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WAR DEPARTMENT PAMPHLET

No. 31-370

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CIVIL AFFAIRS HANDBOOK

JAPAN

PREFECTURAL STUDIES

MIE KEN



WAR DEPARTMENT

21 September 1945

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War Department Pamphlet

No. 31-370

Civil Affairs Handbook

J A P A N

Prefectural Studies

M I E K E N

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THIS MANUAL IS ONE OF A SERIES OF PREFECTURAL STUDIES ON JAPAN PREPARED  
WITH THE COOPERATION OF THE CASA OUTPOST OF THE  
OFFICE OF STRATEGIC SERVICES

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This series of studies is 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 embodies information available at the Presidio of Monterey, Monterey, California on 1 September 1945.

The preparation of these studies is a part of the effort to carry out Military Government responsibilities as efficiently as possible. These handbooks do not deal with plans or policies, (which will depend on changing and unpredictable developments).

It should be clearly understood that they do not imply any given course of official action. They are, rather, ready-reference source books containing the basic factual information needed for planning and policy making.

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WAR DEPARTMENT  
Washington 25, D. C., 21 September 1945

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SUMMARY

Mie-ken, located in Central Southwestern Honshu, has an area of 2,225 square miles; its population in 1940 was about 1,200,000. Important cities include Kuwana, an important new industrial center; Matsuzaka, a textile manufacturing center; Tsu, the prefectural capital; Ujiyamada, the site of the most sacred shrines in Japan; and Yokkaichi, the largest city in the prefecture.

Except in the region around Matsuzaka-shi and the coast line, the terrain is rugged with hills and mountains. The climate is hot and humid in the summer and relatively mild in the winter.

Although agriculture is estimated to support over half of the population, the prefecture has a slight deficit in food production other than fish. Manufacturing employs the next largest group (18.3 percent). The principal manufactured product is textiles. Machinery and tools and food processing are the next important industries.

All of the cities and most of the towns are connected by both railroads and highways. There are good telegraph, telephone and radio facilities. The prefecture has 6 public utility gas plants, 7 known waterworks systems, and 2 electric generating plants of 1,000 kilowatts or more.

Except in matters peculiarly local, the social organization and cultural institutions are similar to those existing elsewhere in Japan. The prefecture is in the Tokai-Hokuriku Superintendency-General with headquarters in Nagoya-shi, Aichi-ken.

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I. PHYSICAL BACKGROUND

A. LOCATION AND SIZE

Mie-ken is located on the Pacific coast in Central-Southwestern Honshu at approximately 34°30'N., 136°20'E. It is bounded on the north by Gifu-ken; on the northeast by Aichi-ken; on the east by Ise-wan; on the southeast by the Pacific Ocean; on the west by Wakayama-ken and Nara-ken; and on the northwest by Shiga-ken. (See AMS L 571, sheets 27,39,50 and 51.)

The prefecture has a north-south extent of 106 miles and an east-west extent of 62 miles. Its area is 5,765 square kilometers (2,225 square miles), comprising 1.5 percent of the total area of Japan proper. It is slightly larger than the state of Delaware, and in 1940 had a population of 1,198,783 persons.

B. TERRAIN REGIONS

Mie-ken includes portions of 3 terrain regions, the Ise-wan Lowlands, the Kii-hanto Mountain Land and the Kinki Lowlands and Highlands.

1. Ise-wan Lowlands

The Ise-wan Lowlands is represented within Mie-ken by a strip of land from 9 to 11 miles wide and running southward along the west side of Ise-wan from the mouth of the Kiso-gawa to the vicinity of Toba-machi. It comprises about 1/5 of the area of the prefecture but contains most of the fertile agricultural land and the 6 largest cities.

Along the west shore of Ise-wan are low, flat lands less than 25 feet above sea level which extend back 2 to 5 miles from the shoreline. Inland from these alluvial plains are older, higher sediments rising 50 to 80 feet above sea level. A gentle, continuous, smooth slope connects the two levels. The higher lands are 5 to 10 miles wide and bordered inland by highly dissected terrace remnants which form hilly areas 100 to 200 feet above the flat lowlands. These steep-sided dirt hills give way in turn to the hard rock ledges and spurs of the surrounding highlands which rise sharply 500 to 2,500 feet above the hilly areas. The few high peaks near the western margin of the region reach 3,500 to 3,800 feet above sea level.

Soils of the lowland flats are mostly loam with sand and much clay along the river channels. Hilly areas have sandy and gravelly soils mixed with clay and higher uplands are covered with loose, rocky, sandy soils.

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Vegetation in the low flat plains and river bottoms is chiefly wet-field rice. Higher parts of the flat land and less steep slopes of the hill land are in dry crops. Forests cover the steep sloping hills and highlands.

Of the 6 subdivisions of the Ise-wan Lowlands the 4 represented in Mie-ken are the Ujiyamada Terraces, the Matsuzaka Plain, the Yokkaichi Terraces and Plains, and a small fragment of the Nagoya Plain. The Matsuzaka and Nagoya plains are both extensive low-lying alluvial plains centering on those cities, whereas the Ujiyamada Terraces and the Yokkaichi Terraces and Plains are areas in which terraces and small plains are intermingled in an intricate fashion.

The shoreline is predominantly sandy and is interrupted by occasional harbors and numerous river mouths. The largest continuous beach area extends south from Yokkaichi-shi for 24 miles to the north shore of Matsuzaka-ko. The next longest beach begins at the south shore and extends southwest for 14 miles to Futami-machi.

## 2. Kinki Lowlands and Highlands.

This region includes the 2/5 of Mie-ken which lie above 34° 25' N. and to the west of the Ise-wan Lowlands region.

The Suzuka-sammyaku (mountains) are immediately to the west of the Ise-wan Lowlands. Despite their moderate elevations of 2,000 to 3,000 feet they constitute a difficult transportation barrier since their slopes usually exceed 30 percent. A few peaks reach 4,000 feet above sea level. Most of the ridges have thin soil and sparse forest cover.

The western portion of the region slopes gradually downward and elevations average between 1,500 and 2,800 feet above sea level. These low, flat-topped highlands are breached at several points by river valleys which are followed by the main land routes between the Ise-wan Lowlands and the Biwa, Nara and Kyoto basin areas. Ueno-shi, Mie-ken's smallest city, stands at the fork of 2 such routes.

## 3. Kii-hanto Mountain Lands.

This region includes the territory south of a line running west southwest from Toba-machi and cutting the prefecture's western boundary at about 34°25'N.

The Kii-hanto (peninsula) mountains are of moderate elevation. Average peaks near the coast are 1,500 to 1,800 feet above sea level but heights increase inland and reach 5,000 to 5,500 feet at the west central boundary of Mie-ken. The inland mountains have steep sides with slopes usually exceeding

30 percent, and narrow, winding valleys. There are a few pockets of nearly level land in the larger valleys and along the coast which are usually planted in wet-field rice. This rugged, forested region has no cities and the population is settled largely in scattered coastal villages.

The entire coastline south of Toba-machi is interrupted by numerous bays and river mouths. The region's longest beach area extends southwest from Kinomoto-machi for about 16 miles to the southern boundary of the prefecture.

The Northeastern Hilly Land, a sub-region, contains about 100 square miles of nearly level land. It is located at the northeast corner of the region, extending around the eastern and southern border of the peninsula on which Toba-machi is situated, and has an average width of about 6 miles. Here the uplands give way to scattered hills of less than 1,000 feet elevation. The valleys are 1/2 to 3/4 of a mile wide and nearly level.

## 4. Islands.

The prefecture's islands are concentrated in a small area of Ise-wan in the vicinity of Toba-machi.

Toshi-jima, the largest, forms the northwestern boundary of Toba-ko. It is 4 miles long and one mile wide. A ridge of hills 400 feet high runs its entire length and ends with a 548 foot summit at the southwestern tip.

Sugu-jima, the next largest, forms the southern boundary of Toba-ko. It is nearly 3 miles long by one mile wide. Approached from the south it appears flat, but from the east its 772 foot summit is sharply outlined.

The few remaining islands are smaller, only 2 of them exceeding one square mile in area.

## C. HYDROLOGY

### 1. Springs.

There are hot springs at Yunoyama (35° 00' N., 136° 27' E.) and cold springs at Sakabe (latitude 34°- 59' N. longitude 136°-37'E). (See OSS map 3834.)

### 2. Rivers

The Kiso-gawa and the Kumano-gawa are included in the important rivers of Japan. The Miya-kawa, a river of lesser importance, plays an important part in the economy of Mie-ken.



a. Kiso-gawa. The river, one of the largest in Japan, originates in Nagano-ken, flows through Gifu-ken and empties into the Ise-wan along the Mie and Aichi boundary about 12 miles southeast of Nagoya-shi. It has a length of 144 miles and a drainage basin of 3,510 square miles. The river has 2 main tributaries; the Nagara-gawa and the Hida-gawa, both in Gifu-ken.

The Kiso-gawa has many mouths. To facilitate navigation a jetty is located near the mouth of the main stream which requires frequent dredging. Shallow draft boats can ascend the main stream about 50 miles. Depths are consistently more than 5 feet for 140 miles upstream to a point above Agematsu-machi in Nagano-ken. The least depths are in the vicinity of Gifu-shi in Gifu-ken and Inuyama-machi in Aichi-ken, where the river begins to spread over the Nagoya Plain.

The main peaks of high water occur in late summer and early fall. Melting snows result in a minor high water period in April. During the periods from January 1920 to August 1922 and from January 1923 to December 1929, stream flow gaugings were taken near Yaotsu-machi in Gifu-ken. Although the drainage area above the gauging station is reported to be only 355 square miles, about 10 percent of the total, the flow data is useful in determining approximate flow downstream. The monthly maximum (July 1922) was 85,500 cubic feet per second, the monthly minimum (February 1925) 290, and the monthly mean, 2,230. The maximum flood during the period was not recorded.

River improvement works have been constructed on the Kiso-gawa. The improvements consist of projects designed to facilitate flood control, irrigation and navigation. The works consist mainly of levees to confine the flood stream; movable dams, sluices, and canals to divert some of the additional stream flow during periods of flood; retarding basins to equalize stream flow; and straightened channels to quicken flood discharge. The movable dams, sluices, and canals near the estuaries reduce silting in the river and make dredging for navigation feasible.

b. Kumano-gawa. The river originates in Nara-ken, flows along the Wakayama and Mie-ken boundary and empties into the Pacific Ocean at Shingu-shi in Wakayama-ken. It is 100 miles long and has a drainage basin of 942 square miles. It is navigable for 79 miles above its mouth.

During the periods from January 1920 to August 1922 and January 1924 to December 1929, stream flow gaugings were taken at a station reported to be 30 miles above the mouth of the river, above which station the drainage area is 83 square miles or about 9 percent of the total. The monthly maximum (August 1925) was 73,800 cubic feet per second, monthly minimum (February

1927) 50, and monthly mean 450. The maximum flood was not recorded.

c. Miya-kawa. The river empties into Ise-wan about 5 miles northeast of Ujiyamedashi. It lies entirely within Mie-ken and has normally over 5 feet of water in most places for about 35 miles above its mouth.

In 1936, floods affected 189 communities, within an area of about 6,000 acres, causing damage to 143 buildings and 5 boats. The total damage amounted to 380,000 yen.

#### D. CLIMATE

##### 1. Seasons.

Even though Mie-ken has mountainous terrain in its eastern portions its climate is reasonably uniform. Winter frontal storms moving down from the northwest usually spend their precipitation on Honshu's backbone of mountains and leave Mie-ken with clear skies and temperature which average about 40 degrees Fahrenheit.

The summers are hot, humid, and rainy. The moisture-laden winds usually moving northward across the Pacific Ocean cause considerable cloudiness and frequent thunderstorms. In spring and autumn the winds are light and variable, frontal storms are at their peak, and precipitation is heavy. The temperatures are moderate. Occasional typhoons occur in the late summer and fall.

##### 2. Temperatures.

The midsummer temperature in Mie-ken is very sultry, uncomfortable and enervating. The frost-free season is long and varies from 220 to more than 260 days.

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

Temperatures along the southern coast approximate closely those recorded at Shionomisaki-mura in Wakayama-ken (Table 1). Winters average as much as 6 or 8 degrees colder in the northern part of the prefecture and in the mountains.

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TABLE 1  
Temperatures at Shionomisaki-mura, Watayama-ken  
(In degrees Fahrenheit.)  
Jan. Feb. Mar. Apr. May. Jun. Jul. Aug. Sept. Oct. Nov. Dec. Ann.

Mean daily max.	52	52	57	65	71	76	82	84	80	72	65	56	68
Mean daily min.	39	40	43	53	59	66	73	75	70	61	53	44	56
Absolute max.	68	70	71	75	82	85	96	93	89	82	78	71	96
Absolute min.	26	26	29	35	46	54	63	67	58	48	36	28	26

3. Precipitation, Humidity, Fog.

Annual precipitation varies from 60 to 120 inches over the prefecture, being very much heavier during the summer than the winter. Humidity is high, but fog is not prevalent. The record made at Shionomisaki-mura in Wakayama-ken is representative of the southern part of Mie-ken (Table 2). The northern part receives 60 to 80 inches a year and has somewhat more snow.

TABLE 2

Precipitation, Humidity, Fog at Shionomisaki-mura, Wakayama-ken.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
Mean precip. in	3.0	4.4	6.3	7.9	9.8	13.0	8.7	12.7	13.8	12.7	6.3	4.0	102.6
Mean no. days with precip. of 0.004" or more.	9	10	12	14	15	18	15	15	18	15	13	11	165
Mean no. days with trace or more of snowfall	2	1	1	0	0	0	0	0	0	0	0	1	5
Mean Relative humidity, Percent.	63	66	68	77	81	87	89	88	84	77	71	66	76

4. Winds

Percentage frequencies of primary types of flow in the free air over Central and Southwestern Honshu are shown in Table 3.

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TABLE 3  
Percentage Frequencies of Various Air-flow Types

	PRIMARY TYPES					Ridge High
	NE	SE	SW	NW	N	
Winter (Dec.-Feb.)	29.1	3.1	3.8	20.1	17.3	14.7
Spring (Mar.-May)	23.9	6.7	13.2	8.1	5.8	20.0
Summer (June-Aug.)	10.3	13.5	26.6	3.8	1.1	14.4
Autumn (Sept.-Nov.)	30.4	9.3	3.8	9.6	5.9	17.5

Typhoons may cross southern Japan at any time during the typhoon season in summer and autumn, but September is the month of maximum frequency.

Japan is affected, on the average, by 7 typhoons per year from July through October, but probably not more than 3 cause heavy damage. A fully developed typhoon may have a heavy rain area with a radius of perhaps 150 miles, and an inner ring with winds of hurricane force which near the center of the storm may exceed a speed of 150 miles per hour. Much of the damage resulting from the storms is caused by the very high tides which follow in its wake. Mie-ken is located in the area subject to greatest damage.

5. Catastrophes

Japan has, on the average about 1,500 earthquakes annually, or approximately 4 shocks per day. Since 1596 there have been more than 50 earthquakes resulting in loss of life, and 21 of these have each caused the deaths of more than 1,000 persons. Those which have affected Mie-ken are shown in Table 4.

TABLE 4  
Serious Earthquakes, Mie-ken.

Date	Locality	Deaths	Bldgs. Destroyed
3 Feb. 1605	Southeast Japan coast	8,800	-
16 June 1662	Kinki Region (includes northern Mie-ken)	800	2,570
28 Oct. 1707	Southeast Japan coast	4,900	29,000
9 June 1854	Yamato & Iga Provinces (includes east Mie-ken)	1,057	5,000
23-24 Nov. 1854	Tokaido & Shikoku (includes Ise-wan coast)	4,2000	79,300
28 Oct. 1891	Nobi Plain (includes northeast Mie)	7,273	80,000

## II. POPULATION AND SETTLEMENTS

## A. POPULATION

In 1940 the population of Mie-ken (including those listed in the armed forces) was 1,198,783 or 1.6 percent of the total population of Japan. It had a population density of 208 persons, per square kilometer, which was slightly above the national average of 191. Between 1935 and 1940 it experienced a natural increase of 57,589 persons or 4.9 percent. This increase was slightly below the national average of 5.6 percent. During this period it lost 33,401 persons as a result of migration to other areas, which left it with a net increase of only 24,188 or 2.1 percent.

As of April 1945 it is estimated that the normal population (excluding armed forces) was 1,116,000, to which was added about 50,000 persons as a result of dispersal from other areas, making a total of 1,166,000.

The population of Mie-ken is concentrated in 4 geographical areas; the Yokkaichi Terraces, the Matsuzaka Plain, the Ujiyamada Terraces, and the Ueno valley. The largest population concentration is in the Yokkaichi Terraces. There are numerous settlements along the bays and inlets of the Kumano-nada coast. The Suzuka Highlands along the western and central sector of the prefecture are thinly populated as are the Kii-Hanto Mountain lands in the southern sector. Settlements in these areas follow the river valleys.

The population of Mie-ken is predominantly rural. In 1940 74.9 percent of the population, or 897,593 persons, lived in rural areas. In 1940 there were 5 cities (shi): Yokkaichi, Tsu, Ujiyamada, Kuwana, and Matsuzaka. As of 1943 2 other cities had been incorporated, Suzuka and Ueno, bringing the total number to 7.

In 1940 the sex ratio in Mie-ken was 95 males per 100 females.

Table 5 lists the population of Mie-ken in 1940 by minor civil divisions.

TABLE 5  
Population, 1940, Mie-ken

Divisions	Total
YOKKAICHI-SHI	111,026
TSU-SHI	73,556
UJIYAMADA-SHI	55,309
SUZUKA-SHI	46,127
MATSUZAKA-SHI	35,391
KUWANA-SHI	41,848
UENO-SHI	32,503
KUWANA-GUN	28,944
Jonan-mura	3,398
Kuwabe-mura	1,273
Ariyoshi-mura	2,298
Fukaya-mura	3,729
Nojiro-mura	1,146
Furuhama-mura	1,292
Furumi-mura	1,060
Tado-mura	2,646
Nanatori-mura	1,725
Kusunoki-mura	1,198
Nagashima-mura	4,135
Kisozaki-mura	3,008
Isojima-mura	2,036
INABE-GUN	42,519
Ageki-machi	2,246
Inabe-machi	5,468
Kume-mura	2,117
Onaga-mura	1,738
Umedoi-mura	3,513
Misato-mura	1,018
Ishigure-mura	3,306
Nyugawa-mura	1,773
Hatta-mura	2,789
Higashifujihara-mura	1,668
Nishifujiwara-mura	1,081
Shirose-mura	1,784
Tatsuta-mura	1,018
Nakazato-mura	2,275
Toyashiro-mura	3,286
Yamazato-mura	1,695
Kanda-mura	2,418
Nanawa-mura	1,626
Inabe-mura	1,700

Division	Total
MIE-GUN	63,358
Komono-machi	4,244
Kusu-machi	5,609
Kawarada-mura	2,391
Oyamada-mura	3,301
Suizawa-mura	2,599
Kawashima-mura	1,831
Kanzaki-mura	2,934
Sakura-mura	2,462
Chikusa-mura	2,839
Ugawara-mura	3,001
Agata-mura	2,571
Mie-mura	3,543
Kawagoe-mura	5,680
Asahi-mura	3,112
Oyachi-mura	3,987
Yazato-mura	2,707
Shimono-mura	1,804
Hobo-mura	2,978
Takenaga-mura	1,538
Asakami-mura	4,227
SUZUKA-GUN	45,701
Kameyama-machi	13,171
Seki-machi	3,356
Kambe-mura	2,003
Sakanoshita-mura	829
Kabuto-mura	2,125
Hiruu-mura	1,985
Idagawa-mura	3,553
Kumada-mura	3,065
Fukaizawa-mura	3,245
Tsubaki-mura	2,471
Shonai-mura	2,454
Kawasaki-mura	2,542
Nonobori-mura	3,016
Shirakawa-mura	1,886
KAWAGE-GUN	35,213
Ishinden-machi	4,662
Amana-mura	1,820
Aikawa-mura	2,139
Sakai-mura	2,673
Ueno-mura	3,044
Toyotsu-mura	2,879
Kuroda-mura	2,285
Shiratsuka-mura	3,709
Kurima-mura	2,206
Osato-mura	3,490
Takanoo-mura	1,288
Mukumoto-mura	2,302

Division	Total
Akira-mura	2,716
ANO-GUN	21,165
Ansai-machi	2,015
Ujii-machi	1,618
Kochi-machi	693
Katada-mura	1,989
Takamiya-mura	1,221
Nagano-mura	1,704
Tatsumi-mura	2,047
Kasao-mura	1,856
Suguri-mura	1,665
Ano-mura	4,365
Akeyai-mura	1,992
ICHISHI-GUN	90,059
Hisai-machi	10,167
Karasa-machi	4,111
Ieki-machi	3,027
Momozono-mura	1,934
Heki-mura	1,977
Nanakuri-mura	2,351
Inaba-mura	911
Sakakibara-mura	2,646
Omitsu-mura	2,648
Oi-mura	2,731
Kawaguchi-mura	3,114
Yamato-mura	1,751
Yatsuyama-mura	2,036
Takewara-mura	1,782
Yachi-mura	2,956
Taro-mura	1,988
Iseji-mura	1,530
Yawata-mura	2,315
Tage-mura	2,484
Shimonokawa-mura	1,554
Ukisato-mura	2,550
Haze-mura	3,060
Nakazato-mura	1,894
Toyoji-mura	2,037
Kawai-mura	3,077
Takaoka-mura	1,792
Nakagawa-mura	2,299
Toyoda-mura	1,589
Nakahara-mura	2,567
Azaka-mura	2,388
Yonenosho-mura	2,264
Matsugasaki-mura	2,235
Tempaku-mura	2,116
Kasasagi-mura	1,518
Onoe-mura	1,680

Division	Total
Kumozu-mura	2,980
IINAMI-GUN	59,291
Kakino-machi	4,471
Hanaoka-machi	5,255
Kayumi-machi	4,451
Minato-mura	3,214
Matsuo-mura	2,268
Matsue-mura	2,929
Isedera-mura	2,658
Okawachi-mura	3,316
Chihiro-mura	2,038
Oishi-mura	2,691
Miyanomae-mura	3,020
Kawabata-mura	2,883
Mori-mura	2,543
Haze-mura	2,325
Izawa-mura	3,734
Kushida-mura	2,380
Asami-mura	1,904
Nishikurobe-mura	2,823
Hatadono-mura	1,886
Koishiro-mura	2,502
TAKE-GUN	47,523
Oka-machi	3,493
Oyodo-machi	2,798
Higashikurobe-mura	1,953
Shimomiito-mura	2,521
Kamimiito-mura	2,615
Myojo-mura	3,371
Saiku-mura	3,358
Nishitokida-mura	1,856
Sana-mura	3,532
Tsuda-mura	1,790
Nyu-mura	1,470
Gokatani-mura	3,925
Kawazoe-mura	3,027
Misedani-mura	3,912
Ogihara-mura	4,317
Ryonai-mura	1,824
Osugitani-mura	1,761
WATARAI-GUN	105,457
Ominato-machi	2,662
Tamaru-machi	2,644
Futami-machi	6,669
Kobata-machi	6,496
Takihara-machi	3,498
Gokasho-machi	3,318
Miyamoto-mura	1,734
Numaki-mura	1,889

Division	Total
Shigo-mura	4,699
Hamago-mura	5,499
Misono-mura	4,851
Toyohama-mura	5,414
Kitahama-mura	5,254
Uda-mura	2,581
Higashitokida-mura	2,783
Kida-mura	3,038
Shimotokida-mura	2,762
Uchikida-mura	3,467
Nakagawa-mura	1,872
Nanaho-mura	3,324
Kashiwazaki-mura	2,869
Ouchiyama-mura	2,255
Shimazu-mura	2,788
Yoshizu-mura	3,622
Ugura-mura	2,824
Nakashima-mura	3,066
Ichinose-mura	1,828
Ogawago-mura	1,605
Hohara-mura	2,179
Nankai-mura	3,162
Shukutaso-mura	2,982
Kambara-mura	1,823
AYAMA-GUN	38,133
Tsuge-machi	3,953
Shimagawara-mura	3,162
Marubashira-mura	2,245
Fuchu-mura	3,849
Nakanose-mura	1,967
Kawai-mura	3,234
Tamataki-mura	2,606
Tomoda-mura	2,924
Nishitsuge-mura	3,169
Mibunomura	2,261
Yamada-mura	3,771
Nunobiki-mura	974
Awa-mura	2,109
Tomono-mura	1,909
NAGA-GUN	44,166
Nabari-machi	10,444
Ao-machi	2,393
Nishikio-mura	2,351
Takigawa-mura	2,615
Minowata-mura	2,407
Hinachi-mura	2,520
Kunitsu-mura	1,882
Hanagaki-mura	2,347
Furuyama-mura	1,623

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Division	Total
Ida-mura	2,007
Inako-mura	2,791
Hijiki-mura	1,001
Kambe-mura	2,365
Minohata-mura	2,080
Kotsu-mura	1,585
Tanao-mura	2,268
Yamochi-mura	1,487
SHIMA-GUN	74,190
Toba-machi	9,573
Hamashima-machi	5,609
Namikiri-machi	5,665
Wagu-machi	5,069
Momotori-mura	1,313
Toshi-mura	2,634
Kamishima-mura	1,043
Sugashima-mura	1,037
Kamo-mura	3,881
Kagamiura-mura	2,061
Nagaoka-mura	2,946
Matoya-mura	1,736
Andri-mura	2,426
Ko-mura	1,353
Isobe-mura	6,540
Ugata-mura	3,296
Shinmei-mura	1,329
Tagegami-mura	1,367
Koga-mura	1,919
Shijima-mura	1,052
Azena-mura	742
Nada-mura	550
Funakoshi-mura	2,149
Katada-mura	3,201
Fuseda-mura	2,630
Koshika-mura	2,152
Goza-mura	917
KITAMURO-GUN	46,778
Owashi-machi	15,756
Hikimoto-machi	3,964
Nagashima-machi	5,186
Aiga-machi	3,401
Nishiki-machi	3,256
Kuki-mura	2,260
Funatsu-mura	2,544
Sugari-mura	1,141
Katsuragi-mura	2,007
Minose-mura	1,869
Akaba-mura	2,495
Nigo-mura	2,899

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Division	Total
MINAMIMURO-GUN	60,526
Kinomoto-machi	5,145
Atawa-machi	3,219
Kitawauchi-mura	2,654
Minamiwauchi-mura	3,590
Arasaka-mura	1,834
Atashika-mura	3,565
Tomari-mura	1,859
Arii-mura	4,883
Koshiyama-mura	2,702
Ichiki-mura	2,345
Ida-mura	1,720
Udono-mura	1,987
Mifune-mura	2,828
Onodani-mura	2,290
Croshi-mura	2,608
Kamikawa-mura	2,416
Iruka-mura	5,828
Nishiyama-mura	1,547
Kamikawa-mura	2,483
Isato-mura	2,264
Asuka-mura	2,759

\* 1940 population census. In the case of incorporations or amalgamations since 1940, the population of the incorporated area is adjusted by the addition of the population of the other areas on the basis of the 1940 census. The GUN totals have also been adjusted.

#### B. CITIES AND TOWNS

##### 1. Yokkaichi-shi.

Yokkaichi-shi, the most populous city in the prefecture, has one of the best developed harbors on Ise-wan and served for many years as the port for Nagoya-shi, Aichi-ken. (See AMS Map 138425). With the development of harbor facilities at Nagoya-shi, Yokkaichi-shi has partly lost this function, and the city was not considered an important Japanese port in peacetime. Recently, however, Yokkaichi-shi and the neighboring city of Kuwana to the north have become a major industrial complement to Nagoya, and Yokkaichi is now the site of several key industries. The most important are one of Japan's largest oil refineries, a copper smelter and refinery, and a plant producing electric steel. As a result, the harbor has been considerably enlarged to accommodate the increased tonnage of coal and ores required by the new metal plants. The traditional manufactured products of the city have been largely porcelain, paper, chemicals, textiles and glass. Metal products have recently become important and

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unconfirmed reports indicate that some type of naval ordnance (probably mines or torpedoes) is manufactured in the city and that personnel of Nagoya's watch factories have been transferred there.

Yokkaichi-shi lies on a narrow coastal plain approximately 20 miles southwest of Nagoya-shi on the western shore of Ise-wan. The Mitaki-gawa runs through the northern part of the city, and the Kabake-gawa and its tributary, Tempaku-gawa, run through the southern portion. The older built-up portion of the city covers about 2 miles north-south and slightly less than  $1\frac{1}{2}$  miles east-west. Land reclamation projects have been undertaken to increase the harbor facilities and available factory sites. Industrial sections are located in the southern and southeastern parts and on the northern edge. A new industrial district has developed to the south of the city. The railroad station of the Kansai Main Line, with extensive freight yards, is in the center of the city. The small commercial section, containing most of the municipal buildings, is northeast of the railroad yards.

The principal plants in Yokkaichi-shi are the vast Utsabe-gawa oil refinery, which occupies nearly a square mile in the southern part of the city and had an estimated annual capacity of 6 to 7 million barrels in 1944, the new Ishihara Sangyo smelter and refinery completed in 1940, and the special steel plant of the Toho Jukogyo KK, Toho Heavy Industry Company, also reported to be producing machine tools. Vegetable oil, paper and small textile mills are located at the northeast end of the city and numerous ceramics shops, textile mills and a glass factory to the south. The short wave receiving station for the European service of the Japan Wireless Telegraph Co. is a conspicuous landmark just northwest of Yokkaichi-shi.

Important buildings in the city include the city office, police station, quarantine station, assembly hall, telephone office, tax office and Mie Reformatory.

During the war incendiary attacks destroyed an estimated  $3\frac{1}{2}$  square miles of the city.

## 2. Tsu-shi.

Tsu-shi, 1940 population 73,556, is the capital of the prefecture, but is of no major industrial importance. The city, located in the center of the western coast of Ise-wan on a plain, extends northwest from the coast up the valley of the Ano-gawa. Most of the industry of the city consists

of textile manufacture, although there are unconfirmed reports of the production of aircraft or aircraft components in or near the city. The only known installation in this category is a small repair and salvage depot for propellers and other aircraft parts. Tsu-shi is also the site of a military installation.

The city is fan-like in shape, spreading out from an inland apex toward the bay shore, but actually reaching the bay only on a narrow front. The population section covers about 3 miles north-south and 2 miles east-west, with the Ano-gawa flowing through the northern edge of the city. Except for the prefectural headquarters, which is in the northern section south of the Tsu Station on the Sengu Kyoku Main Line, most of the governmental buildings are clustered around the grounds of the old castle, in the center of the city. Industrial plants are scattered on the outskirts of the city and near the small harbor.

Buildings in the city include:

Prefectural headquarters	Police station
Court house	Prison
Tax office	Gendarmerie office
City office	Banks (2)
Hospital	Army headquarters

Open spaces in the city are around the castle grounds, in Kairaku Park, south of Tsu Station, and surrounding the shrines.

During the war  $1\frac{1}{2}$  square miles of the city were destroyed by incendiary attack.

## 3. Ujiyamada-shi.

Ujiyamada-shi, 1940 population 55,309, is the site of the Grand Shrines of Ise, the most sacred Shinto shrines in Japan. The city consists of Uji and Yamada, formerly separate townships but later amalgamated into one municipality. Aino-yama forms the boundary between the 2, Uji lying to the east and Yamada to the west. There is also some small industry in and around the city, including the manufacture of textiles, paper, and machine tools.

The city lies on the inland edge of the coastal plain of Ise-wan and is backed to the south by wooded mountains. The built-up section is elongated from east to west with its north and south boundaries marked by the Sangu Line and the Ise Electric Railroad, respectively. The commercial section and most of the government buildings are located in the

southeastern section. The Great Shrines of Ise, which consist of the Naiku (Inner Shrine) and Geku (Outer Shrine), lie 4 miles apart, with a tramway connecting the two. Public buildings include:

City office	Shinto library
Police station	Museum
Court house	Shrine office
Prison	Hospital
Subprefectural office	Post office
Government monopoly office	

There are many parks and grounds in the city, most of them connected with a sacred shrine. The grounds of the Geku cover 214 acres, and the land surrounding the Naiku shrine covers 165 acres.

Nearly a square mile of the city was destroyed by incendiary bombing during the war.

#### 4. Suzuka-shi.

Suzuka-shi, 1940 population 46,137, is located about 5 miles south of Yokkaichi-shi. It is the site of the Suzuka Naval Air Base, an advanced bomber training school, a branch air depot, and a Mitsubishi Aircraft branch factory. The airport is located 2 miles south of the Shiroko district along the coast. The 2 chief built up areas are the Shiroko district and the Kambe district,  $3\frac{1}{2}$  miles north.

#### 5. Kuwana-shi.

Kuwana-shi, 1940 population 41,848, is 3 miles north of Yokkaichi-shi at the mouth of the Nagara-gawa, one of the outlets of the Kiso-gawa. The city is an important new industrial center containing plants producing iron and steel, machines and machine tools, electrical equipment, and non-ferrous metals. There is also considerable textile manufacture.

The city occupies about one square mile near the southwestern corner of the Nagoya Plain, and is about 2 miles from the head of Ise-wan. West of the city are low hills, and the land to the south is irrigated by the Machiya-gawa, which flows into the bay between Kuwana and Yokkaichi. Industrial plants in the city are along the northern outskirts and the river bank. A new industrial district has developed along the Kansai Railroad between Kuwana-shi and Tomita-machi, a northern district of Yokkaichi. Kuwana-shi is the site of the 2 plants of the Toyo Bearing Co., Japan's largest producer of anti-friction ball and roller bearings. The city also contains sizeable iron foundries and casting plants, including

Yamamoto Jukogyo KK (Yamamoto Heavy Industry Company). Machinery and machine tool factories include Hitachi Seisakusho (Hitachi Engineering Works, near the main line railroad, and Tokyo Shibaura Denki KK (Tokyo Shibaura Electric Company), a new plant located in the industrial district between Kuwana and Yokkaichi. In the same district is the Koa Seiko KK (Koa Machinery Company) manufacturing special machine tools and aircraft parts. A major duralumin sheet mill of the Sumitomo Metal Industry Co. has been reported near Kuwana-shi, but its exact location and size are not known. Unconfirmed reports refer to new factories near the Ibi-gawa and Kiso-gawa north of Kuwana-shi. The netting factories of the city are reported to be supplying camouflage materials.

