ko to facilitate shipment of coal from mines in vicinity. Facilities for berthing small coal vessels are maintained by Mitsui Mining Company in Omuta-ko. Known details are shown in following table.

TABLE 59

Landing Facilities, 1944, Omuta-shi, Fukuoka-ken.

Location	Type construction	Purpose	Berthing depth	Berthage space
<b>MIIKE-KO:</b>				
Inner harbor, northeast side	Quay wall, solid fill, open	Bulk coal	300 ft.	34 Ft. One 350-foot vessel drawing 20 ft.
Inner harbor, northwest side	Mooring quay under construction	General cargo	?	? Two medium vessels
Inner harbor, southwest side	Mooring berth	Oil	?	? ?
Wet dock, northwest side	Masonry quay, solid fill, open	General cargo	900	24 MSL One 450-foot vessel drawing 26 ft. One 350-foot vessel drawing 20 ft.

Location	Type construction	Purpose	Berthing space	Depth	Berthage
Wet dock, Masonry quay, east side fill, open	solid	Bulk coal	1380	28 MSL	One 450-foot vessel drawing 26 ft. Two 350-foot vessels drawing 20 ft.
Wet dock, Wooden deck on southwest piles, open side	steel	General cargo	300	28 MSL	One 350-foot vessel drawing 20 ft.
OMUTA-KO; North side, river	Seawall	General cargo and bulk coal	5100 ft.	2 ft.	
North side, wet basin	Wharf	Bulk coal	450	?	

Special handling facilities are shown in the following table.

TABLE 60

Loading Devices, 1944, Omuta-shi. Fukuoka-ken.

Number	Capacity (in tons)	Type	Location
1	400 per hour	Coal conveyor	Miike-ko, inner harbor, northeast side.
3	625 hourly, combined.	Travelling coal elevators	Miike-ko-wet dock, east side.
1	15	Travelling crane	Miike-ko, wet dock, east side.
Several	?	Travelling crane	Miike-ko, wet dock, east side.
1	?	Overhead coal conveyor	Omuta-ko, wet basin, north side.

(4) Unloading capacity. The estimated capacity is 2,850 short tons per 10-hour day (1,200 short tons per 8-hour day at known deep water berths). In 1938, 630 steamers (2,222,297 tons); entered; 660 (2,352,176 tons) cleared. No sailing vessels entered; 2 (128 tons) cleared.

(5) Clearance. Connected to Kyushu rail system, and directly to coal mines in area. Rail facilities along entire waterfront; extensive yard at Miike-ko wet dock. Road connections are adequate.

(6) Storage. Warehouses are located on northwest and southwest sides of Miike-ko wet dock. Open storage on 93 acres is used for coal and coke north side of Miike-ko; large coal and coke storage areas are adjacent to Omuta-ko; large area of reclaimed land.

(7) Supplies. Water is delivered at quays in Miike-ko by hydrant at rates of 13 to 32 tons per hour. One tank vessel equipped with pump carries 150 tons of water. Coal is available in unlimited quantities. Coaling quay in Miike-ko inner harbor, capacity 400 tons per hour; coaling quay in Miike-ko wet dock, capacity 625 tons per hour.

(8) Repair facilities. There is a workshop, near general cargo quay in Miike-ko inner harbor, where minor repairs can be made.

(9) Administration. Harbor office located in inner Miike-ko near steam power plant; harbor police located at inner Miike-ko coaling pier; custom house located at Miike-ko wet dock general cargo pier.

4. Air Facilities.

As shown in Table 61 at the end of 1944 there were 19 classified and 9 reported airfield and seaplane stations in Fukuoka-ken.

Tachiarai Army Airfield is one of the most important airports and training stations in Kyushu. It is the military air-base of the 4th Air Regiment and has 85 revetments, 17 hangars and complete repair and overhaul facilities.

Gannosu Airfield, also known as Fukuoka Air Station, is a fighter airfield which is operated in conjunction with the adjoining seaplane station.

Tsuiki Airfield has 9 large hangars and occupies a sodded area about 5,200 feet square.

The seaplane bases at Najima have modern and complete facilities. In peacetime they have been termini of two relatively important air routes. Table 62 shows selected data for 1936 on the Tokyo-Dairen Line, which operated routes between Osaka and Fukuoka, and Fukuoka and Ulsan (Korea).

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TABLE 61

Airports & Seaplane Anchorages, 1944, Fukuoka-ken.

Name	Type	Approximate locations	Elevation (in feet)
CLASSIFIED*			
Ashiya (Onga)**	A/D	13 Mi. W of Kokura-shi	329 (est)
Fukuma (Tsuyazaki)	L/G(u/c)	About 1 mi. N, of Fukuma-machi	
Fukuoka Southwest	A/D	3 mi. SW of Fukuoka-shi	180 (est)
Fukushima	L/G(u/c)	2 mi. WNW of Fukushima-machi	
Gannosu (Fukuoka; Hakata)	A/D	6 mi. N of Fukuoka-shi	S.L.
Gannosu (Fukuoka)	S	6 mi. N of Fukuoka-shi	S.L.
Hakata (Fukuoka; Saitozaki)	S	5 mi. NW of Fukuoka-shi	S.L.
Imajiku	A/D(u/c)	2 mi. WNW of Fukuoka-shi	
Itazuke	A/D(u/c)	About 2 mi. ESE of Fukuoka-shi	
Kutsuo (Katsuko; Yukuhashi )	S	2 mi. E of Yukuhashi-machi	S.L.
Najima (1) (Fukuoka; Hakata)	S	3 mi. NE of Fukuoka-shi	
Najima (2) (Fukuoka)	S	4 NNE of Fukuoka-shi	S.L.
Omuta-Nankan	L/G	6 mi. E of Omuta-shi	
Saitozaki (Fukuoka)	L/G	5 mi. NW of Fukuoka-shi	S.L. (est)
Shiga (Shigano-shima)	S	Off SE end of Shiga-shima	
Shisojima (Dazaifu)	L/G(u/c)	6 mi. SSE of Dazaifu-machi	83 (est)
Sone	A/D(u/c)	Just E of Kokura-shi	
Tachiarai (Amaki; Futsukaichi)	A/D	About 8 mi. SE of Futsukaichi-machi	
Tsuiki (Katsuko; Kutsuo;Yukuhashi)	A/D	2 mi. N of Tsuiki-mura	
REPORTED*			
Imazu (Imajiku)	EL/G (u/c)	On beach, just NW of Imazu-machi	
Kokura	A/D	Just W of Kokura-shi	10 (est)
Kurume East	EL/G	2 mi. SSE of Kurume-shi	
Moji	A/D	1 mi. SW of Moji-shi	10 (est)
Moji North	A/D	1 mi. NE of Moji-shi	
Nogata (Naogata)	A/D	3 mi. SSW of Nogata-shi	
Omuta (Miike)	S	Near Omuta-shi	S.L. (est)
Tobata	A/D	About 1 mi. SE of Tobata-shi	
Wakamatsu	A/D	At Wakamatsu-shi	

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\* All fields whose existence has been established by reasonably conclusive evidence are included in the list. Those fields whose existence is questionable owing to possession of only dubious or insufficient evidence are included in the list.

\*\* Alternate names are carried in parentheses after the principal names.

A/D= Airdrome with all-weather runway, or complete facilities, or both.

L/G= Landing ground without an all-weather runway and without complete facilities.

ELG =Emergency landing ground.

S = Fully or partly equipped seaplane station.

S.L.=Sea level or zero altitude.

u/c= Under construction.

TABLE 62

Civil Aviation, 1936, Fukuoka-ken.