Buildings in the city include: city office, police station, post office, court house, and isolation hospital.

Nearly a square mile of the city was destroyed during the war by incendiary bombing.

#### 6. Matsuzaka-shi.

Matsuzaka-shi, 1940 population 35,391, is located about 2 miles inland on the southwest side of Ise-wan. The coastal plain at this point is fairly wide with the land between the city and shore being extensively planted in rice. South of the city rise wooded hills. The principal industry is textile manufacturing. The city contains an important railroad yard and a roundhouse; also, it is the junction of the Sangu and Sangu Kyuko Lines. The waterfront has factories and open storage areas. The harbor, formed by a deep indentation in the coast, is connected to the city proper by an electric railroad.

The built-up section of the city covers about one mile northwest-southeast and  $\frac{1}{2}$  mile northeast-southwest, except for a small section extending southwest along the Wakayama Highway. The Sakauchi-gawa flows along the northern edge of the city. Factories are located on the outskirts of the city, principally in the western section along the Ise Rail Line. Municipal buildings line the principal north-south street, an extension of the Ise Highway. Buildings in the city include the city office, police station, court house, tax office, and post office.

#### 7. Ueno-shi.

Ueno-shi, 1940 population 32,503, is located near the



western border of the prefecture in a small basin formed by the Tsuge, Nagata, and Hattori rivers, and is surrounded on all sides by heavily wooded mountains. The city has access to other parts of the prefecture by the Kansai Main Line, the Sangu Express Iga Line and the Iga Highway. Textile manufacturing the main industry.

The built-up section of the city, moderately populated, lies west of the Sangu Express Line with small sections extending to the northwest and southwest. Municipal buildings are in the central section near the Hirokoji Station. Two hospitals are in the southeast section.

Buildings in the city include the city office, police station, tax office, court house, government building, post office and electric generating station.

III. ECONOMY.

A. LABOR

1. Occupations.

The main occupation in Mie-ken is agriculture, which engaged an estimated 46 percent of the population in 1944. The prefecture ranks 18th in Japan in the total number of workers in manufacturing. (See Table 6.)

TABLE 6  
Occupations, 1930 & 1944, Mie-ken

Occupations	1930 Census		1944 Estimates*	
	Number (in thousands)	Percent	Number (in thousands)	Percent
Agriculture	289	53.5	250	46.3
Manufacturing	99	18.3	149	27.6
Commerce	67	12.4	53	9.8
Government & professions	29	5.4	35	6.4
Fishing**	20	3.7	16	3.0
Communications & transportation	18	3.3	23	4.2
Domestic	8	1.5	5	1.0
Mining	1	.2	3	.6
Others	9	1.7	6	1.1
Total	540	100.0	540	100.0

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

\*\*Fishing totals are corrected to 1938.

In the 5 cities shown in Table 7 there is a great similarity in their occupational distribution of population. Manufacturing accounts for between 30 and 40 percent of the occupied groups and commerce accounts for a similar amount. Most of these cities serve as administrative centers for the surrounding farm areas, and part of the agricultural areas are within their own boundaries.

TABLE 7  
Occupations, 1930,  
5 Cities in Mie-ken.

Tsu	Yokkaichi	Ujiyamada	Matsuzaka	Kuwana

Occupation	Tsu	Yokkaichi	Ujiyamada	Matsuzaka	Kuwana
Manufacturing	8.4	9.0	7.6	3.4	3.5
Commerce	7.5	6.3	7.6	4.3	3.5
Government	2.7	1.5	2.5	.9	.7
Agriculture	1.3	2.1	.9	1.1	.1
Communications	---	1.7	1.2	---	---
Others	2.1	1.2	.7	1.0	2.2
Total	22.0	21.8	20.5	10.7	10.0

## 2. Industrial Employment.

In 1938 there were 1,262 factories in Mie-ken employing 5 or more workers. These factories employed 50,324 people, of whom 38 percent were males. This was an increase over the 988 factories employing 32,643 people (of whom 33 percent were males) in operation in this prefecture in 1938. As indicated in Table 8. The main occupations in terms of employment were textiles (particularly silk reeling, cotton spinning, and cotton weaving), metals (the casting of pig iron), and ceramics (the production of porcelainware).

TABLE 8

### Factories and Industrial Employment, 1938, Mie-ken

(for non-government factories employing 5 or more workers)

	Factories	Male	Female	Total
<b>TEXTILES</b>	244	3,808	26,957	30,765
Silk reeling				
Raw silk	42	328	4,024	4,352
Silk yarn	2	6	65	71
Spinning				
Cotton yarn	6	893	7,986	8,879
Woolen yarn	7	1,081	5,342	6,423
Staple fibre yarn	3	151	1,190	1,341
Twisted thread				
Cotton	16	65	196	261
Woven goods				
Pure cotton fabric	42	582	4,850	5,432
Other cotton fabric	38	109	820	929
Pure silk fabric	4	3	17	20
Hemp fabric	1	4	30	34
Pure wool	5	273	1,117	1,390
Other wool	4	17	145	162
Pure synthetic silk	13	24	142	166
Other synthetic silk	3	11	20	31
Staple fabric	5	32	181	213

Knitted goods				
Manufactured goods	9	109	409	518
Cord braided prod.	17	12	324	336
Cotton refining	16	45	31	76
Embroidery	1	11	13	24
Other textiles	3	---	16	16
Dyeing & refining				
Textile printing	2	14	5	19
Refining, bleaching	5	38	34	72
<b>METALS</b>	94	2,745	250	2,995
Smelting, processing	1	47	---	47
Casting				
Pig iron	64	1,959	151	2,110
Other casting	3	332	45	377
Manufactured goods				
Bolts, nuts, washers	1	7	---	7
Nails	3	27	6	33
Steel nets	1	26	6	32
Tin cans	1	---	---	---
Metal plate goods	3	24	---	24
Metal products constr.	3	63	33	96
Buildings, bridges	2	80	9	80
Other metal mfg. goods	9	180	9	189
Plate goods	3	---	---	---
<b>MACHINERY &amp; TOOLS</b>	139	4,688	469	5,157
Steam boilers	2	39	---	39
Prime movers				
Internal combustion engines	12	157	3	160
Electrical machinery & tools	2	1,331	249	1,580
Insulated elec. wires & cables	1	71	69	140
Agricultural machinery	9	286	17	303
Mining machinery	1	10	---	10
Textile machinery				
Spinning machinery	1	17	---	17
Weaving machinery	2	15	---	15
Other textile machinery	4	46	---	46
Other manufacturing & treat- ments use machinery	1	6	---	6
Crane machinery	1	12	---	12
Pump manufacturing	1	7	---	7
Weights and measures	1	71	15	86
Clocks	2	52	---	52
Gas apparatus machinery	1	4	---	4
Vaves & corks	1	25	---	25
Pulleys & gears	3	774	77	851
Other machinery & tools	94	1,765	39	1,804
<b>CERAMICS</b>	105	1,792	608	2,400
Porcelainware	59	919	512	1,431
Glass & glassware	3	205	11	216
Bricks & fireproof articles	11	202	41	243
Roof tile	17	25	2	27
Cement manufacturing	1	170	---	170

Cement products	3	9	---	9
Lime manufacturing	5	31	2	33
Enamelled ironware	2	213	40	253
Other ceramics	4	18	---	18
CHEMICALS	50	935	510	1,445
Medicines	2	18	71	89
Industrial drugs				
Iodine	1	---	---	---
Other drugs	4	160	27	187
Lacquer fluid	3	16	1	17
Soap and toilet articles	1	10	---	10
Vegetable oils and resin	13	196	13	209
Rubber products	8	162	83	245
Paper manufacturing	4	49	75	124
Celluloid	3	57	26	83
Synthetic silk thread	1	210	193	403
Fertilizer				
Animal matter	1	5	---	5
Mineral matter	2	10	2	12
Starch materials	1	3	---	3
Other chemicals	6	39	19	58
LUMBER & WOODENWARE	193	1,526	157	1,683
Lumbering	109	898	75	973
Woodenware				
Furniture & fixtures	14	95	---	95
Boxes & barrels	46	389	41	430
Other woodenwares	24	144	41	185
PRINTING	27	326	44	370
FOOD PRODUCTS	314	2,213	399	2,612
Brewing				
Native wines	114	1,125	9	1,134
Soy sauces bean paste	43	236	9	245
Soft drinks	8	11	16	27
Milling	6	31	1	32
Sweetmeats, breads	20	191	14	205
Canned goods	9	23	61	84
Livestock	2	11	7	18
Marine products	36	142	166	308
Tea processing	44	328	46	374
Ice manufacturing	17	63	---	63
Wheat flour	11	24	34	58
Other food products	4	28	36	64
GAS & ELECTRICITY	7	40	1	41
OTHER INDUSTRIES	89	853	2,002	2,855
Paper products	14	79	85	164
Bamboo products	6	51	38	89
Wisteria products	2	23	5	28
Straw & hemp products	4	16	11	27
Wheat, straw, & wood shavings products	2	52	11	63
Leather	4	21	---	21

Buttons	6	36	31	67
Bones & shell products	2	3	18	21
Thermos bottles	2	9	4	13
Lacquer products	1	13	16	29
Cotton and hemp lines	14	232	1,480	1,712
Sewing industry	7	63	30	93
Hats	1	76	60	136
Medical materials	2	11	17	28
Matches	4	60	24	84
Footgear	1	6	1	7
Other products	17	102	171	273

### 3. Labor Exchanges.

There are 5 branches of the national labor exchange in Mie-ken: Tsu-shi, Yokkaichi-shi, Ujiyamada-shi, Kuwana-shi, and Matsuzaka-shi. These exchanges contain records of all employable persons with a history of their employment, their present occupations, and a listing of their skills. In cities, towns, and townships having no labor exchanges the records will be found in the town or city hall.

## B. AGRICULTURE

1. Food Situation.

Including all food sources, Mie-ken is a deficit producing area based on the estimated Japanese national intake of 2,150 calories per capita per day. There is a small surplus of rice. Production of all foods provided a deficit of 200 to 1000 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 72 million pounds annually. Based on the national consumption estimate of 372 pounds per capita per year, this prefecture has a normal estimated rice surplus of 54 pounds per capita per year.

The aggregate annual production of foodstuffs in the prefecture, on a caloric basis, is estimated at 801 billion calories.

2. Agriculture in Relation to Physical Factors.

Mie-ken has a growing season ranging from 220 to 260 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 121,253, or 2.2 percent of the nation's total. The average amount of cultivated land was 2.1 acres per household. In 1936, 57,979 families were engaged in silkworm production.

b. Land utilization. In 1939 the total amount of cultivated land was 253,000 acres, of which 172,000 acres, or 68 percent, were used for rice. Most of the agricultural land is located on the alluvial plains and dissected terraces bordering Ise-wan. Occasional grassy openings are found in the forested highlands of the prefecture.

Most of the rice-growing areas in Mie-ken are concentrated in the northeast part of the prefecture on the coast of Ise-wan. This region may be subdivided into 5 smaller areas.

The largest of these areas located between Futami-machi and Hisai-machi follows the coast of Ise-wan for about 20 miles. The belt, which extends back from the coast for a distance of 3 to 6 miles, includes many minor tracts of non-rice land. Inland from this coastal belt are 5 areas of a square mile or less, all situated in the valley of the Harai-gawa between Oka-machi and Kayumi-machi. Two other small areas containing one to 2 square miles are located near Ema and Ichiba in the watershed of the Kushida-gawa emptying into Ise-wan at Ujiyamada-shi.

The second area, relatively small in extent, lies in the delta and valley of the Ano-gawa at Tsu-shi. This area is broken into 4 subdivisions: an area of about a square mile between Tsu-shi and the coast; a similar area north of Tsu-shi; an area about 1½ miles wide by 4 miles long immediately west of Tsu-shi; and an area of about 2 square miles at Auka near the Ano-gawa, about 5 miles northwest of Tsu-shi.

The third area follows the coastline for a distance of about 17 miles from Ueno-mura, 13 miles north past Yokkaichi-shi, to the Asaka-gawa, about 4 miles north of that city. This rice belt varies in width from 2 to 5 miles and averages about 3 miles. In this drainage basin, isolated inland areas of one to 2 square miles each are located near Kofu district of Suzuka-shi; Kameyama-machi on the Suzuka-gawa; and at Yamamoto and Aokigawa, on the Utsuba-gawa. A belt of rice land extending inland to the northwest of Yokkaichi-shi between Sakbe and Takenari is about 4 miles long and 1½ miles wide. A smaller area, containing about 3 square miles, lies in the valley of the Asake-gawa northeast of Takenari.

The fourth area occupies the delta and the valley of the Machiya-gawa, which empties into Ise-wan near Kuwana-shi. Rice lands varying in width from ½ mile to 2 miles follow the river inland for a distance of about 18 miles.

The fifth area occupies that part of the delta of the Nagara-gawa that lies within Mie-ken. This area, about 8 miles long by 2 miles in width, includes river channels.

Inland, in the northwestern part of the prefecture, a minor concentration of rice land is located around Ueno-shi. The largest area, containing about 5 square miles, lies to the northeast of the city with smaller areas lying to the northwest and southeast.

Areas of about 2 square miles each are located near Inagu and Sanagu, near Ueno-shi. At Nabari-machi, 10 miles south of Ueno-shi, are 2 small areas of rice and totaling about 2 square miles.

In the southern end of the prefecture, scattered areas of rice land, each including from 2 to 4 square miles, lie near the coast near Nagashima-machi, Owashi-machi, Kushiya, Konoki, Kami-ichiki, Atawa-machi and Uono-mura.

See AMS map 6571, sheets 27, 39, 50 and 51.

c. Fertilizers. Table 9 shows the fertilizer requirements for rice and wheat in Mie-ken in 1930.

TABLE 9

Fertilizer Requirements, 1930, Mie-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	94	53	75
Wheat	108	63	84

The allocation of fertilizer in terms of short tons to the prefectural fertilizer dealers and the prefectural consumer cooperatives from August 1939 to 31 July 1940 was ammonium sulphate, 16,292; superphosphate, 18,320; lime nitrogen, 2,421; and potash, 1,507.

Statistics for 1937 show that 414 short tons of sulphate of potash and 63 short tons of muriate of potash were used in the prefecture. Data on the actual consumption of other fertilizers are not available. There were 12 short tons of agricultural potash; 149 short tons of muriate of potash; and 3,902 short tons of other potash salts produced in the prefecture in 1938.

In 1940 agencies of the Japan Sulpha-Ammonia Corporation, with prefectural offices at the Yokkaichi Mie Fertilizer Wholesale Business Association in Ichikura-machi, Yokkaichi-shi were at Hiyuki-cho, Yokkaichi-shi; Ichikura-cho, Yokkaichi-shi; Tsukuchi-cho, Tsu-shi; Funagashira-cho, Tsu-shi; Kayama-cho, Tsu-shi; Nakashima-cho, Ujiyamada-shi; and Shin-cho, Matsuzaka-shi.

4. Crops.

a. Field crops. Rice is by far the leading crop in both acreage and production. The 1939 crop of 172,000 acres occupied 68 percent of the cultivated land with the production of 253,000 short tons of rice being more than 3 times that of any other crop in the prefecture. The 1942 production of 242,422 short tons was an increase of 17,024 tons average for the period 1937-41.

Rice stocks decline rapidly from spring to fall as shown by the following statistics for 1939:

Date	Rice in storage (short tons)
1 March	156,590
1 May	124,697
1 July	92,776
1 September	46,959
1 November	12,274

Barley ranks second among the grain crops of the prefecture. The 1939 crop occupied over 44,000 acres and yielded nearly 40,000 short tons of grain. Wheat and rye are also grown extensively, but production figures on rye are not available.

As shown in Table 10, soybeans are the most important legume crop. In 1939, the 4,149 acres in this crop produced over 2,600 short tons of seed. Production of all legumes including soybeans, kidney beans, peas, broad beans and peanuts amounted to 4,710 short tons in 1939.

TABLE 10

Field Crops, Mie-ken

Crop	Average Production 1935,37,39 short tons	Acreage	1939 Production short tons	Estimated Production 1943-44 short tons
Rice*	227,864	172,000	253,000	223,000
Barley	31,415	44,643	39,560	28,500
Naked	21,924	31,664	29,061	21,500
Common	9,491	12,979	10,499	7,000
Rye	----	32,378***	----	----
Wheat	17,342	24,383	21,533	13,500

Restricted

CROP	Average Production 1935,37,39 short tons	Acreage 1939 Production short tons	Estimated Production 1943-44 short tons
Soybeans	2,655	4,149	2,619
Broad beans	-----	2,068	1,312
Buckwheat	-----	1,238***	-----
Peas	-----	1,034	608
Millet	-----	1,818	351
Foftail	-----	495	295
Proso	-----	1,323	56
Maize	-----	250***	-----
Kidney beans	-----	187	120
Peanuts	46**	39	51
Oats	-----	10	5

\* Rice production in 1942 was 242,422 tons or an increase of 17,024 tons over a 5 year average(1937-1941 inclusive).

\*\* 1936 figure

\*\*\* 1937 figures

b. Vegetables. Table 11 shows that the major vegetable crop in Mie-ken is white radishes, of which 72,103 short tons were produced in 1939. Second in importance from the standpoint of yield, is sweet potatoes, of which 43,700 short tons were produced in 1939. Sweet potatoes exceeded white radishes in acreage occupied by more than 2,000 acres, but the yield per acre was less than half that of the white radishes. These leading crops together produced nearly twice as much as all other vegetable crops in the prefecture in 1939.

Vegetable production seems stabilized, there being no substantial changes in total yield in 1939 as compared with 1936.

Restricted

TABLE 11  
Vegetables, Mie-ken

KIND	Production 1936 short tons	Acreage 1939 Production short tons
White radishes	72,760	5,966
Sweet potatoes	44,456	8,066
Taro	16,163	2,648
Egg plant	9,051	1,208
Watermelons	8,311	773
Chinese cabbage	-----	1,023
Irish potatoes	5,927	1,236
Pumpkins	5,482	851
Cucumbers	4,947	765
Green onions	4,187	725
Turnips	-----	436
Mixed onions	1,931	382
Burdock	2,088	424
Tomatoes	-----	255
Cabbage	1,137	186
Carrots	1,310	312
White cucumbers	-----	152
Cantaloupes	-----	98
Lotus root	-----	46

c. Fruits. Oranges are the main fruit crop in Mie-ken, yielding well over half of the total fruit produced in this prefecture in 1939. About 72 percent of the oranges produced in 1939 were of the mandarin type. Table 12 shows other important fruits to be persimmons, Japanese pears and plums. A number of other kinds of fruit is grown in limited quantities.

TABLE 12  
Fruits, Mie-ken

KIND	Production 1933 short tons	Production 1939 short tons
Oranges	7,921	12,108
Mandarin	4,512	8,702
Bitter (Natsumikan)	3,055	3,026
Navel	354	380
Persimmons	2,974*	4,506
Japanese pears	1,448	1,793
Plums	----	1,172
Peaches	207	314
Citrus fruit**	----	240
Loquats	----	193
Grapes	86	113
Foreign pears	87	33

\* Does not include dried persimmons of which there were 50 tons produced in 1933

\*\* Exclusive of oranges

d. Industrial crops. As shown in Table 13, industrial crop in the prefecture. The 40,920 acres in mulberry in 1939 represented 3.1 percent of the national acreage while the production of 12,380 short tons of cocoons was 3.3 percent of the national production. Rape seed production is of major importance in the prefecture, with 18,748 acres occupied by this crop in 1937. Production figures for rape seed are not available for 1937, but over 105,000 hectoliters of seed were produced in 1936. The tea crop, although it occupied only a small acreage is important from a national standpoint. The 3,194 short tons produced in 1939 was 5 percent of the national total.

TABLE 13  
Industrial Crops, Mie-ken

CROP	1936 Production short tons	1939 Acreage	1939 Production short tons
Mulberry	13,396**	40,920	12,380**
Rape seed	105,810*	18,748***	----
Tea	----	3,634	3,174
Tobacco	127	170***	----
Rush	38	----	----
Pyrethrum	1	----	----

\* Hectoliters

\*\* Cocoons. Silk cocoons are the most important.

\*\*\* 1937 figures

#### 5. Livestock.

Cattle, the most important livestock in the prefecture, increased in number by nearly 3,000 between 1933 and 1939. Only a small percentage of the cattle are kept for milk production. In 1936, there were 178 dairies with 1,395 head of milk cows, or an average of 7.8 head per dairy. Seventy-one other households kept a total of 394 head of milk cows.

There were significant increases in the number of hogs and sheep between 1933 and 1939, with hogs increasing by nearly 5,000 during the period. The number of rabbits increased from 25,425 to 92,657 between 1936 and 1939, an increase of 264 percent.

Table 14 shows the importance of poultry production. In 1938 there were over 1,500,00 chickens in the prefecture.

TABLE 14  
Livestock, Mie-ken

TYPE	Production		
	1933	1936	1939
Cattle, total	40,125	41,856	44,119
Cows	----	----	36,147
Milk cows	1,816	1,789	----
Oxen	----	----	7,972
Hogs	12,882	15,001	17,513
Horses	2,901	2,591	----
Sheep	48	103	949
Goats	550	619	752
Rabbits	----	25,425	92,657
Chickens	1,451,810	1,510,456	----
Ducks	3,058	2,736	----

6. Meat, Eggs, and Dairy Products.

Eggs are the most important animal product in the prefecture. Assuming an egg weight of 22 ounces per dozen, the 1936 production of eggs amounted to 6,570 short tons. (See Table 15.)

Of the total 1,107 tons of meat produced in the prefecture in 1936, 1,003 short tons were obtained from cattle. The average annual production of milk for 1935, 1937 and 1939 was 3,661 short tons. The per capita distribution of milk in 1936 was 3.7 quarts.

TABLE 15

Meat, Eggs, and Dairy Products, Mie-ken

Product	1936	
	Head Slaughtered	Quantity short tons
Cows	5,234	994
Hogs	1,628	101
Calves	87	9
Horses	21	3
Milk	XXXXXXX	3,661*
Butter	XXXXXXX	2
Eggs (chicken)*	XXXXXXX	114,678,000 eggs

\* 1935-1937-1939 average figure.

7. Economic Position of the Farmer.

In 1939, of the total land cultivated in the prefecture, 96,000 acres, or 37.9 percent, were farmed by tenants. The average farm is small as shown by the fact that 35.1 percent were of less than  $\frac{1}{2}$  hectare (1.235 acres), and 71.5 percent were of less than one hectare (2.471 acres) each in size, while only 0.05 percent, or 60 farms, were larger than 5 hectares (12.3 acres). In 1936, out of 176,014 acres under paddy rice production, 75,158 acres, or 42.6 percent, were cultivated by tenants. The situation with regard to dry crops was more favorable. Of a total 79,079 acres of dry land crops, 24,507 acres, or only 30.9 percent, were cultivated by tenants.

8. Administration.

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

Grain Inspection Station	Shimobeta Park, Tsu-shi
Cocoons Inspection Station	Tsu-okitakasago, Tsu-shi
Agricultural Experiment Station	Shiroko-machi, Suzuka-shi
Sericultural Industry Laboratory	Fujimizu, section of Tsu-shi
Breeding Station	Takajaya, section of Tsu-shi
Sericultural Industry Control Office	Prefectural Office, Tsu-shi
Fertilizer Assay Station	Onoe-cho, Yokkaichi-shi

(For information on agricultural schools, see Chapter V., F.).



C. FISHERIES.

1. Production.

The average annual production of fisheries products of Mie-ken for the years 1935-1939 was 95,220,000 pounds or 1.6 percent of the total Japanese production. The estimated production for the year 1943-1944, adjusted to war-time changes, was 78 million pounds. In 1936 there were 52,768 fishermen in this prefecture; of these, 26,443 were full-time fishermen. (See Table 6.) In Mie-ken in the same year there were 12,613 fishing vessels, of which 4,028 were gasoline or kerosene operated and 8,585 motorless. Among the motorless boats were 8,568 of 5 tons or less, 15 between 5 and 20 tons, and 2 over 20 tons. The production of fisheries products in the prefecture is normally sufficient for local needs plus considerable amounts for exportation. (For boat repair and fish net manufacturers see Appendix I.) Table 16 gives the relative values of the fisheries products for 1936.

TABLE 16.

Fisheries Products, 1936, Mie-ken.

Kind	Value (in thousand yen)
Fish	
Yellow tail (buri)	2,539
Sardine (iwashi)	645
Horse-mackerel (aji)	205
Sea-bream (tai)	188
Flatfish (karei, hirame)	164
Tuna (maguro)	157
Spanish mackerel (sawara)	157
Grey mullet (bora)	129
Bonita (katsuo)	121
Blacksea-bream (kurodai)	119
Mackerel (saba)	118
Eel (unagi)	84
Fresh-water trout (ayu)	75
Mackerel pike (samma)	74
Salmon-trout (masu)	12
Carp (koi)	9
Shark (fuka)	8
Flying fish (tobiuo)	8
Shell fish	
Prawn (ebi)	601
Abalone (awabi)	257
Clam (hamaguri)	129
Octopus (tako)	123
Cuttlefish (ika, surume)	97

Kind	Value (in thousand yen)
Oyster (kaki)	15
Seaweed	
Gelidium (tengusa)	92
Gloiopeltis (funori)	51
Laver (amanori)	23
Others	1,236
Total	7,436

2. Ports and Fishing Centers.

The principal fishing ports of Mie-ken together with the important fishing products of each are as follows:

Shiroko-machi	Sardine
Toshi-mura, Shima-gun	Sardine, mackerel, sea-bream
Toba-machi, Shima-gun	Sardine, mackerel, sea-bream
Namikiri-machi, Shima-gun	Sardine, lobster, sea-bream, bonito, yellow-tail
Nishiki-machi, Kitamuro-gun	Sardine, lobster, sea-bream, bonito, yellow-tail
Nagashima-machi, Kitamuro-gun	Sardine, lobster, sea-bream, bonito, yellow-tail
Owashi-machi, Kitamuro-gun	Sardine, sea-bream, bonito, yellow-tail
Kuki-mura, Kitamuro-gun	Sardine, sea-bream, bonito, yellow-tail

For further details on ports see Chapter IV, A, 3.

3. Coastal Fishing.

The resources of Mie-ken lie in Tse-wan and the Pacific Ocean. The coast is extremely irregular and offers many shallow and protected bays for the fishing and trapping of migrating species, shallow-water bottom species, and the collection of shellfish. Innumerable types of nets and traps have been developed locally by village fishermen. For fishing areas see OSS map 627.

4. Deep-sea Fisheries.

In 1938 there were 88 wood-hulled and 5 steel-hulled tuna fishing boats listed for Mie-ken. The chief methods used for bonito and tuna fishing were those of line-trawl for tuna, and rod-and-line for bonito.

5. Specialized Fishing.

In 1932 the value of the products of fish culture was 1,602,000 yen. Mie-ken ranked third among the prefectures in the production of eels; it amounted to about 15 percent of the total Japanese production. The production of cultivated laver has an important place as a winter occupation for farmers. The laver industry of Mie-ken was valued at 500,000 yen in 1935. Oyster culture on the tidal flats is very extensive, the hanging method of culture being the most productive. Pearl culture farms are located in Heijo-wan, Ago-wan, Kata-wan, Matoya-wan, and Mikimoto-wan. In February 1945 under prefectural supervision a fresh-water fish (sogyo) from the Yangtse River was introduced to the ponds and lakes.

6. Processing.

The Fish Meal Producers & Exporters Association of Japan maintains a conditioning house for inspection of fish meal at 3348, Kura-machi, Yokkaichi-shi.

A considerable amount of the fisheries products of Mie-ken are processed locally by simple drying, salting, and cooking and drying methods. Table 17 shows the relative values of processed marine products (canned products excluded) for Mie-ken. (For canned products see Chapter III, F and Appendix I.)

TABLE 17.

Processed Marine Products, 1936, Mie-ken.  
(not including canned products)

Product	Value (in thousand yen)
Dried laver	1,235
Salt dried sardine	704
Dried (bushi) bonito	700
Quality laver	126
Salt preserve sardine	117
Cooked or boiled sardine	91
Salt dried horse mackerel	69
Dried cuttlefish	40
Salt preserve mackerel	37
Fish oil	28
Dried small sardine	27
Salt dried mackerel	25
Dried prawn	11
Cooked or boiled trepang	5
Salt dried flying fish	3
Dried shark fin	2
Dried (bushi) tuna	1
Total	3,221

7. Government Fishing Industry Activity.

There is a Marine Products Section (Suisan-ka) of the Economics Department (Keizai-bu) in Mie-ken. At the Kawazoshi Marine Products Experimental Station the Suisan-ka supervises fresh-water fish breeding for the stocking of Mie-ken fresh-water bodies. The Imperial Fisheries Experimental Station in Hamashima-machi collaborates closely with the Tokyo station. The Shima Fishing Association of Mie-ken investigates results of overfishing, results of catching small fish, and the growth rate of commercial fish. The Prefectural Shima Fisheries School is located in Wagu-machi, Shima-gun.

## D. FOREST RESOURCES.

1. Area and Composition of Forest Lands.

The interior Suzuku Mountains along the western border of Mie-ken are covered with stands of timber. Except in the south, most of the forests are composed of deciduous broadleaf trees of the temperate zone, mixed in some cases with conifers. A small tract in the southern edge of the forest area is made up of evergreen broadleaf trees with some cedar and cypress. Almost 2/3 of the total prefecture is in woodland (about 1,400 square miles). The important forest trees are shown in Table 18.

TABLE 18.

## Commercial Timber, Mie-ken.

Species	Japanese name	Common name	Uses
<i>Quercus acuta</i>	Aka-gashi	Red oak	Handles, lumber, fuel
<i>Quercus gilva</i>	Itchi-gashi	Jap. oak	Handles, lumber, fuel
<i>Buxus sempervirens</i>	Tsuge	Boxwood	Utensils & wood- enware
<i>Chamaecyparis obtusa</i>	Hinoki	Cypress	Softwood lumber
<i>Cryptomeria japonica</i>	Sugi	Jap. redwood	Softwood lumber
<i>Pinus densiflora</i>	Aka-matsu	Jap. red pine	Softwood lumber
<i>Pinus thunbergii</i>	Kuro-matsu	Black pine	Softwood lumber
<i>Fagus sylvatica</i>	Buna	Beech	Hardwood, lumber, fuel
<i>Castanea vulgaris</i>	Kuri	Chestnut	Durable lumber, poles, tannin
<i>Fraxinus mandoshurica</i>	Yachidamo	Ash	Tool handles, lumber, fuel
<i>Zelkova acuminata</i>	Keyaki	Zelkova	Hardwood, lumber, fuel
<i>Larix leptolepis</i>	Kara-matsu	Jap. larch	Poles, ties & piling

For vegetation see G 2, map Southwest Japan (Honshu and Shikoku).

2. Forest Administration and Management.

Public forests occupy about 1/3 of the total area of Mie-ken, or nearly half of all the forest lands. Information on the extent and location of government, communal and Crown forests is not available, but it is likely that they occupy the steeper mountain sections. Forest owners have banded together into 90 cooperative

forestry associations with a total membership of 11,500, for the purpose of providing assistance in logging, milling, marketing and reforestation.

"Protection" forests include an area of 2,312 hectares which have been set aside from ordinary uses because of strategic importance in watershed protection.

All forest lands are under the control of the Bureau of Forestry (Sanri-kyoku) of the Ministry of Agriculture and Commerce (Nosho-sho). The regional forestry administrative office at Osaka-shi has supervision of forestry activities in Mie-ken. In addition the Forestry Affairs Section (Rimmu-ka) of the Economics Department (Keizai-bu) supervises all communal forests, and cooperates with the National Government Bureau of Forestry in the basic Forest Act.

There is a charcoal inspection station in the prefectural office and the Kameyama Forestry Office is in Kameyama-machi, Suzuka-gun.

3. Forestry Problems.

Fire presents a minor problem during the dry spring months which occur infrequently. High precipitation, together with an intensive system of fire protection, have combined to limit effectively losses from forest fires. In pure coniferous stands the hazards are greater but damage is usually limited because of the broken character of these plantations and the more intensive protection which is given them. Protection is carried out on private and communal lands by the cooperative associations with the aid of prefectural forestry officers. Damage by floods to low lying forests is occasionally serious. Insects, disease and windstorms make further deprecations.

4. Forest Products.

Raw timber products (such as sawlogs, pulpwood, poles, piling, etc.) valued at 3.8 million yen were produced from Mie-ken forests in 1936, placing this prefecture among the first 10 in Japan. Over 2 million yen worth of charcoal and 1.3 million of fuelwood were cut in the same year. 109 sawmills and veneer plants sawed about 2 percent of Japan's national lumber output in 1938. A large part of the timber logged in the north side of the prefecture was floated down the Kumano-gawa along with timber from the prefectures of Wakayama and Nara.

Logging methods are usually crude except on a few of the mechanized operations where advanced equipment is employed to transport timber from the stump to point of consumption. Much hand and horse labor is used on the small logging jobs which

predominate. Small logs and firewood are often hauled to market by animal cart and manpower where other means are lacking. Forest labor is recruited during the off-season from agricultural areas for work on smaller operations. Wood work on larger logging jobs is accomplished by full-time laborers.

Charcoal is made from hardwoods in or near the forests by means of small pit-type earth kilns under crude conditions, with no attempt to recover volatile distillates. Part-time farmers and forest laborers usually carry out the production of charcoal.

E. MINING.

Mie-ken does not have extensive mineral deposits. Fluorspar and copper ores are mined in the prefecture. In addition there are 3 small coal fields, which supply local heating and small industrial needs. For minerals produced and the location of mines see OSS map 7221. The following is a list of minerals found in the prefecture:

Mineral	Location
Chalcopyrite*	Shiraishi Mine, Hatta-mura, Inabe-gun
Coal*	Seki-machi, Suzuka-gun
Fluorite*	Ishigure-mura, Inabe-gun
Kaolinite*	Hatsu-mura, Yokkaichi-shi
Limestone*	Toba-machi, Shima-gun
Pyrite*	Shiraishi Mine, Hatta-mura, Inabe-gun
Pyrolusite	Toba-machi, Shima-gun
Psolimelane	Toba-machi, Shima-gun

\* Commercially important.