Tokyo-dairen Line	Distance	Trips	Distance flown(km)	Pass.	Freight (kilog)	Mail (kg)
Osaka - Fukuoka	*500	633	316,500	1,112	11,564	48,271
Fukuoka - Urusan	240	672	161,280	1,505	9,681	54,407

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## B. COMMUNICATIONS

Fukuoka-ken is included with Miyazaki-ken, Kagoshima-ken, Kumamoto-ken, Nagasaki-ken, Oita-ken, and Saga-ken, in a single administrative district under the jurisdiction of the Kumamoto Bureau of Communications (Kumamoto Teishin-Kyoku) of the Ministry of Transportation and Communications (Unyu Tsushin-sho). The headquarters of the district are located at Kumamoto-shi, Kumamoto-ken. The bureau, headed by a chief, consists of 4 main departments; business, engineering, management and savings. The chief of the bureau is responsible for all civilian communications activities, telephone, telegraph and postal, within the district.

In April 1945 it was decided, presumably in the interests of greater efficiency in communication for home defence, to establish Communications Superintendence Sections in areas remote from the location of the Ministry's Communications Bureaus. It is believed that superintendence offices may be branches of the regional districts rather than independent sections. Fukuoka-shi was designated as one of the superintendence offices. It is assumed that this office would control, in addition to administrative duties, the district communications power plant which is located in the south central section of Fukuoka-shi, about 8 blocks southeast of the police station and the prefectural office.

Actual operation of submarine cable, as well as radio-telegraph and radio-telephone, in Fukuoka-ken are nominally in the hands of the International Telecommunications Company, which is, however, entirely dependent on the Japanese government.

## 1. Telephone

Fukuoka-ken has the largest number of telephones of any prefecture on the island of Kyushu. As of 1939 it had approximately 34,700 telephones, and increase of 2570 since 1937. The unnumber of telephones represents an average of 1.13 telephones for every 100 persons, which compares with 1.38 for all of Japan. In 1940 the total number of local and long distance calls for the Kumamoto Communications District was 549,014,000 and 41,673,000 respectively. It is estimated that the daily average of calls handled in Fukuoka-ken for the same year was 601,600 local calls and 45,670 long distance calls. The local calling rate (number of calls per day per telephone) was between 18.0 and 19.5 which is extremely high in comparison to call rates in the United States but an average figure for Japan.

Kumamoto-shi, Kumamoto-ken, the district zone central, is the focal point for all long distance messages originating or terminating within Fukuoka-ken. All messages are rigidly funneled through this district zone central to the zone centrals of other districts in addition to the local exchanges at the end of the call.

Fukuoka-ken is an important link in the land network as it serves as the major terminus for the many submarine cables connecting

Honshu and Kyusku. The main communications circuits follows the Kyushu Electric line from Moji-shi to Kokura-shi where they radiate in a series of great loops, apparently designed to meet military needs so that every city and town along the route can be reached from 2 or more directions. From Kokura-shi, one route paralleling the Kagoshima Main Line RR, follows along the north coast to Fukuoka-shi via Yawata-shi. At Fukuoka-shi the circuits split with one group following the Kita Kyushu RR line along the northwest coast to Maebaru-machi and eventually to Sasebo-shi and Nagasaki-shi in Nagasaki-ken. The other groups connects Fukuoka-shi with the district zone center at Kumamoto-shi via Kurume-shi. Their routes parallels the Kagoshima Main Line RR. The second route from kokura-shi extends along the Inland Sea to Nakatsu-shi and then north along the east side of Kyushu. This route follows the Nippo Main Line RR. During the last 10 years the Bureau of Communication has constructed, due to the insistence of the Army, an elaborate network of subterranean and submarine cables throughout Japan. For this reason it can be expected that these main communications routes in Fukuoka-ken are of cable construction rather than open-wire. The underground cables are laid in ducts and they are paper insulated and lead covered. The ducts are generally iron tubes but where there is no surface water, earthen or concrete tubes are used. Table 63 indicates various details of 2 sections of these cables. It can be expected that present installations will have increased.

TABLE 63

Location	Telephone Cables, 1929, Fukuoka-ken.		Type of Construction	Description	Loading Space
	Year Completed	Length			
Moji Fukuoka	1929	100.6KM	Aerial and Underground	108)pair, lead 160)covered	1.83KM
Fukuoka Kurume	1929	43.8KM	Aerial and Underground	108)pair, lead covered	1.83KM

There is a telephone repeater station, a very vulnerable point in the cable network, located at Yawata-shi. This station is designed that the building and equipment can be accommodated to a second toll cable. The 2-wire repeaters are of the current type consisting of the usual vacuum tube 2-way amplifiers. The 4-wire repeaters consist of 2 sets of amplifiers. One set is used for transmitting in each direction. Provision is made for auxiliary equipment, such as current supply circuits, alarm circuits, and intermediate signaling circuits.

Telephone service will be found in the majority of the other cities and towns not situated on the main routes if they are located

on main highways or railroads. The open-wire feeder circuits from these cities and towns will, in most cases, be of 1.6 mm hard drawn copper wire. Telephones will be found in practically all police stations, police sub-stations, and police boxes in the prefecture.

Telephone rates are of 2 kinds, measured and flat rate. In the cities with 5000 or more telephones the rate was ¥ 30 (1938) per year and a measured rate of 3 sen per call was surcharged. In all other exchanges a flat rate of ¥ 60-90 (1938) per year was charged, the exact rate being determined according to the number of subscribers.

With the exception of the cities of Fukuoka and Moji, the telephone exchanges, along with telegraph installations, will be found in the same buildings as the post offices.

An estimate of the number of subscribers and type of equipment is shown in table 64.

TABLE 64

Telephone Exchanges, 1943, Fukuoka-ken		
City	Estimated # of Subscribers	Type of Switchboard*
Fukuoka-shi	11,000	Manual Common battery
Yawata-shi	6,500	Manual Common battery
Kokura-shi	3,250	Manual Common battery
Omuta-shi	3,175	Manual Common battery
Moji-shi	2,500	Manual Common battery
Kurume-shi	1,400	Series Multiple Magueto
Wakamatsu-shi	1,325	Series Multiple Magueto
Tobata-shi	1,200	Series Multiple Magueto
Nogata-shi	625	Series Multiple Magueto
Iizuka-shi	575	Series Multiple Magueto

\*Other exchanges will be single position magueto switchboards.

In Fukuoka-shi there is a separate telephone exchange building which is located at Higashinakasu-cho. As of 1934 there were 37 employees at this exchange.

Moji-shi also has a separate telephone exchange building located one block south west of the Soya Oil Company and 2 blocks east of the Moki central wharves ware houses.

A large percentage of the telephones are the wall type and are chiefly individual lines. The 90 (1934) public telephones in the prefecture are installed in booths on the streets of the business sections, in stores, railway stations and bus terminals. Private branch exchanges (PBX) will be found in most of the government

offices, the Imperial University and the larger of the industrial and business establishments.

## 2. Telegraph

Fukuoka-shi is the center of telegraph activity in Fukuoka-ken. It is connected by direct trunks with the communications zone center at Kumamoto-shi, for which it serves as a sub-center. Yawata-shi and Moji-shi are also important sub-centers on the trunk lines to Honshu from the Kyushu communications zone center at Kumamoto-shi.

Trunk lines follow closely the network pattern of telephone circuits. In addition, there are circuits from Togo-machi to Kam-inominato-machi (33° 52'N, 130° 29'E), connecting at the later with a submarine cable to O-shima (33° 55'N, 130° 28'E). From Maebaru-machi to Nogi (33° 38'N, 130° 07'E) there are circuits which are extended to Iki-shima, Nagasaki-ken, by submarine cable. Traffic originating in Fukuoka-ken is routed through Fukuoka-shi or Yawata-shi, while Moji-shi is the principal entrance point of all traffic originating in Honshu for Fukuoka-ken and the communications zone center at Kumamoto-shi. Telegraph lines are of both aerial and underground construction.

The telegraph centrals for Fukuoka-shi and Moji-shi are believed to be located in the telephone offices. There is a second class telegraph office in Oshima-mura, Munakata-gun. Scattered throughout the prefecture are 51 ordinary telegraph offices and 2 wireless telegraph offices. In the rest of the prefecture, however, telegraph service facilities are located in the 6 second class post offices or railroad stations. In 1936 telegraph service was available in 155 of the 172 third class post offices. Such combination offices are particularly strategic, as they usually contain telephone facilities as well.

It is believed that printer service will be found in Moji-shi Yawata-shi and Fukuoka-shi. The most common types of equipment are; Western Electric Duplex, Morkum Double Duplex, Teletype, Baudot Multiplex, and the Japanese Letter Printer. The outlying areas depend almost entirely on hand keys.

Ordinary telegrams dispatched from the prefecture in 1936 totaled 1,666,000 as against a total of 1,738,000 delivered for the same year. During the period 16,000 wireless telegrams were dispatched and 27,000 were delivered.

## 3. Radio

Fukuoka is well provided with broadcasting facilities. Stations are sufficient in number and power for serving the Prefecture; transmitting equipment is good, and studio relay lines and other related installations are adequate.

JOLK and JOSK (see table 65), the principal stations for the prefecture are located in Fukuoka-shi and Kokura-shi, respectively and operates under the direct control of the Kamamoto Regional Central Broadcasting Station. Although JOLK and JOSK can transmit programs originating in their own studios 90 per cent of the programs originate from the studios of JOAK, Tokyo, and JOSK, the Kumamoto Regional Central Station. Programs from studios to transmitters are carried by underground cable. Electric currents are obtained from local power sources, but the stations are equipped with motor generators for use in emergencies. Arcuits for service messages necessary for synchronizing programs run parallel to the re-lay lines, reported to be leased from the Ministry of Transportation and Communications. JOLK and JOSK are equipped with receivers, frequency 6125 kc, to be used if the relay lines are interrupted.

The Fukuoka Receiving Station has the following equipment:

Long wave receivers: 2 sets

Long wave antenna: 1-wave antenna

4-loop antenna

2-coil antenna

Short wave receivers: 1-diversity combined receiver

4-auxillaries

1-Directive antenna

Short wave antenna: 2-horizontal doublets.

TABLE 65  
Radio Stations, 1943, Fukuoka Ken

Station	Call	Location	Freq(kc)	Watts	Remarks
Fukuoka-shi	JOLK	33°55'10"N 130°24'00"E	910	500	Broadcasting Station
Fukuoka-shi	JXF	33°42'35"N 130°26'36"E	200	2,000	Land-to-plane radio telegraph and radio telephone. Power supply is the same as that to Fukuoka-shi
"	"	"	220	500	
"	"	"	328	500	
"	"	"	333	500	
"	"	"	500	500	
"	"	"	5,460	500	
"	"	"	6,600	500	
"	"	"	9,380	500	
Fukuoka-shi	JIZ	33°42'37"N 130°26'17"E	8,710	2,000	Radio telegraph
"	JIZ-2	"	13,580	2,000	
Fukuoka-shi (Hakata)		33 41'00"N 130 24'00"E			Naval radio sta Aviation)(Meteorological)
Kokura-shi	JOSK	33°52'59"N 130°51'41"E	740	1,000	Broadcasting sta
Moji-shi		33°56'48"N 130°58'08"E	276		Ship-to-shore

radio telephone radio masts at Post Office. There are Broadcasting Towers at the Najima Sea-plane base and the nearby naval air station.

Public address systems, being an integral part of the Japanese life, can be found throughout the prefecture in the parks (see table 66), railroad stations or schools; while private systems may exist in factories and department stores. Many of the municipal parks in the smaller cities throughout the prefecture have small towers equipped with loud speakers for relaying various programs of general interest. Similar equipment is frequently installed near shrines or other places where crowds gather.

TABLE 66

Public Address Systems, 1943, Fukuoka Ken

Location	Address	Description
Dazaifu-machi	Higashi-en	Public address system
Fukuoka-shi	Daigo Park	" " "
"	Higashi Park	" " "
"	Takata-cho (near prefectural office)	Broadcasting Station JOLK, permanent information office; broadcasting thru telephone wires reported started 1943.
Fukushima-machi	Hachijo Park	Public Address system
Iizuka-shi	Chamber of Commerce and Industry Grounds	" " "
Kokura-shi	Adachi Park	" " "
"	Itabitsu	Broadcasting Station JOSK
"	Katsujama Playground	Public address system
"	Muromachi Station	Permanent information office
"	Tozu-yawata Park	Public address system, Broadcasting thur telephone wires reported in Feb 1943.
Kurume-shi	City Hall	Public address system
Moji-shi	Oimatsu Park	" " "
Nogata-shi	Municipal Office	" " "
Tobata-shi	Public Hall	" " "
"	yawata Shrine	" " "
Wakamatsu-shi	Sato Park	" " "
yawata-shi	Toyoyama Park	" " "

Radio broadcasting is one of the chief means of public instruction in Fukuoka-ken. As of April 1943 there were approximately 251,051 licensed receivers or 41.4 sets per 100 families, comparable with 7,000,000 receivers for all Japan. These receivers are similar to small table models manufactured in the U.S.. Short wave reception is prohibited, and there is only one band covering roughly 550 kc to 1500 kc, or slightly less than the standard broadcast band. These sets are of 3 and 4 tubes and are designed solely for local reception. Edison Screw Type Sockets are used, but it cannot be assumed that any American plug will fit a given Japanese socket.

4. Cables

Fukuoka-ken is the focal point for the majority of submarine cables entering Kyushu from Honshu. Of the 30 cables having their terminus in Fukuoka-ken, 26 enter the prefecture in the vicinity of Moji. The greater percentage of these cables are used for Telegraph service. (See Table 67).

TABLE 67

Submarine Cable Landings, 1944, Fukuoka-ken

From:	To:	Cables	Type	Hydro-graphic Office Chart
Moji-shi (Ozumi)	Onoda-shi Yamaguchi-ken	1	Teleg	5319
Moji-shi (Karita)	Onoda-shi Yamaguchi-ken	1	Teleg	5319
Moji-shi (Tano)	Shimonoseki-shi (Sotoura) Yamaguchi-ken	10	Teleg	5319
Moji-shi (Dairi)	Shimonoseki-shi (Tanokubi), Yamaguchi-ken	8	Teleg	5319
Moji-shi (Akasaka)	Shimonoseki-shi (Fuku-ura) Yamaguchi-ken	6	Teleg	5319
Okino-shima	Kochi-Tsushima Nagasaki-ken	1	Teleg	5318 5319 2475
Konominato	O-shima-mura Fukuoka-ken	1	Teleg	5318 5319
Nogita-mura	Indoji, Iki-shima Nagasaki-ken	1	Teleg	2475
Okino-shima mura	Tsuno-shimo Yamaguchi-ken	1	Teleg	2475

5. Postal Service.

Postal headquarters for this prefecture are Kumamoto-shi. In 1936 there were 368 postoffices in Fukuoka-ken, classified as shown in Table 68. The locations of these postoffices are shown in Table 69.

TABLE 68

Postoffices, 1936, Fukuoka-ken.

Class	Number*
1. First class; administrative headquarters of communications district.....	0
2. Ordinary first class.....	7
3. Second class....	6
4. Special third class.....	1
5. Third class, with telegraph and telephone	105
6. Third class, with telegraph only .....	0
7. Third class with telephone only.....	1
8. Ordinary third class, without telegraph or telephone.....	0
9. Third class, no collection or delivery, with telegraph and telephone.....	48
10. Third class, no collection or delivery, with telegraph only.....	2
11. Third class, no collection or delivery, with telephone only.....	1
12. Third class, no collection or delivery, with no telegraph or telephone.....	14
13. Sub-post office; collection and delivery, but no telegraph or telephone.....	21.
Total	206

TABLE 69

Location of Postoffices, 1936, Fukuoka-ken.