1. Non-ferrous Minerals.

a. Fluorspar. Numerous veins of fluorspar occur in coarse-grained hornblende biotite granite in Ishigure-mura, Inabe-gun. Mining of 2 veins which are 2 to 3 feet wide and 300 to 650 feet long, was carried out in 1922. War-time demand for fluorspar has undoubtedly made it necessary to reopen these mines.

b. Copper. The largest copper mine in Mie-ken is the Shiraishi Mine in Hatta-mura, Inabe-gun. In 1942, 160 men were employed, and 3,300 short tons of ore are estimated to have been mined.

The Amase Mine, location unknown, produced an estimated 880 short tons of copper ore in 1942. Eighty-nine men were employed.

2. Non-metallic Minerals.

a. Clay. Clay, used in the manufacture of porcelain, is mined in the Hatsu section of Yokkaichi-shi.

In 1920, 670 short tons of fireclay was mined in Furuhamamura, Kuwana-gun.

b. Pumice. One to 4 layers of pumice sand varying in thickness from 6 to 45 feet have been mined in Mie-ken. Pro-

duction in 1920 was 540 short tons.

### 3. Coal.

There are 3 small coal fields in Mie-ken.

a. The Seki field, located in Seki-machi and Kameyama-machi, extends along the north side of the Suzuka-gawa. The largest mine in the field, the Kameyama Mine (34°52'N., 136°27'E.) in Kameyama-machi, is owned and operated by the Ishihara Sangyo Kaiun K.K. (Ishihara Manufacturing and Shipping Company). Other mines are the Tokai and Asahi.

b. In the Inabe river field, located in Ageki-machi, Inabe-gun, one coal seam 1.3 feet thick has been mined.

c. Mining in the Ueno-shi field was begun in 1897.

A vein of lignite coal 1.5 to 3.0 feet thick is mined at Tomono-mura, Ayama-gun.

### 4. Mining Administration.

Mie-ken is in the Osaka Administration District of the Munitions Ministry (Gunju-sho) with headquarters in Osaka-shi, Osaka-fu.

All mining maps, production records and mining reports are maintained at District Headquarters. Mine inspectors and other mining officials regularly inspect the mining districts in the prefecture. Tokyo headquarters authorizes and directs all mapping and geologic work done in Mie-ken by the Japanese Imperial Geologic Survey.

### F. MANUFACTURING.

Mie-ken is not a leading manufacturing prefecture of Japan. Its manufacturing is largely concentrated in and around Yokkaichi-shi and extends northeastward toward Aichi-ken as an extension of the Nagoya-shi industrial area. (See OSS map 3892.) Mie-ken has some outstanding plants, such as oil refineries and wheel, axle, and bearing factories. The prefecture has had important cotton, wool and rayon textile production.

The prefecture took a comparatively small part in the 1929-1938 expansion of Japanese industry. During that period the number of plants complying with the "Factory Regulations" increased at an average annual rate of 4.5 percent of the 1929 number. The nationwide annual increase for the same period averaged 15 percent of the 1929 total. In 1938 there was an average of 39.9 workers per factory in Mie-ken, whereas the average for Japan was 28.6 workers per factory.

This relatively high average number of workers per plant is characteristic of those prefectures in which absentee ownership is relatively common and which are tributary in their manufacturing activities to larger centers. Hyogo-ken, tributary to Osaka-fu, and Yokohama-shi, tributary to Tokyo-to, are cases in point. In Mie-ken, also, the average production per plant in 1938 was valued above 200,000 yen, whereas that for the nation was only about 160,000 yen.

Table 19 shows the textile industry ranking sixth among the prefectures in 1938. See OSS map 7221 for industrial areas in Mie-ken, and Appendix I for list of manufacturers.

TABLE 19

Manufactures, 1938, Mie-ken.\*

Industry	Value (in million yen)	Rank among prefectures	Percent of National total**	Percent of prefectures	Plants
Textile	153.5	6	4.1	61.2	244
Machinery & tools	23.0	19	---	9.1	139
Food processing	16.8	21	---	6.7	314
Chemical	13.6	27	---	5.4	50
Metal	13.1	18	---	5.2	94
Ceramics	10.3	11	2.3	4.1	105

Restricted

Industry	Value (in mil- lion yen)	Rank among prefec- tures	Percent of Na- tional total**	Percent of pre- fectures	Plants
Lumber & Woodenware	5.9	15	1.3	2.3	193
Printing	1.4	14	---	0.5	27
Other	14.1	9	2.0	5.5	89
Total	251.7	15	1.3	100.0	1255

\* For non-government plants employing 5 or more persons.  
\*\* Shown only when one percent or more.

1. Food Products.

The food products industries of Mie-ken, relatively unimportant nationally, produced less than one percent of the value of Japan's total food products output in 1938. These industries accounted for only 6.7 percent of the prefecture's total industrial production that year.

From the standpoint of value of production, the most important food products industries in Mie-ken were sake brewing, distilled spirits, candy manufacture, flour milling and manufacture of soy products (soy sauce and bean paste). The only food products produced in the prefecture in sufficient quantities to be of national importance were macaroni, vermicelli and spaghetti. Their total production value amounted to 4.4 percent of the national production value of these products, which are included under the heading of wheat flour processing.

The canning industry is small but does pack a variety of products, mostly bonita, sardines, crab, and vegetables. For other processed foods produced in the prefecture see Table 20.

TABLE 20

Food Products, 1938, Mie-ken

Industry	Number of plants	Percent of national production value*	Value (yen)
Brewing & distilling	114	---	5,481,877
Confectionery & pastry	20	---	3,958,127
Flour milling	6	---	2,341,112
Soy sauce, bean paste & vinegar	43	---	1,616,087

Restricted

Industry	Number of plants	Percent of national production value*	Value (yen)
Wheat flour processing	11	4.4	404,114
Canning	9	---	346,965
Marine products (other than canned fish)	36	---	299,731
Tea processing	44	---	293,279
Soft drinks	8	---	169,121
Ice manufacturing	17	---	149,622
Dairy products	2	---	107,807
Others (incl. liquor dregs, sauces and other condiments)	4	---	1,679,067
Total	314	---	16,846,909

\* Shown when 2 percent or over

2. Textiles.

Mie-ken had important textile production, which, in 1938, was 4.2 percent of the national total value of textiles and the most important category of factory production in the prefecture. The 1938 combined output of cotton yarn and cotton piece goods made up 48 percent of the total value of textile production in Mie-ken. Next in importance are the spinning of woolen yarn and the production of staple fiber yarn and piece goods. Table 21 shows the relative position of Mie-ken in these branches of the industry in 1938.

TABLE 21

Textile Products, 1938, Mie-ken

Product	Percent of national production value	Rank among prefec- tures
Woolen yarn	12.8	3
Staple fiber piece goods	7.0	4
Staple fiber yarn	6.0	6
Cotton piece goods	5.2	7
Cotton yarn	5.0	7

A fairly large number of branch plants of big textile companies are located in Mie-ken: 2 branches of Kanegafuchi and one branch each of Kishiwada, Kurashiki, Kureha and Toyo. The presence of these large units is responsible for the re-

latively high level of textile production in Mie-ken; for the total number of textile mills, as listed in the factory statistics, was only 244 in 1938.

In accordance with the general trend of the textile industry in Japan under war conditions, most of these large units have been converted to other types of war production, particularly to aircraft.

The principal items of textile production and the number of mills operating in each branch of the industry in 1938 are shown in Table 22.

TABLE 22

## Textile Production, 1938, Mie-ken

Product	Mills	Value (in thousand yen)
Cotton yarn	6	37,903
Cotton piece goods	80	33,817
Woolen yarn	7	28,852
Staple fiber yarn	3	12,981
Staple fiber piece goods	5	10,636
Thrown silk	16	5,411
Raw silk	44	3,437
Plaited work	17	2,887
Wool piece goods	9	1,763
Knit goods	9	1,213
Total	196	138,899

3. Chemicals.

Chemical production in Mie-ken is below average in importance. A synthetic oil plant and 2 explosives plants, however, are reported as being important nationally. The Yokkaichi-shi refinery, a large new refinery of the Japanese Navy, is one of the largest refineries in Japan. It is estimated to refine annually between 5 and 7.5 million barrels of petroleum. The explosives plants, one of which accounts for 3.2 percent of Japan's propellants, are located in the cities of Yokkaichi and Tsu. (See Table 23.)

TABLE 23

## Chemical Production, 1938, Mie-ken

Product	Value (in million yen)
Vegetable oils, large percentages of rape seed, sesame, egoma, hemp seed and peanut oils	3.7
Fertilizer, largely vegetable	3.2
Rubber goods	2.6
Rayon	1.4
Paper and pulp	.7
Medicines & patent medicines	.6
Industrial chemicals	.6
Soaps	.3
Others	.5
Total	13.6

4. ores and Metals.a. Iron and steel.

(1) The Toho Jukogyo K.K. (Oriental Heavy Industry Co.), a subsidiary of Toho Denryoku (Oriental Power Company and affiliated with Nippon Stainless), operates a steel mill in Yokkaichi-shi. The company specialized in making stainless steel in ten 10-ton electric furnaces. Annual steel ingot capacity of these furnaces is estimated to be 110,000 short tons. The plant is known to be equipped with a small-bar rolling mill with an annual capacity of 22,000 short tons.

(2) The Toyoda Seiko K.K.'s (Toyoda Steel Company) Tsu-shi steel plant began operations in 1940. The plant is equipped with two 30-ton open hearths with an annual steel ingot capacity of 60,000 short tons. The plant's rolling mill equipment includes a 3-high blooming mill, a 16-inch bar mill and a 10-inch rod mill built and installed by the Japanese Tokyo Roll Company. Primary rolling capacity is about 50,000 short tons per year and secondary capacity (bars and rods) about 45,000 short tons. Forging hammers were being installed at this plant in 1940.

b. Aluminum. The Sumitomo Kinyoku K.K. has an aluminum rolling mill in Kuwana-shi. Rated annual capacity in 1943 was 12,500 short tons of rolled products.

5. Ordnance.

There are 4 private ordnance plants and one army arsenal in Yokkaichi-shi.

6. Machinery, Tools and Appliances.

The production of machinery, tools and appliances in Mie-ken is not important. The prefecture ranked 19th, in 1938, among the prefectures in the production of these categories.

Manufacturing in Mie-ken is concentrated largely in Yokkaichi-shi, Kuwana-shi and Asahi-mura. The Toyo Bearing Seizo KK, Japan's largest producer of anti-friction bearings, has 2 important plants in Kuwana-shi. The 2 factories and the company's factory in Hyogo-ken represent about 50 percent of Japan's capacity to produce first grade anti-friction bearings. The Dojima plant, located in the suburbs of Kuwana-shi, is the company's main plant. It has been estimated that this plant produces 9 percent of Japan's total output of bearings. The Uchi-bori plant has an estimated production of 3 percent of Japan's bearing production. The Tokyo Shibaura Denki KK's one factory in Asahi-mura is one of the 6 main factories in Japan south of Tokyo-to which, together, produce over half of the small generators in Japan. It has been estimated that this factory produces 4.5 percent of Japan's motors. The Mie Kikai KK, located in Yokkaichi-shi, produces small generators and turbines.

The categories of machinery, tools and appliances, the production of which was one percent or over, by value, of the national total, manufactured in Mie-ken in 1938 are shown in Table 24.

TABLE 24

Industrial Machinery & Appliance Production, 1938, Mie-ken

Category	Percent of national total
Wheels, axles, bearings	14.1
Generators	4.4
Farm & building tools	4.1
Measures	3.3
Electric motors	3.0
Miscellaneous vehicles	2.5
Agricultural machinery	2.1
Insulated wire	1.9
Scales	1.8

7. Transportation Equipment.

The only important producer of transportation equipment in Mie-ken is the Nakajima Hikoki KK, which manufactured aero-engines and other aircraft components.

8. Wood Products.

There is a moderate development of wood-using industries in Mie-ken to process timber from the extensive forests of the prefecture. Some of the timber floated down the Kumano-gawa from Nara-ken may also be processed in Mie-ken, although the bulk of that timber probably goes to plants on the Wakayama-ken side of the river or is shipped or rafted to larger industrial centers.

In 1938 the largest group of wood-using industries were the lumber mills, which numbered 109 and produced lumber valued at nearly 4 million yen. Next in importance were the 14 box and cooperage plants, mostly box makers, with output for the year valued at 1½ million yen. Wooden furniture and fixture makers and other wood-working shops produced ½ million yen of products in 1938.

Statistics for 1938 record 4 paper mills in the prefecture with production for the year valued at ¾ of a million yen. Over ½ million yen represented the output of cellophane, while the remainder was not identified as to type of paper. The cellophane was produced by the Showa Tomeishi KK at Yokkaichi-shi. There is also another paper mill in that same city. The Shintsu Seishi KK mill is at Ujiamada-shi. There is also an unidentified paper mill near the mouth of the Kumano-gawa at the southern boundary of the prefecture.

9. Other Industries.

The most important of the remaining industries of Mie-ken include the manufacture of fishing nets and ceramics. Printing and factory production of clothing exist in the prefecture, but are not important.

a. Ceramics. The manufacture of ceramic wares in Mie-ken is diversified and stable, even though the yen volume of 1938 ranked only eleventh among the prefectures of Japan. Important quantities of glass, brick and enameled ironware are produced in or near Yokkaichi-shi. The prefecture's ceramic industries are largely an extension of those of Nagoya-shi in adjacent Aichi-ken. The latter produced no window or plate glass, whereas Mie-ken ranked fourth among the 9 prefectures reporting this item in 1938. Similarly, Aichi-ken ranked eighth among



the 9 prefectures producing enameled ironware, whereas Mie-ken ranked fifth. (See Table 25.)

TABLE 25

## Ceramics Production, 1938, Mie-ken\*

Products	Value (in thousand yen)	Value (per cent of national total**)
Glass	3,194	3.0
Window, plate	3,128	8.4
Bottles	66	---
Cement	2,781	2.5
Porcelain	2,530	3.6
Cooking & tableware	1,990	7.0
Tile	178	2.2
Furniture & fixtures	98	3.3
Pipes	24	1.1
Toys	11	1.1
Others	229	7.2
Enameled ironware	1,001	4.6
Brick & furnace materials	684	1.0
Firebrick	637	1.2
Common brick	27	---
Others	20	---
Lime	47	---
Roof tiles	39	---
Cement wares	13	---
Others	31	---

\* In non-government factories employing 5 or more persons.

\*\* Percentages not shown for production less than one percent of the national total

b. Clothing. Factory production of clothing in Mie-ken is comparatively light, though it includes a long list of items. Value of 1938 production is given, by major classifications, in Table 26. Twenty-three percent of Mie-ken knitwear production was in silk hose. The prefecture ranked fourth among the 12 prefectures reporting production of this item, with 6.4 percent of the nation's production. It was the fifth ranking prefecture in manufacture of felt hats, and produced 5.3 percent of the total for Japan. Only 9 prefectures made felt hats in 1938.

TABLE 26

## Clothing Production, 1938, Mie-ken\*

Product	Value (in thousand yen)	Value (per cent of national total**)	Rank among prefectures
Knitwear	1,213	1.6	11
Hats	696	3.6	6
Tailored (sewed) goods	261	---	29
Non-leather footgear#	67	---	13
Rubber footgear	41	---	14
Leather shoes	19	---	23

\* In non-government factories employing 5 or more persons.

\*\* Shown only when one percent or more.

# Excludes wooden and rubber makes.

c. Nets. Mie-ken has been the netting center of Japan. In 1938, the prefecture was credited with the manufacture of fishing nets valued at 9,186,000 yen, or 45.6 percent of the nation's production. The mainspring of the industry seems to be J. Yamamoto Fishing Net Mfg. Co. Its list of manufactures included cotton and linen fishing net and twine, silk and hair net, and manila rope and twine; however, government production statistics for 1938 show no production of rope in Mie-ken. Yamamoto is said to be the only fishing net manufacturer in Japan capable of producing net-making machinery. Five other Mie-ken firms are listed as prominent fishing net manufacturers. All but one firm are located in Yokkaichi-shi.

d. Minor Manufactures. Small Mie-ken factories also produced many other items, such as paper goods and the characteristic Japanese products of bamboo, straw, and wisteria vines. Some were commodities produced in very few places in Japan, such as matchwood and matchboxes, brushes, and umbrella handles. None of the items, however, were made in quantities important to the national economy.

G. CONSTRUCTION AND CONSTRUCTION MATERIALS

1. Construction.

The types of construction in Mie-ken are similar to those throughout Japan. Most large industrial plants built in the last decade are of reinforced 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. Mie-ken has large stands of commercial timbers. (See Chapter III, D, for kinds of trees and III, F, 8 for wood products.)

b. Cement. The Fujiwara Plant of the Onoda Semento Seizo KK, located in Tozenji-oaza, Higashifujihara-mura, has an annual capacity of 339,696 metric tons. It uses the dry process in producing Portland cement. The plant is equipped with 2 rotary kilns, each 70 meters long.

c. Structural steel. See Chapter III, F, 4. a.

d. Brick. In 1942 a major brickyard was reported in Yokkaichi-shi.

e. Glass. The glass industry in Mie-ken accounted for 3 percent of the total national production 1938. A major glass plant was reported located in Yokkaichi-shi in 1942.

H. TRADE AND COMMERCE

1. Foreign Trade.

Yokkaichi-shi, the only open port in Mie-ken, ranked eighth among Japan's 47 open ports in volume of foreign trade. The actual volume of trade, indicated in Table 28, in 1939 amounted to 0.9 percent of the total foreign trade of Japan valued at approximately 6½ billion yen.

TABLE 28

Foreign Trade, 1934-1940, Yokkaichi-shi

Year	Exports (yen)	Imports (yen)
1934	6,383,471	57,698,957

1935	6,518,479	70,746,343
1936	7,394,632	67,344,566
1937	13,790,938	94,789,052
1938	12,267,790	30,992,888
1939	10,368,149	47,800,813
1939 1st qtr.	2,035,187	10,640,507
1940 " "	2,346,977	18,372,169

The most important exports ad valorem from Yokkaichi-shi in 1938 were salmon (canned), 4,340,600 yen; pottery and glass, 3,120,100 yen; fish nets, 1,762,500 yen; metal products, 689,500 yen; clothing, 499,300 yen; yarns and twines, 384,800 yen.

Yokkaichi-shi's imports accounted for 71 percent of her foreign trade and consisted chiefly of raw wool, 15,494,000 yen; ginned cotton, 6,778,000 yen; perilla seeds, 2,149,200 yen; ground nuts, 1,420,900 yen; Indian corn, 1,383,400 yen; hemp seeds and sesame seeds, 907,900 yen; soya beans, 893,300 yen.

In the first quarter of 1940 about 20 percent of Yokkaichi-shi's exports went to Japanese dominated Asiatic countries and about 11 percent of her imports were from these countries. (See Table 29.)

TABLE 29

Asiatic Trade, First Quarter 1940, Yokkaichi-shi.

Country	Exports (yen)	Imports (yen)
Central China	203,937	58,196
Northern China	66,439	-----
Southern China	1,180	-----
All China, Total	271,556	58,196
Manchukuo	89,341	2,080,729
Kwantung Province	149,976	-----
Total	510,873	2,138,925

Only about 20 percent of Yokkaichi-shi's foreign trade (in yen value) was carried by foreign ships in 1938.

2. Domestic Trade.

Yokkaichi-shi is the only port of importance in domestic trade in Mie-ken. In 1936 it rated 23rd in volume of domestic trade among Japan's ports with 0.41 percent of Japan's maritime domestic trade. The exports in that year were 208,000 metric tons valued at 32,468,000 yen, of which the principal items were raw cotton, ceramics and manufactured cotton goods.

Imports in the same year were 717,000 metric tons valued at 30,762,000 yen, of which the principal items were coal, sardine refuse and ammonium sulphate.

### 3. Warehousing.

There are many warehouses of varying construction along the harbor quays of Yokkaichi-shi on both the north and south sides of the pier (southern part of the harbor) and also along the waterfront on the left bank of the Kabake-kawa, opposite Asahi-mura. A double track railway serves the rear of these warehouses. The only known warehouse company is the Yokkaichi Soko Unyu KK, 210 Kitanaya-machi, Yokkaichi-shi.

## I. FINANCE

### 1. Private Finance.

a. Relative position of Mie-ken. Table 30 shows the relative position of Mie-ken in private finance, compared with the rest of Japan, as of the dates indicated.

TABLE 30

Bank Deposits, Savings & Life Insurance,  
1936 & 1944, Mie-ken.

	Total for Mie-ken	Percent of national total
Population (1936)	1,174,595	1.70
Total bank deposits (banks with head offices in prefecture (1936)	118,395,000 yen	0.92
Deposits in postal savings transfer accounts (1936)	16,802,000 yen	1.25
Amount of ordinary life insurance in force (1936)	60,630,000 yen	1.67
Savings goal* (1944)	440,000,000 yen	1.22

\* An estimate which includes net increases of bank deposits, postal savings, trust deposits, deposits of financial co-operatives, insurance reserves, deposits of mutual finance companies, private investment bond purchases, etc.

b. Banking. As of 1940 6 provincial banks with a total of 57 branches (54 in Mie-ken) and 41 agencies had their head offices in Mie-ken. Four provincial ordinary banks with their main offices elsewhere maintained a total of 4 banks in the prefecture. One of the "big" banks operated one bank and one special bank operated one bank and 13 agencies in Mie-ken as of 1940. One savings bank with no branches or agencies was located in Mie-ken, and 2 savings banks with their main offices in other prefectures maintained a total of 7 branches in the prefecture.

As of 1942 Clearing Houses were located in Tsu-shi and Yokkaichi-shi.

Following is a list of banks and branches that were known to exist 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 probable that some, or possibly even all, of the prefectural banks listed here have been merged.

Restricted

(1) Provincial Ordinary Banks,

Ginko (105th Bank)

Main office: Boraboritsu, Marunouchi, Tsu-shi  
Branches: Twenty of the 22 branches, and 23 agencies  
are in Mie-ken as follows:

Hama-machi, Yokkaichi-shi  
Okado-machi, Tsu-shi  
Okamoto-cho, Ujijamada-shi  
Sone-cho, Ujijamada-shi  
Kawasaki-cho, Ujijamada-shi  
Miyako-cho, Kuwana-shi  
Kambe-machi, Suzuka-shi  
Ishinden-machi, Kawage-gun  
Higashi-cho, Kameyama-machi, Suzuka-gun  
Higashi-machi, Ueno-shi  
Nabari-machi, Naga-gun  
Hisai-machi, Ichishi-gun  
Nihongi, Omitsu-mura, Ichishi-gun  
Rokken, Matsugasaki-mura, Ichishi-gun  
Naka-machi, Matsuzaka-shi  
Oka-machi, Take-gun  
Nishiki-cho, Toba-machi, Shima-gun  
Nagashima-machi, Kitamuro-gun  
Naksiura, Owashi-machi, Kitamuro-gun  
Hikimoto-machi, Kitamuro-gun

Total assets	106,072,000 yen
Securities	47,297,000 "
Cash on hand	7,572,000 "
Total loans	39,298,000 "
Uncalled capital	1,037,000 "
Total liabilities	106,072,000 yen
Deposits	86,546,000 "
Reserves	5,192,000 "
Net profit (6 mos.)	486,000 "
Paid-up capital	8,963,000 "

Mie Ginko (Mie Bank)

Main office: Kura-machi, Yokkaichi-shi  
Branches: All 5 branches are in Mie-ken located  
as follows:

Komono-machi, Mie-gun  
Tomita-machi, Yokkaichi-shi  
Kambe, Kambe-machi, Suzuka-shi  
Minami-machi, Yokkaichi-shi  
Ageki-machi, Inabe-gun

Total assets	7,753,000 yen
Securities	4,796,000 "
Cash on hand	827,000 "
Total loans	1,249,000 "
Uncalled capital	619,000 "

Restricted

Total liabilities	7,753,000 yen
Deposits	5,202,000 "
Reserves	Unknown
Net profit (6 mos.)	3,000 "
Paid-up capital	1,881,000 "

Iga Noshō Ginko (Iga Agricultural and Industrial Bank)  
Main office: Ueno-shi

Branches: Three agencies and 5 of the 6 branches are  
located in Mie-ken as follows:

Tamataki-mura, Ayama-gun  
Sanagu, Fuchu-mura, Ayama-gun  
Nishitsuge-mura, Ayama-gun  
Shimagawara-mura, Ayama-gun  
Yamada-mura, Ayama-gun  
Kawai-mura, Ayama-gun (agency)  
Awa-mura, Ayama-gun (agency)  
Inako-mura, Taka-gun (agency)

Total assets	3,987,000 yen
Securities	251,000 "
Cash on hand	353,000 "
Total loans	1,873,000 "
Uncalled capital	1,300,000 "
Total liabilities	3,987,000 yen
Deposits	1,859,000 "
Reserves	58,000 "
Net profit (6 mos.)	7,000 "
Paid-up capital	700,000 "

Senan Ginko (Senan Bank)

Main office: Yoka-ichiba-machi, Ujijamada-shi  
Branches: There are 15 branches and 8 agencies,  
those located in Mie-ken are as follows:

Tachi-machi, Tsu-shi  
1088 Hino-cho, Matsuzaka, Matsuzaka-shi  
Saiku-mura, Take-gun  
Oka-machi, Take-gun  
Nyu-mura, Take-gun  
Oyodo-machi, Take-gun  
Higashikurobe-mura, Take-gun  
Tamaru-machi, Watarai-gun  
Kobata-machi, Watarai-gun, (Miyakawa Branch)  
Katada-mura, Shima-gun  
Ugata-mura, Shima-gun  
Hamashima-machi, Shima-gun  
Namikiri-machi, Shimā-gun  
Wagu-machi, Shima-gun  
Kawasaki-cho, Ujijamada-shi, (Kawasaki Br.)

Total assets	20,361,000 yen
Securities	6,870,000 "
Cash on hand	1,978,000 "
Total loans	7,866,000 "
Uncalled capital	1,335,000 "

Restricted

Total liabilities	20,361,000	yen
Deposits	16,924,000	"
Reserves	444,000	"
Net profit (6 mos.)	47,000	"
Paid-up capital	665,000	"

Kishin Ginko (Kishin Bank)  
 Main office: Kinomoto-machi, Minamimuro-gun  
 Branches: Six branches and 2 of the 3 agencies are located in Minamimuro-gun as follows:

Atashika-mura  
 Udono-mura  
 Kamikawa-mura  
 Asuka-mura  
 Isato-mura  
 Arasaka-mura  
 Minamiwauchi-mura (agency)  
 Kitawauchi-mura (agency)

Total assets	unknown	
Securities	767,000	yen
Cash on hand	724,000	"
Total loans	1,388,000	"
Uncalled capital	787,000	"
Total liabilities	unknown	
Deposits	2,793,000	yen
Reserves	146,000	"
Net profit (6 mos.)	26,000	"
Paid-up capital	613,000	"

Hokuki Ginko (Hokuki Bank)  
 Main office: Minami-ura, Owashi-machi, Kitamuro-gun  
 Branches: There are 4 agencies and 3 branches, the latter are in Mie-ken, located as follows:

Kuki-mura, Kitamuro-gun  
 Nagashima-mura, Kitamuro-gun  
 Misedani-mura, Take-gun

Total assets	2,980,000	yen
Securities	361,000	"
Cash on hand	788,000	"
Total loans	1,009,000	"
Uncalled capital	750,000	"
Total liabilities	2,980,000	"
Deposits	1,871,000	"
Reserves	37,000	"
Net profit (6 mos.)	9,000	"
Paid-up capital	250,000	"

Nagoya Ginko (Nagoya Bank)  
 Main office: Nagoya-shi, Aichi-ken  
 Branch in Mie-ken located at:  
 Kuwana-shi

Restricted

Daido Ginko (Daido Bank)  
 Main office: Wakayama-ken  
 Branch in Kinomoto-machi located at:  
 Minamimuro-gun

Ogaki Kyoritsu Ginko (Ogaki Kyoritsu Bank)  
 Main office: Gifu-ken  
 Branch in Kuwana-shi

Shiga Ginko (Shiga Bank)  
 Main office: Shiga-ken  
 Branch in Ueno-shi

(2) "Big" Ordinary Banks

Teikoku Ginko (Imperial Bank)  
 Main office: Tokyo-to  
 Branch in Mie-ken is at: 95, Hama-machi, Yokkaichi,  
 (formerly a branch of the Dai-Achi (First) Bank).

(3) Special Banks.

Nippon Kangyo Ginko (Hypothec Bank of Japan)  
 Main office: Tokyo-to  
 One branch and 13 agencies in Mie-ken located as follows:  
 1644 Yoro-cho, Tsu-shi  
 763 Sohara, Oizuhara-mura, Inabe-machi, Inabe-gun,  
 (agency)  
 791 Moto-machi, Kuwana-shi, (agency)  
 2022 Hama-machi, Yokkaichi-shi, (agency)  
 Kambe-tatemachi, Kambe-machi, Kawage-gun, (agency)  
 341 Kameyama, Kameyama-machi, Suzuka-gun, (agency)  
 Ueno, Ueno-shi, (agency)  
 367 Nabari-machi Shimoyokocho, Naka-gun, (agency)  
 1405 Moto-machi, Hisai-machi, Ichishi-gun, (agency)  
 589 Hino-cho, Matsuzaka-shi, (agency)  
 531 Iwabuchi-machi, Ujiyamada-shi, (agency)  
 1515 Toba, Toba-machi, (agency)  
 Nakai-ura, Owashi-machi (agency)  
 148 Kinomoto-machi, Minamimuro-gun, (agency)

(4) Savings Banks.

Mie Kyodo Chochiku Ginko (Mie Mutual Savings Bank)  
 Main office: Tsu, Okado-machi, Tsu-shi  
 No branches or agencies

Restricted

Total assests	16,442,000	yen
Securities	13,564,000	"
Cash on hand	940,000	"
Total loans	289,000	"
Uncalled capital	375,000	"
Total liabilities	16,442,000	yen
Deposits	15,571,000	"
Reserves	191,000	"
Net profit (6 mos.)	8,000	"
Paid-up capital	125,000	"

Nippon Chochiku Ginko (Japan Savings Bank)  
 Main office: Tokyo-to  
 Branches in Mie-ken (formerly branches of the Fudo Savings Bank) are located as follows  
 Miya-dori, Kuwana-shi  
 Naka-machi, Yokkaichi-shi  
 Nakanoban-cho, Tsu-shi  
 120 Matsuzakaminato-machi, Matsuzaka-shi  
 Toyokawa-cho, Ujiyamada-shi

(Aichi) Nippon Chochiku Ginko (Japan Savings Bank of Aichi)

Main office: Aichi-ken  
 Two branches in Mie-ken are located in Tsu-shi and Yokkaichi-shi

c. Insurance. It is not known just which insurance companies have carried on operations in Mei-ken in the past. Announcement was made in April 1945 that all insurance companies in Japan had been merged into two companies, a life insurance company and property insurance company. It is not known whether they have succeeded in merging all the operations of these companies.

As of 1936 there were 526,477 ordinary life insurance policies in force in the prefecture with a total value of 60,630,000 yen.

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 for savings and as checking account, through postal transfer accounts. Postal savings in Mie-ken totaled 172,095,000 yen as of the end of June 1942.

e. Credit associations. These associations were important to the individual, both as a place to invest his money and as a source from which small loans could be obtained. In 1936 there were 369 associations operating in Mie-ken with a total investment of 6,659,000 yen.

f. Mutual financing associations (Muji). 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.

Restricted

Statistics are given below as of 1936:

Main offices	6
Branch offices	16
Authorized capital	850,000 yen
Paid-up capital	291,000 yen
Number of association accounts	1,498
Number of individual accounts	46,919

2. Public Finance.

a. Relative position of prefecture. Table 31 shows the relative position, in regard to public finance, of Mie-ken, compared with the rest of Japan as of 1938:

TABLE 31

Public Finance, 1938, Mie-ken.

	Total for Mie-ken (in thousand yen)	Percent of total for all prefectures
Prefectural revenue	9,804	1.64
Prefectural expenditures	9,804	1.64
National business profits tax collection		
(1) Individuals	362	1.31
(2) Corporations	198	.31
Total taxable income	43,272	.92
National income tax collections	2,059	.76

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

	Amount (in thousand yen)
Surtaxes on direct national taxes	
Land tax	
Income tax	600
Other	356
Special land tax	301
House tax	966
Business tax	109
Miscellaneous taxes	1,026
Property income	30
Employment & handling fee	749
National grants in aid	1,708
Prefectural loans	1,354
Balance from previous fiscal year	100
Other	1,495
Total income	9,804

Restricted

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

	Amount (in thousand yen)
Council expenses	46
Police expenses	1,096
Public works	2,455
Education	2,261
Encouragement of industry	1,818
Health & sanitation	195
Social welfare	94
Prefectural loan expenses	1,102
Handling of prefectural expenses	181
Official's expenses	253
Other	303
<b>Total expenditures</b>	<b>9,804</b>

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

	Amount (in thousand yen)
Surtaxes on direct national taxes	
Land tax	140
Other	250
Surtaxes on prefectural taxes	
Special land tax	3
House tax	241
Business tax	41
Miscellaneous taxes	369
Special tax	706
Property income	51
Employment fee & handling fee	697
Delivery & subsidy	561
City loans	673
Balance from previous year	122
Other	1,150
<b>Total revenue</b>	<b>5,004</b>

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

	Amount (in thousand yen)
Council expense	31
Office expense	438
Public works	553

Restricted

	Amount (in thousand yen)
Education	1,482
Health & sanitation	488
Social welfare	639
Police	65
Encouragement of industry	75
Municipal loan expense	762
Liability expense	1
Planning	220
Maintenance expense (property)	89
Other	161
<b>Total expenditures</b>	<b>5,004</b>

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

	Amount (in thousand yen)
Surtax on national taxes	
Land tax	657
Other	167
Surtax on prefectural taxes	
Special land tax	141
Personal property tax	288
Business tax	68
Miscellaneous taxes	732
Special taxes	2,801
Estate incomes	564
Rents & commissions	234
Subsidies	2,104
Town & Township loans	907
Amount carried forward from previous year	663
Other	2,508
<b>Total revenue</b>	<b>11,834</b>

g. Expenditures of towns and villages. Expenditures of the towns and villages in Mie-ken for the fiscal year 1938-39 were as follows:

	Amount (in thousand yen)
Council expense	67
Office expense	1,586
Public works	1,105
Education	4,520
Health & sanitation	217
Social welfare	1,063
Police	180
Encouragement of industry	632
Public loan expense	819

	Amount (in thousand yen)
Various taxes & burdens	91
Building funds	514
Other	1,040
<b>Total expenditures</b>	<b>11,834</b>

h. Public debt. The local public debt in Mie-ken as of 1936 totaled 28,547,000 yen. The following is a breakdown of this debt according to areas and objectives for which the debt was incurred:

	(in thousand yen)
<b>By area</b>	
Prefectural	13,998
Municipal	5,884
Town and township	8,558
Water supply (district)	107
<b>By objective</b>	
Education	1,739
Health and sanitation	4,531
Services expenses	7,228
Disaster repair	4,044
Ordinary construction	9,484
Public welfare	1,454
Other	67

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	12,946
Number paying less than 10 yen	4,468
10 to 15 yen	2,231
15 to 20 yen	1,146
20 to 30 yen	1,324
30 to 50 yen	1,146
50 to 100 yen	1,135
100 to 200 yen	815
200 to 500 yen	405
500 to 1,000 yen	146
1,000 to 2,000 yen	70
2,000 to 5,000 yen	41
Over 5,000 yen	19

j. Location of finance offices in Mie-ken. As of 1938 Revenue offices were located in the following places in Mie-ken:

Marunouchi  
Tsu-shi  
Yokkaichi-shi  
Awabuchi-cho  
Ujiyamada-shi  
Oshiroi-cho  
Matsuzaka-shi  
Ueno-shi  
Kinomoto-machi  
Minaminuro-gun  
Owashi-machi  
Kitamuro-gun

Depository Offices were located as follows:

Marunouchi  
Yokkaichi-shi  
Okamoto-cho  
Ujiyamada-shi  
Minato-machi  
Matsuzaka-shi  
Ueno-shi  
Kinomoto-machi  
Minaminuro-gun



IV. PUBLIC SERVICE

A. TRANSPORTATION

1. Railroads.

(a) Pattern and importance. Running generally north, south and west, many railroads radiate from hubs at coastal towns along the eastern border of the prefecture on Ise-wan from Kuwana-shi in the north to Ujiyamada in the south. The Kansai Main Line enters the prefecture from Nagoya-shi, Aichi-ken, in the northeast and runs south through Kuwana-shi and Yokkaichi-shi, where it turns west making junctions with the important coastal Sangu Line to the south and farther west, prior to leaving the prefecture, with the Kusatsu Line, a connecting line to the north with the Tokaido Main Line. Running north out of the prefecture from Kuwana-shi to Ogaki-shi in Gifu-ken is the Kuwana Line of the Sangu Kyuko R R. The Ise Line of the Sangu Kyuko R R runs south from Kuwana-shi through Yokkaichi-shi, Tsu-shi and Matsuzaka-shi to Ujiyamada-shi. From a junction with the Sangu Line below Matsuzaka-shi, the southern coastal Kisei Line runs south along the coast through Shingu-shi, connecting with Wakayama-shi, both in Wakayama-ken. From Ujiyamada-shi in the southeast, the Sangu Kyuko Main Line runs northwest through Matsuzaka-shi and then west through the center of the prefecture to Nabari-machi. From there, the railroad goes southwest, leaving the prefecture through Sakurai-machi, Nara-ken, to Osaka-shi in Osaka-fu.

Railroads of primary importance are the Kansai Main Line (5)\* and Sangu Line (2).

Railroads of secondary importance are the Kisei Line (1), Sangu Kyuko Main Line (4), Sangu Kyuko (Kuwana Line) (6), Kansai Kyuko (Tsu Line) (9), Meisho Line (10), Jusatsu Line (11), Kuwana Tramway (19).

Railroads of tertiary importance are the Sangu Kyuko (Iga Line) (3), Matsuzaka R R (12), Hokusei R R (13), Chusei R R (14), Ano R R (15), Godo R R (16), Sangi R R (17), Mie R R (18), and Shiwa R R (20).

Railroads of minor importance are the logging railroads in Kitamuro-gun (21) and (22), and in Take-gun (23). A cable railway runs south from the Hiraiwa station to the Asamatake station on the Godo R R. There is another cableway in Kitamuro-gun, about 3 miles south of Owashi-machi. For details concerning trackage, gauge, etc., see Table 32 and Appendix II, Railroads.

\*Numbers refer to route numbers on OSS Map 7221.

TABLE 32.

Railroads, Mie-ken		Power	Mileage in Ken	Gauge	Track	Bridges & Overheads*	Tunnels	Terminals
Key	HR	Owner						
1.	Kisei	Gov't.	77	3'6"	1	20--*2	25	Okaguchi - Wakayama(1)
2.	Sangu	Gov't.	44	3'6"	1	30--*7	2	Kameyama - Toba
3.	Sangukyuko	Pvt.	16	3'6"	1	4--*3	1	Iga-Ueno - Nabari
4.	Iga Line	1942	47	4'8 1/2"	2#	30--*22	11	Ujiyamada - Osaka (3)
5.	Sangukyuko Main Line	1942	54	3'6"	1	43--*6	4	Nagoya (2) - Osaka (3)
6.	Kansai Main Line	Gov't.	6	3'6"	1	3--*2	0	Kuwana - Ogaki (4)
7.	Sangukyuko	Pvt.	4	3'6"	2	----	-	Kuwana - Nagoya (2)
8.	Kansai Kyuko	Pvt.	51	3'6"	1#	42--*19	2	Kuwana - Ujiyamada
9.	Sangukyuko (Ise line)	1942	8	4'8 1/2"	2	6--*3	0	Tsu - Nakagawa
10.	Sangukyuko (Tsu line)	1942	27	3'6"	1	16--*2###	4###	Matsuzaka - Nabari
11.	Meisho	Gov't.	1	3'6"	1	0--*0	0	Kusatsu (5) - Tsuge
12.	Kusatsu	Gov't.	15	2'6"	1	0--*2	0	Matsuzaka - Oishi
13.	Matsuzaka	Pvt.	13	2'6"	1	3--*2	0	Kuwana - Ageki
14.	Hokusei	Pvt.	13	2'6"***	1	1--*1	0	Tsu - Ise-kawaguchi
15.	Chusei	Pvt.	7	2'6"***	1	0--*0	0	Tsu - Mukunoto
16.	Ano	Pvt.	8	3'6"	1	3--*0	0	Ujiyamada - Futami, Uji, Asamatake
17.	Godo	Pvt.***	17	3'6"	1	5--*2	0	Tonita - Kawai



motor traffic, and any considerable movement of military vehicles over them would create a serious maintenance problem.

d. National highways. The Tokaido National Highway, the most important highway in Japan, leading west and south from Tokyo, enters Mie-ken at Kuwana-shi. It is a good 2-lane road through the prefecture and is reported to be paved with concrete from Nagoya-shi, Aichi-ken, to Kobe-shi, Hyogo-ken.

The Ise National Highway branches off the Tokaido Highway at Oiwake, Kawarada-mura, and goes south along the coast to Ujiyamada. It is level the entire way and passes through urban areas most of the way. In Onoe-mura it crosses the Kumozu-gawa on a wooden bridge 800 feet long, and in Kushida-mura it crosses the Kushida-gawa on a steel bridge 500 feet long. Just west of Ujiyamada-shi it crosses the Miya-kawa on a wooden bridge 1,500 feet long.

e. Primary prefectural highways. Generally, the primary highways are through routes or connect relatively large centers of population. The secondary ones are connecting roads, or those leading into villages and mountains. Because of inadequate information it is not certain in all cases whether or not the primary highways are better surfaced than some secondary ones. Following is the available information on the primary highways:

(1) Tomisuhara in Yokkaichi-shi, west and south to Kameyama-machi. This highway is known as the Junken Highway, generally runs along the westerly edge of the coastal plain region; it is level, but has sharp curves.

(2) Yokkaichi-shi south to Shiroko in Suzuka-shi. The highway is level and straight, passing through dry rice fields. It crosses the Utsube-gawa on a masonry bridge about 600 feet long and crosses the Suzuka-gawa on a masonry bridge about 400 feet long.

(3) Tsu-shi northwest to Seki-machi. The Ise-Betsu Highway runs through level country but has many curves south of Seki-machi.

(4) Seki-machi west to Ueno-shi. The highway passes through a narrow gorge and through the mountains separating the valleys of Seki-machi and Ueno-shi. The road winds considerably as far as Sanagu, from where it is level and straight to Ueno-shi.

(5) Iga Highway, Ueno-shi east-southeast to Hisai-machi. At the outskirts of Ueno-shi, the highway crosses the Hatto-gawa on a short span wooden bridge and then closely follows the river through a short mountain pass to the small val-

ley around Hirata. At Awa-mura the road starts over the mountain to the coastal region. The mountain section of the road winds and has some steep grades. It passes through a tunnel approximately 800 feet long. East of Shimonogo the road is fairly level. At Shimonogo a good, level primary highway branches off to Tsu-shi.

(6) Ueno-shi south through Nabari-machi to Nara-ken. The Nabori Highway, an important road leading into the Osaka valley, is fairly level and straight. In Nabari-machi it crosses the Kuroda-gawa on a short wooden bridge.

(7) Nabari-machi east to Matsuzaka-shi. The Hatsuse Highway, an important road over the mountains west of the coastal plain, passes through rather sparsely populated areas, winds considerably, but has few steep grades. In Oi-mura it crosses the Kumozu-gawa on a short wooden bridge.

(8) Matsuzaka-shi west to Nara-ken. The Wakayama Highway follows the Kushida-gawa gorge as far as Haze-mura, Innami-gun, near the Nara-ken border. It is winding and has many sharp curves, but has no steep grades as far as Haze-mura. From there to the prefectural border the road is probably very steep.

(9) Matsuzaka-shi south and west through Magashima-machi to the Wakayama-ken border. The Kumano Highway, the only road running north and south through the southern part of the prefecture, passes through a narrow mountain valley following the Miya-gawa. It rises slowly in elevation south of Matsuzaka-shi to a point approximately 4 miles north of Nagashima-machi, then descends rapidly to the small valley north of the city. From here to a point 2 miles north of Owashi-machi, the road winds but is fairly level. North of Owashi-machi it goes over the Binshi-yama, where it goes through the Oka tunnel, approximately 200 feet long, and the Owashi tunnel, approximately 1,500 feet long. South of Owashi-machi the road goes over another range of mountains and rises in elevation to 2,600 feet at a point 8 miles south of the city, then descends on a very winding route with many sharp curves to Kinomoto-machi. From here to the prefectural border it is straight and level. There is probably a ferry but no bridge across the Kumano-gawa at the prefectural border.

(10) Ujiyamada-shi east and south to Namikiri-machi. The road is fairly level and has few sharp curves, but it is probably narrow. South of Toba-machi the road passes over mountainous terrain.

### 3. Water transport.

The total unloading capacity of Mie-ken ports accessible

to ocean vessels is 6,375 short tons per 10-hour day. All prefectural shipping is administered by the Nagoya Marine Transport Bureau, a local branch of the Ministry of Transportation and Communications.

The order of description of ports and waterways is according to geographical position on the coastline from north to south. See AMS map L571 and H. O. Charts Nos. 2589, 1637, 2590, 2476, 1633, 2237, 2233, and 2155.

a. Kiso-gawa, Nagara-gawa and Ibi-gawa.

(1) Location: the 3 rivers join at the juncture of the prefectures of Gifu, Aichi and Mie and empty into the head of Ise-wan through 2 main mouths near the northern boundary of Mie-ken.

(2) Description: the eastern mouth, the Kiso-gawa, is a narrow channel with a controlling depth of 1.5 feet. The entrance is protected on the south by a breakwater extending southeast. The southern mouth, the common mouth of the Nagara-gawa and Ibi-gawa, has a controlling depth of 1.5 feet. The entrance is protected on the south by a breakwater extending southeast. Kuwana-shi, which is apparently accessible to shallow-draft vessels, lies on the west bank about 3.5 miles within the mouth of Nagara-gawa. The Kiso-gawa is navigable by shallow-draft boats for 50 miles. The Nagara-gawa is apparently navigable by boats at least to Gifu-shi, Gifu-ken. The Ibi-gawa is apparently navigable by boats at least to Ogaki-shi, Gifu-ken. Dredging is maintained in both rivers.

b. Tomisuhara in Yokkaichi-shi.

(1) Location: four miles southwest of Kuwana-shi, within Yokkaichi-shi boundary but outside Yokkaichi harbor limit.

(2) Harbor: a fishing harbor located in the mouth of a small river, the mouth of which is protected by breakwaters. Depths from 9 to 1.5 feet lie within breakwaters.

(3) Clearance: by rail close inland and road.

c. Tomita in Yokkaichi-shi.

(1) Location: close to the south side of Tomisuhara, within Yokkaichi-shi boundary and Yokkaichi harbor limit.

(2) Harbor: a basin 1,100 feet long and 80 to 130 feet wide; it is accessible through a narrow entrance lying between 2 breakwaters. Depths within the basin are believed to be less than 3 feet.

(3) Clearance: by rail and road.

d. Yokkaichi-shi. (See Yokkaichi city plan, AMS 138425, 1945.)

(1) Location: northwest shore of Ise-wan.

(2) Harbor: consists of an inner harbor, an outer harbor, and a river-canal system.

(a) The inner harbor is that area lying between the Mitaki-gawa on the north and the Torisuno-hana on the southeast. It is protected on the north by a large tract of reclaimed land on the south side of the mouth of the Mitaki-gawa and on the south by a stone breakwater that is 1,037 yards long, extending east from Torisuno-hana into 27 feet of water. A large area, about 1,000 yards square, west and northwest of the breakwater has been dredged to a general depth of 30 feet. A boat basin 140 x 120 yards with 1.5 to 12 feet of water, protected by breakwaters, lies on the south side of the reclaimed land, which protects the inner harbor on the north. An oil tanker basin, with general depth of 30 to 16.5 feet, protected by a breakwater on the northeast, lies in the elbow formed by the Torisuno-hana. A small basin, with the general depth of 7.5 feet, protected by breakwaters, lies on the northeast tip of Torisuno-hana.

(b) The outer harbor is an area lying outside of the inner harbor and extends to the harbor limit, an arc with a 2.9-mile radius drawn with the head of the boat basin in the north inner harbor as its center. General depths range from 19.5 to 42 feet.

(c) River-canal system. Four rivers empty within the harbor limit. The Kaizo-gawa, the northernmost, empties into the outer harbor just north of the newly reclaimed land on which a shipyard has been constructed. The river is not known to be navigable. The Mitaki-gawa empties into the outer harbor south of the Kaizo-gawa. A large tract of reclaimed land on the south side of its mouth forms the northern boundary of the inner harbor. Although shoals are charted in its mouth, dredging was underway in 1943. The Kabake-gawa empties into the inner harbor south of the main port terminals. About one mile upstream the Tempaku-gawa joins the river. Depths in the mouth of the Kabake-gawa range from 30 feet to 6 feet at the first bridge. The Utsube-gawa empties into the outer harbor on the south side of the Torisuno-hana. The river is shoaled. There is a total length of about 2.37 miles of canals immediately behind the main waterfront and roughly paralleling it. Depths in the canals range from 1.5 to 15 feet. The north entrance to these canals, south of the boat basin, and the south entrance, from the Kabake-gawa, both have charted depths of 7.5 feet. A large detached reclaimed area, 1,365 x 520 yards, fronting the city is separated from the mainland by the canal system. This area is the site of the principal terminal.

Tides have an interval of 6 hours, 11 minutes; springs rise 7.5 feet; neaps rise 5.25 feet.

Off Yokkaichi-shi in the northwest part of Ise-wan in depths of 30 to 78 feet, mud bottom, there is room to accommodate an entire fleet. Anchorage is also available northwest of the breakwater in 30 feet. There are several mooring buoys within the inner harbor.

(3) Landing facilities, there is little recent information on landing facilities at Yokkaichi-shi. In addition to the known details given in Table 33, there is thought to be quayage along the canals and recently reclaimed land.

TABLE 33

Deep-water Terminals, 1944, Yokkaichi-shi  
(Listed from north to south)

Location	Berthing Space (in feet)	Depth (in feet)	Berthage
Pier forming south side of boat basin.	(Length, 420)	Outer side, less than 3 Inner side, less than 6	
Quay. East side of Chihose-machi, the large detached reclaimed tract of land fronting the city.	500	Less than 18	Two 200-foot vessels drawing 12 feet
Main pier. Adjacent south of above quay	300 / 1,350 / 825	18 to 27	Three 450-foot vessels drawing 20 feet One 350-foot vessel drawing 20 feet Two 250-foot vessels drawing 16 feet
Quayage. North bank of Kabakegawa	865 600 850 525	10.5 7.5 to 6 6.0 to 4.5 9	
Quayage. South bank of Kabakegawa.	4,100	12 to 6	

Quayage. Oil tanker basin.	3,000 525 1,350	12 to 14.5 16.5 16.5	Tankers Tankers Tankers
Quayage. Northeast side of Torisuno-hana.	600 450	15 7.5	Boat basin

It is reported that the port has cranes with capacity of at least two tons. Tugs and lighters are available.

(4) Unloading capacity: estimated at 4,375 short tons per 10-hour day at known deep water berths. In 1938, 137 steamers (534,058 tons) entered the port and 144 (555,297 tons) cleared.

(5) Clearance: by port facilities served by rail. Roads are adequate.

(6) Supplies: water is available on quays and from waterboats. A stock of 10,000 to 15,000 tons of coal is maintained. The port is the site of the Second Naval Fuel Depot. There are large refineries and underground storage.

(7) Repair facilities: the Uraga Shipbuilding and Drydock Company is reported to have constructed a large shipbuilding plant, including a drydock and several shipbuilding ways. This plant is believed to be located on the reclaimed land on the south side of the mouth of the Kaizo-gawa.

(8) Administration: the Harbor Office is located on the quay north of the main pier, and the customhouse at the boat basin in Onoe-mura.

e. Chiyosaki-ko.

(1) Location: eight miles due south of Yokkaichi-shi between Toba-machi and Shiroko, within Suzuka-shi.

(2) Harbor: there is a small harbor in the mouth of a river, on either side of which are short jetties.

(3) Clearance: by rail and road.

f. Tsu-shi.

(1) Location: fourteen miles south-southwest of Yokkaichi-shi.

(2) Harbor: Tsu-ko is at the mouth of the Iwata-gawa. The mouth of the river dries, except for a shallow channel along the northern side that is available only to small craft. There is a small basin on the north side of the river, close within its mouth, in which there is a depth of about one foot. The

river is entered between 2 breakwaters. Tides have an interval of 6 hours, 10 minutes; springs rise 7.5 feet, neaps rise 5.5 feet.

(3) Clearance: by rail and road. Several ferries cross the Iwata-gawa.

g. Matsuzaka-shi.

(1) Location: ten miles south of Tsu-shi.

(2) Harbor: the harbor is located at tract of reclaimed land about 3 miles northeast of city center. Entrance is between 2 breakwaters. Depths in the entrance and within the harbor have been dredged to 9 feet, and vessels of 700 tons can enter.

(3) Clearance: rail serves harbor area. Roads are adequate.

h. Oyodo-machi.

(1) Location: seven miles east of Matsuzaka-shi.

(2) Harbor: lies within mouth of Ohori-kawa; available for small craft only. Jetties are located on either side of entrance.

(3) Clearance: by road only.

i. Ujiyamada-shi and Ominato-machi.

(1) Location: on the Seto-gawa about 11.5 miles south-east of Matsuzaka-shi.

(2) Harbor: the harbor is divided into 3 parts: Ominato-ko on the north side of the river mouth; Kamiyashiro-ko about one mile upstream; and Kawasaki-mura, close to center of village, about 1.5 miles further upriver. The channel of the river, which is entered between breakwaters, has been dredged to 5 feet as far as Ominato-ko. Small vessels, up to about 60 tons, can ascend the river as far as Kamiyashiro-ko, and at high water such vessels can reach Kawasaki-mura.

(3) Clearance: by rail at Kawasaki-mura and by road at Ominato-machi and Kamiyashiro-ko.

(4) Repair facilities: there are a number of ship-building yards reported at Ominato-machi.

j. Ohama.

(1) Location: three miles due east of Futami-machi; on the east side of the peninsula extending north from Toba-

machi close to Toshi-jima.

(2) Harbor: the bay opens east with a depth of 4.3 to 7.2 feet. There is one pier.

k. Toba-machi.

(1) Location: seven and one-half miles east of Ujiyamada-shi.

(2) Harbor: consists of an outer harbor and an inner harbor.

(a) Outer harbor. The outer harbor is a large body of water protected on the north by Toshi-jima, on the south by Suga-jima and Sakate-jima, and on the west by the mainland. General depths range from 36 to 120 feet. The harbor can be entered between Toshi-jima and the mainland, between Toshi-jima and Suga-jima, between Suga-jima and Sakate-jima, and between Sakate-jima and the mainland. All entrances are deep, but the main entrance is the one lying between Toshi-jima and Suga-jima.

(b) Inner harbor. The inner harbor fronts the town and is protected by Sakate-jima. The Kama-gawa empties into the inner harbor and forms part of it. General harbor depths range from 18 to 60 feet.

Tides have an interval of 6 hours, 6 minutes; springs rise 6.5 feet; neaps rise 5 feet.

There is a protected anchorage in deep water over sand and mud bottom.

(3) Landing facilities: details are not known, however, there appears to be some quayage with 22.5 feet of water and additional quayage and several small piers and wharfs with 3 to 12 feet of water. A number of lighters and small tugs are available.

(4) Unloading capacity: estimated unloading capacity is 2,000 short tons per 10-hour day.

(5) Clearance: by rail and road.

(6) Supplies and repair facilities: water can be supplied to shipping. There is a naval fuel storage depot. The Toba dockyard of the Imperial Steamship Company has a 288-foot drydock, 52 feet wide at the entrance, 16.6 feet deep on the sill at mean high water. A wooden shipyard lies across the harbor.

l. Momotori-mura.

(1) Location: north side of the west tip of Toshi-jima, an island lying 2 miles north-northeast of Toba-machi.

(2) Harbor: a small bay opens northwest protected by offlying islands. Harbor depths range from 1.3 to 17.7 feet. There are 2 piers, one extending to about 17.5 feet.

m. Toshi-mura.

(1) Location: east side of Toshi-jima.

(2) Harbor: small fishing harbor protected by breakwaters with a general depth of less than 18 feet. There is one wharf.

n. Tsukiage.

(1) Location: on west side of Tsukiage-saki, the south-east point of Toshi-shima.

(2) Harbor: small bay opens southwest with general depths of 6 to 10.5 feet. There is one pier with 3 to 10.5 feet alongside.

o. Kami-jima.

(1) Location: small island 4.5 miles west-northwest of Toshi-jima.

(2) Harbor: small fishing harbor with a depth of less than 18 feet, protected by breakwaters, on the north side of the island.

p. Suga-jima.

(1) Location: an island lying close south of Toshi-jima.

(2) Harbor: small fishing harbor with a depth of 5.9 feet, protected by breakwaters, on the north side of the island.

q. Sakate-jima.

(1) Location: a small island protecting the inner harbor of Toba-machi and within Toba-machi limits.

(2) Harbor: a small artificial harbor, protected by a small breakwater or pier, on the south side of the island. The pier or breakwater extends into 18 feet of water.

r. Matoya-mura.

(1) Location: eight miles south of Toba-machi.

(2) Harbor: lies in Matoya-wan, an almost landlocked bay entered between Suga-saki on the north and Anori-saki on

the south. General depths in the bay range from 30 to 48 feet. Several quays and wharfs front the village in depths ranging from 12 to 24 feet. They are protected on the south and east by Watakano-shima, a small island in the bay. Depths of 48 to 36 feet lie in the approach to the landing facilities. Tides have an interval of 6 hours, 11 minutes; springs rise 6.5 feet; neaps rise 4 feet.

(3) Repair facilities: one 200-ton marine railway.

s. Anori-mura.

(1) Location: south side of Matoya-wan, north side of Anori-saki.

(2) Harbor: small inlet with depth of 3 feet, protected by a breakwater, open north into Matoya-wan. There is a jetty, also a wharf.

t. Namikiri-machi.

(1) Location: five and one-half miles south of Anori-saki.

(2) Harbor: a small fishing harbor with depths of 10.5 to 4.5 feet, protected by breakwaters, open east. Within the harbor is a wharf.

(3) Clearance: by road only.

u. Gokasho-machi.

(1) Location: twelve and one-half miles west-northwest of Namikiri-machi.

(2) Anchorages: in main part of bay anchorage is available in 66 feet and more over mud and sand bottom. The most sheltered anchorage is afforded by Hazama-ura, the western arm of Gokasho-wan. Here depths are 56 feet, mud bottom. Tides have an interval of 6 hours, 5 minutes; springs rise 6.75 feet; neaps rise 4.25 feet.

v. Okaura (Oga).

(1) Location: just southwest of the west entrance point to Gokasho-wan.

(2) Harbor: a fishing harbor that is entered through a narrow channel between retaining walls; channel has been dredged to a depth of 10 feet and is protected on its northern side by a breakwater. Depths within the harbor range from 21 to 25.5 feet.

w. Nishiki-machi.

(1) Location: Four and one-half miles west of Kake-saki.

x. Nagashima-machi.

(1) Location: four and one-half miles southwest of Nishiki-machi.

(2) Harbor: the town lies on the western side of Nagashima-wan, a bay that opens south with general depths of 48 to 36 feet. The Akaba-kawa empties into the bay on the north side of the town. A channel at the south end of the town leads into a lagoon dredged to a depth of 10 feet which forms a fishing harbor. The entrance to the lagoon is protected by a detached breakwater. A loading place for timber is located on some reclaimed land at Nagura on the north side of an arm extending northeast from the head of Nagashima-wan. Depths alongside range from 22.5 to 16.5 feet.

(3) Clearance: by rail and road.

y. Hikimoto-machi.

(1) Location: eight and one-half miles southwest of Nagashima-machi.

(2) Harbor: lies on the west side of Hikimoto-ura, a bay opening south with general depths of 120 to 60 feet. Minor landings are indicated on a very narrow channel with 3 feet of water at the south end of town.

(3) Clearance: by road and a ferry which operates from a point northeast of the town southeast across Hikimoto-ura to the outlying peninsula.

z. Owashi-machi.

(1) Location: head of Owashi-wan 4.5 miles southwest of Hikimoto-machi.

(2) Harbor: a small basin at the head of the bay, protected by breakwaters, with a dredged depth of 12 feet. The outer bay affords anchorage to large vessels in 30 to 120 feet, mud bottom. Tides have an interval of 6 hours, 6 minutes; springs rise 7 feet; neaps rise 4.5 feet. There is one landing with 12 feet alongside.

(3) Clearance: by rail and road.

aa. Kuki-mura.

(1) Location: north side of inlet entered between Kuki-saki and Nasa-saki.

(2) Harbor: a small indentation on north side of inlet. There may be a landing place in 10.5 to 15 feet. Approach is through a deep channel.

(3) Clearance: a ferry operates across the inlet.

bb. Kodomari (Furodomari)

(1) Location: west side of Ino-hana, 13 miles southwest of Kuki-mura.

(2) Harbor: small fishing harbor protected by a breakwater on the west side extending into 30 feet of water.

cc. Kumano-gawa.

(1) Location: lies along the south boundary of the prefecture.

(2) Description: the river originates in Nara-ken. It is believed to be navigable by shallow-draft boats for 79 miles out of its total length of about 100 miles. In its upper reaches it is called the Totsu-gawa.

4. Air Facilities.

Table 34 shows that at the end of 1944 there were 6 classified airfield or seaplane stations in Mie-ken.

Akenogahara (Ujiyamada) Airfield has 10 hangars; 2 runways of 9,350 and 7,500 foot length; complete repair, storage and engine testing facilities. It was used by the Akeno Air School in 1941 for combat and gunnery training.

Suzuka (Mie) Airfield, home base of the Suzuka Naval Air Unit, has 50 revetments, 32 hangars, and a 5,249 foot concrete runway. It is believed to be a test field for medium bombers which are assembled in the immediate vicinity.

TABLE 34

Airports and Seaplane Anchorages, 1944, Mie-ken.

Name	Type	Approximate Locations	Elevation (in feet)
Akenogahara (Ujiyamada)*	A/D	8 mi. ESE of Matsuzaka-shi	20 (est.)
Ifuna (Yokkaichi)	A/D	7 mi. WSW of Yokkaichi-shi	
Kameyama (Shono)	A/D	9 mi. SW of Yokkaichi-shi	197
Kumozo (Karasu)	A/D	5 mi. SSE of Tsu-shi	
Suzuka (Mie)	A/D	9 mi. NNE of Tsu-shi	53 (est.)
Ueno (Uyeno)	A/D (u/c)	1 mi. ENE of Ueno-shi	



\*Alternate names are carried in parentheses after the principal names.

## ABBREVIATIONS

A/D - Airdrome with all-weather runway, or complete facilities, or both.

u/c - Under construction

## B. COMMUNICATIONS.

Mie-ken is included with the prefectures of Aichi, Fukui, Gifu, Ishikawa, Nagano and Toyama in a single administrative district under the jurisdiction of the Nagoya Bureau of Communications (Nagoya Teishin-kyoku) of the Ministry of Transportation and Communications (Unyu Tsushin-sho). This district, one of 8 in Japan has its headquarters in Nagoya-shi, Aichi-ken. The district, headed by a chief, who is responsible for all civilian communications activities, telephone, telegraph and postal, consists of 4 main departments, business, engineering, management and savings.

Actual operation of radiotelegraph and radiotelephone in Mie-ken is nominally in the hands of the International Telecommunications Co., which is entirely dependent on the Japanese Government. (See OSS map 6474 for telephone and telegraph routes.)

1. Telephone.

As of 1939, Mie-ken had approximately 13,800 telephone subscribers, an increase of 940 since 1937. The numbers of subscribers represents an average of 1.39 subscribers for every 100 persons, which compares with 1.38 for all of Japan. In 1940 the daily total of local and long distance calls for Nagoya district was 1,795,000 and 133,700 respectively. It is estimated that the daily average of calls handled in Mie-ken during the same year was 184,890 local calls and 13,800 long distance calls. The local calling rate (number of calls per day per telephone) was between 15 and 17, which is extremely high in comparison to call rates in the United States but a fairly representative figure for Japan.

All long distance telephone messages in Mie-ken are rigidly funneled through the toll center in Nagoya-shi. From this toll center the calls are routed via the toll centers of the various other districts as well as the local exchange at each end of the call. The major communications route in this prefecture is the alternate or secondary route from Nagoya-shi to Osaka-shi, Osaka-fu. It enters the prefecture near Kuwana-shi and parallels the Kansai Main Line to Yokkaichi-shi, where it swings west and cuts across the northern part of the prefecture continuing to Osaka-shi. There is a second main route that follows along the west coast of Ise-wan from Yokkaichi-shi to Toba-machi via the cities of Tsu, Matsuzaka, and Ujiyamada. This route parallels the Sangu Kyuko Main Line (Electric Express). During the last 10 years the Bureau of Communications 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 Mie-ken are of cable construction, both aerial and underground, rather than open-wire. The open-wire feeder circuits from the cities and towns not situated on the main routes are, in most cases, of 1.6 mm hard drawn copper wire.

The telephone exchanges, along with telegraph installations, are located in the same buildings as the post offices. Telephone service will be found in practically all police stations, police sub-stations and police boxes. The 33 (1938) public telephones in the prefecture are installed in post offices, stores, railroad stations and bus terminals. A large majority of the telephones are the wall type and are individual lines. Private branch exchanges (PBX) will be found in the government bureaus and the larger business and industrial establishments. (See list of manufacturers in Appendix I).

Table 35 indicates the estimated number of subscribers and the type of equipment for the principal cities.

TABLE 35

## Telephone Exchanges, 1940, Mie-ken

City	Telephones (estimated)	Type of equipment*
Yokkaichi-shi	2,000	Manual, common battery
Tsu-shi	1,400	Manual, common battery
Ujiyamada-shi	1,100	Magneto, series multiple
Kuwana-shi	900	Magneto, series multiple
Matsuzaka-shi	700	Magneto, series multiple

\*other exchanges in the prefecture are single position Magneto switchboards.

Telephone rates in Mie-ken are flat rates. In 1938, 48 to 90 yen a year was charged, the exact rate being determined according to the number of subscribers.

## 2. Telegraph.

Yokkaichi-shi is the center of all telegraph activity in Mie-ken. It is connected by direct trunks with the communications zone center at Nagoya-shi, for which it serves as a sub-center.

Main telegraph trunks follow generally the network pattern of the telephone circuits, with few exceptions. At Matsuzaka-

shi, the telegraph trunks swing southwest from the telephone trunk route and follow the Kisei Line to Owashi-machi, via Oka-machi, Nojiro-mura and Nagashima-machi. From Owashi-machi the line follows a prefectural highway south to Kinomoto-machi. Here the line again swings southwest, following the coastline and the Kisei Line to Udono-mura. There is a separate telegraph trunk along the double-tracked railroad between Tsu-shi and Kameyama-machi, passing through Ishinden-machi. From Ueno-mura there is a short trunk south along the single track railroad to Nabari-machi. The telegraph central for Mie-ken is believed to be located in Yokkaichi-shi, with branch offices scattered throughout the city in the sub-post offices. There is also a wireless telegraph central located in Yokkaichi-shi. In the remainder of the prefecture, however, telegraph service facilities are located in post offices and railroad stations. Such combination offices are particularly strategic, as they usually contain telephone facilities as well. In 1936 telegraph service was also available in 153 of the 191 third class post offices.