FUKUOKA-SHI	2,3	KASUYA-GUN	
WAKAMATSU-SHI	2	Sasaguri-machi	5
YAWATA-SHI	2	Kashii-machi	5
TOBATA-SHI	3	Umi-machi	5
KURUME-SHI	2,2,9	Koga-machi	5
OMUTA-SHI	3,3, 5,9	Seto-mura	5
KOKURA-SHI	2, 13	Wajiro-mura	5
MOJI-SHI	2	Shiganoshima-mura	9
NAGATA-SHI	3	Sue-mura	5
IIZUKA-SHI	3	Aoyagi-mura	9

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Shingu-mura	5	ASAKURA-GUN	
Tatara-mura	5	Haki-machi	5
Kubara-mura	12	Akizuki-machi	5
Nishi Tosaki	5	Amagi-machi	5
		Koisniwara-mura	7
MUNAKATA-GUN		Hoshuyama-mura	9
Akama-machi	5	Shiba-mura	5
Togo-machi	5	Takagi-mura	13
Fukuma-machi	5	Miyano-mura	13
Tsuyazaki-machi	5	Daifuku-mura	9
Konominato-machi	5	Minagi-mura	5
Nango-mura	9	Fukuda-mura	9
Oshima-mura	5	Kamiakizuki-mura	5
Akamaiki mai	13	Yasukawa-mura	5
Miyashi	13	Miwa-mura	5
		Yasu-mura	5
ONGA-GUN		CHIKUSHI-GUN	
Mizumaki-machi	12	Futsukaichi-machi	5
Nakama-machi	5	Dazafu-machi	5
Katsuki-machi	5	Naka-machi	9
Orio-machi	5	Mikasa-mura	12
Ashiya-machi	5	Iwato-mura	5
Okagaki-mura	9	Yamaka-mura	9
Onga-mura	5	Harada	5
KURATE-GUN		SAWARA-GUN	
Miyata-machi	5	Taguma-mura	13
Kotake-machi	5	Irube-mura	5
Fukumaru	5	Uchino-mura	12
Nagatani	9		
Koyanose-machi	5	ITOSHIMA-GUN	
Tsurugi-mura	12	Maebaru-machi	5
Nishikawa-mura	5	Fukuyoshi-mura	5
Yoshikawa-mura	5	Fukae-mura	5
KAHO-GUN		Nagaito-mura	9
Amada-machi	5	Susenji-mura	9
Okuma-machi	5	Imazu-mura	9
Futase-machi	9	Motooka-mura	10
Kobukuro-machi	9	Nogita-mura	9
Usui-mura	5,5	Sakurai-mura	9
Senzu-mura	9	Kitazaki-mura	5
Miyano-mura-	13	Kaya-mura	5
Inatsuki-mura	5	Keya-mura	9
Daibu-mura	5	Kofuji-mura	5
Kamihonami-mura	5	Imashiruku	5
Uchino-mura	9		
Katsuragawa-machi	5		

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UKIHA-GUN		Mizuta-mura	9
Yoshii-machi	5	Kasahara-mura	13
Tanushimaru-machi	5		
Himeharu-mura	13	YAMATO-GUN	
Oishi-mura	13	Yanagawa-machi	4
Chitose-mura	5	Setaka-machi	5
Funakoshi-mura	13	Ryokai-mura	12
		Harada	5
MII-GUN		Nakashima	10
Kitano-machi	5	MIKE-GUN	
Kusano-machi	5	Eura	5
Zendoji-machi	5	W atase	13
Kaneshima-mura	9	Kachidate	12
Oseiki-mura	12		
Ajisaka-mura	9	KIKU-GUN	
Ogori-mura	5	Sone	5
Mihari-mura	9		
Mikuni-mura	9	TAGAWA-GUN	
Tachiarai-mura	9	Kawara-machi	5
Hongo-mura	9	Soeda-machi	5
Ohashi-mura	9	Kawasaki-machi	9
MITSUMA-GUN		Itoda-machi	5
Daizenji-machi	5	Kaneda-machi	5
Jojima-machi	5	Akaike-machi	5
Araki-mura	5	Saidosho-mura	9
Mitsuma-mura	5	Aka-mura	5
Inutsuka-mura	9	Tsunomura	13
Omizo-mura	9	Daito -mura	5
Kisaki-mura	5	Ida	5
Kawaguchi-mura	9	MIYAKO-GUN	
Oi-mura	9	Kanda-machi	5
Nishimuda-mura	9	Yukuhashi-machi	5
Onoshima-mura	9	Saikawa-machi	5
YAME-GUN		Ohase-mura	13
Fukushima-machi	5	Tsubakiichi-mura	12
Kuroki-machi	5	Kubo-mura	5
Hainuzuka-machi	5	Kuroda-mura	13
Mitsutomo-mura	9	Imagawa-mura	13
Hebaru-mura	5	Minoshima-mura	9
Obuchi-mura	5	Toyotsu-mura	5
Yabe-mura	5	Kii-mura	5
Yokoyama-mura	13	Irahara-mura	13
Kitagawachi-mura	5	Karita	5
Kotsuma-mura	9	Konami watase	13
Kamihirokawa-mura.	11	Imai	12
Nakahirokawa-mura	5	Shindahara	9
Okayama-mura	9		
Hoshino-mura	5		

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CHIKUJO-GUN		
Shijda-machi		5
Hachiya-machi		5
Higashiyoshitomi-		
	machi.12,13	
Shimokii-mura		5
Suda-mura		5
Chizuka-mura		12
Kurotsuchi-mura		12
Gokawa-mura		5
Tomoeda-mura		5
Aikawa-mura		5
Matsude		5
Chikujo		5
Yasutake		5

\* Numbers indicate class of offices as shown in Table 68

Available addresses of postoffices in this prefecture are shown in Tables 70 and 71.

TABLE 70  
First Class Postoffices, 1944, Fukuoka-ken.

<u>Postoffice</u>	<u>City</u>	<u>Address</u>
Fukuoka	Fukuoka-shi	Imba-machi
Fukuoka	Fukuoka-shi	Tenjin-cho
Moji	Moji-shi	Nishi-Hon-cho 2 chome
Kurume	Kurume-shi	Hon-cho
Kokura	Kokura-shi	Funaba-cho
Yawata	Yawata-shi	Omura-oaza
Wakamatsu	Wakamatsu-shi	Hama Samban-cho

TABLE 71  
Second Class Postoffices, 1935, Fukuoka-ken.

<u>Postoffice</u>	<u>City</u>	<u>Address</u>
Hakata	Fukuoka-shi	Gion-cho
Omuta	Omuta-shi	Asahi-machi
Iizuka	Iizuka-shi	Iizuka-oaza
Tobata	Tobata-shi	Tonc-machi
Yawata Iron Mill	Yawata-shi	Giko Iron Mill
Nogata	Nogata-shi	Nogata-oaza

6. Newspapers.

As of 1937, there were 530 newspapers and magazines published in Fukuoka-ken. There were 57 publications with daily editions, 47 with more than 4 editions per month and 426 which had less than 3 editions per month.

In 1938 the number of daily newspapers was reduced to 401, a number which may have been further reduced through mergers since that date. In 1943, newspapers in Fukuoka-ken had a circulation of 474,874, with a ratio of distribution to population of one to 6.5.

In keeping with generally prevailing conditions, in that the norther half of Hapan is being served by Tokyo newspapers and the southern half by Osaka newspapers, it is very likely that Osaka papers have a large circulation in Fukuoka-ken. The leading Osaka papers are the Asahi Shimbun and the Mainichi Shimbun. In addition to their large metropolitan editions, these papers publish provincial editions which give readers in smaller cities and rural areas the local news as well as national and international coverage.

The leading newspaper in the Fukuoka-ken is the Fukuoka Nichi Nichi, which was the largest newspaper in western Japan. It is an old provincial paper with an editorial policy of expansion for Japan. The editorials are frequently critical of domestic policy but not of foreign policy. This publication has been owned by a small family group for many years. Before the war, it had wide distribution in the country districts.

C. UTILITIES

1. Gas.

a. Enterprises and supply. In 1939, four gas enterprises operated in Fukuoka-ken, serving the cities of Kurume, Omuta, Joji, Kokura, Tobata, Wakamatsu and Yawata. The companies supplied 43,133 consumers with a total of 32,413,000 cubic meters of gas.

Table 72 lists the number of consumers, annual sales, and length of mains as of 1938.

TABLE 72

Public Utility Gas Enterprises, 1938, Fukuoka-ken.