Ordinary telegrams dispatched from the prefecture in 1936 totaled 709,000 as against a total of 842,000 delivered for the same year. In the same period of time 17,000 wireless telegrams were dispatched and 20,000 delivered. Domestic rates for official and private telegrams are 10 Japanese kama characters or 5 European works for 50 sen, with an overcharge of 10 sen for 5 additional Japanese kana characters or one additional European word.

It is believed that printer telegraph service will be found in Mie-ken. The most common types of equipment in use are the Western Electric Duplex, Morkum Double Duplex, Teletype, Baudot Multiplex and the Japanese Letter Printer. The outlying areas depend almost entirely on hand keys.

## 3. Radio.

Although radio broadcasting is one of the principal means of public instruction and information in Mie-ken, the nearest broadcasting station serving Mie listeners is JOCK, the Nagoya Regional Central Station. (See OSS map 5513 for radio broadcasting stations and OSS map 5503 for radiotelephone and radiotelegraph stations.)

As of April 1943, there were approximately 90,121 licensed receivers or 36.8 radios per 100 families in Mie-ken comparable with an estimated 7,000,000 receivers or 40 radios per 100 families in all Japan. These receivers are similar to small table models manufactured in the U.S.A.

Short wave reception is prohibited and there is only one band covering roughly 500 kc to 1500 kc or slightly less than the standard broadcast band. These sets, of 3 and 4 tubes, are designed solely for local reception. Although Edison screw type sockets are used for power input to these sets, it cannot be assumed that any American plug will fit a given Japanese socket.

Since 1925 the operation of radio receivers has been licensed in Mie-ken and each receiver owner is required to post his license disc on the front door of his house. As of April 1945, the license fee was 6 yen 50 sen for 6 months or 12 yen for the year. According to the latest reports, 10 percent or more of the total number of receivers in the prefecture may be unlicensed, despite a continued check made by repairmen and consultants who travel throughout Mie-ken under the sponsorship of the Broadcasting Corporation of Japan and by specially selected repair shops that watch for indications of illegally constructed or operated receivers or clandestine transmitters.

Public address systems, being an integral part of Japanese life can be found throughout the prefecture in the parks, shrines, Railroad stations, schools, factories, and possibly department stores or any other place where large groups of people are likely to congregate.

The Broadcasting Corporation of Japan maintains a detached office and permanent information office in Marunouchi, Hon-machi, Tsu-shi; a temporary information office in Iwabachi-cho, Ujiyamada-shi; a temporary information office at Ichihama-cho, Yokkaichi-shi, and 17 authorized information offices scattered throughout the prefecture.

Other types of radio installations in Mie-ken include radio telephone and radio telegraph stations, which are used for communications from ship-to-shore, from station-to-station, from land-to-plane and as emergency routes in the event of failure of telegraph and telephone cables. These facilities, it is believed, have recently been extended to meet an ever increasing war needs. (See Table 36.)

TABLE 36

Radio Stations, 1940, Mie-ken.

Station	Call	Freq. (kc)	Watts	Remarks
Kameyama-machi	JXK	200	500	Land-to-plane
Kameyama-machi	JXK	215	500	Radiotelegraph &
Kameyama-machi	JXK	333	500	radiotelephone
Kamishima-mura	JQB	---	---	Unidentified

Toshi-mura	JQC	---	---	Unidentified
Yokkaichi-shi	JNZ	93.5	500	Radiotelegraph
Yokkaichi-shi		---	---	Radiotelegraph receiving station for the Middle Japan Radio Central. Transmitter is at Yosami (Aichi); Control stations at Osaka and Nagoya.

The Yokkaichi receiving station of the Japan Wireless Telegraph Company operates a short-wave receiver on overseas service and a radiotelegraph transmitter; the station is a conspicuous landmark just northwest of Yokkaichi-shi, 17 miles southwest of Nagoya-shi and 2.5 miles from the Yokkaichi Railroad Station. It was built in 1928 as a long-wave receiving station to work in conjunction with the Yosami transmitting station. At present it is used chiefly for short-wave reception. About 49 acres of land are used for the buildings and short-wave antennas. Ten beam antennas are in use for short-waves, and one set of goniometer type long-wave antennas, manufactured by the Telefunken Company have been erected. In the short-wave receiving rooms, 8 type A, one type B, and one type C receivers are used. In the long-wave receiving room 4 receivers, manufactured by the Telefunken Co., are working at present. The long-wave receivers consist of double goniometer coupling units, 5-stage radio-frequency amplifiers and 2-stage audio-frequency amplifiers. The battery room consists of 1,000 ampere-hour 10 volt and 2,470 ampere-hour, 10 volt storage batteries for filaments; 2 sets of 50 ampere-hour, 200 volt storage batteries for plates; and one set of 290 ampere-hour, 110 volt storage batteries for emergency lighting, etc. Three-phase alternating current of 3,300 volts, 60 cycles is supplied by the Mie Godo Electric Co. The received signals are sent to the Osaka Central Telegraph Office and the Nagoya Central Postoffice through interconnecting land lines. The station is equipped with one antenna switchboard, one jackboard, 3 tables with monitor recorders and one wave-frequency measuring apparatus.

#### 4. Postal Service.

Postal headquarters for this prefecture are located in Nagoya-shi, Aichi-ken. In 1936 there were 238 postoffices in Mie-ken, classified as shown in Table 37. The locations of these postoffices are shown in Table 38.

TABLE 37

Postoffices, 1936, Mie-ken

Class	Number
1. First class, administrative headquarters of communications district	0
2. Ordinary first class	1
3. Second class	6
4. Special third class	0
5. Third class, with telegraph and telephone	108
6. Third class, with telegraph only	1
7. Third class, with telephone only	0
8. Ordinary third class, without telegraph or telephone	8
9. Third class, no collection or delivery, with telegraph and telephone	49
10. Third class, no collection or delivery, with telegraph only	0
11. Third class, no collection or delivery, with telephone only	1
12. Third class, no collection or delivery, no telegraph or telephone	24
13. Sub-postoffice; collection and delivery, but no telegraph or telephone	18
14. Classification unknown	22
Total	238

TABLE 38

Locations of postoffices, 1936, Mie-ken  
(Numbers indicate classification of postoffices as shown in Table 37.)

TSU-SHI 2, 12	
YOKKAICHI-SHI 3	
UJIYAMADA-SHI 3	
MATSUZAKA-SHI 3	
KUWANA-SHI 3	
SUZUKA-SHI 3, 9, 12, 12	
UENO-SHI 3, 9	
KUWANA-GUN	
Ariyoshi-mura 12	
Fukaya-mura 9	
Furuhama-mura 13	
Nanatori-mura 5	
Nagashima-mura 5	
Kisozaki-mura 13	
	INABE-GUN
	Ageki-machi 5
	Inabe-machi 5
	Onaga-mura 5
	Ishigure-mura 9
	Nyugawa-mura 13
	Higashifujihara-mura 13
	Shirase-mura 5
	Toyashiro-mura 12
	MIE-GUN
	Komono-machi 5
	Kusu-machi 5
	Kawarada-mura 5

Oyamada-mura 5	Omitsu-mura 5
Suizawa-mura 9	Kawaguchi-mura 9
Kawashima-mura 12	Yatsuyama-mura 13
Sakura-mura 9	Yachi-mura 5
Chikusa-mura 13	Tage-mura 5
Ugawara-mura 12	Shimonokawa-mura 12
Mie-mura 9	Ukisato-mura 13
Asahi-mura 9	Nakazato-mura 5
Oyachi-mura 9	Toyoji-mura 5
Takenaga-mura 13	Toyoda-mura 5
Asakami-mura 5	Azaka-mura 13
Yokkaichi-Shiohama 12	Onoe-mura 5
Tomita 5	Rokken 5
Oiwake 9	Kaorisuyoshi 9
SUZUKA-GUN	Takaokanakagawa 5
Kameyama-machi 5	Okutsu 5
Seki-machi 5	Taronosei 9
Kabuto-mura 9	Ichishi-haze 9
Hiruu-mura 12	Ichishi 9
Idagawa-mura 9	IINAMI-GUN
Fukaizawa-mura 5	Kakino-machi 5
Kawasaki-mura 5	Kayumi-machi 5
Nonobori-mura 12	Minato-mura 13
Kasanobori 5	Isedera-mura 13
Isekunifu 12	Okawachi-mura 5
KAWAGE-GUN	Oishi-mura 5
Ishinden-machi 5	Miyanomae-mura 5
Amana-mura 5	Kawabata-mura 5
Aikawa-mura 13	Mori-mura 13
Shiratsuka-mura 9	Haze-mura 5
Mukumoto-mura 5	Kushida-mura 5
Iseueno 5	TAKE-GUN
Shirago 5	Oyodo-machi 5
Isegakobe 5	Higashikurobe-mura 5
Inafu 13	Myojo-mura 12
ANO-GUN	Saiku-mura 5
Takamiya-mura 9	Sana-mura 12
Tatsumi-mura 13	Gokatani-mura 9
Ano-mura 9	Kawazoe-mura 5
Akeyai-mura 5	Misedani-mura 5
Kitanagano 5	Ogihara-mura 8
Isekatada 5	Osugitani-mura 8
ICHISHI-GUN	Tochigahara 9
Hisai-machi 5	Iseaika 5
Ieki-machi 5	Tannosei 5
Nanakuri-mura 12	Ainsha 5
Sakakibara-mura 12	WATARAI-GUN
	Tamaru-machi 5

Futami-machi 5	Kamitsu 9
Takahara-machi 5	Iga-Kobe 12
Gokasho-machi 5	
Miyamoto-mura 8	SHIMA-GUN
Toyohama-mura 5	Toba-machi 5
Kitahama-mura 12	Hamashima-machi 5
Higashitokida-mura 12	Namikiri-machi 5
Uchikida-mura 8	Wagu-machi 9
Kashiwazaki-mura 6	Mototori-mura 9
Ouchiyama-mura 5	Toshi-mura 9
Shimazu-mura 9	Kamishima-mura 12
Yoshizu-mura 5	Kamo-mura 5
Nakashima-mura 9	Nagaoka-mura 9
Ichinose-mura 8	Matoya-mura 5
Hohara-mura 5	Anori-mura 9
Nankai-mura 9	Isobe-mura 5
Shukutaso-mura 9	Ugata-mura 5
Miyakawa 5	Koga-mura 5
Watarainakagawa 13	Azena-mura 11
Gokashonoura 9	Funakoshi-mura 9
Aso 13	Katada-mura 5
Sadano 5	Fuseda-mura 9
	Koshika-mura 9
AYAMA-GUN	Goza-mura 9
Tsuge-machi 5	Shimakokufu 9
Shimagawara-mura 5	Onoe 9
Marubashira-mura 5	
Kawai-mura 9	KITAMURO-GUN
Tamataki-mura 5	Owashi-machi 5
Tomoda-mura 9	Hikimoto-machi 5
Awa-mura 5	Nagashima-machi 5
Tomono-mura 9	Nishiki-machi 9
Hirata 5	Kuki-mura 5
Hana-no-ki 12	Funatsu-mura 12
Sanagu 5	Sugari-mura 9
Niitaka 5	Katsuragi-mura 5
	Minose-mura 5
NAGA-GUN	Akaba-mura 13
Ao-machi 5	
Takigawa-mura 9	MINAMIMURO-GUN
Hinachi-mura 9	Kinomoto-machi 5
Kunitsu-mura 5	Atawa-machi 5
Furuyama-mura 5	Kitawauchi-mura 5
Ida-mura 9	Atashika-mura 5
Inako-mura 5	Arii-mura 12
Minohata-mura 9	Koshiyama-mura 12
Tanao-mura 5	Ichiki-mura 9
Sambonmatsu 5	Udono-mura 5
Nakamineyama 8	Onodani-mura 5
Nishinabaru 5	Oroshi-mura 5

Kamikawa-mura 5	Nikijima 5
Iruka-mura 5	Wage 8
Nishiyama-mura 5	Tobitori 5
Isato-mura 5	Onuma 8
Kamoda 5	

Mail is ordinarily delivered 4 or 5 times each day from the first class office, 3 or 4 times each day from second class offices and twice daily from third class offices.

For postal savings information see Chapter III, I.

#### 5. Newspapers.

As of 1937, there were 166 newspapers and magazines published in Mie-ken. There were 17 publications with daily editions, 15 with more than 4 editions per month and 134 with less than 3 editions per month. In 1938, the number of daily newspapers was reduced to 16, a number which may have further reduced since that date. In 1943, newspapers in Mie-ken had a circulation of 165,106 with a ratio of population compared to distribution of 7.2 to one.

It is very likely that the Osaka-shi papers have a large circulation in Mie-ken. The leading Osaka papers are the Osaka Asahi Shimbun and the Osaka Mainichi Shimbun. In addition to their large metropolitan editions, these papers publish provincial editions and print local news items together with national and international coverage. Some provincial papers are printed in metropolitan centers and transported by plane or train to outlying areas. The leading local newspaper is the Ise Shimbun.

Although "freedom of the press" is theoretically guaranteed by the Japanese Constitution, the Board of Information has complete authority over publication of all printed matter. Actual supervision is exercised by the police, to whom a copy of each publication of any nature must be furnished.

## C. UTILITIES

## 1. Gas.

In 1939, 3 public utility gas enterprises operated in Mie-ken, serving the cities of Ueno, Kuwana, Tsu, Yokkaichi, Ujiyamada and Matsuzaka. The companies supplied 7,840 consumers with 2,943,000 cubic meters of gas.

Table 39 lists the number of consumers, annual sales and length of mains, as of 1938.

TABLE 39

## Public Utility Gas Enterprises, 1938, Mie-ken

City	Company	Consumers	Annual Sales (cubic meters)	Length of mains (kilometers)
Tsu	Godō Gasu KK	2,300	700,000	20.4
Yokkaichi	Godō Gasu KK	1,900	700,000	18.8
Ujiyamada	Godō Gasu KK	1,400	600,000	16.7
Matsuzaka	Godō Gasu KK	1,000	400,000	6.9
Ueno	Ueno Gasu KK	600	100,000	11.0
Kuwana	Kuwana Gasu KK	600	100,000	10.3

## 2. Water Supply and Distribution.

Water is generally abundant in Mie-ken. Communities with adequate waterworks will seldom have difficulty in obtaining ample supplies of water. There are, however, only 7 known waterworks systems in the prefecture, of which 3 are owned by cities and 4 by towns and villages. (See OSS map 3834). The number of houses supplied with water in 1937 was 19,020 or 7.93 percent of the total as compared with 27 percent per Japan.

In 1937, of 17,611 outlets, 5,895 were private, 1,306 common, 39 public, 8,753 metered and 1,618 were fire hydrants.

Information on waterworks are available for Yokkaichi-shi, Tsu-shi, Kuwana-shi and Toba-machi

Cities, towns and townships 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 subsidy. 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.

Available data concerning waterworks in the Mie-ken are given below and are for 1937 unless otherwise stated:

## a. Yokkaichi-shi. (waterworks completed 1932).

Population served	21,200
Number of buildings supplied	4,246
Percent of total buildings	42.4
Average daily supply (in gallons)	727,000
Average daily consumption per capita (in gallons)	34
Percent metered	67
Number of private wells	6,580
Total length of distribution in mains (miles)	44

The basic plan provides for service to 50,000 people, a daily supply of 37 gallons per capita and a daily maximum of 1,840,000 gallons. In 1937, there were 4,267 outlets, of which 3,270 were metered for domestic use and 220 for public bathhouse and general industrial use. Later 527 outlets were closed.

At the harbor, water is piped to quays and is also available by water boats.

In 1939 the water supply system was administered by a chief of waterworks section.

## b. Tsu-shi. (waterworks completed 1925).

Population served	26,170
Number of buildings supplied	5,230
Percent of total buildings	36.6
Average daily supply (in gallons)	2,640,000
Average daily consumption per capita (in gallons)	100
Total length of distribution in mains (miles)	58
Number of private wells	12,652

The basic plan provides for service to 60,000 people, a daily supply of 40 gallons per capita and a maximum daily supply of 2,400,000 gallons.

In 1937 100 gallons per day per capita consumption was the largest quantity for any city in Japan. In 1936, the quantity was 95 gallons.

In 1937 there were 5,219 outlets, of which 1,905 for domestic use, were free and 1,542 were metered.

For public bathhouse and general industrial use 382 were metered. Later, 1,053 outlets were closed.

Water pressure in 1927 was recorded at 51 pounds per square inch.

In 1938, the water supply system was staffed by a chief engineer of waterworks section, 4 assistant engineers and 6 clerks.

c. Kuwana-shi. (waterworks completed 1904).

Population served	22,864
Number of buildings supplied	4,767
Percent of total buildings	58.8
Average daily supply (in gallons)	541,000
Average daily consumption in per capita (in gallons)	37
Total length of distribution in mains (miles)	23.5

The basic plan provides for service to 30,000 people at daily supply of 38 gallons per capita and a daily maximum of 1,100,000 gallons.

In 1937, there were 3,560 outlets, of which 2,069 for domestic use were free, and 163 were metered. For public bathhouse and general industrial use 617 were metered. Later, 374 outlets were closed.

In 1939, the waterworks system was administered by a chief of waterworks section and an assistant engineer.

d. Toba-machi. It is known that Toba-machi has a waterworks system but no details are available.

3. Sewage Disposal.

Detailed information concerning sewage systems in Mie-ken is available only for Tsu-shi. In 1938, however, permission was granted to Ueno-shi and the Tomisuhara section of Yokkaichi-shi for the construction of sewage systems.

In Tsu-shi night soil is still generally removed by primitive methods. The data for night soil collection is considered inaccurate and is submitted only for yard-stick purposes.

a. Tsu-shi. The sewage system of Tsu-shi consists of 40 miles of seven mains constructed at an estimated cost of 1,248,000 yen. The sewage is discharged without treatment into a river and the ocean. In 1937 there were only 50 flush

toilets. In the same year 14,360 houses received night soil collection service.

The sewage system of Tsu-shi is administered by a supervisor of sanitation.

b. Yokkaichi-shi. In 1937, 13,112 houses in Yokkaichi-shi received night soil collection service.

c. Ujiyamada-shi. In 1937, 10,462 houses in Ujiyamada-shi received night soil collection service. In 1939, 2,552 short tons of sludge were used as fertilizer.

d. Kuwana-shi. In 1937, 7,339 houses received night soil collection service in Kuwana-shi.

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 annual production of 46,700,000,000 kilowatt hours. The Osaka-Nagoya supply area, of which Mie-ken is a part and which comprises the prefectures east from Hyogo to and including Aichi, Gifu, Fukui, Toyama, Ishikawa and the western parts of Shizuoka, Yamanashi and Nagano, had an estimated 36 percent of the total capacity of Japan and generated approximately 32 percent of the total national production in 1943. The electric power production of Mie-ken is very small amounting to only one-fifth of one percent of the supply area's production.

Though Mie-ken as a whole has a relatively low industrialization concentration, and before the war had only the textile manufacturers as an industrial activity, the cities in the northern part of the prefecture near Nagoya-shi now have small but important friction bearing and machinery plants. Since this region is traversed by the Osaka-Nagoya grid transmission lines, the majority of the electric power used is obtained from these lines. The steam plant at Tsu-shi supplies the small iron and steel industry that is located in this city. Since there are no suitable streams for hydro-development, the 2 isolated steam plants, operating at full load capacity, supply the power used, supplemented by the energy taken from the network transmission lines. (See OSS map 3303.)

a. Capacity and production. There are only 2 electric generating plants in Mie-ken, both being steam plants whose capacities are below 10,000 kilowatts. The total capacity of these steam plants at the end of 1941 was 11,000 kilowatts. Estimated production during 1941 was 25,000,000 kilowatt hours. Approximately 22,500 metric tons of coal (of thermal content of 11,500 BTU per pound) are estimated to have been

required for these plants in 1943. For generating plants of Mie-ken (of 1,000 or more kilowatt capacity) see Appendix III.

b. Transmission and distribution. All the electric energy generated and transmitted throughout Mie-ken is 3-phase alternating current at a frequency of 60 cycles. Across the northern edge of the prefecture pass the two 154-kilowatt transmission lines from the Nagoya area carrying power to Osaka-fu. These transmission lines pass adjacent to Yokkaichi-shi, where they are tapped to help supply the industries of this satellite area of Nagoya-shi. The only other transmission line of any consequence in the prefecture is the one of 66 kilowatts that has a terminus in Yokkaichi-shi and whose route is southward along the eastern coast line of the prefecture through Tsu-shi and thence to a terminus at Ujijamada-shi. This transmission line links up with the Osaka-Nagoya network transmission at Yokkaichi-shi, but is normally used for transmitting the power generated by Mie-ken's 2 steam stations at Hinaga-mura (Yokkaichi-shi) and Tsu-shi.

Distribution of electric power in Mie-ken is by means of alternating current circuits using a voltage of 3,500 volts. Service to residential and commercial consumers is at 110 and 220 volts while 3-phase 440 volt service is available for industrial consumers.

For transmission lines see OSS map 7221.

c. Utilization. In pre-war days, Mie-ken's only important user of electric power was its textile industry, however, war economy has dictated the replacement of textile manufacturers to some degree by machine and anti-friction bearing manufacturers. Therefore, even though the latest available consumption figures show that the textile industry still accounts for 60 percent of the energy consumed, important use of electric power is made by the machine and the metals (iron and steel) industries. Another leading user of electric power is the food processing industry, 8 percent, and the ceramics manufacturers, 6 percent.

d. Administration. Electric generation and transmission facilities within Mie-ken, as in the remainder of Japan, are owned and operated by the government - controlled Nippon Hassoden KK (Japan Electric Generation and Transmission Company). The company's headquarters are located in Tokyo. Main branch offices of this company are located in both Nagoya-shi and Osaka-shi. Distribution of electric power throughout Mie-ken is accomplished through the government-controlled Chubu Haiden KK. (Chubu Electric Distribution Company). The 2 companies are under the direct control of the Munitions Ministry.

## V. SOCIAL ORGANIZATION AND CULTURAL INSTITUTIONS

### A. GOVERNMENT AND ADMINISTRATION

#### 1. Prefectural Government

a. Governor (Kenchi-ji). The Governor of Mie-ken is of "ordinary" chokunin rank. Prefectural governors are appointed by the Emperor on recommendation of the Premier. They have primary responsibility for the implementation of nationally determined policy at the prefectural level and are accountable to the Ministry of Home Affairs (Naimu-sho). Under the present regional organization of Japan, they are accountable also to the Superintendent General (Sokan) of the region in which the prefecture is located.

b. Secretariat (Chiji Kambo): The governor's secretariat is composed of the governor's personal assistants, as distinguished from the personnel of the departments. In 1943 in Mie-ken, the secretariat consisted of the following sections:

Personnel Section (Sinsi-ka)  
Accounts Section (Kaikai-ka)  
Business Affairs Section (Shomu-ka)  
Statistics Section (Tokei-ka)

c. Departments (Bu). Prefectural administrative functions are performed by departments and sections. In 1943 in Mie-ken these departments and the sections thereunder were as follows:

Internal Administration Department (Naisei-bu)  
Promotion Section (Shinko-ka)  
Education Section (Kyogaku-ka)  
Military Affairs and Welfare Section (Gunji Kosei-ka)  
Sanitation Section (Eisei-ka)  
Economics Department (Keizai-bu)  
Commerce and Industry Section (Shoko-ka)  
Marine Products Section (Suisan-ka)  
Agricultural Affairs Section (Noji-ka)  
Silk Section (Sanshi-ka)  
Cultivated land section (Kochi-ka)  
Forestry Affairs Section (Rinniu-ka)

Public Works Department (Doboku-ka)  
Supervision and management Section (Kanri-ka)  
City Planning Section (Toshi Keikaku-ka)  
Erosion Control and Forestation Section (Sabo-ka)  
Roads Section (Doro-ka)  
Rivers and Harbors Section (Kako-ka)



Police Department (Keisatsu-bu) (See Chapter V, B.)

d. Assembly (Kenkai). The prefectural assembly deliberates and votes upon the budget, accounts, prefectural taxes and fees, and public works, but may be over-ruled by the Governor. It may also suggest but may not initiate regulations. Prior to June 1943, prefectural elections occurred concurrently with national elections. Since June 1943, elections to prefectural assemblies have been suspended. In May 1945 the cabinet approved an election to fill vacancies in prefectural assemblies. In 1935, the membership of the Mie-ken assembly was as follows:

From cities (shi)	7
From counties (gun)	<u>31</u>
Total	<u>38</u>

e. Council (Ken Sanjikai). Prefectural councils act for assemblies when they are not in session. Councils consist of members of the assemblies elected by them, the prefectural governor as chairman, and 2 high administrative officials of the prefecture. In 1935, the membership of the Mie-ken council was 10.

f. Administrative personnel. In 1936, there were 94 classified civil service employees of sonin rank and 506 of hannin rank in the Mie-ken administration.

2. Representation in the Imperial Diet (Teikoko Gikai)..

In 1945, Mie-ken had 9 representatives in the Imperial Diet. They were elected in 1942 from the following election districts:

First	5
Second	4

Table 40 is an analysis of the 1937 and 1942 elections of representatives to the Imperial Diet from Mie-ken:

TABLE 40

Election Analysis, 1937 & 1942, Mie-ken.

	1937	1942
Number of representatives	9	9
Candidates for election	15	13
Qualified voters	259,368	252,304
Valid votes cast	209,211	-
Invalid votes cast	1,322	-
Voters per 1000 population	219.49	-
Population represented per member	131,300	-

3. Tokai Hokuriku Superintendency-General.

Mie-ken is in the Tokai-Hokuriku Superintendency-General (Sokan-fu) which contains, in addition, the prefectures of Gifu, Shizuoka, Aichi, Toyama and Ishikawa. The office of the Superintendent-General of the Tokai-Hokuriku Superintendency-General is in Nagoya-shi, Aichi-Ken. The Superintendencies-General, organized in 1945, are the successors to the Administrative Regions which were instituted in 1943 as a war-time measure to control Japan's economy. The regions were started as a means of achieving decentralization of administration while retaining centralization of policy-making and control. They, and the Superintendencies-General, have come to be regarded as an integral part of the present war-time governmental organization of Japan. (See OSS map 6254 for administrative divisions)

4. Local Government.

a. Cities (shi). There are 7 municipalities in Mie-ken with the legal status of cities Kuwana, Matsuzaka, Suzuka, Tsu, Ueno, Ujijamada and Yokkaichi.

(1). Administrative officials. The following are 1936 combined figures for the cities of Mie-ken:

Mayors	4
Deputy mayors	4
Treasurers	4
Committees	<u>134</u>
Deputy and honorary ward heads	63
Other officials (salaried)	<u>386</u>
Total salaried personnel	<u>595</u>

(2). Assemblies (Shikai). In 1937, the combined membership for the 5 city assemblies of Mie-ken was 168. The number of voters was 47,574.

(3). Councils (Shi Sanjikai). In 1936, the combined membership of the city councils in Mie-ken was 10.

b. Towns (machi) and townships (mura). There are 38 towns and 248 townships in Mie-ken, with 2 mura concerning which there is no recent information. (See Appendix IV for list of names.)

(1). Administrative officials. The following are the 1936 combined figures for the towns and townships in Mie-ken:

Mayors: honorary	307
salaried	13
Deputy mayors: honorary	280
salaried	21
Treasurers	324
Committees	<u>1,755</u>

Restricted

Buraku heads and deputies	2,950
Other officials (salaried)	1,312
Total personnel	6,962

(2). Town assemblies (Chokai)..The following are 1937 figures at which time there were 33 towns in Mie-ken:

Number of town assemblies in prefecture	33
Total membership	528
Voters	41,081

(3). Township assemblies (Sonkai). The following are 1937 figures at which time there were 292 townships in Mie-ken:

Number of township assemblies in prefecture	292
Total membership	3,266
Voters	161,701

102  
Restricted

Restricted

## B. PUBLIC SAFETY

### 1. Police.

The civil police of Mie-ken in 1938 consisted of the prefectural chief of police (keisatsubu-cho), 6 police superintendents (keishi), 32 police inspectors (keibu), 63 assistant police inspectors (keibuho), 139 police sergeants (junsabu-cho) and 841 policemen (junsu). This total personnel of 1,082 is a ratio of one policeman for each 1,136 persons as compared with a national ratio of one policeman for each 1,000 persons.

Administration is from the prefectural Police Department in Tsu-shi. In 1943 the prefectural Police Division contained the following administrative sections: Special Higher Police (Tokubetsu Koto Keisatsu-ka), Police Affairs (Keimu-ka), Economic Peace Preservation (Keizai Hoan-ka) with superintendents in charge; Employment (Shokugya-ka), Insurance (Hoken-ka) and Labor Administration (Rosei-ka) with administrative officers in charge.

As of 1938 there were in Mie-ken 28 police stations (keisatsu-sho), 63 police substations (keibuho junsabu-sho), 331 police boxes (junsu chuzai) and 28 police station detention quarters (keisatsu ryuchiyo). There is a prefectural police training station located in the prefectural office building in Tsu-shi.

Police stations of Mie-ken are located as follows:

Tsu-shi: Tsu Police Station, Daimon-cho, central part of the city, 200 yards northeast of city building.  
Yokkaichi-shi: (1) Yokkaichi Police Station, Hama-cho, central part of city, 700 yards north of Yokkaichi railway station on Kansai Main Line. (2) Tomita Police Station, extreme northern part of city, adjacent to Tomita railway station on Kansai and Sangu railroads.  
Ujiyamada-shi: Ujiyamada Police Station, Iwabuchi-cho, southeast part of city, on highway leading from city.  
Matsuzaka-shi: Matsuzaka Police Station, Naka-cho, northwest part of city, 300 yards northeast of old castle grounds.  
Kuwana-shi: Kuwana Police Station, northeast part of city, 500 yards east of Kuwana railway station.  
Suzuka-shi: Kambe Police Station, north part of Kambe-machi, on Ise highway leading north.  
Ueno-shi: Center of city, 500 yards northeast of Kayamachi railway station on Sangu Kyubo Railway (Iga line).  
Inabe-gun: Oizumi Police Station, Inabe-machi, east end of town, near junction of highways.  
Mie-gun: Komono-machi, north end of town on highway leading north from town.

103  
Restricted

Suzuka-gun: Kameyama-machi, central part of town, 800 yards north-northeast of the railway station.

Kawage-gun: Ishinden-machi, central part of town, 300 yards east of Sangu Main Line.

Ichishi-gun: (1) Hisai-machi, northwest part of town, 800 yards west-southwest of Hisai railway station on Sangu Kyuko Railway (Tsu Line). (2) Okutsu Police Station in Yawatamura.

Iinami-gun: Miyanomae-mura, northeast end of village.

Take-gun: (1) Oka-machi, central part of town, on east-west highway through town. (2) Amagase Police Station in Ogihara-mura.

Watarai-gun: (1) Nojiri Police Station in Takihara-machi. (2) Yoshizu-mura.

Shima-gun: (1) Toba-machi, northeast part of town, 300 yards southeast of railway station. (2) Namikiri-machi, central part of town, 600 yards northwest of lighthouse.

Kitamuro-gun: (1) Owashi-machi, central part of town, 200 yards inland from waterfront. (2) Nagashima-machi, central part of town, 200 yards south of mouth of the Akaba-gawa.

Minamimuro-gun: (1) Kinomoto-machi, central part of town. (2) Udono-mura, central part of village on highway leading west from village.

Ayama-gun: Tsuge-machi, exact location unknown.

Naga-gun: (1) Nabari-machi, central part of town, 500 yards southeast of Nabari railway station. (2) Ao-machi, central part of town, on northeast-southwest highway.

Mie-ken no doubt has its share of Kempel (gendarmerie) under army control, but there is no special information available to distinguish their activities or organization in Mie-ken from the rest of Japan. A Gendarmerie Section Headquarters is located in Tsu-shi in the southern part of the city, 100 yards northeast of Akogi railway station on the Sangu Kyuko Main Line.

## 2. Prisons.

The prefectural prison, known as the Mie prison, is located in Sakuragaoka-machi in the southwest section of Tsu-shi about 1/2 mile due north of Akogi railway station on the Sangu Kyuko Main Line. In 1938 administrative personnel of this prison consisted of one governor of prisons, 4 chief wardens, 2 doctors, 2 chaplains, 7 assistants for industrial work, 1 matron, 109 warders and 22 employees, with an estimated prison population of 1,400 inmates. The employment of a matron indicates a women's section of the prison. The governor of this prison also exercises administrative control over 2 branch prisons:

- a. Yokkaichi Prison, located in Higashi-Akuragawa-machi, in the extreme northern outskirts of Yokkaichi-shi, west of the Akuragawa railway station on the Sangu Kyuko Line. In 1938 administrative personnel of this prison consisted of one chief warden, 5 warders and one helper.

- b. Ujijamada Prison, located in Okamoto-cho in the east end of Ujijamada-shi, between the railroad and the Miyuki highway 400 yards southeast of the Yamada and Tokiwacho railway stations. In 1938 administrative personnel of this prison consisted of one chief warden, 5 warders and one helper.

The Mie Reformatory is located in the southwest central part of the town of Yokkaichi, about 600 yards southwest of the Suwa station of the Mie Railway.

The following gives the comparative ratio of prisoners to 100,000 population in Mie-ken as compared with the ratio for the whole of Japan proper:

Year	Mie-ken	All Japan
1929	94.9	153.2
1930	133.5	166.8
1931	124.6	170.9
1932	127.4	188.6
1933	117.7	199.6
1934	131.3	202.2
1935	124.0	190.8
1936	145.5	197.5
1937	118.8	177.4
1938	109.5	157.5
Average	122.7	180.5

## 3. Incidence of Crime.

In 1940 in Mie-ken 7,116 persons were found guilty of crime, a ratio of 5.9 per 1,000 persons as compared to a national ratio of 12 per 1,000 persons.

Table 41 shows the number of arrests for criminal offenses in Mie-ken during the year 1937 as compared to the total arrests for the whole of Japan.