City	Company	Consumers	Annual sales	Length of Mains(km)
Fukuoka	Seibu Gasu KK	13,000	7,500,000	83.1
Kurume	Kurume City Gas Bureau	2,700	800,000	30.6
Omuta	Omuta Gasu KK	2,400	1,100,000	25.5
Moji	Kyushu Gasu KK	4,800	2,900,000	32.2
Kokura	Kyushu Gasu KK	5,400	2,100,000	35.0
Tobata	Kyushu Gasu KK	2,300	1,300,000	16.8
Wakamatsu	Kyushu Gasu KK	2,700	1,100,000	13.3
Yawata	Kyushu Gasu KK	8,600	3,400,000	33.6

2. Water Supply and Distribution.

Water is plentiful in Fukuoka-ken, where the mean annual perceptation is 62.0. However, a severe drought in 1939-40 made water use restrictions necessary in some cities and towns. According to available records there are 18 known water works in the prefecture, 10 owned by cities, 7 by towns and townships and one by a private enterprise. Of the buildings of the prefecture 144,300 or 27.1 percent are supplied with tap service. There were in 1937 in Fukuoka-ken 101,551 outlets of which 80 were private, 88 common, 36 public, 94,653 metered and 6,694 fire hydrants.

Cities, towns and township waterworks are built and maintained by the communities concerned subject to the approval of the Ministry of Welfare (Kosei-sho), when the project is designed to serve more than 10,000 people or where the cost is in excess of 30,000 yen or where the national government has granted a susidy.

In other cases the approval of the prefectural governor only is required. Private companies may build and operate public water works when the community is unable to do so.

TABLE 73  
Water Supply Installations, 1927, Fukuoka-ken, Fukuoka-ken.

Installation	No.	Location	Type & size	Capacity	Remarks
Dam	1	Muromi-gawa, Sawara-gun, Uchino-mura, Oaza Magaribuchi	Height 102 ft. Width at top 13 ft. Width at bottom 87 ft. Length 416 ft. Concrete construction.	Estimated 376,000,000	Plan to raise height of dam 20 ft.
Reservoir	1	Impounded by dam.			Capacity of 700,000,000 gals. expected when dam is raised 20ft Elevation of high water level 683 ft.
Intake Tower	1	Behind dam.	Semi-circular shape, 15 ft. inside dia. wells 4 ft thick at top 6 ft thick at bottom. 4 inlets connected to 18 in. pipe inside tower, which leads through arch-shaped culvert at bottom of dam to #1 gauging well		In addition, 2 24 in. pipes for drainage lead through culvert in base of dam carrying water to #1 gauging well
Spillway	1	Left bank of reservoir near dam	Length of spillway 322 ft. Concrete tunnel, 20 ft. dia. near dam, open culverts upstream & downstream. Gradient 1/170		Height of spillway will be raised 20 ft. when height of dam is raised. Average water level 676 ft.

#1 Gauging Well	1	60 ft. downstream from dam	Concrete construction Divided into 2 sections, 1 for drinking water-24 x 10 x 10 ft., and 1 for irrigation, 14.5 x 10 x 10 ft.		
Conduit	1	From #1 gauging well to #2 gauging well at purification plant.	49,989 ft. long. 14 in. pipe from #1 gauging well to junction well #2 (head water pressure 324 ft.) 18 in. pipe from junction well #2 to gauging well #2 (head water pressure 293 ft.)	4,000,000 gallons per day.	3 junction wells to reduce pressure in pipe
Junction Wells	3	Conduit	Concrete construction 12 x 10 x 10 ft.		
#2 Gauging Well	1	Terminus of conduit at purification plant	Concrete construction, 26 x 8 x 10 ft. Divided into 3 compartments		Measures volume & conducts water to filter beds via 2 x 2 ft. culverts.
Filter beds	4	Hii-gawa, Sawara-gun & partly in Hirao, Chikushi-gun. On a small hill 2.5 miles southwest of Fukuoka-shi.	153 x 119 x 9 ft each. Concrete construction. Regulating well, 11.8 ft. dia at end of each bed.	Maximum capacity 1,000,000 gallons per day each	3 beds in use, 1 in reserve, 2 additional beds planned when population increases by 200,000.

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Distribution 2 Reservoirs	2	Same as above	114 x 76 x 16 ft. (Effective depth 14 ft.) 8 baffle walls in each reservoir. Covered. Concrete construction.	925,000 gallons each.	Plan to add 2 reservoirs.
Distribution Mains		Water flows from distribution reservoir to junction well before entering city distribution system.	30 in. main from junction well. Reduced to 24, 22, 18, 16, 14, and 12-inch mains. Branch pipes are 10, 8, 6, 4, and 3 in.		Minimum head pressure 50 ft.

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Restricted

Restricted

Available data concerning water works in Fukuoka-ken follow (figures are for 1937 unless otherwise noted):

(a) Fukuoka-shi.

Population served .....177,947  
 Percent of total population.....54.5  
 Building units supplies..... 27,619  
 Percent of total units.....47.1  
 Average daily supply(gallons)5,500,000  
 Average daily per capita  
 consumption (gallons)..... 29  
 Length of distribution mains(miles)106  
 Water pressure in lbs/ in 2(1927)...17.4  
 Total outlets(all kinds).....26,664  
 Metered outlets only .....20,764  
 Fire Hydrants (1928).....894  
 Private wells in city.....32,366  
 Waterworks built in (year 1923)

The ultimate planned capacity of the system is 12,000,000 gallons per day. The water works are administered by the city. Officials responsible for administration in 1939 were the Chief of the Sanitation and Supply section, and the Chief Engineer of the Waterworks Section.

The principal water source is the Muromi-gawa in Uchinomura. The intake is at Magaribuchi Oaza about 10 miles southwest of the city, where a dam and a raw water storage reservoir are located. Water is conveyed through 9.8 miles of 14- and 18-inch iron pipe to the purification plant located on a small hill 2.5 miles southwest of Fukuoka-shi. Water is sent through slow sand filters and then to 2 distribution reservoirs. 106 miles of distribution mains serve the city. Port facilities provide 5 hydrants at the municipal basin with a daily delivery capacity of 66,300 gallons.

Construction and operation details on the water works system of Fukuoka-shi are provided in the following tables.

TABLE 73

Water Supply Installations, 1927, Fukuoka-shi, Fukuoka-ken.

<u>Installation</u>	<u>No.</u>	<u>Location</u>	<u>Type &amp; size</u>	<u>Remarks</u>
Dam	1	Muromi-gawa, Sawara-gun, Uchinomura, oaza Magari- buchi	Height 102 ft. Width at top 13 ft. Width at bot- tom 87 ft. Length 416 ft. Concrete construction.	Plan to raise height of dam 20 ft.

(b) Yawata-shi.

Population served.....113,111  
 Percent of total population.. 48.4  
 Building units supplies..... 22,713  
 Percent of total units.....48.5  
 Average daily supply  
 (gallons)....5,976,000  
 Length of distribution mains....117  
 Total outlets (all kinds)....18,188  
 Metered outlets  
 (only known record) .....9,475  
 Fire hydrants(1927)..... 235  
 Private wells in city.....13,666  
 Waterworks built in (1932)

Planned ultimate daily supply is 8,700,000 gallons. The waterworks are administered by the city. The officials responsible for administration in 1939 was the Chief Engineer of the Waterworks Section.

Information on the functional operation of the Yawata water supply system is incomplete. It is known that the municipal system supplies filtered water for both civilian and industrial use, and reconditioned and sea water for the steel and iron works. Fresh water sources include 4 major collecting reservoirs. Sea water is pumped from Dokai-wan. Municipal installations include coagulation basins and 3 filter plants with their distribution reservoirs. At the harbor water is available at the quays, and water boats are in operation.

Construction and operation details on the waterworks system of Yawata-shi are provided in the following tables.

TABLE 74

## Water Supply Installations, 1927, Yawata-shi, Fukuoka-ken.

<u>Installation</u>	<u>No.</u>	<u>Location</u>	<u>Type &amp; size</u>	<u>Capacity</u>	<u>Remarks</u>
<u>Fresh Water</u>					
Intake	1	From Onga-kawa at Okuma, Ongagun.			Water is pumped to coagulation reservoir at Kozuyaku.
Coagulation	1	Kozu-yaku, Yawata-shi, 3.5 miles from intake.			Gravity flow to coagulation basin at Onigahara.
166 Collecting Reservoirs	2	Kami-otani & Okura		Total cap. 92,400,000gals.	
Collecting Reservoir	1	Kawauchi-aza		1,980,000	Flows to aeration tank 0.2 mile from reservoir then to Uchigahata by 2.2 miles of underdrain and then to Iron Works through iron pipe
Restricted Collecting Reservoir	1	Yofukuji, Kozuyaku, Yawata-shi		528,000,000 gals.	Flows to aeration tank and then pumped to Onigahara coagulation reservoir
Coagulation Reservoir	1	Onigahara		Unknown	
Filter Plants	3	At Okura, Onigahara, & Yasusonohara	Combined filter area 1.34 acres		Additional beds planned at Kamino-yama to filter about 13, 000, 000, gals. per day

Distribution Reservoirs	3	At Okura, Onigahara, & Yasusonohara		Combined capacity 1,254,000 gals.	
Distribution Mains			Range in size from 30 to 3 in.	95 miles	235 hydrants.
<u>Sea Water</u>					
Intake	1	Dokai-wan off central quay at ironworks	Steel water tank 98 ft. high, southwest of melting furnaces.	Capacity 528,000 gals.	Water used mainly in melting furnaces and gas purifiers.
Reconditioned Water			2 settling tanks 2 sedimentation tanks		After water is settled it is forwarded by pump to the industrial installations.

c. Moji-shi.

Population served.....	78,045
Percent of total population.....	66.2
Building units supplies.....	15,609
Percent of total units.....	63.6
Average daily supply (gallons) 4,380 ,000	
Average daily per capita consumption in gallons.....	56
Length of distribution mains (miles)	70
Water pressure in lbs/in 2.....	65
Total outlets (all kinds).....	14,513
Metered outlets only.....	11,668
Fire hydrants (1927).....	376
Private wells in city.....	4,396
Water works built in (year).....	1912

Planned ultimate capacity of th system is 7,360,000 gallons per day. The waterworks are administered by the city. The official responsible for administration in 1939 was the Chief of Waterworks Expansion Section, who concurrently was Deputy Major.

Moji-shi obtains its water supply from the Kuro-gawa. The dam and reservoir are located in Nakatani withint the limits of Kokura-shi, and there is an additional reservoir near the purification plant. The water is received at the purification plant at KOMorie, where it is passed through the settling basins and filter beds. Filtered water is conveyed via a pure water well and a junction well, to 2 distributing reservoirs. To supply the high area of the city, water is pumped up to the distributing well and then distributed by gravitational flow. At the port water is piped from the city system to the wharves near the south side of basin No. 1. Vessels in the harbor are supplied by waterboats.

Construction and operation details on the waterworks system of Moji-shi are provided in the following tables.

TABLE 75  
Water Supply Installations, 1927, Moji-shi, Fukuoka-ken.

Installation	No.	Location	Type & size	Capacity	Remarks
Dam, Reservoir & Intake	1	Kokura-shi, Nakatani, oaza-Kamiyoshi aza-Fukuchi	Dam: 96 ft. high, 406 ft. long, 15 ft. wide at top. Reservoir: area 16 acres, effective depth 59 ft.	194,000,000 gals.	72 ft. wide spillway Intake tower: 6 ft. above highest water level. Three 16 in. inlets at different levels. One 16 in. outlet.
Dam, Reservoir & Intake	1	Near Komorie purification plant	Dam: 371 ft. long 15 ft. wide at top. Reservoir: effective water depth 39 ft., area 103 acres. Intake: oval brick structure	25,000,000 gals.	Water level 5 ft. from top of dam. 3 inlets at different levels connecting to 10-in. pipe. 16-in outlet.
Forwarding Main	1	From reservoir at Kamiyoshi to purification plant at Komorie	Approx. 14 miles		
Slow Sand Filter Beds	4	West Moji-shi at Komorie	3 beds: 144 x 82 x 9 ftl; filter speed 11.8 ft. per day.	Daily average capacity all 4 beds: 3,138,000 gals.	Filtered water goes to pure water well & then to junction well.

1 bed: 137 x 93 x 9 ft; filter speed 10 ft. per day. All beds concrete & brick construction

Combined capacity 1,764,000 Gals.

99 x 99 x 11 ft. Concrete and brick construction, baffle walls, covered.

Distribution Reservoirs 2

Connected to 8-in. main on Shin-machi main

Distribution well 1

Maximum delivery capacity per day 142,500 gals. At elevation 267 ft.; water is pumped up to the distribution well by means of electric pumps and distributed to the high level area in Kiyomi-cho, Tani-cho & Maruyama.

Vary in size from 18 in. to 6 in. Service mains of smaller sizes.

Distribution Mains

Restricted

d. Omuta-shi.

Population served.....	112,270
Percent of total population	96.
Building units supplies.....	21,125
Percent of total units	96.1
Average daily supply (gallons)	3,647,000
Average daily per capita consumption (gallons).....	33
Length of distribution mains(miles)...	61
Water pressure in lbs/in-2.....	6.4
Total outlets (all kinds).....	11,042
Metered outlets only.....	6,745
Fire hydrants (1927).....	562
Private wells in city.....	900
Water works built in (year)	1925

The planned maximum capacity is 4,770,000 gallons per day. The waterworks are administered by the city. The official responsible for administration in 1939 was the Chief Engineer of the Waterworks Section.

Water supply is from 3 drilled wells, one 473 feet deep and two 283 feet deep, located at Kiyozato 7.3 miles from the city. These wells supplied a daily average of 3,200,000 gallons of water in 1936. According to 1945 sources a new rapid sand filtration plant of unknown capacity has been built. Two reservoirs are reported in use; one of 1,027,000 gallons known capacity is located at Arao, the other of unknown capacity is south of Miike-ko.

Water supply for the port is good. Pier on north side of Omuta-ko, pier on north side of wet basin, coaling quay and cargo quay all are supplied by water boats. In addition city water is piped to some of the quays. The coaling quay can be supplied at the rate of 7,700 gallons per hour, and the general cargo wharf at 3100 gallons per hour. One harbor tank vessel equipped with pumps has a capacity of 36,000 gallons.

Although the Omuta water supply is considered very pure, a dysentery epidemic occurred in 1938 which was blamed upon temporary pollution of the water. Since then a filtration plant has been installed.

e. Kokura-shi.

Population served.....57,815

Percent of total population.....43.3  
 Buildings units supplied.....11,097  
 Percent of total units.....40.9  
 Average daily supply (gallons) 2,600,000  
 Average daily per capita  
 consumption (gallons).....45  
 Length of distribution mains(miles).43.4  
 Water pressure in lbs/in-2.....75  
 Total outlets (all kinds)..... 7,730  
 Metered outlets only..... 6,097  
 Fire hydrants (1927)..... 402  
 Private wells in city..... 9,630  
 Waterworks built in (year)..... 1913

The planned maximum capacity of the water system is 6,700,000 gallons per day. The waterworks is administered by the city. Officials responsible for administration in 1939 were the Chief of the Waterworks Section and the Chief of the Waterworks Office.

Water supply for Kokura-shi is from the Kuyotaki-gawa 5 miles southwest and the Hata-kawa 2 miles west of the city. There is a dam, approximately 500 feet long and a reservoir of 1,657,000 gallons capacity on the Kuyotaki-gawa. On the Hata-kawa there is a dam 370 feet long by 85 feet high with a 72 ft. intake tower (1927 record). Filtration is by means of 2 slow sand filters covering 0.8 of an acre with 2,400,000 gallons capacity according to 1927 reports. In 1937, additional filters of unknown capacity were in operation. Distribution is by means of 2 reservoirs, one each at Kokura, Sasaku and at a location southeast from Kokura. Their capacities are 800,000, 680,000 and 320,000 gallons respectively, or a total of 1,800,000 gallons. Water is piped to the harbor quays and waterboats of unknown capacity are available.