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Table No. 41

Arrests of Criminals, 1937, Mie-ken and Japan:

Crime	Mie-ken	All Japan
Fraud, embezzlement and blackmail	9,095	280,874
Theft	5,416	436,775
Dispossession	1,328	209,886
Gambling and lotteries	450	40,204
Accidental injuries, fatalities and occupational accidental injuries	286	21,638
Assault and battery	244	26,590
Incendiarism and fires through negligence	234	12,245
Forgeries of currencies, documents or seals	146	18,526
House breaking	119	9,268
Obscenities, illicit intercourse and bigamy	78	3,566
Defamation of honor and character	42	1,725
Murder and attempted murder	41	2,211
Obstruction of traffic	22	831
Burglary	17	1,603
Interference with the execution of official duties	12	489
Kidnaping and abduction	6	1,040
Abortion	3	472
Interfering with capture and imprisonment	2	130
Malfeasance and bribery	1	2,781
Others (miscellaneous)	234	24,624
Arrests for violation of penal code (Sub-total)	17,776	1,095,838
Violations of prefectural regulations	2,539	333,104
Violations within police court jurisdiction:		
Departmental ordinances	1,175	163,919
Prefectural regulations	109	10,598
Other criminal law violations	6,385	503,026
(Total)	27,985	2,106,987

4. Fire-Fighting and Control.

As of 1937, fire-fighting stations, personnel and equipment in Mie-ken consisted of 338 volunteer fire-brigades; 31,261 volunteer fire-brigade personnel; 56 automobile pumps; 8 motorcycle pumps; 371 other type gas powered pumps; one steam pump; 298 hose carts; 838 hand pumps; and 4,126 reservoirs for fire use.

In 1937 there were no fire fighting personnel as regular members of a fire department. All fire fighting was performed by volunteer fire-brigades, maintained at the expense of local governments, with volunteer firemen under police supervision.

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C. LEGAL AFFAIRS.

Justice in Japan is administered on a national basis under the jurisdiction of the Ministry of Justice (Shiho-sho). The Minister of Justice has general supervision of courts and procurators. The theory and practice of legal affairs are uniform for all prefectures.

1. Courts of Appeals (Koso-in).

Below the Supreme Court (Daishin-in), which sits only in Tokyo, are 7 collegiate courts of appeals, located in the following cities: Tokyo, Hiroshima, Nagasaki, Sendai, Nagoya, Osaka and Sapporo. The Nagoya Court of Appeals has jurisdiction over the Mie District Court.

2. District Courts (Chiho saibansho).

In general there is one district court in each prefecture of Japan, the Mie District Court being located in Tono-cho, Tsu-shi.

3. Local Courts (Ku-saibansho).

There are 6 local courts in Mie-ken with 37 branches, located as follows:

- Anotsu Local Court, Tono-cho, Tsu-shi.
- Suguri Branch court, Suguri-mura, Ano-gun.
- Shiroko Branch court, Shiroko-machi, Suzuka-shi.
- Ishinden Branch court, Ishinden-machi, Kawage-gun.
- Kameyama Branch court, Kameyama-machi, Suzuka-gun.
- Hisai Branch court, Hisai-machi, Ichishi-gun.
- Kawaguchi Branch court, Kawaguchi-mura, Ichishi-gun.
- Tage Branch court, Tage-mura, Ichishi-gun.
- Nakahara Branch court, Nakahara-mura, Ichishi-gun.
- \*Matsuzaka, Local Court, Minato-cho, Matsuzaka-shi.
- Kawabata Branch court, Kawabata-mura, Inami-gun.
- Kayumi Branch court, Kayumi-machi, Inami-gun.
- Oka Branch court, Oka-machi, Take-gun.
- Saiku Branch court, Saiku-mura, Take-gun.
- Ueno Local Court, Ueno-shi.
- Yamada Branch court, Yamada-mura, Ayama-gun.
- Nishitsuge Branch court, Nishitsuge-mura, Ayama-gun.
- Nabari Branch court, Nabari-machi, Naga-gun.
- Ao Branch court, Ao-machi, Naga-gun.
- Yokkaichi Local Court, Nishi-cho, Yokkaichi-shi.
- Tomisu Branch court, Tomisuhara-machi, Yokkaichi-shi.
- Komono Branch court, Mie-gun, Komono-machi.
- Sohara Branch court, Inabe-machi, Inabe-gun.
- Agek Branch court, Ageki-machi, Inabe-gun.

Ogihara Branch court, Ogihara-mura, Take-gun.  
 Toba Branch court, Toba-machi, Shima-gun.  
 Isobe Branch court, Isobe-mura, Shima-gun.  
 Ugata Branch court, Ugata-mura, Shima-gun.  
 Namikiri Branch court, Namikiri-machi, Shima-gun.  
 KINOMOTO Local Court, Kinomoto-machi, Minamimuro-gun.  
 Isato Branch court, Isato-mura, Minamimuro-gun.  
 Minamiwauchi Branch court, Minamiwauchi-mura, Minamimuro-gun.  
 Uono Branch court, Uono-mura, Minamimuro-gun.  
 Ueno Branch court, Oroshi-mura, Minamimuro-gun.  
 Owashi Branch court, Owashi-machi, Kitamuro-gun.  
 Hikimoto Branch court, Hikimoto-machi, Kitamuro-gun.  
 Nagashima Branch court, Nagashima-machi, Kitamuro-gun.

\*Not listed in 1943 Shokuin Roku.

Yamada Local Court, Okamot-cho, Yamada-shi.  
 Tamaru Branch court, Tamaru-machi, Watarai-gun.  
 Uehikida Branch court, Uehikida-mura, Watarai-gun.  
 Nojiri Branch court, Takihara-machi, Watarai-gun.  
 Gashikakara Branch court, Ugura-mura, Watarai-gun.  
 Gokasho Branch court, Gokasho-machi, Watarai-gun.

#### 4. Police Courts (Keizai-Saibansho).

Police courts are presided over by police officers and are held in police stations. (For location of police stations, see Chapter V B).

#### 5. Juvenile Courts (Shonen-Shimpancho).

Separate from the ordinary court system, 7 juvenile courts have been established in Japan to investigate and try cases involving juveniles (boys and girls under 18). Juvenile crimes arising in Mie-ken fall under the jurisdiction of the Aichi Juvenile Court located in Nagoya-shi. The personnel of such courts ordinarily consists of one or 2 juvenile arbitrators (Shoven Shimpan Kan), who may be concurrently judge or judges of the ordinary court system; probation officers (Shonen hogoshi); secretaries and clerks.

## D. HEALTH AND SANITATION

### 1. Public Health Organization and Services.

In Mie-ken, as in other prefectures, public health activities and services stem from the prefectural office. Authority over these matters rests with the prefectural governor.

As of 1943, under the governor's direction and supervision, the Health (or Sanitation) Section (Eisei-ka) of the Department of Internal Administration (Naisei-bu) assisted by the Police Department carried out the prefectural phases of the national health program (consisting of sanitation, epidemic disease control, chronic disease prevention, collection of vital statistics, medical care, etc.) as well as the local health activities. The organization of Eisei-ka, the specific functions it serves, and the nature of the public health activities of the Police Department including its Health Insurance Section (Hoken-ka) are not definitely known. Although detailed information is not available for Mie-ken on the organization of public health in cities, towns and townships, it is believed to be the same as in other predominantly rural prefectures.

Numerous semi-officials and private organizations, such as the Mie medical and dental societies, the Mie Branch of the Japanese Red Cross Society, local health unions and other community organizations cooperate in measures to improve the health of the people and are reported to have been mobilized to function in emergency conditions.

### 2. Medical Facilities.

The number and capacity of the various types of hospitals in Mie-ken in 1937 is shown in Table 42.

TABLE 42  
 Hospital Capacities, 1937, Mie-ken

Types	Number	Capacity
Isolation wards	160	951
Private Hospitals	48	2118
Infectious disease Hospital	3	158
Prostitute hospital	2	130
Public hospitals	2	166
Mental disease hospitals	1	173
Health center	1	-

Reported changes since 1937 include the following: (1938). Capacity of public hospitals increased to 188, number of private hospitals reduced to 47 (capacity 2,047), a charity hospital (capacity 37) and 2 tuberculosis hospitals (capacity 124) were reported opened; (1939) a prefectural 160-bed tuberculosis sanatorium constructed in 1937-38, was in operation in March 1939;

(1943) a Sanatorium for Wounded Soldiers was in operation.

In addition to these facilities there were 139 in-patient and 529 out-patient clinics reported for Mie-ken. Of the in-patient clinics 124 were established by physicians; and of the total, 63 were located in cities, 27 in towns and 49 in villages. Of the 529 out-patient clinics, 511 were established by physicians. It should be noted that almost all of the clinics noted herein would be classified in the United States merely as doctors' offices.

There were 372 dental clinics (probably nothing more than equipped dental offices) reported for Mie-ken. Of these, 146 were located in cities, 94 in towns and 132 in townships.

Among the medical facilities in Mie-ken at least the following are important because of their size, equipment or staff. The Iga-Ueno Health Center, the Mie Sanatorium for wounded soldiers, the New (1939) Prefectural Tuberculosis Sanatorium, the Miyagawa Brain Hospital and the Tsu-shi Municipal Hospital.

Mineral spring areas used as health resorts for treatment, recuperation and bathing purposes in Mie-ken are covered in Chapter I, C.

An incomplete list of medical facilities in Mie-ken is given below:

- a. Municipal Hospital, Atugo-cho, Tsu-shi. It had 140 beds, 16 doctors, 72 nurses and 4 pharmacists. (1937).
- b. Dotsu Hospital Tsu-oki, Tsu-shi.
- c. Shimuzu Hospital, Yoshi-machi, Yokkaichi-shi.
- d. Iida Hospital (private tuberculosis). Yokkaichi-shi. Capacity 75 (1938).
- e. Tomita Hama Hospital (private tuberculosis). Yokkaichi-shi. Capacity 49 (1938).
- f. Nansei Hospital, Iwabuchi-cho, Ujiyamada-shi.
- g. Imperial Relief (Charity) Association Hospital, Matuzaka-shi. Capacity 37 (1938)
- h. Municipal Quarantine Hospital, Kuwana-shi. It had 26 beds. (1939).
- i. Kuwana Municipal Clinics (2) Kuwana-shi. Two doctors and five nurses. (1939).

j. Iga-ueno Health Center, Ueno-shi (?) Established under the National Health Center Act of 1937.

k. Miyagawa Brain Hospital (private mental). Kobata-machi, Watarai-gun. Capacity 173 (1937)

l. Kihoku Hospital, Owashi-machi, Kitamuro-gun.

m. Mie Branch Japanese Red Cross Society Hospital, Yamadamura, Ayama-gun.

n. Tsu Garrison (military) Hospital. Hisei-machi, 1 Chishi-gun.

o. Prefectural Tuberculosis Sanatorium. Exact location unknown. Constructed (1937-8) in operation (1939), 160 beds.

p. Mie Sanatorium for Wounded Soldiers. It had one chief medical officer, one commissioner, 5 medical officers and one pharmacist. (1943).

\*There were from 2 to 4 bacteriological laboratories in Mie-ken (1938). In 1939 there were two municipal hospitals reported for Yokkaichi-shi (perhaps including the Shimuzu Hospital) with a total of 98 beds 11 doctors 21 nurses and 4 pharmacists. The one reported municipal hospital for Ujiyamada-shi (perhaps the Nansei Hospital) had 45 beds, one doctor and one nurse. (1939)

### 3. Medical personnel and Schools.

The ratio of practicing physicians to population in Mie-ken in 1938 was one doctor to every 1,656 persons (6.0 per 10,000). This figure is lower than the national ratio of 7.2 per 10,000 for the same year. Of more specific interest is the ratio of practicing physicians to population in urban and rural areas. In Mie-ken, there were 9.1 practicing physicians per 10,000 urban population and 5.0 per 10,000 rural population. For the same year, 1938, corresponding national figures were 11.9 and 4.7 respectively.

As in the case of other prefectures, the number of practicing physicians in Mie-ken is exceeded both by the number of midwives and the number of practitioners of traditional treatments (acupuncture, moxa and massage). There are no medical, dental, pharmacy or veterinary schools reported for Mie-ken. It is likely that this prefecture is dependent upon Osaka-fu and Aichi-ken for its medical education.

Although no nurses' training or midwifery schools are reported here, it is believed that facilities are available for training such personnel in Tsu-shi.

Public health personnel needed for local programs are trained at the Iga-Ueno Health Center.

Medical personnel in Mie-ken are shown in Table 43.

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TABLE 43

Medical Personnel 1936 & 1938, Mie-ken

Year	Doctors	Den- tists	Pharma- cists	Veteri- narians	Mid- wives	Nurses	Practitioners of acupuncture moxa and massage
1936	863	325	375	**	1261	1300	1243
1938	912*	339	399	159	1270	1354	**

\*Of this number 68 are women. Of the total 912, only 718 were in actual practice. These were distributed as follows: 272 in urban and 446 in rural (i.e., machi and mura) areas.

\*\*Figures not available.

4. Vital Statistics.

In Mie-ken, as in other prefectures, birth reports (shussho todoke-ide) and death reports (shibo todoke-ide) are registered at the district (prefectural), municipal, town, or township offices where the individual identification registers (koseki) are kept. Reports are then forwarded through the prefectural office in Tsu-shi to national agencies.

Birth and death rates for Mie-ken are shown in Table 44.

TABLE 44

Vital Statistics, 1920-38, Mie-ken, Japan & U. S. A.  
(per 1,000 population)

Birth Rates

	Average Yearly Rate			Yearly Rates	
	Intercensal period			1937	1938
	1920-1925	1925-1930	1930-1935		
Mie-ken	35.22	34.50	32.31	31.63	27.53
Japan	34.82	33.70	31.75	30.61	26.70
U. S. A.	22.7	20.0	17.4	17.1	17.6

Death Rates

Mie-ken	23.03	20.49	19.82	18.89	20.60
Japan	22.22	19.50	17.98	16.95	17.44
U.S. A.	12.1	11.9	11.00	11.3	10.6

In general, birth rates in Mie-ken have been slightly higher than those for Japan as a whole. General death rates and infant death rates in this prefecture have been consistently higher than the national rates. Annual infant mortality rates in Mie-ken per 100 live births from 1934 to 1938 were as follows;

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15.1, 11.9, 13.7, 12.0 and 13.8. Corresponding national rates were 12.5, 10.7, 11.7, 10.6 and 11.4. These rates are considerably higher than U. S. infant mortality rates (2.9 in 1940).

Leading causes of death in Mie-ken are shown in Table 45.

TABLE 45

Causes of Death, 1938, Mie-ken  
& Japan

Cause of death	Mie - ken		Japan	
	Deaths	Crude death rate per 100,000	Deaths	Crude death rate per 100,000
Pneumonia (107-109)*	2,429	204.3	118,153	165.1
Tuberculosis (23-32)	2,302	193.6	148,827	207.9
Senility (162)	2,191	184.3	98,772	138.0
Cerebral hemorrhage (82)	2,085	175.4	126,861	177.2
Diseases of early infancy (157-161)	1,695	142.6	79,246	110.7
Diarrhea & Enteritis (over 1 yr. of age. 120)	1,275	107.2	58,491	81.7
Diarrhea & Enteritis (less than 1 yr. of age 119)	1,159	97.5	58,465	81.7
Nephritis (130-132)	1,047	88.1	61,996	86.6
Cancer (45-53)	1,026	86.3	50,447	70.5
Meningitis (79)	830	69.8	36,748	51.3
Diseases of the heart (90-95)	987	83.0	47,460	66.3
Cause of death-ill-defined or unknown (200)	823	69.2	36,255	50.7
Non-specific diseases of stomach & Duodenum (118)	472	39.7	16,858	23.6
Bronchitis (106)	734	61.7	26,178	36.6
Peritonitis due to unknown causes (129)	410	34.5	20,384	28.5
Fleurisy (110)	395	33.2	20,980	29.3
Beri Beri (61)	338	28.4	12,712	17.8
Liver & gall bladder diseases (124-127)	318	26.7	13,279	18.6
Ekiri (13 b)	302	25.4	16,416	22.9
Ulcer of stomach & duodenum (117)	243	20.4	13,279	18.6
Total deaths, all causes	24,413		1,259,805	

\*Numbers refer to diseases in the "International List of Causes of Death."

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Respiratory diseases are of prime importance among the leading causes of death in Mie-ken. In 1938, pneumonia, tuberculosis, bronchitis and pleurisy accounted for 5,860 deaths. The major degenerative diseases (cerebral hemorrhage, nephritis, cancer and heart diseases) accounted for 5,145 deaths. In all likelihood the latter figure would have been much higher were it not for the inadequate diagnosis reflected in such vague categories as "senility", "cause of death ill-defined etc," "non-specific diseases of the stomach, etc." and peritonitis due to causes unknown". A total of 3,896 deaths were attributed to these 4 vague causes.

As in other prefectures, diseases of early infancy, diarrheas, enteritis and meningitis occupy prominent positions in the list of leading causes of death in Mie-ken.

Among the causes not shown in Table 45 are puerperal diseases (59 deaths), diabetes (65), Asthma (187) and suicide (197).

5. Communicable Diseases.

As shown in Table 46, epidemic, contagious and parasitic diseases accounted for 15 percent of all deaths in Mie-ken in 1938, which represents a decrease of 2 per cent from the preceding year. These percentages are much lower than those for urban prefectures (e.g. Tokyo-to, Osaka-fu, Aichi-ken) which are well over 20.

TABLE 46

Deaths from Communicable Diseases, 1938, Mie-ken & Japan

	Mie-ken	Japan
(Population 1938)	1,189,108*	(71,570,244)
Intestinal typhoid fever (1)**	132***	7,819
Paratyphoid fever (2)	3***	297
Measles (7)	114	4,997
Scarlet fever (8)	5	398
Whooping cough (9)	116	8,871
Diphtheria (10)	58***	4,135
Influenza (11)	163	7,646
Dysentery (13a)	71***	5,550
Ekiri (13b)	302***	16,416
Erysipelas (15)	67	3,409
Meningitis cerebrospinal epidemic (16)	14	715
Sleeping sickness (17)	3	1,088
Cerebrospinal meningitis (18)	5	580
Tetanus (22)	11	1,775
Tuberculosis of respiratory organs (23 abc)	1,747	107,442

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	Mie-ken	Japan
Tuberculosis of other organs	555	41,385
Tuberculosis, all forms (23-32)	2,302	148,827
Leprosy (33)	10	337
Syphillis (34)	89	4,412
Gonococcus infection and other venereal diseases (35)	1	47
Sepsis (non- <del>puerperal</del> ) (36)	153	9,203
Other diseases due to protozoa helminths and hemorrhagic jaundice due to spirochaetes (39)	12	1,545
Bacterial disease of the duodendum(40)	6	280
Other diseases of helminths (42)	13	493
Mycosis (43)	9	418
Other epidemic or parasitic diseases (44)	4	149
Epidemic, infectious & parasitic diseases (1-44)	3,663	229,708
Total deaths (1-200)	24,413	1,259,805
Percentage of deaths caused by 1-44)	15	18

\* By interpolation: 1935 and 1940 populations.

\*\* Numbers refer to diseases in the International List of Causes of Death.

\*\*\*Another source lists 119 deaths for typhoid fever, 5 deaths for paratyphoid fever, 45 deaths for diphtheria, 38 deaths for dysentery, and 298 deaths for ekiri. Corresponding national figures are similarly in disagreement.

Although bubonic plague and cholera epidemics have not been reported for Mie-ken, they constitute ever-present threats to this seaport prefecture. Epidemics of these diseases have occurred in the adjoining prefecture of Aichi-ken and in nearby Osaka-fu. Cases of louse-borne (epidemic) typhus have occurred here and malaria and dengue fever are reported to be prevalent. However, supporting incidence data is not available. Filariasis and schistosomiasis are not listed as endemic in this prefecture.

Intestinal worm infestation is very common here. For example, there were 495 carriers of roundworm eggs and 19 carriers of bookworm eggs found among 1,579 rural inhabitants of Mie-ken examined in 1938 under the Law for the Prevention of Parasitic Diseases.

Morbidity data for 5 of the 11 reportable (notifiable) diseases in Japan are shown in Table 47.



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TABLE 7  
Diphtheria, Typhoid & Paratyphoid Fever, Dysentery  
& Ekiri (1938)

Mie-ken & Japan

Morbidity Rates, 1938, Mie-ken & Japan

	Cases		Case fatality rate per 100 cases.		Morbidity Rate per 100,000 pop.*		Crude death rate per 100,000 pop.	
	Mie	Japan	Mie	Japan	Mie	Japan	Mie	Japan
Diphtheria	367	28,420	12	14	30.9	39.7	3.8	5.4
Typhoid fever	540	42,132	22	17	45.4	58.9	10.0	9.7
Paratyphoid fever	72	6,117	7	5	6.1	8.5	0.6	0.4
Dysentery (including Ekiri)	768	80,221	44	25	64.6	112.1	28.3	28.2
Ekiri	441	32,728	68	47	37.1	45.7	25.1	21.7**

\*Population for 1938 determined by interpolation: 1935 and 1940 population.

\*\*Data taken from source which differs from that used in Table 46. (See footnote\*\*\* in that Table.)

The incidence of these diseases for the preceding year (1937) was as follows: diphtheria 380 (cases), typhoid fever 506, paratyphoid fever 72, dysentery 360 and ekiri 425. The number of cases of the remaining notifiable diseases for that year was as follows: scarlet fever, 106, epidemic cerebrospinal meningitis 2, and no cases of cholera, plague, typhus and smallpox.

In almost all instances the acute infectious (notifiable) diseases are reported to the authorities by attending physicians. In periods of epidemic prevalence, the police search for patients in early stages of infection by house-to-house inspection.

Vaccinations against smallpox are given in 2 periods: (a) within 6 months after birth, and if negative, repeated before June of the following year, and (b) in the tenth year after birth. As in other prefectures, approximately 5 percent of the population of Mie-ken were vaccinated one or more times in the period of a year (1936).

Venereal disease is believed to be prevalent in Mie-ken. Here in 1937 there were 28 prostitute quarters (more than in any prefecture except Hokkaido), 25 health examination offices and 2 hospitals for prostitutes. Among the 40,951 prostitutes (aggregate number) examined here in that year, 418 cases of communicable disease were found. Of these cases, 40 were syphilis, 227 were gonorrhoea and 103 were chancroid. In 1938 there were a total of 89 reported deaths attributed to syphilis in Mie-ken.

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In 1937 under the Trachoma Prevention Law, 628,223 persons were examined here and 37,127 (5.9 percent) were found infected (mild, severe or "suspected"). The corresponding national percentage was 7.9. Among elementary school children examined in 1935, 616 percent were found infected with trachoma. The national percentage was 10.3.

6. Medical Supply.

There is only one large pharmaceutical plant reported for Mie-ken, the Chugai Iyaka KK. located in Ueno-shi. The specific drugs manufactured here are not indicated.

Apparently this prefecture is dependent upon Osaka-fu for the bulk of its medical supplies and is dependent upon Tokyo laboratories for its vaccines and sera.

In 1937 there were 4,400 retailers, 841 peddlers and no importers of patent medicines in Mie-ken. The value of patent medicines produced here in that year was 1,225,343 yen.

It is believed that some medical supplies will be found at military and naval establishments and in the larger hospitals in the area. Medical supplies may also be found in underground warehouses reported to have been constructed throughout Japan.

7. Sanitation, Port Quarantine and Public Health Laws.

Water supply and sewage disposal are covered in Chapter IV, C-2 and 3.

In 1937, there were 1,138 crematoria in Mie-ken and 10,246 cremations (43.3 percent of all deceased persons). The national percentage was 53.8.

There were 15 slaughterhouses in Mie-ken in 1938. Of these, 3 were established by cities, 4 by towns or villages, and 8 by private persons or organizations. For the same year there were 159 veterinarians in the prefecture.

Here, as in other prefectures, meat, milk and milk products, other foods and drinks, ice, utensils used in food handling, and other items are inspected routinely. Information on the type of inspections and their thoroughness is not available.

In 1938 one of the 5 temporary port quarantine stations in Japan was located at Yokkaichi-shi in Mie-ken. Facilities for medical and veterinary inspection, disinfection and rat and insect extermination were available at this port. During 1938 a total of 212 ships and 15,745 persons were inspected.

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No cases of infectious diseases were detected at the port and only one ship was subjected to rat and insect extermination procedures.

Public health laws and regulations applicable to all of Japan on narcotic control, epidemic disease control, food and water sanitation, sewage disposal, public hospitals, etc., obviously apply to Mie-ken as well. The substance of local health ordinances is unknown.

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## E. PUBLIC WELFARE

### 1. Organization

The public welfare program in Mie-ken is conducted on a national basis according to standards and policies established by the Ministry of Welfare. Provincial administration is conducted by the Military Affairs and Welfare Section (Gunji Kosei-ka) under the Prefectural Department of Internal Administration (Naisei-bu). The mayors of the cities and the heads of the towns and townships are responsible for the distribution of relief. These officials are assisted by paid welfare directors in most cities (shi). There are 21 welfare districts (homen) in the urban areas of Mie-ken. These districts are served by district welfare committees (homen-in) composed of volunteer social workers who do the actual field work. They also maintain in the municipal offices, an index file (homen kado) of families receiving assistance.

a. Tsu-shi. Tsu has one public children's institution (capacity 150), 4 private children's institutions (capacity 326), 2 private day nurseries (capacity 60), one public pawn shop.

b. Yokkaichi-shi. Yokkaichi is served by 13 volunteer social workers operating from the central office. There are 2 private children's institutions (capacity 619) and one public pawn shop.

c. Ujiyamada-shi. Ujiyamada is served by 20 volunteer social workers operating from the central office. There are one private children's institution (capacity 150), one private day nursery (capacity 60) and one public pawn shop.

d. Matsuzaka-shi. Matsuzaka is served by 20 volunteer social workers operating from the central office. There are 2 private children's institutions (capacity 144), 7 private day nurseries (capacity 455), and 2 public pawn shops.

e. Kuwana-shi. Kuwana is served by 19 volunteer social workers operating from the central office. There are 2 private children's institutions (capacity 140) and one public pawn shop.

### 2. Kinds of Assistance

a. Poor relief: for the aged and infirm over 65; children under 13; persons ill or disabled; maternity cases.

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Application is made through the volunteer social workers at the municipal offices. Financial support:  $\frac{1}{2}$  national,  $\frac{1}{4}$  prefectural. Relief expenditures in Mie-ken are above the national average, and are consonant with those of surrounding prefectures which constitute the area of the highest per capita relief allocations in Japan.

b. Mothers' and children's relief: for children under 14 and supporting adults. Application is made through the volunteer social workers at the municipal offices. Financial support:  $\frac{1}{2}$  national,  $\frac{1}{4}$  prefectural,  $\frac{1}{4}$  municipal.

c. Veterans' relief: for incapacitated veterans and their dependents and for survivors of deceased military personnel. Application is made through the municipal offices of "The Information Service for Soldiers' Families." Financial support: entirely national.

d. Other services of the military affairs and welfare section: removal of neglected children from their homes, recommendation for tax cancellation, provision for burial of indigents.

e. Minimum cost services: one public boarding house, one public market, 4 public baths, 29 public pawn shops.

f. Institutions: one public children's institution, 9 private children's institutions (2 receive government subsidies), 21 private day nurseries (11 receive government subsidies), 3 institutions for adults (2 receive government subsidies), 6 personal consultation agencies, 2 correctional institutions.

## F. EDUCATION.

1. Educational System.

The educational policies and administration of all schools in Japan (with the exception of naval and military schools, which are under the Navy and War Ministries, and a few other institutions under the jurisdiction of other government offices) are under the control of the Ministry of Education (Mombu-sho). These schools may be classified into 3 groups, according to the establishing authority, as follows:

a. National government schools.

b. Public schools:

(1) Those established by prefectures.

(2) Those established by cities.

(3) Those established by towns and townships.

c. Private schools.

Government schools are under the direct supervision of the Ministry of Education, which also supervises directly all schools of higher education, both public and private.

The prefectural government through the Education Section (Kyogaku-ka) in the Department of Internal Administration is responsible to the national Ministry of Education for the supervision of all secondary and elementary schools in the prefecture, both public and private. The actual management of a school is the responsibility of the governmental unit which established it: national government, prefecture, city, town or township.

2. Elementary Schools.

In 1935 there were 100,796 boys and 99,753 girls of elementary school age (6 to 14 years) in the prefecture. Of this number 370 boys and 321 girls were exempted from attendance at school.

There were at this time 494 primary schools, including 54 ordinary elementary schools (jinjo shogakko) and 440 higher elementary schools (jinjo koto shogakko) including detached classrooms or branch schools (bunkyojo). There were 4,443 elementary school classes in the prefecture.

In 1935 there were 4,953 elementary school teachers in the prefecture or an average of 8.3 teachers per school, as follows:

a. Regular elementary school teachers:	4,091
Ordinary:	3,261
Higher:	830

Restricted

b. Teachers holding licenses for special subjects:	218
Ordinary:	171
Higher:	47
c. Assistant teachers:	163
Ordinary:	162
Higher:	1
d. Substitute teachers:	481
Ordinary:	454
Higher:	27

With the exception of Kayami-machi each town and township in the prefecture had at least one elementary school. (See Table 48).

TABLE 48.

Public Schools, 1938, Yamaguchi-ken.  
(Exclusive of Vocational Schools)

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
TSU-SHI	1	11		2	
YOKKAICHI-SHI	1	16		1	
UJIYAMADA-SHI	1	8		1	
MATSUZAKA-SHI	1	2		1	
KUWANA-SHI	1	2		1	
SUZUKA-SHI	1	2		1	
UENO-SHI	1	2		1	1,1(T)
KUWANA-GUN	1	2		1	
Jonan-mura		1			
Kuwabe-mura		1			
Ariyoshi-mura		1			
Fukaya-mura		1			
Nojiro-mura		1			
Furuhama-mura		1			
Furumi-mura		1			
Tado-mura		1			
Nanatori-mura		1			
Kusunoki-mura		1			
Nagashima-mura		1			
Kisozaki-mura		1			
Isojima-mura		2			

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
INABE-GUN					
Ageki-machi		1			
Inabe-machi		1			
Kume-mura		1			
Onaga-mura		1			
Umedoi-mura		1			
Misato-mura		1			
Ishigure-mura		1			
Nyugawa-mura		1			
Hatta-mura		1			
Higashifujihara-mura		1			
Nishifujiwara-mura		1			
Shirase-mura		1			
Tatsuta-mura		1			
Nakazato-mura		1			
Toyashiro-mura		1			
Yamazato-mura		1	2		
Kanda-mura		1			
Nanawa-mura		1			
Inabe-mura		1			
MIE-GUN					
Komono-machi		1			
Kusu-machi		1			
Kawarada-mura		1			
Oyamada-mura		1			
Suizawa-mura		1			
Kawashima-mura		1			
Kanzaki-mura		1			
Sakura-mura		1			
Chikusa-mura		1			
Ugawara-mura		1			
Agata-mura		1			
Mie-mura		1			
Kawagoe-mura		1			
Asahi-mura		1			
Oyachi-mura		1			
Yazato-mura		1			
Shimono-mura		1			
Hobo-mura		1			
Takenaga-mura		1			

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
Asakami-mura	.				
SUZUKA-GUN		1			
Kameyama-machi	1				
Seki-machi	1				1
Kambe-mura	1	1			
Sakanoshita-mura	1	1			
Kabuto-mura	1	1			
Hiruu-mura	1	1			
Idagawa-mura	1	1			
Kumada-mura	1	1			
Fukaizawa-mura	1	1			
Tsubaki-mura	1	1			
Shonai-mura	1	1			
Kawasaki-mura	1	1			
Nonobori-mura	1	1			
Shirakawa-mura	1	1			
KAWAGE-GUN					
Ishinden-machi		1			
Amana-mura		1			
Aikawa-mura		1			
Sakae-mura		1			
Ueno-mura		1			
Toyotsu-mura		1			
Kuroda-mura		1			
Shiratsuka-mura		1			
Kurima-mura		1			
Osato-mura		1			
Takanoo-mura		1			
Mukumoto-mura		1			
Akira-mura		1			
ANO-GUN					
Ansai-machi		1			
Ujii-machi		1			
Kochi-machi		1			
Katada-mura		1			
Takamiya-mura		1			
Nagano-mura		1			
Tatsumi-mura		1			
Suguri-mura		1			
Ano-mura		2			
Akeyai-mura		1			

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
ICHISHI-GUN					
Hisai-machi	1				
Karasa-machi	1				
Ieki-machi	1				
Momozono-mura	1				
Heki-mura	1				
Nanakuri-mura	1	1			
Inaba-mura	1	1			
Sakakibara-mura	1	1			
Omitsu-mura	1	1			
Oi-mura	1	1			
Kawaguchi-mura	1	1			
Yamato-mura	1	1			
Yatsuyama-mura	1	1			
Takewara-mura	1	1			
Yachi-mura	1	1			
Taro-mura	1	1			
Iseji-mura	1	1			
Yawata-mura	1	2			
Tage-mura	1	1			
Shimonokawa-mura	1	1			
Ukisato-mura	1	3			
Haze-mura	1	1			
Nakazato-mura	1	1			
Toyoji-mura	1	1			
Kawai-mura	1	1			
Takaoka-mura	1	1			
Nakagawa-mura	1	1			
Toyoda-mura	1	1			
Nakahara-mura	1	1			
Azaka-mura	1	1			
Yonenosho-mura	1	1			
Matsugasaki-mura	1	1			
Tempaku-mura	1	1			
Kasasagi-mura	1	1			
Onoe-mura	1	1			
Kumozu-mura	1	1			
IINAMI-GUN					
Kakino-machi	1	2			
Hanaoka-machi	1	1	2		

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
Minato-mura		1			
Matsuo-mura		1			
Matsue-mura		1			
Isedera-mura		1			
Okawachi-mura	1	1			
Chihiro-mura	1	2			
Oishi-mura	1	2			
Miyanomae-mura	1	2			
Kawabata-mura	1	2			
Mori-mura	1	2			
Haze-mura	1	2			
Izawa-mura	1	1			
Kushida-mura	1	1			
Asami-mura	1	1			
Nishikurobe-mura	1	1			
Hatadono-mura	1	1			
Koishiro-mura	1	1			
TAKE-GUN					
Oka-machi	1	1			
Oyodo-machi	1	1			
Higashikurobe-mura	1	1			
Shimomito-mura	1	1			
Kamimito-mura	1	2			
Myojo-mura	1	2			
Saiku-mura	1	1			
Nishitokida-mura	1	1			
Sana-mura	1	1			
Tsuda-mura	1	1			
Nyu-mura	1	1			
Gokatani-mura	1	2			
Kawazoe-mura	1	2			
Misedani-mura	1	1			
Ogihara-mura	1	1	3		
Ryonai-mura	1	1	1		
Osugitani-mura	1	1	1		
WATARAI-GUN					
Ominato-machi	1	1			
Tamaru-machi	1	1			
Futami-machi	1	2	1		
Kobata-machi	1	1	1		
Takihara-machi	1	2	1		

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
Gokasho-machi		1			
Miyamoto-mura	1	1			
Numaki-mura	1	2			
Shigo-mura	1	1			
Hamago-mura	1	1			
Toyohama-mura	1	2			
Kitahama-mura	1	2			
Uda-mura	1	1			
Higashitokida-mura	1	1			
Kida-mura	1	1			
Shimotokida-mura	1	1			
Uchikida-mura	1	1			
Nakagawa-mura	1	1			
Nanaho-mura	1	2			
Kashiwazaki-mura	1	1			
Ouchiyama-mura	1	1			
Shimazu-mura	2	1			
Yoshizu-mura	1	1			
Ugura-mura	1	2			
Nakashima-mura	1	2			
Ichinose-mura	1	1			
Ogawago-mura	1	1			
Hohara-mura	1	1			
Nankai-mura	1	3			
Shukutaso-mura	1	1			
Kambara-mura	1	2			
AYAMA-GUN					
Tsuge-machi	1	1			
Shimagawara-mura	1	1			
Marubashira-mura	1	1			
Fuchu-mura	1	1			
Nakanose-mura	1	1			
Kawai-mura	1	1			
Tamataki-mura	1	1			
Tomoda-mura	1	1			
Nishitsuge-mura	1	1			
Mibunomura	1	2			
Yamada-mura	1	1			
Nunobiki-mura	1	1			
Awa-mura	1	1			
Tomono-mura	1	1			

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
NAGA-GUN					
Nabari-machi					
Ao-machi					
Nishikio-mura	1				1
Takigawa-mura	1				
Minowata-mura	1				
Hinachi-mura	1				
Kunitsu-mura	1				
Hanagaki-mura	1				
Furuyama-mura	1				
Ida-mura	1				
Inako-mura	1				
Hijiki-mura	1				
Kambe-mura	1				
Minohata-mura	1				
Kotsu-mura	1				
Tanao-mura	1				
Yamochi-mura	1				
SHIMA-GUN					
Toba-machi	1				
Hamashima-machi	1				
Namikiri-machi	1				
Wagu-machi	1				
Momotori-mura	1				
Toshi-mura	1				
Kamishima-mura	1				
Sugashima-mura	1				
Kamo-mura	1				
Kagamiura-mura	1				
Nagaoka-mura	1				
Matoya-mura	1				
Anori-mura	1				
Ko-mura	1				
Isobe-mura	1				
Ugata-mura	1				
Shinmei-mura	1				
Tagegami-mura	1				
Koga-mura	1				
Shijima-mura	1				
Azena-mura	1				

Restricted

	Ordinary Elementary Schools (6 grades)	Ordinary Higher Elementary Schools (8 grades)	Detached Classes	Middle Schools	Girls' High Schools (T - Technical)
Nada-mura	1				
Funakoshi-mura	1				
Katada-mura	1				
Fuseda-mura	1				
Koshika-mura	1				
Goza-mura	1				
KITAMURO-GUN					
Owashi-machi	3			1	1
Hikimoto-machi	1				
Nagashima-machi	1				
Aiga-machi	1				
Nishiki-machi	1				
Kuki-mura	1				
Funatsu-mura	1				
Sugari-mura	1				
Katsuragi-mura	1				
Minose-mura	1				
Akaba-mura	1				
Nigo-mura	1				
MINAMIMURO-GUN					
Kinomoto-machi	1			1	1
Atawa-machi	1				
Kitawauchi-mura	1				
Minamiwauchi-mura	3				
Arasaka-mura	1				
Atashika-mura	1				
Tomari-mura	2				
Arii-mura	1				
Koshiyama-mura	1				
Ichiki-mura	1				
Ida-mura	1				
Udono-mura	1				
Mifune-mura	1				
Onodani-mura	1				
Oroshi-mura	2				
Kamikawa-mura	1				
Iruka-mura	2				
Nishiyama-mura	2				
Kamikawa-mura	1				
Isato-mura	1				
Asuka-mura	2				

3. Secondary Schools (1935).

There were 9 boys' middle schools (chugakko) with 192 instructors and 4,479 students, the locations of which are shown in Table 48.