In addition to the above information current intelligence provides the following specifications on waterworks installations in the vicinity of Kokura-shi and Tobata-shi. (1) a dam 500 ft. long, and a reservoir 1000 by 4,900 ft., 5 miles southwest of Kokura. (2) a dam 250 ft. long and reservoir 350 by 800 ft., 2 miles west of Kokura. (3) three dams 257,300 and 490 ft. long and 3 reservoirs 300 by 600 ft., 400 by 1200 ft. and 550 by 2500 ft. all closely grouped southeast of Kokura. (4) six basins, 150 by 225 ft., 75 by 100 ft., and 4, 85 by 85 ft., all closely grouped one mile west of Tobata-shi.

f. Kurume-shi.

Population served..... 32,637  
 Percent of total population... 33.4  
 Building units supplies.....5,935  
 Percent of total units.....35.5  
 Average daily supply (gallons)1,908,000  
 Average daily per capita  
 consumption (gallons).....58  
 Length of distribution mains(miles)38  
 Water pressure in lbs/in-2.....81  
 Total outlets (all kinds).....6,495  
 Metered outlets only.....5,606  
 Waterworks built in (year) 1925

The planned ultimate capacity of waterworks is 3,960,000 gallons per day. The waterworks is administered by the city. The official responsible for administration is the Chief of the Waterworks Section.

Water supply is from the Chikugo-gawa. Supply line installations include three settling basins of 3,030,000 gallons estimate capacity and four slow sand filters covering 0.9 acres and of 2,700,000 gallons capacity. These installations are grouped about 2 miles east of the city. Two small lakes in this vicinity may be part of the storage arrangements. There are 2 distributing reservoirs of 1,163,000 gallons capacity according to 1927 records.

g. Tobata-shi.

Population served..... 40,033  
 Percent of total population 50.2  
 Building units supplies 7,778  
 Percent of total units 50.2  
 Average daily supply (gallons)2,456,000  
 Average daily per capita  
 consumption (gallons) 61  
 Length of distribution mains (miles) 63.3  
 Total outlets (allkinds).....6,062  
 Metered outlets only .....4,657  
 Private wells in city .....5,000  
 Waterworks built in (year) 1930

The planned ultimate capacity of waterworks system is 3,400,000 gallons per day.

Supply and storage is probably from the same sources as



Those that supply Kokura-shi. The air intelligence report included in this chapter, subsection c. on Kokura-shi should be referred to for physical arrangements of supply and storage installations in the vicinity of Tobata-shi. It is possible that some of the waterworks capacity of Yawata-shi may supply Tobata-shi. See also subsection b. on Yawata-shi.

h. Wakamatsu-shi.

Population served.....	44,846
Percent of total population.....	72
Building units supplied.....	9,382
Percent of total units.....	72
Average daily supply (in gallons)	2,037,000
Average daily per capita consumption (in gallons).....	52
Length of distribution mains(miles)	37.6
Water pressure in lbs/ in-2 (1927)	43.4
Total outlets (all kinds).....	6,455
Metered outlets only .....	5,013
Fire hydrants (1927).....	325
Private wells in city.....	1,067
Waterworks built in (year)	1912

The waterworks is administered by the city. The official in charge of administration is the Chief Engineer of the Waterworks Section.

Water supply is from a dam 475 feet long by 70 feet high located on the Onga-gawa. Supply line installations according to 1927 records include one coagulating settling basin of 4,470,000 gallon capacity and 7 slow sand filter ponds covering 0.5 acre with 1,500,000 gallons total capacity. There are two distributing reservoirs of 1,096,000 gallons total capacity. Locations of these installations are not known. The system is large and complex, but few details are available. Information exists to the effect that 700,000 gallons per day is used for purposes other than municipal supply, and that the supply pipe under the Bokai-wan is a frequent source of trouble.

i. Nogata-shi.

Population served.....	13,180
Percent of total population	46.8
Building units supplied.....	2,688
Percent of total units .....	56.1
Average daily supply (gallons)	950,000
Average daily per capita consumption (gallons).....	55

Length of distribution mains (miles).....	22.9
Total outlets (all kinds).....	2,531
Metered outlets only.....	2,000
Private wells incity .....	2,313
Waterworks built in (year)	1932

The planned ultimate capacity of the waterworks system is 1,580,000 gallons per day.

j. Iizuka-shi.

Population served.....	20,608
Percent of total population.....	67.8
No. of building units supplied	4,059
Percent of total units.....	68.9
Average daily supply (gallons)	512,000
Average daily per capita consumption (gallons).....	25
Length of distribution mains(miles)	11.8
Water pressure in lbs/in-2 (1927)	107
Total outlets (all kinds).....	3,131
Metered outlets only.....	2,632
Fired hydrants (1927) .....	131
Waterworks built in (year).....	1925

Planned ultimate capacity of the waterworks system is 1,030,000 gallons per day. According to 1927 records the water supply source is from wells along the Honami-gawa.

k. Tagawa-shi.

Population..served.....	7,749
Percent of total population.....	5,517
Building units supplied .....	1,458
Percent of total units .....	532
Average daily supply (gallons)....	209,000
Average daily per capita consumption ( gallons).....	23
Water pressure in lbs/in-2 (1937)	17.3
Total outlets (all kinds).....	993
Metered outlets only .....	826
Fire hydrants (1927).....	34
Private wells in city.....	979
Waterworks built in (year).....	1922

The planned ultimate capacity of the waterworks system is 290,000 gallons per day. Source of water supply is from a mountain stream with intake at Kinkokusan, Ikkane.

1. Orio-machi and Ashiya-machi, These two towns operate a joint water supply system built in 1938. The water source is a large reservoir dam 380 feet long located approximately 3 miles southeast of the railroad junction at Ori-machi. In this same area are 3 small reservoirs, a filter plant with two aeration basins approximately 90 by 180 feet, water wash tower 20 feet in diameter and a pump and chemical building.

m. Yanagawa-machi.

This town has a waterworks built in 1927. It serves 82 percent of the population and has an average daily capacity of 15,000 gallons. In 1927, 52 hydrants were reported. Water supply is from wells located on the right bank of the Hon-gawa.

n. Soeda-machi.

It is reported that this town has a waterworks system ; four small reservoirs are located in the town.

3. Sewage Disposal.

Four of the cities of Fukuoka-ken, are known to have modern sewage disposal plants. As else where in Japan night soil collection is an accepted method for urban sewage disposal and even those cities which have modern plants still have a substantial night soil collection program. Data on night soil collection even though not comprehensive is included in the descriptions of sewage disposal systems for purposes of comparison.

a. Fukuoka-shi. Fukuoka-shi has a modern sewage disposal plant, but no descriptive information is available. Administration is the responsibility of a chief engineer of the Sewage Works Section and a Supervisor of Sanitation. In 1937 53,420 homes were served in the night soil removal program.

b. Yawata-shi. This city has a modern sewage disposal system serving 24,000 people and drawing 145.7 acres of city area. Discharge is into the river and sea. Original cost of the system was 450,000 yen. In 1939 11,000 homes were served in the night soil removal program; 2,000,000 gallons were processed into 583 tons of sludge and used as fertilizer.

c. Kokura-shi. A modern sewage disposal system serves 64,000 people within an area of 175 acres. Length of the sewer mains is 14 miles and final disposal is into the river and ocean. In the night soil removal program 23,757 houses

In the night soil removal program 23, 757 houses were served in 1937 and in 1938 1,190 tons of sludge were used as fertilizer. Administration is the responsibility of the chief of the sanitation section and a supervisor of sanitation.

d. Kurume-shi. In 1940 plans were in process for the construction of a modern sewage disposal plant in Kurume, but no construction had been started. In 1937, 14,882 homes were served in the night soil removal program and in 1939, 839 tons of sludge were used as a fertilizer. Administration of sanitation for the city is by a supervisor of sanitation.

e. Wakamatsu-shi. This city has an underground sewage disposal system serving 36,682 people within a drained area of 3,100 acres. Length of sewer mains is 4 miles and final disposal is into the bay. In 1939 6,442 homes were served in the night soil removal program and 4,000,000 gallons of product were turned into 2,096 tons of sludge and used as fertilizer. Administration is the responsibility of the inspector of sanitation.

f. Data on night soil removal, 1937, in Omuta-shi, Moji-shi, Tobata-shi, Nogata-shi, and Iizuka-shi are given in Table 75-A

TABLE 75-A

City	Night Soil Removal, 1937		
	Houses served	Night soil gallons	Sludge used as fertilizer(tons)
Omuta	20,172	-----	-----
Moji	----	7,000,000*	6,925
Tobata	14,300	-----	6,965*
Nogata	8,296	-----	-----
Iizuka	5,029	-----	-----

\*1939 data.