There were 12 girls' high schools, with 217 instructors and 5,863 students with the locations shown in Table 48; 4 girls' technical high schools, with 26 instructors and 562 students, the location of one of which is shown in Table 48.

There were 23 technical schools classified as follows:

- a. 5 industrial schools, with 51 instructors and 804 students.
- b. 9 agricultural schools, with 81 instructors and 1,361 students.
- c. 7 commercial schools, with 105 instructors and 2,836 students.
- d. One fishery school, with 14 instructors and 208 students.
- e. One vocational school, with 19 instructors and 265 students.

The locations of the following technical schools are known:

Mie Higher Agricultural and Forestry School:  
Kamihama-cho, Tsu-shi.  
Prefectural Agricultural and Forestry School:  
Hisai-machi, Ichishi-gun.  
Naga Prefectural Agricultural School:  
Nabari-machi, Naga-gun.  
Kawarada Prefectural Agricultural School:  
Kawarada-mura, Mie-gun.  
Akeno Prefectural Sericultural School:  
Kobata-machi, Watarai-gun.  
Yokkaichi Prefectural Commercial School:  
Hamaishiki, Yokkaichi-shi.  
Municipal Commercial and Technical School:  
Tate-cho, Yokkaichi-shi.  
Matsuzaka Prefectural Commercial School:  
Tono-cho, Matsuzaka-shi.  
Uji-yamada Prefectural Commercial School:  
Hamago-mura, Watarai-gun.  
Ueno Municipal Commercial School:  
Ueno-shi.  
Reisei Municipal Commercial School:  
Kambe-mura, Tsu-shi.  
Municipal Technical Arts School:  
Atago-cho, Tsu-shi.

Prefectural Technical School:  
Tono-cho, Matsuzaka-shi.  
Toba Prefectural Merchant-marine School:  
Toba-machi, Shima-gun.  
Take Prefectural Vocational School:  
Oka-machi, Take-gun.  
Municipal Technical School:  
Ominoto-machi, Watarai-gun.  
Ichishi Prefectural Girls' Vocational School:  
Hisai-machi, Ichishi-gun.  
Tamaru Prefectural Girls' Vocational School:  
Tamaru-machi, Watarai-gun.  
Inabe Prefectural Girls' Vocational School:  
Inabe-machi, Inabe-gun.  
Shima Prefectural Fisheries School:  
Wagu-machi, Shima-gun.

4. Special and Higher Schools.

a. Deaf, dumb, and blind school. In 1935 the Prefectural School for the Blind and Dumb, located in Shibeta, Tsu-shi, had 7 teachers for 66 blind students and 12 teachers for 113 deaf and dumb students.

b. Nursery schools. There is a nursery school in Aioi-cho, Tsu-shi.

c. Normal schools. There were 2 normal schools in the prefecture with 47 teachers and 609 students: Mie Prefectural Normal School, Marunouchi, Tono-cho, Tsu-shi; Prefectural Tsu Higher Normal School, Oki-yanagiyama, Tsu-shi. There were also the Mie Prefectural Women's Normal School in Kameyama-machi, Suzuka-gun; the Prefectural Training School for Young Men's School Instructors, Kamihama-cho, Tsu-shi.

d. Jingu-kogakukan (Government College for Shintoism) is located in Ujiyamada-shi. This institution is not under the control of the Ministry of Education.

5. Young Mens' Schools.

In 1935 there were 420 young men's schools with 443 teachers and 32,038 students.

6. Private Schools.

There were 34 private schools in the prefecture in 1936 as follows:

- a. 3 similar to elementary schools with 10 teachers and 110 students.



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- b. One similar to a middle school with 26 teachers and 205 students.
- c. 29 business schools with 266 teachers and 942 students.
- d. One deaf, dumb and blind school with 5 teachers and 21 students.

Restricted

#### G. ASSOCIATIONS

Names and addresses of associations in Mie-ken are as follows:

- BANKO TOJIKI KOGYO-KUMIAI (Banko Porcelain Ware Mfg. Assn.). Yokkaichi-shi. Members 118.
- BANKO TOJIKI SHOGYO-KUMIAI (Banko Porcelain Merchants' Assn.). Kawara-machi, Yokkaichi-shi.
- HOKUSE TOWEL KOGYO KUMIAI (Hokuse Towel Manufacturers' Assn.). Tomisuhara-machi, Yokkaichi-shi.
- ISE YUSHUTSU TAORU KOGYO-KUMIAI (Ise Export Towel Mfg. Assn.). Tsu-shi. Members 38.
- MIE YUSHUTSU IMONO KOGYO-KUMIAI (The Mie Export Cast Iron Mfg. Assn.). Kuwana-shi. Members 16.
- MIE-KEN YUSHUTSU JINZO KINUORIMONO KOGYO-KUMIAI. Shimobeta-dori, Tsu-shi. Members 35.
- NANSEI ORIMONO KOGYO-KUMIAI (Nansei Textile Industrial Assn.) Matsuzaka-shi. Members 4.
- NIPPON IRON KOGYO-KUMIAI (Nippon Iron Mfg. Assn.). Kuwana-shi. Members 16.
- TSU Chamber of Commerce and Industry. Daimon-cho, Tsu-shi.
- UJIYAMADA Chamber of Commerce and Industry. Iwabuchi-cho, Ujiyamada-shi.
- YOKKAICHI Chamber of Commerce and Industry. Chitose-machi, Yokkaichi-shi.

#### H. CULTURAL INSTITUTIONS

##### 1. Temples and Shrines.

a. Ise Daijingu (Great Shrines of Ise) Ujiyamada-shi, thirty six miles south of Kameyama station. In point of sanctity these shrines outrank all other shrines in Japan. The shrines are constructed in the simplest form of Shinto architecture, unpainted and uninfluenced by any foreign style. From time immemorial, it has been the custom to rebuild the structures entirely every 20 years. So sacred are the shrines in the eyes of the Japanese that not only is the finest wood from Imperial forests used, but also the most skillful carpenters in the empire are employed. Every event of major importance to the Imperial Family is ceremonially announced to the shrine by a special messenger sent directly from the palace.

The shrines consist of 2 main divisions, the Geku (Outer Shrine) and the Naiku (Inner Shrine). The grounds of the shrine which cover some 214 acres, are covered with magnificent cryptomerias. At the first torii even members of the Imperial family dismount from their horses or vehicles. On the right is located the Anzaisho (Palace of Sojourn)

reserved for the Imperial family to rest when visiting the shrine. Within the second enclosure are the Kaguraden, where sacred dances are performed, and the Haiden (Hall of Worship). The next enclosure contains the Geku itself, which is unapproachable except to Imperial personages. The Geku is dedicated to Toyuke-no-Omikame (the goddess of food and clothing) who is believed to be in charge of all the fruits of the earth.

The Naiku enclosure in its general arrangement closely resembles the Geku and occupies an area of 165 acres. After passing the first torii, pilgrims go down to the Isuzu River to wash their hands before worshipping at the shrine. Next are the Anzaisho (House of Imperial Sojourn) and the Sanshujo (Imperial Resting House) and the Harai (Prayer house). Farther on is the Naiku (Inner Shrine) which is behind a double enclosure beyond which no one but the Imperial family, the very highest officials, and the officiating priests ever go. Within the shrine is deposited the Sacred Mirror (Yata-No-Kagami) one of the 3 sacred treasures constituting the Regalia Japan. The shrine is dedicated to Amaterasu (the Sun Goddess) mythological ancestress of the Japanese race.

b. Kazimiya Shrine, Ujiyamada-shi. Originally a subordinate shrine dedicated to the wind god, and in 1293 raised in rank in recognition of the god's service in sending the hurricane which destroyed Kublai Khan's armada.

c. Kannon-Ji, Tsu-shi. A large temple in the amusement quarter of the city.

d. Shitteno-Ji, Tsu-shi. Near the railway station. A temple founded by Prince Shotoku (593-621) and rebuilt in 1615.

e. Yuku-jinsha, Tsu-shi. A Shinto shrine dedicated to Munehiro Yuki (died in 1338), a general of the Emperor Go-Daigo.

f. Senshu-Ji (Takata-No-Gobo), Ishinden-machi, Kawage-gun. Seven and a half miles from Kameyama. A large temple, the seat of the Takata branch of the Jodo-shin sect of Buddhism, was moved here from Takata in 1465. The image of Amida belonging to the temple is famous for having received the homage of Emperor Sakuramachi (1736-1747)

g. Fudo-son, Oishi-mura, Iinami-gun. Near the terminus of Matsusaka Electric Railway. A temple dedicated to Fudo-son. An image of the god carved out of stone, reputedly

by Kobo-Daishi, is the chief treasure of the temple.

h. Nobono-jinsha, Kameyama-machi, Suzuka-gun. This temple is dedicated to Prince Yamato-Takenu (97-113 AD) and contains his tomb.

i. Tado-jinsha, Tado-mura. On Kuwana-gun Ise Electric Railway. A temple of some architectural beauty. It was founded in the fifth century.

j. Kaizo-ji, Kuwana-shi. An interesting temple containing the tombs of 79 Satsuma men who were killed in the failure of a vast engineering project ordered by the Tokugawa government in the mid-18th century. Nearby stands a monument to 48 leaders in charge of the work who committed suicide by way of apology.

k. Kongosho-ji, Mt. Asama. A Buddhist temple on the summit of Mount Asama, the chief treasures of which are an image of the god Kokuzo said to have been carved by Kobo-Daishi, a sword once owned by Yoshitomo and a checkerboard which once belonged to Ieyasu.

## 2. Libraries.

a. Jingu Library. Shinto Library, Ujiyamada-shi. Two libraries containing many rare books on Shinto and the early history of Japan.

b. Mie Prefectural Library, Tsu-shi. Founded 1937. 15,000 volumes.

c. Yokkaichi Municipal Library, Yokkaichi-shi. Founded 1908. 22,193 volumes.

VI. WHO'S WHO IN MIE-KEN.

This chapter consists of a listing, divided into 2 parts, of prominent persons reported to be residents of Mie-ken. List "A" classifies persons, by cities, according to occupation. Those names starred with an asterisk (\*) indicate persons who are believed to have some knowledge of English.

List "B" is an alphabetical directory which presents available biographical information concerning persons in list "A". A date in parenthesis placed after a statement, e.g. "(1940)", indicates the date of the report giving that information.

The use of the occupational List "A" will aid in locating experienced personnel in various fields. The alphabetical directory, List "B", will in some instances aid in identifying persons and in checking their background and experience.

Local Japanese records or files on persons should prove useful whenever they can be secured. Certain key sources of this nature are listed here:

1. The Koseki.

Each city, town and township maintains a record of all families domiciled within the unit, including the names of all members of the family, even though they may be living elsewhere, together with the dates of their birth, marriage, and death. The files of the community also indicate the following classifications of individuals: foreigners, Koreans and laborers. It will be noted that every individual is listed in at least 2 different places, the Koseki of his native city, town and township, and the police box of the district where he actually resides.

2. Police Registers.

a. The central files of the Special Higher Police (Tokubetsu Koto Keisatsu) which are kept in the police stations.

b. Kempei (Military Police) records of political offenders. The location of these files is unknown except that they would be under military custody.

c. Local police box records which list the name, age, address and occupation of each person living within the district.

d. Finger-print files. Finger-printing is less extensively used than in the United States; only about 5,000,000 prints are available. Files are maintained by the Tokyo and Osaka metropolitan police.

3. Files of National Employment Exchanges.

These exchanges, located in Kuwana-shi, Matsuzaka-shi, Tsu-shi, Ujiyamada-shi and Yokkaichi-shi, maintain a record of all employable persons, listing their occupations and present employment. In villages, towns and townships having no employment exchanges, the same information is found in the town office or city hall.

4. Files of Public Welfare Offices.

Lists are kept of the homeni-in, prominent persons in the community doing volunteer welfare work. These persons are of the wealthy, leisured class, and have training in public relief techniques. The homeni-in number about 10 to 200 persons in each city, depending upon its size.

5. Postal Savings Accounts Records.

Records of postal savings accounts are kept in local post offices. Each account lists the name, address, occupation, and amount of deposit.

6. Other Sources.

Other sources of names are bank records, municipal tax rolls, corporation employment records, military draft records and the Shokuin-Roku (Roster of Government Officials, an annual registry of the Imperial Cabinet).

A. LIST ACCORDING TO OCCUPATION

AGRICULTURE

DATE, Kanichiro Vice-Pres., Agr.Assn.Yokkaichi-shi

ASSOCIATIONS

Yokkaichi-shi  
\*ITO, Denichi Pres., Chamber of Commerce  
\*TAKAHASHI, Shizuo Dir., Chamber of Commerce

COMMUNICATIONS

MITSUI, Yasuhide Pres., Newspaper, Tsu-shi

CONSTRUCTION

Construction Engineers  
KAWASAKI, Hidero Tsu-shi  
NAKASHIMA, Kikuta Tsu-shi  
OKADA, Hikari Suzuka-shi  
SAKAMOTO, Shintaro Ayama-gun  
YANAGI, Hatsuichi Owashi-machi

CONSTRUCTION (Continued)

Architects  
SATO, Miyao Tsu-shi

COURTS AND LAW

FUJINO, Saburo Chief Justice, Dist. Ct., Tsu-shi  
FUKUCO, Yataro Proc., Dist. Ct.  
SOTOSHIMA, Ei-ji Chief, Dist. Ct.

EDUCATION

MIZOGUCHI, Matsuo Prin., Tech School, Tsu-shi  
UYEHARA, Tanemi Prin., Agr. & Forestry Sch. Tsu-shi  
YAMADA, Yoshio Pres., Univ., Ujiyamada-shi

ENGINEERS

NISHIHATA, Hisashi Elec. Engr. RR Co., Kotsu-mura

FINANCE

Bank Executives, Yokkaichi-shi  
FUKUSHIMA, Yutaka  
NOGUCHI, Katsutaro  
SEKO, Masayasu  
MOCHIZUKI, Akira  
UYEDA, Tokujiro  
Bank Executives, Other Localities  
KAWAKITA, Kyudayu Tsu-shi  
KOIKE, Hajime Kuwana-shi

INSURANCE

KUKI, Kenichiro Exec., Yokkaichi-shi

GOVERNMENT AND ADMINISTRATION

Prefectural Government Officials  
SHIMIZU, Shigeo Pref. Gov.  
MOCHINAGA, Yoshio Ex-Pref. Gov.  
NAKANO, Yokishiro Ex-Pref. Gov.  
KATO, Seiichi (Head, Governor's Secretariat  
(Chief, Personnel Section  
Chief, Accounts Section  
Chief, Bus. Affairs Section  
Chief, Statistics Section  
Head, Internal Affairs Dept.  
Chief, Promotion Section  
Chief, Education Section  
Chief, Mil. Aff. & Welf. Sect.

HAYAKAWA, Jiro Chief, Sanitation Section  
SUGIYAMA, Toshio Head, Economics Department  
YAMASHITA, Kikujiro Chief, Com. & Industry Sect.  
SASAKI, Yoshiyuki Chief, Marine Prod. Section  
HIBARA, Masao Chief, Agr. Affairs Section  
HIRATA, Shiroemon Chief, Silk Section  
KAWAISHI, Shinichi Chief, Cultivated Land Sect.  
YAMAMOTO, Teizo Chief, Forestry Aff. Section  
YAMAMOTO, Koichi Head, Public Works Dept.  
YAMAMOTO, Yoshimasa Chief, Supervision & Manage. Sect.  
OKABE, Shigeyoshi Chief, City Planning Section  
MATSUOKA, Takeo Chief, Erosion Control &  
Forestation Section  
NISHIOKA, Tokutaro Chief, Roads Section  
NAGATA, Tatsuya Chief, Rivers & Harbors Sect.  
GOTO, Kichigoro Head, Police Department  
MORIMOTO, Kan Ex-Head, Police Division  
ICHIKI, Toshio Chief, Insurance Section  
KITAHARA, Yasuya Chief, Employment Section  
MOCHIZUKI, Moritada Chief, Labor Adm. Section  
SEKOGUCHI, Otokichi Chief, Econ. Peace Pres. Sect.  
KOGA, Tsuyoshi Chief, Spec Higher Police Sect.  
SAIGUSA, Saburo Head, Police Affairs

Heads of local district offices (Guns)  
ITO, Kiyoshi Kuwana-Inabe-gun  
BESSHO, Yoshio Mie-gun  
SUZUKI, Ishokichi Suzuka-gun  
MURATA, Katsunosuke Kawage-Ano-gun  
NAGAI, Shigeru Ishishi-gun  
NAGAI, Shohei Iinami-Take-gun  
OTA, Yoshiro Watarai-gun  
YAMADA, Kiyozo Shima-gun  
OGATA, Yoshizane Kitamuro-gun  
UZAKI, Eizo Minamimuro-gun

City Government Officials

Kuwana-shi  
KAIZUKA, Einosuke Mayor  
KATO, Seiichi Deputy Mayor  
MATSUDA, Eitaro Treasurer  
KONDO, Saburo Head, Nat'l Employ. Exch.  
Matsuzaka-shi  
GOTO, Osamu Mayor  
OCHIAI, Kozo Deputy Mayor  
MIYAZAKI Treasurer  
NISHIMURA, Motojiro Chief of Police Station  
IWASAKI, Tomehachi Head, Nat'l Employ. Exch.

Suzuka-shi  
OKUDA, Shigezo  
KUZUHARA, Kaku  
KAWAIDE, Seichi

Mayor  
Deputy mayor  
Treasurer

Tsu-shi  
\*HORIKAWA, Yoshiya  
TAKAHASHI, Shinzo  
MATSUKAWA, Rokuzo  
ICHIKAWA, Mitsunobu  
KAMIMURA, Yoshisuke

Mayor  
Deputy mayor  
Treasurer  
Chief of Police Station  
Head, Nat'l Employm. Exch.

Ueno-shi  
SUGIMORE, Mannosuke  
NISHIDA, Sadajiro  
MATSUDA, Hisao

Mayor  
Deputy mayor  
Treasurer

Ujiyamada-shi

SAITO, Shincho  
SHIOZAKI, Keno  
JAJIMA, Masakichi  
NISHINO, Kichinosuke  
UENO, Matao

Mayor  
Deputy mayor  
Treasurer  
Chief of Police Station  
Head, Nat'l Employm. Exch.

Yokkaichi-shi  
YOSHIDA, Katsutaro  
Kato, Nobutaro  
YAMAMISE, Hoshio  
YOSHIDA, Matajiro  
MINAKUCHI, Kazuro

Mayor  
Deputy mayor  
Treasurer  
Chief of Police Station  
Head, Nat'l Employm. Exch.

HEALTH AND SANITATION

ISHIDA, Makoto

Dr., Yokkaichi-shi

HOUSING

\*HORIKI, Churyo

Auditor, Real Estate Agency  
Yokkaichi-shi

MANUFACTURING

Textiles, Yokkaichi-shi  
FUJISAWA, Tsunekichi  
HIRATA, Sukenori  
KOBAYASHI, Takeji  
Textiles, Other Localities  
MOROTO, Seibun  
Other Mfg. Yokkaichi-shi  
KAWAMURA, Matsujiro  
KAWAMURA, Matasuke  
\*KUKI, Kimpei  
\*KUKI, Morihichi  
KUMAZAWA, Ryutaro  
NISHIGUCHI, Takao

Silk  
Cotton Spinning  
Woolen Goods  
Towel Mfg., Kuwana-shi  
Iron works  
Porcelain  
Fertilizer  
Oil  
Oil  
Fishing Net

ONO, Shohei  
\*SATO, Shinnosuke  
SUZUKI, Rempei  
YOSHIDA, Ihei  
Other localities  
NAKAMURA, Shuzo  
YAMAMOTO, Shigeo

Fishing Net  
Bean mash  
Sake brewery  
Cable

Fishing net, Tsu-shi  
Casting, Kuwana-shi

PUBLIC UTILITIES

\*HONDA, Jiro

Dir. Elect. Power Company  
Yokkaichi-shi

PUBLIC WELFARE

YOSHIDA, Katsutaro

Br. Chairman, Red Cross  
Yokkaichi-shi

TRADE AND COMMERCE

Yokkaichi-shi  
HATTORI, Genichiro  
KINUGASA, Seihichi  
KOSUGE, Hiromu  
MIYATA, Koemon  
YAMAMOTO, Masujiro  
MURAYAMA, Seihachi  
NISHIMURA, Shintaro  
TANAKA, Takeshi

Cereals wholesaling  
Wholesale drugs  
Warehousing  
Porcelain Goods  
Porcelain Exporting  
Coal Distribution  
Rubber  
Fertilizer wholesaling

TRANSPORTATION

Yokkaichi-shi  
ENAMI, Takeo  
MORI, Isamu  
MURAYAMA, Jinzaburo  
KURIHARA, Masanobu  
TAJIMA, Yoshimi

Pres., Lighter Trans.  
Dir., Coastwise shipping  
Pres., Railway & Carting  
Mgr., Ocean Shipping  
Mgr., Ocean Shipping

MISCELLANEOUS

Presumed to speak English (not listed elsewhere)  
UCHIYAMA, Genichi  
MORIMOTO, Takeo  
USAMI, Toshiharu

Kuwana-shi  
Tsu-shi  
Komono-machi

High tax payers  
DOI, Hachirobe  
MORODO, Seiraku  
MOROTO, Seibun

Forestry  
Company Executive  
Lumber Company

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B. ALPHABETICAL DIRECTORY

BESSHO, Yoshio: head, Local Dist. Office, Mie-gun, pref. gov't., (1943).  
DATE, Kanichiro: vice-pres., Yokkaichi Agric. Assn., Nakamachi, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: same.  
DOI, Hachirobe: Forestry Co. executive; paid 38,000 yen income tax in 1935.  
ENAMI, Takeo: pres., Yokkaichi Bengi Unso Co., (lighter transportation), Kitanaya-cho, Yokkaichi-shi; member Rotary Intl., 1934-40. Res: Shinden-cho, same.  
FUJINO, Saburo: Chief Justice, District Court in Tsu-shi; formerly same, Otsu-shi, Shiga-ken. (1944).  
FUJISAWA, Tsunekichi: repr dir., Mie Kenshiten, Inc. (silk and silk thread mfg.), Kitanaya-cho, Yokkaichi-shi. Res: Okinoshima-cho, same. (1936).  
FUKUO, Yataro: Procurator, District Court. (1944).  
FUKUSHIMA, Yutaka: mgr., branch office, Aichi Bank, Kura-machi, Yokkaichi-shi. Res: Hamada-cho, same. (1938).  
GOTO, Kichigoro: head of the Pref. Police Dept; formerly Chief, Peach Preservation Sect. of the Taiwan Govt. (1944).  
GOTO, Osamu: mayor of Matsuzaka-shi. (1943).  
HATTORI, Genichiro: pres., wholesale cereal co., Kitanaya-machi, Yokkaichi-shi. Res: Hamada-cho, same. (1936).  
HAYAKAWA, Jiro: chief, Sanitation Sect., Internal Affairs Dept pref. govt. (1943).  
HIBARA, Masao: chief, Agriculture Affairs Sect., Economics Dept., pref. govt. (1943).  
HIRATA, Shiroemon: chief, Silk Sect., Economics Dept., pref. govt. (1943).  
HIRATA, Sukenori: dir., Hirata Seimo Co. (cotton spinning), Tomisuhara-cho, Yokkaichi-shi. Res: same. (1936).  
\*HONDA, Jiro: dir., branch office, Toho Elect. Power Co., Hojo-machi, Yokkaichi-shi; member, Rotary Intl., 1938-40. Res: Asahi-cho, same.  
\*HORIKAWA, Yoshiya: mayor of Tsu-shi; b. 1883, Mie-ken; grad. Waseda Univ., economy; studied at Columbia Univ. and London Univ; became editor of Tokyo Nichi-nichi Shimbun upon return; elected to House of Repres., 1917. Address: 4-chome, Otohe Kannadort, Tsu-shi. Listed in Who's Who, 1941-42.  
\*HORIKI, Churyo: auditor, Yokkaichi Tochi Bldg. Co. (real estate agency), Hamada-cho, Yokkaichi-shi; member, Rotary Intl., 1936-40; delegate to Intl. Conference, Rotary Intl., 1937. Res: Kamijin-machi, Yokkaichi-shi.  
ICHIKAWA, Mitsunobu: chief, Police Station, Tsu-shi. (1943).  
ICHIKI, Toshio: chief, Insurance Sect., Police Dept., pref. govt. (1943).

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ISHIDA, Makoto: M. D., Yokkaichi-shi; received 12th Health Service Award. (1944).  
\*ITO, Denichi: pres., Yokkaichi Chamber of Commerce; inaugurated Yokkaichi chapter of Rotary Intl.  
ITO, Kiyoshi: head, Local Dist. Office, Kuwana and Inabe-gun, pref. govt. (1943).  
IWASAKI, Tomehachi: head, Natl. Employm. Exch., Matsusaka-shi. (1943).  
KAIZUKA, Einosuke: mayor, Kuwana-shi. (1943).  
KAMIMURA, Yoshisuke: head, Natl. Employm. Exch., Tsu-shi. (1943).  
KANAYA, Takehiko: chief, Educ. Sect., Internal Affairs Dept., pref. Govt. (1943).  
KATO, Nobutaro: deputy mayor, Yokkaichi-shi. (1943).  
KATO, Seichi: deputy mayor, Kuwana-shi; head, Gov's Secretariat and chief, Personnel Sect., pref. govt. (1943).  
KAWAIDE, Seichi: treasurer, Suzuka-shi. (1943).  
KAWAISHI, Shinichi: chief, Cultivated Land Sect., Economics Dept., pref. govt. (1943).  
KAWAKITA, Kyudayu: pres., 105th Bank, same, Mie Kyodo Savings Bank; auditor, Meiji Life Insur. Co; b. 1878, Mie-ken. Address: 3032 Tarumi, Tsu-shi. Listed in Who's Who, 1941-42.  
KAWAMURA, Matasuke: pres., Kawamura Gumi Co. (porcelain mfg.), Suyenaga-cho, Yokkaichi-shi. Res: Naka-cho, same. (1936).  
KAWAMURA, Matsujiro: prop., iron works. Res: Minami-machi, Yokkaichi-shi. (1936).  
KAWASAKI, Hidero: constr. engr., member of Building Inst. Address: 2 of 52, Yokei-cho, Tsu-shi. (1930).  
KINUGASA, Seihichi: repr. dir., Kameya Inc. (wholesale drugs), Suyenaga-cho, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: Nishimachi, Yokkaichi-shi.  
KITAHARA, Yasuya: chief, Employment Sect., Police Dept., pref. govt. (1943).  
KOBAYASHI, Takeji: mgr., Mie Spinning and Weaving Co. (woolen goods mfg.), Yokkaichi-shi. Res: Sumiyoshi-cho, same. (1940).  
KOGA, Tsuyoshi: chief, Special Higher Police Sect., Police Dept., pref. govt., (1943).  
KOIKE, Hajime: mng. dir., Yokkaichi Bank, Isshiki-cho, Kuwana-shi. (1936).  
KONDO, Saburo: head, Natl. Employm. Exch., Kuwana-shi. (1943).  
KOSUGE, Hiromu: pres., Yokkaichi Warehouse Co., Kita-Naya-cho, Yokkaichi-shi; member, Rotary Intl., 1936-39. Res: Onoye-cho, same.  
KUKI, Kenichiro: mgr., branch office, Sumitomo Life Insurance Co., Kitanaya-cho, Yokkaichi-shi; member Intl. Rotary, 1936-40. Res: Nakanaya-cho, same.  
\*KUKI, Kimpei: repr. dir., Kuki Fertilizer Co. (mfg of same), Oke-no-machi, Yokkaichi-shi; secr., Yokkaichi Rotary Club; member, same, 1936-40; reported to write and understand English.  
\*KUKI, Morihichi: prop., Yokkaichi (cooking) Oil Mfg. Co., Onoye-cho, Yokkaichi-shi; member, Rotary Intl., 1936-40; delegate to Intl. Conference, same, 1938. Res: Nakanaya-cho, same.

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KUMAZAWA, Ryutaro: Repr. Dir., Kumazawa Seiyu KK (industrial machinery oil mfg.), Suyehiro-machi, Yokkaichi-shi. Res: Minamikawara-cho, same. (1936).

KUNIYOSHI, Fumio: chief, Business Affairs Sect, Gov's Secretariat, pref. govt. (1943).

KURIHARA, Masanobu: mgr., branch office, Asahi Unyu Co. (ocean shipping), Inaba-cho, Yokkaichi-shi. Res: 1908 Hamada, same.

KUZUHARA, Kaku (Kiwame): deputy mayor, Suzuka-shi. (1943).

MATSUDA, Eitaro: treasurer, Kuwana-shi. (1943).

MATSUDA, Hisao: treasurer, Ueno-shi. (1943).

MATSUKAWA, Rokuzo: treasurer, Tsu-shi. (1943).

MATSUOKA, Takeo: chief, Erosion Control & Forestation Sect., Public Works Dept., pref. govt. (1943).

MINAKUCHI, Kazuro: head, Natl. Employm. Exch., Yokkaichi-shi. (1943).

mitsui, Yasuhide: edit. chief and pres., Ise Shimbun; member, Japan Press Assn. Address: Tsu-shi. (1943).

MIYATA Koemon: prop., wholesale and retail porcelain goods co., Suyehiro-machi, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: Shinhama-cho, same.

MIYAZAKI: treasurer, Matsuzaka-shi, (1943).

MIZOGUCHI, Matsuo: princ., Tsu Technical Sch; constr. engr. Address: Tsu-shi. (1940).

MOCHINAGA, Yoshio: former pref. gov. (1943).

MOCHIZUKI, Akira: branch Mgr., Dai-ichi Ginko, Hama-cho, Yokkaichi-shi. Res: Hamada-cho, same. (1937).