4. Electric Power.

At the end of 1943, the electric power generating plants of Japan had an estimated total capacity of 11,500,000 kilowatts and an estimated production of 46,700,000,000 kilowatt hours. The Kyushu Supply Area, composed of all the prefectures in Kyushu, had 15 percent of the total capacity and generated 18 percent of this total. Fukuoka-ken produced approximately 57 percent of the electric power produced by the entire supply area.

The entire Kyushu Supply Area, in theory, is organized into a transmission network. However, due to generating frequency differences, limited interconnection facilities and geographical difficulties, poor intergration is obtained throughout the whole network. In practice the Kyushu grid is divided into 3 sub-areas as follows: (1) Kokura-Tobata-Yawata (covering those cities and nearby areas); (2) West Kyushu (covering roughly the remainder of Fukuoka-ken, all of Nagasaki and Saga prefectures; and (3) East Kyushu (consisting of Oita-ken and the eastern parts of Miyazaki, Kumamoto and Kagoshima prefectures).

Fukuoka-ken lies partly in the Kokura-Tobata-Yawata sub-area operating on 50 cycles and partly in the West Kyushu sub-area operating on 60 cycles. The electric power in the prefecture is generated almost wholly by thermal plants, all but three of which are steam plants using coal for fuel. These plants are modern and efficient fuel plants that carry the base load throughout the year. Some are private plants supplying the entire demand of industrial plants.

It is estimated that the Kokura-Tobata-Yawata sub-area, in the northern part of Fukuoka-ken, can obtain the following amounts of energy by interchange facilities from other networks:

40,000 kilowatts from West and East Kyushu via existing transmission lines.

30,000 kilowatts from the Chugoku network via the Moji-Shimonseki tunnel (might be reduced if frequency changing equipment were limited).

In any case, the transfer of energy from other sub-areas is limited by the extent of firm power loads of consumers within the grid.

a. Capacity and production. Fukuoka-ken has 25 electric generating plants ranging in capacity from 1,200 to 162,000 kilowatts. Only one of these is a hydro-electric plant, a small one of 1,500 kilowatt capacity. Eight are private

thermal plants whose entire production is utilized by a specific industrial establishment. The capacity of all generating plants within Fukuoka-ken at the end of 1941 was 901,480 kilowatts (880,340 steam, 19,640 gas engine driven and 1,500 hydro). Estimated production for 1943 was 4,500,000,000 kilowatt hours (4,350,000,000 public thermal, 141,250,000 private thermal and 8,750,000 hydro). Approximately 4,000,000 tons of coal (thermal content 11,500 BTU per pound) are estimated to have been required for Fukuoka-ken's electric plants during 1943. Table 76 lists Fukuoka-ken's electric plants. Appendix III gives the details on these plants.

TABLE 76

Electric Generating Plants, 1944, Fukuoka-ken  
(1,000 or more kilowatt capacity)

Plant	Location	Type & Frequency	Capacity in kilowatts	Rank in Prefecture
Akaike	Tagawa-shi	S; 60	10,200	13
Futase Mine Steam Plant	Futase-machi, Kaho-gun	S; U	10,200	13
Hainuzuka	Hainuzuka-machi, Yame-gun	S; 60	1,200	25
Kokura No. 1	Kokura-shi	S; 50	40,000	9
Kokura No. 2	Kokura-shi	S; 50	78,240	4
Kokura	Kokura-shi	S; 50	50,000	7
Kokura Factory	Higashitani-mura, Kiku-gun	S; U	2,700	23
Minato	Omuta-shi	S; 60	162,000	1
Moji Factory	Moji-shi	S; U	7,000	21
Najima	Tatara-mura, Kasuya-gun	S; 60	60,000	6
Namazuda	Iizuka-shi	S; 50	10,000	15
Nippon Seitetsu-sho Tobata	Tobata-shi	S; U	7,200	20
Nippon Seitetsu-sho Yawata No. 3	Yawata-shi	S; 25	30,000	11
Nippon Seitetsu-sho Yawata No. 4	Yawata-shi	S; 25 & 50	65,000	5
Nippon Seitetsu-sho Yawata No. 5	Yawata-shi	S; 50	41,600	8
Omuta Gas Plant	Omuta-shi	GE; 40	8,320	18
Oura	Omuta-shi	S; 60	34,000	10
Shin Karyoku	Omuta-shi	S; 60	104,000	3
Sumiyoshi	Fukuoka-shi	S; 60	4,000	22
Tagawa Gas	Tagawa-shi	GE; 40	8,320	18
Tobata	Tobata-shi	S; 50	156,000	2

Unoshima	Hachiya-machi, Chikujo-gun	S; 60	10,000	15
Yabegawa	Obuchi-mura, Yame-gun	H; 60	1,500	24
Yawata Factory	Yawata-shi	S; U	10,000	15
Yawata Factory	Yawata-shi	S; U	24,000	12

S-Steam; H-Hydroelectric; GE-Gas engine-driven; U-Unknown frequency.

b. Transmission and distribution. Throughout Fukuoka-ken electric energy is transmitted and distributed by means of 3 phase alternating current circuits. Over 99 percent of the power is generated by thermal plants situated near the industrial cities. The Kokura-Tobata-Yawata sub-area, producing over half of the power of the prefecture, is connected with the Fukuoka-shi area by means of a 2-circuit 66-kilowatt transmission line allowing interchange of power. Another 66-kilowatt line runs from the Onagohata and Yuyama hydro-plants in western Oita-ken and terminates in the Kokura-Tobata-Yawata grid. From this terminus the transmission line is continued down the eastern part of the prefecture as a 66-kilowatt line to the Unoshima steam plant and thence continuing southward to connect with the lines in the Beppu-shi, Oita-shi area. An 11-kilowatt transmission line runs westward from the Onagohata hydro-plant in Oita-ken to Kureme-shi. Along these transmission lines at load center points are located primary substations which step the transmission voltage down to voltages of 22 and 6.6 kilowatts for primary distribution. A partial list of these substations is found in Appendix IV.

Distribution throughout the prefecture is by means of circuits from secondary substations at voltages of 3,500 to 2,200 volts. Service to commercial and residential consumers is at standard voltages of 110 and 220, with 440 volt service available for industrial consumers.

Transmission lines are schematically shown on OSS map 7205.

c. Utilization. Within Fukuoka-ken, the largest consumer of electric power is the iron and steel industry, closely followed by the mining industry. These 2 consumer groups account for approximately 75 percent of the total energy used. Other prominent consumer groups are the chemical industry, the ceramics industry, and the food processing industry.

d. Administration. Electric generation and transmission facilities within Fukuoka-ken, as in the balance of Japan, are owned and operated by the government-controlled Nippon Hassoden KK (Japanese Electric Generating and Transmission Company).

This company's headquarters are in Tokyo and there is a branch office at 7-banchi, Yakuinhoribata, Fukuoka-shi. Distribution of electric power in Fukuoka-ken is handled by the government-controlled Kyushu Haiden KK (Kyushu Electric Distribution Company). These companies are under the direct control of the Munitions Ministry (Gunju-sho).