MOCHIZUKI, Moritada: chief, Labor Admin. Sect., Police Dept. pref. govt. (1943).

MORI, Isamu: mng. dir., Aisan Steamship Co. (coastwise shipping), Takasago-cho, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: Kami-Jin-cho, same.

MORIMOTO, Kan: ex-head, Police Dept., pref. govt. (1943).

\*MORIMOTO, Takeo: b. 1899; attended Columbia Univ. summer sch., Eng., 1928. Address: 10 Miyanomaye, Tsu-shi.

MORODO, Seiraku: co. exec; paid 41,000 yen income tax in 1935.

MOROOKA, Katsu: chief, Mil. Affairs and Welfare Sect., Internal Affairs Dept. pref. govt. (1943).

MOROTO, Seibun: pres., Moroto Towel Gomei Kaisha (towel mfg); Taichimaru, Kuwana-shi; exec., lumber co; paid 23,000 yen income tax in 1935. (1938).

MURATA, Katsunosuke: head, Local Dist. Office, Kawage and Anogun. (1943).

MURAYAMA, Jinzaburo: pres., Yokkaichi Godo Unyu Co. (transportation, railway and carting), Takasago-cho, Yokkaichi-shi; member, Rotary Intl. 1936-40. Res.: Hamada, same.

MURAYAMA, Seinachi: dir., Murayama Coal Co. (distributing), Takasago-cho, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: Hamada, same.

NAGAI, Shigeru: head, Local Dist. Office, Ichishi-gun. (1943).

NAGAI, Shohei: head, Local Dist. Office, Iinami and Take-gun. (1943).

NAGATA, Tatsuya: chief, Rivers & Harbors Sect., Public Works Dept., pref. govt. (1943).

NAKAMURA, Shuzo: mng. dir., Nagai Fishing Net Mfg. Co., Minami-horibata, Tsu-shi, Mie-ken; co. consists of 100 power weaving machines and 500 hand machines. (1939).

NAKANO, Yokishiro: former pref. gov; b. 1894, Hyogo-ken; grad. Tokyo Imp. Univ., German law, 1920; dir., police dept., Gumma and Fukui-ken; chief, police sect., Home Office; chief, Riparian sect., 1937; gov., Fukui-ken; dir., Shrines Bur., Home Ministry; apptd. gov. of Pref. in 1940; Address: Shimobeta, Tsu-shi. Listed in Who's Who, 1941-42; chairman of Osaka-fu Foodstuffs Corp. 1944.

NAKASHIMA, Kikuta: constr. engr., head, Building Dept., Tsu Technical Sch., Tsu-shi. (1940).

NISHIDA, Sadajiro: deputy mayor, Ueno-shi. (1943).

NISHIGUCHI, Takao: pres. Mie Fishing Net (mfg.) Co., Hamamachi, Yokkaichi-shi; member, Rotary Intl., 1936-40. Res: Nishi-cho, same.

NISHIHATA, Hisashi: engr., Sangu Kyuko (elect. ry. co.), 435 Shimokowara, Kotsu-mura, Naga-gun; delegate to World Power Conference, Tokyo, 1929.

NISHIMURA, Motojiro: chief, Police Station, Matsuzaka-shi. (1943).

NISHIMURA, Shintaro: mng. dir., Tokai Rubber Industry Co., 9 Suehiro-machi, Yokkaichi-shi. Res: Saiwai-cho, same. (1938).

NISHINO, Kichinosuke: chief, Police Station, Ujiyamada-shi. (1943).

NISHIOKA, Tokutaro: chief, Roads Sect., Public Works Dept., pref. govt. (1943).

NOGUCHI, Katsutaro: branch mgr., First Bank, Hama-cho, Yokkaichi-shi. Res: Hamada-cho, same. (1936).

OCHIAI, Kozo: deputy mayor, Matsusaka-shi. (1943).

OGATA, Yoshizane: head, Local Dist. Office, Kitamuro-gun. (1943).

OKABE, Shigeyoshi: chief, City Planning Sect., Public Works Dept., pref. govt. (1943).

OKADA, Hikari: constr. engr; member, Building Inst. Address: Suzuka-shi. (1930).

OKUDA, Shigezo: mayor, Suzuka-shi. (1943).

OKUDA, Tomohide: chief, Accounts Sect., Gov's Secretariat, pref. govt. (1943).

ONO, Shohei: mng. dir., Ono Fishing Net Mfg. Co., Tomita-cho, Yokkaichi-shi. Res: Higashi Tomita-cho, same. (1940).

OTA, Yoshiro: head, Local Dist. Office, Watarai-gun. (1943).

SAIGUSA, Saburo: head, Police Affairs Sect., Police Dept. pref. govt. (1943).

SAITO, Shincho: mayor, Ujiyamada-shi. (1943).

SAKAMOTO, Shintaro: constr. engr; member, Building Inst. Address: Ayama-gun. (1930).

SASAKI, Jinsaburo: chief, Promotion Sect., Internal Affairs Dept., pref. govt. (1943).

SASAKI, Yoshiyuki: chief, Marine Products Sect., Economics Dept., pref. govt. (1943).

SATO, Miyao: architect; member, Archit. Inst.; Address: Minami-naka Shim-machi, Tsu-shi. (1930).

\*SATO, Shinnosuke: prop., Sato Shoten, mfg. of Miso (bean-paste), Hama-machi, Yokkaichi-shi; member, Rotary Intl., 1936-40; Res: Senban-cho, Kuwana-shi; delegate to Intl. Conference, same, 1939.

SEKO, Masayasu: branch mgr., Agric. & Industrial Bank of Mie (mortgage banking), Hama-cho, Yokkaichi-shi. Res: Suwa-machi, same. (1936).

SEKOGUCHI, Otokichi: chief, Economic Peace Preservation Sect., Police Dept., pref. govt. (1943).

SHIMIZU, Shigeo: gov. of pref; b. 1894, Saitama-ken; grad. Meiji Univ., law; chief, Peace Preservat. and Police Affairs Sects. Kyoto-ken; gov. of Wakayama-ken; chief, Organization Dept., IRAA; present post since April 21, 1945. Listed in Who's Who, 1941-42.

SHINOHARA, Kuni: chief, Statistics Sect., Gov's. Secretariat, pref. govt. (1943).

SHIOZAKI, Keno: deputy mayor of Ujiyamada-shi. (1943).

SOTOSHIMA, Eiji: chief, District Court. (1944).

SUGIMORI, Mannosuke: mayor, Ueno-shi. (1943).

SUGIYAMA, Toshio: head, Economics Dept., pref. govt. (1943).

SUZUKI, Isokichi: head, Local Dist. Office Suzuka-gun. (1943).

SUZUKI, Rempel: prop., sake brewery, Hamaishiki-cho. Yokkaichi-shi. (1940).

TAJIMA, Masakichi: treasurer, Ujiyamada-shi. (1943).

TAJIMA, Yoshimi: branch mgr., Cho Unyu Co. (ocean shipping), Inaba-cho, Yokkaichi-shi. Res: Hamada-cho, same. (1936).

TAKAHASHI, Shinzo: deputy mayor, Tsu-shi. (1943).

\*TAKAHASHI, Shizuo: dir., Yokkaichi Chamber of Commerce, Chitose-machi, Yokkaichi-shi. Res: Takasago-machi, same. (1938).

TANAKA, Takeshi: repr. dir., wholesale fertilizer co., Hasedashi-cho, Yokkaichi-shi. Res: Kuramachi, same. (1936).

TONE, Ariaki: head, Internal Affairs Dept., pref. govt. (1943).

\*UCHIYAMA, Genichi: attended Harvard Univ. Address: 87 Higashi-gata, Ohamada-mura, Kuwana-shi.

UENO, Matao: head, Natl. Employm. Exch., Ujiyamada-shi. (1943).

\*USAMI, Toshiharu: b. 1894; grad. Yokkaichi College; attended Columbia Ext., English, 1917-18. Address: Komono-machi, Mie-gun.

UYEDA, Tokujiro: branch mgr., Dai Ichi Bank, Hama-cho, Yokkaichi-shi. (1940).

UYEHARA, Tanemi: princ., Mie Higher Agric. and Forestry School, Uyehama-cho, Tsu-shi. (1936).

UZAKI, Eizo: head, Local Dist. Office, Minamimuro-gun. (1943).

YAMADA, Kiyozo: head, Local Dist. Office, Shima-gun. (1943).

YAMADA, Yoshio: D. Litt; Pres., Jingu Kogakukan Univ; b. Toyama-ken; grad. Tokyo Imp. Univ., litt.; received doctorate degree, 1929; prof., Tohoku Imp. Univ; pres. post since 1940. Address: Urata-machi, Ujiyamada-shi. Listed in Who's Who, 1941-42.

YAMAMISE, Yoshio: treasurer, Yokkaichi-shi. (1943).

YAMAMOTO, Koichi: head, Public Works Dept., pref. govt. (1943).

YAMAMOTO, Masujiro: prop., Yamacho Seito-sho (porcelain exporting), Higashi-Akuragawa, Yokkaichi-shi. (1936).

YAMAMOTO, Shigeo: metal casting, kuwana-shi. (1938).

YAMAMOTO, Teizo: chief, Forestry Affairs Sect., Economics Dept., pref. govt. (1943).

YAMAMOTO, Yoshimasa: chief, Supervision & Management Sect., Public Works Dept., pref. govt. (1943).

YAMASHITA, Kikujiro: chief, Commerce and Industry Sect., Economics Dept., pref. govt. (1943).

YANAGI, Hatsuichi: constr. engr; member, Building Inst., Owashi-machi, Kitamuro-gun. (1930).

YOSHIDA, Ihei: pres., Tokai Cable Wire, Co. (cable mfg), Hamada-cho, Yokkaichi-shi; member, Rotary Intl., 1936 40. Res: Kura-machi, same.

YOSHIDA, Katsutaro: chairman, Mie branch chapter of Red Cross, Res: Hamada-cho, Yokkaichi-shi. (1936).

YOSHIDA, Katsutaro: mayor, Yokkaichi-shi; b. 1882, Ehime-ken; grad. Tokyo Imp. Univ., 1911; entered Ministry of Home Affairs; gov. of Gifu-ken to 1932; present post since 1934.

YOSHIDA, Matajiro: chief, Police Station, Yokkaichi-shi. (1943).



## APPENDIX I

## MANUFACTURES

## A. LIST OF MANUFACTURES.

## TEXTILES

1. Amikan Fishing Net Mfg. Co. Ltd.  
Tomita-machi, Yokkaichi-shi.  
Fishing net, cotton yarn and twine, sailcloth.  
Manila rope and twine, fishing tackle, general merchandise.
2. Hirata Boseki KK.  
Tomisuhara-cho, Yokkaichi-shi.  
Plant converted to aircraft in 1943.  
Cotton yarn.
3. Hirata Fishing Net Mfg. Co., Ltd.  
Tomisuhara-cho, Yokkaichi-shi.  
Fishing nets, cotton yarn, staple yarn, and cloth.
4. Kanegafuchi Boseki KK.  
(Head office: Tokyo).  
Plants located at Yokkaichi-shi; Matsuzaka-shi (converted to aircraft).  
Capital, 120,000,000 Yen.  
Woolen yarn; cotton yarn and piece goods.
5. Kishiwada Boseki KK.  
(Head office: Osaka).  
Plant: 328 Mehama-cho, Tsu-shi;  
Capital, 20,000,000 yen.  
(reported to have been taken over in 1941 by Dai Nippon Boseki KK. Plant converted to secret war production).  
Cotton yarn.
6. Kurashiki Boseki KK.  
(Head office: Kurashiki-shi, Okayama-ken).  
Plant: Tsu-shi;  
Capital, 50,000,000 yen.  
(Plant reported converted to the manufacture of special supply articles).  
Wool yarn.
7. Kureha Boseki KK.  
(Head office: Osaka).  
Plant: Ano-mura, Ano-gun;  
Capital, 38,500,000 yen.  
Rayon piece goods.

8. Mie Jinken KK.  
Sambomatsu-cho, Tsu-shi.  
Capacity: 3.5 metric tons a day.  
Rayon yarn.
9. Miyagawa Keori KK.  
Kobata-machi, Watarai-gun.  
Capital, 5,000,000 yen.  
Woolen piece goods.
10. Mie Seimo GsK.  
Yokkaichi-shi.  
Fishing nets (cotton, flax, silk, ramie nets).
11. Naigai Fishing Net Mfg. Co.  
Tsu-shi  
Fishing nets, cotton twine.
12. Ono Fishing Net Mfg. Co. Ltd.  
Tomita-machi, Yokkaichi-shi.  
Cotton fishing nets, cotton twine, silk nets.  
Linen nets, all kinds of fishing nets.
13. Toa Boseki KK.  
Yokkaichi-shi.  
Woolen yarn.
14. Toyo Boseki KK.  
(Head office: Osaka).  
Plant: Yokkaichi-shi;  
Capital, 72,725,000 yen.  
(converted to aircraft).  
Woolen yarn.
15. Yamamoto Fishing Net Mfg. Co.  
Kuwana-shi.  
Cotton fishing net and twine, linen fishing net,  
silk net, hairnet, manila rope.

## CHEMICALS

16. Chugai Iyaku KK.  
Ueno-shi.  
Pharmaceuticals.
17. Ishihara Sangyo KK.  
Yokkaichi-shi.  
Superphosphates, Sulphuric acid (annual capacity  
57,600 metric tons 50° Be).

18. Japanese Imperial Navy.  
Yokkaichi-shi.  
Petroleum refining.
19. Showa Kayaku KK.  
Yokkaichi-shi.  
Nitrocellulose, picric acid, propellants (8,400 metric tons annually).
20. Tokai gomu Kogyo KK.  
(address unknown).  
Rubber goods.
21. Utsube River Refinery.  
South of Yokkaichi, near Nagoya.  
Synthetic oil.

## ORE AND METAL PROCESSING

22. Sumitomo Kinzoku Kogyo KK.  
Kuwana-shi.  
Aluminum.
23. Toho Jukogyo KK.  
1, Toho-cho, Yokkaichi-shi.  
Stainless steel, rolled steel.
24. Toyda Seiko KK.  
Tsu-shi.  
Steel ingots, primary and secondary rolled steel, bars, rods, forgings.

## MACHINERY, TOOLS AND APPLIANCES

25. Kabata Belt Mfg. Co. Ltd.  
Suehiro-cho, Yokkaichi-shi.  
Transmission, conveyor belt and V-belt.
26. Kobayshi Kikai.  
Toba-machi, Shima-gun.  
Generators, motors, turbines, tools.
27. Kikugawa Seitetsu.  
444 Ominato -cho, Sakura-mura, Mie-gun.  
Turbines.
28. Kobe Seikosho.  
(Head office: Kobe)  
Yamada factory, Takegahana, Ujiyamada-shi.  
Other plants Kobe, Moji, Nagoya, Okibo (Hyogo-ken).  
Diesel engines, refrigerators, compressors,  
Tubes, generators, electrical equipment.  
Plant located at Toba-machi, Shima-gun.

29. Mie Kikai.  
1690 Hamada-cho, Yokkaichi-shi.  
Generators, turbines.
30. Tokyo Shibaura Denki KK.  
Asahi Mura, Mie-gun.  
Small motors and generators.
31. Toyo Bearing Seizo.  
(Head office: 4-chome, Dojimahama-dori, Kita-ku, Osaka).  
Main factory (12 miles from Nagoya on Nagoya Yokkaichi RR).  
Kuwana factory located at 1745 Uchibori, Kuwana-shi.  
Plant located in suburbs of Kuwana towards the mountain.  
Capital, 25,000,000 yen.  
Ball bearings (Japan's largest manufacturer).
32. Yamamoto Heavy Industry.  
Kuwana-shi.  
Heavy Industry.

## TRANSPORTATION EQUIPMENT

33. Imperial Steamship Co.  
Toba-machi, Shima-gun.  
Shipbuilding and Repairing, One.  
Drydock (288) available.
34. Kobe Seikosho.  
Plant located at Ujiyamada-shi.  
Plant located at Toba-machi, Shima-gun.  
Aircraft engines and electrical equipment; rolling stock parts.
35. Nakajima Hikoki KK.  
Amagasuka, Tomisuhara-machi, Yokkaichi-shi.  
Aircraft parts, assembly, airframes and engines, aircraft electrical and hydraulic equipment, engine parts and mounts.
36. Toyo Bearing Seizo.  
Kuwana-shi.  
Aircraft engine bearings.

## WOOD-USING INDUSTRIES.

37. Shintsu Seishi: KK.  
Ujiyamada-shi.  
Paper

38. Showa Tomeishi KK.  
Hamada, Yokkaichi-shi.  
Cellophane.

B. LIST OF PRODUCTS  
(Numbers refer to companies in List A).

## TEXTILES

Cloth, sail 1  
Goods, piece, cotton 3, 4  
Goods, piece, rayon 7  
Goods, piece, woolen 9  
Net, fishing 1, 3, 11  
Net, fishing cotton 10, 12, 15  
Net, fishing, flax 10  
Net, fishing, linen 12, 15  
Net, fishing, ramie 10  
Net, fishing, silk 10, 12, 15  
Nets, hair 15  
Rope, Manila 15  
Tackle, fishing 1  
Twine, cotton 1, 11, 12, 15  
Twine, Manila 1  
Yarn, cotton 2\*, 3, 4, 5  
Yarn, rayon 8  
Yarn, staple 3  
Yarn, woolen 4, 6, 13, 14\*

## CHEMICALS

Acid, picric 19  
Acid, sulphuric 17  
Goods, rubber 20  
Nitrocellulose 19  
Oil, synthetic 18, 21  
Pharmaceuticals 16  
Propellants 19  
Superphosphates 17

## ORE AND METAL PROCESSING

Aluminum 22  
Bars, steel 24  
Forgings 24

\*Converted to aircraft.

Ingots, steel 24  
Rods, steel 24  
Steel, rolled 23, 24  
Steel, stainless 23

## MACHINERY, TOOLS AND APPLIANCES

Bearings, ball 31  
Belt, conveyer 25  
Belt, transmission 25  
Belt V 25  
Compressors and blowers, air 26  
Engines, Diesel 28  
Equipment, electrical 28  
Generators 26, 28, 29, 30  
Machinery, industrial and manufacturing 32  
Motors, electric 26, 30  
Refrigerators 28  
Tubes 28  
Turbines 26, 27, 29  
Tools, machine 26

## TRANSPORTATION EQUIPMENT

Aircraft 2, 14\*  
Aircraft assembly 35  
Aircraft components 28  
Aircraft engines and parts 33, 35, 36  
Aircraft equipment 33, 35  
Aircraft parts 35  
Rolling stock parts 33  
Shipbuilding and repairing 33

\* Recent conversions

## WOOD-USING INDUSTRIES

Cellophane 38  
Paper 37

Restricted

APPENDIX II

RAILROAD LINES

The following railroad lines in Mie-ken are discussed in this appendix:

1. Kisei Line
2. Sangu Line
3. Sangu Kyuko RR (Iga Line)
4. Sangu Kyuko Main Line
5. Kansai Main Line
6. Sangu Kyuko RR (Kuwana Line)
7. Kansai-Kyuko RR
8. Sangu-Kyuko RR (Ise Line)
9. Sangu Kyuko RR (Tsu Line)
10. Meisho Line
11. Kusatsu Line
12. Matsuzaka RR
13. Hokusei RR
14. Chusei RR
15. Ano RR
16. Godo RR
17. Sangi RR
18. Mie RR
19. Kuwana Tramway
20. Shima RR
21. Logging RR in Kitamuro-gun
22. Logging RR in Kitamuro-gun
23. Logging RR in Take-gun

In the tables of stations, reference to a civil subdivision indicates that there is an unnamed station in that subdivision.

Mileage given in Tables 49 to 82 of this appendix are correct within 1 percent in nearly all cases. Bridge and tunnel lengths are approximate unless carried out to inches or decimals. Bridges up to 200 feet in length are designated as "short span" bridges.

1. Kisei Line.

Passenger traffic: Between Okaguchi Station and Owashi-machi 8 to 10 trains daily each way. Kushimoto-machi (Wakayama-ken) to the Wakayama-ken border, 17 to 18 trains daily each way (1937).

Restricted

TABLE 49

Stations, Kisei Line, Mie-ken.

Mileage from Okaguchi Sta.	Features
0.0	Okaguchi Sta., Sangu Line. Northern Terminal. Double track.
0.3	Junction. Line leaves Sangu Line, begins single track.
2.4	Oka Sta.
4.3	Sana Sta.
7.7	Tochihara Sta.
11.3	Kawazoe Sta.
15.5	Misedani Sta.
18.6	Takahara Sta.
21.2	Aso Sta.
24.4	Ise-Kashimazaki Sta.
26.7	Ochiyama Sta.
33.6	Kii-Nagashima Sta.
38.2	Minose Sta.
44.7	Oka-machi
48.6	Owashi-machi*
64.2	Kinomoto-machi
77.2	Mie-Wakayama Ken boundry

\*Completion of rail line between Owashi-machi and Kinomoto-machi unconfirmed.

TABLE 50

Bridges and Overheads(\*) Kisei Line, Mie-ken.

Mileage from Okaguchi Sta.	Length & Type	Obstacle
1.2	Short span	Sana-gawa
7.4	300 feet	Stream
*13.9	Short span	Kunano Highway
15.2	Short span	Creek
16.1	Deck Warren Truss: 1 span @ 60.69 meters. E-40 loading	Miya-kawa
19.2	Short span	Creek
20.0	Short span	Ochiyama-gawa
20.7	Short span	Stream
22.2	Short span	Ochiyama-gawa
22.5	Short span	Ochiyama-gawa
23.1	Short span	Ochiyama-gawa

Restricted

25.2	Short span	Ouchiyama-gawa
25.5	Short span	Ouchiyama-gawa
26.4	700 feet, steel	Ouchiyama-gawa
26.9	Short span	Ouchiyama-gawa
27.4	Short span	Ouchiyama-gawa
28.2	Short span	Ouchiyama-gawa
29.7	Short span	Ravine
*32.1	300 feet, steel	Road
33.3	Short span	Stream
34.0	Short span	Akaba-gawa
34.1	Short span	Stream

TABLE 51

Tunnels, Kisei Line, Mie-ken.

Mileage from Okaguchi Sta.	Length (in feet)
10.2	400
13.6	1,000
19.9	400
21.6	400
25.6	300
26.1	300
28.3	6,100
29.6	400
29.8	200
29.9	700
30.1	1,700
30.5	500
30.6	500
30.8	200
30.9	1,100
31.2	400
31.4	1,900
31.9	800
33.1	1,000
34.2	1,800
35.8	1,000
36.8	900
37.6	2,200
46.9	3,200
52.8	2,000

Restricted

2. Sangu Line.

Passenger traffic: 24 to 26 trains daily each way over this line (1937 and estimated 1945); average speed for fast trains is 25 miles per hour.

Freight traffic: Between Kameyama-machi and Ujijamada-shi 3,900,000 metric tons (including the rolling stock's weight) were estimated to have been hauled over this section in 1944.

TABLE 52

Stations and Features, Sangu Line, Mie-ken.

Mileage from Kameyama Sta.	Features
0.0	Kameyama Station; Northern terminal of line, Sangu Line leaves Kansai Main Line at west end of station. Single track.
3.5	Shimonosho Sta.
7.5	Ishinden Sta.
9.6	Tsu Sta.
9.7	Junction; junction with Tsu Line
12.0	Akogi Sta.; begin double track
14.5	Takachaya Sta.; end double track
18.1	Rokken Sta.
20.1	Junction with Meisho Line from the West. Begin double track
21.0	Junction with Sangu Kyuko Main Line from the North
21.5	Matsusaka Sta.
22.4	Junction with Sangu Kyuko Main Line to the East
23.5	Tokuwa Sta.; end of double track
26.4	Okaguchi Sta.; begin double track
26.8	Junction with Kisei Line to the West
30.8	Tamaru Sta.
33.3	Miyagawa Sta.; end of double track
34.7	Yamada-Kamiguchi Sta.
35.1	Junction with Kyuko Main Line from the North, begin double track
35.6	Junction with spur 0.4 miles long to the East with its eastern terminal of Sangu Kyuko Main Line
35.7	Yamada Sta.; end of double track
39.7	Futaminoura Sta.
44.3	Toba Sta.; southern terminal of line. Track extends 0.1 mile past station

TABLE 53

Bridges and Overheads(\*), Sangu Line, Mie-ken.

Mileage from Kameyama Sta.	Length and Type	Obstacle
0.3	500 feet, steel	Suzuka-gawa
2.6	Short span	Stream
8.4	Short span	Stream
8.5	Short span	Stream
*10.2	Short span	Street
*10.4	Short span	Street
*10.6	Short span	Street
10.6	Short span	Ano-gawa
*10.7	Short span	Street
13.6	Short span	Ai-kawa
15.1	Short span	Creek
15.7	1,000 feet, steel	Kumozu-gawa
18.4	400 feet, steel	Miwatari-gawa
19.3	Short span	Creek
20.7	Short span	Creek
21.2	Short span	Sakauchi-gawa
22.3	Short span	Creek
22.8	Short span	Kango-gawa
23.0	Short span	Creek
23.1	Short span	Creek
25.9	900 feet, steel	Kushida-gawa
*26.2	Short span	Road
26.3	Short span	
30.4	Short span	Moat
30.6	Short span	Moat
31.0	Short span	Creek
31.6	Short span	
33.8	Short span	Stream
33.9	Deck Pratt Steel	Miya-kawa
	Trusses: 11 spans @	
	30.79 meters	
*36.2	2 short spans	Seta-gawa; Godo Electric RR
*36.8	Short span	Road & Godo Electric RR
38.4	500 feet, steel	Isuzu-gawa
40.7	Short span	Water
40.8	400 feet, steel	Branch of Isuzu-gawa
42.6	Short span	Tide water
43.0	Short span	Creek
43.1	Short span	Creek

There is a 600 foot tunnel 1.1 miles from Kameyama station and a 1,100 foot tunnel 40.1 miles from Kameyama station.

3. Sangu Kyuko RR (Iga Line).

In 1942 the Sangu Kyuko Railroad System had 1,661 employees, 131 passenger cars and 165 freight cars, which figures cover all lines in this system. In the same year the income from passengers was 3,637,000 yen and from freight 390,000 yen. The system carried 326,363,000 metric tons of freight.

TABLE 54

Stations and Features Sangu Kyuko RR (Iga Line), Mie-ken.

Mileage from Iga-Ueno Sta.	Features
0.0	Iga-Ueno Station; northern terminal in Ueno-shi on Kansai Main Line. Single track leaves Kansai Main Line at this Sta.
0.5	Nii Sta.
1.5	Kakiyanotsuji Sta.
2.0	Ueno-shi
2.3	Ueno-shi
2.6	Hirokoji Sta., Ueno-shi
3.0	Kayamachi Sta., Ueno-shi
3.5	Kuwamachi Sta., Ueno-shi
4.0	Shijuku Sta.
4.9	Idamichi Sta.
5.7	Ichibi Sta.
6.5	Inako Sta.
7.3	Maruyama Sta.
8.0	Uebayashi Sta.
9.6	Hido Sta.
10.1	Junction with Sangu Kyuko Main Line from the East
10.2	Iga-Kambe Sta.
11.8	Mihata-Shinden Sta.
13.1	Nishihara Sta.
14.5	Habari-machi
15.3	Hatcho Sta., Habari-machi
16.0	Nishi-Nabari Sta.; southern terminal of line in Nabari-machi

Restricted

TABLE 55

Bridges and Overheads (\*), Sangu Kyuko RR (Iga Line)  
Mie-ken.

Mileage from Iga-Ueno Sta.	Length & Type	Obstacle
0.7	800 feet, steel	Tsuge-gawa
3.4	Short span	Kume-gawa
*7.4	Short span	Road
*9.1	Short span	Road
9.9	300 feet, steel	Nagata-gawa
*12.2	Short span	Road
14 3	2 Short spans	Stream

There is a 400 foot tunnel 11.7 miles from Iga-Ueno Sta.

4. Sangu Kyuko Main Line.

See 3. of th's appendix for specific information.

TABLE 56

Stations and Features, Sangu Kyuko Main Line,  
Mie-ken.

Mileage from Yamada Sta.	Features
0.0	Yamada Sta. in Uji-Yamada; This Sta. adjacent to Yamada Sta. on Sangu Line. Single track. Track extends 0.2 miles east of station. Eastern terminal.
0.1	Junction; Line joins Sangu Line from East. Begin double track.
0.6	Junction; Line leaves Sangu Line.
0.8	Gegumae Sta.
2.1	Obata Sta.
3.2	Akeno Sta.
4.9	Myojo Sta.
6.5	Saiku Sta.
8.6	Kushida Sta.
11.0	Higashi Matsusaka Sta.
11.1	Junction; Line joins Sangu Line from South
12.0	Sta. in Matsuaka-shi
12.5	Junction; Line leaves Sangu Line
13.4	Sankyu-Matsue Sta.
15 4	Sankyu-Nakahara Sta.

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Restricted

Restricted

17.2	Sankyu-Nakagawa Sta.
17.3	Junction with Sangu-Kyuko RR (Tsu Line) to North. Begin single track
20.0	Kawai-Takaoka Sta.
21.8	Sankyu-Ishiba-shi Sta.
24.3	Omitsu Sta.
25.7	Sata Sta.
29.8	Higashiaoyama Sta.
32.0	Higashiaoyama Sta.
35.0	Sankyu-Kozu Sta.
36.5	Ao Sta.
38.0	Iga-Kambe Sta.
39.4	Mihata Sta.
43.1	Nabari Sta. Begin double track
45.1	Akabeguchi Sta.
47.0	Nara-Mie Ken boundry

TABLE 57

Bridges and Overheads(\*), Sangu Kyuko Main Line,  
Mie-ken.

Mileage from Yamada Sta.	Length & Type	Obstacle
1.7	1,200 feet, steel	Miya-kawa
2.2	Short span	Stream
5.1	Short span	Stream
5.6	Short span	Stream
7.2	Short span	Stream
7.3	Short span	Stream
7.9	Short span	Stream
8.2	500 feet, steel	Kushida-gawa
*8.4	Short span	Road
8.8	Short span	Stream
10.1	Short span	Stream
10.5	Short span	Stream
10.7	Short span	Stream
11.2	Short span	Stream
12.4	Short span	Stream
13.8	Short span	Stream
*14.1	Short span	Highway
*14.6	Short span	Sangu Line
15.1	Short span	Stream
17.5	Short span	Stream
17.7	Short span	Stream
18.0	Short span	Stream
*18.7	1,000 feet, steel	Road & stream
19.7	Short span	Haze-gawa

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Restricted

Restricted

*21.5	1,000 feet, steel	Chusei RR & Kumozu-gawa
22.8	Short span	Stream
23.5	Short span	Stream
*24.2	Short span	Pref. Hwy.
*25.8	Short span	Pref. Hwy.
*32.4	Short span	Road
*33.3	600 feet	Road & stream
*34.6	Short span	Pref. Hwy.
35.1	300 feet, steel	Nagata-gawa
35.3	Short span	Stream
36.0	Short span	Stream
*36.9	Short span	Pref. Hwy.
*37.4	Short span	Road
*37.6	Short span	Road
37.8	300 feet, steel	Nagata-gawa
*38.3	Short span	Sangu Kyuko RR (Iga Line)
*38.4	Short span	Pref. Hwy.
39.7	Short span	Stream
*39.9	Short span	Sangu Kyuko RR, (Iga Line)
*41.9	Short span	Pref. Hwy.
*43.2	Short span	Street
*43.3	900 feet, steel	Seirenji-gawa
*43.6	Short span	Road
*43.8	Short span	Road
*45.0	Short span	Pref. Hwy.
45.3	Short span	Stream
46.1	Short span	Kuroda-gawa
46.3	Short span	Kuroda-gawa
*47.0	500 feet	Kuroda-gawa & Pref. Hwy. Nara-Mie Ken Boundry

TABLE 58

Tunnels, Sangu Kyuko Main Line, Mie-ken.

Mileage from Yamada Sta.	Length (in feet)
22.5	1,000
25.4	1,000
26.8	1,000
27.1	1,000
28.1	2,100
28.6	3,000
29.3	2,200

Restricted

29.9	10,500
33.4	1,200
33.8	300
34.0	300

5. Kansai Main Line.

Passenger traffic: Between Aichi-ken border and Kameyama-machi 23 to 28 trains daily each way; between Kameyama-machi and Nara-ken border 15 to 23 trains daily each way (1937 and estimated 1945). Average speed for express trains is 34 miles per hour.

Freight traffic: 6,100,000 metric tons (including the weight of rolling stock) was estimated to have been moved over the route in the prefecture in 1944.

TABLE 59

Stations and Features, Kansai Main Line, Mie-ken.

Mileage from Aichi-ken boundry	Features
0.0	Aichi-ken boundry. Double track
0.5	Begin single track
1.1	Nagashima Sta.
1.3	Begin double track
2.3	Begin single track
3.7	Kuwana Sta.
8.6	Tomida Sta.
9.4	Tomidahama Sta.
12.0	Yokkaichi Sta.
12.3	Spur 1.1 miles long leading to harbor. On this spur 0.2 miles from junction another spur extends 0.8 miles south to harbor area rejoining first spur 0.4 miles from junction
14.0	Junction with spur 0.3 miles long leading from muslin factory to the north
16.3	Kawarada Sta.
18.2	Begin double track
18.6	Begin single track
20.5	Kasado Sta.
23.2	Idagawa Sta.
26.1	Kameyama Sta.
26.2	Junction with Sangu Line from South
29.7	Seki Station
33.0	Kabuto Sta.



Restricted

38.5	Tsuge Sta.
38.6	Junction with Kusatsu Line
42.4	Shindo Sta.
45.1	Sanago Sta.
47.6	Iga-Ueno Sta. Junction with Sangu Kyuko RR (Iga Line)
52.1	Shimagahara Sta.
53.6	Kyoto-fu boundry

TABLE 60

Bridges and Overheads(\*), Kansai Main Line, Mie-ken.

Mileage from Aichi-ken boundry	Length & Type	Obstacle
0.0	2 single track Warren Steel Truss bridges; each bridge 13 spans @ 61.00 meters, 1 span @ 36.58 meters. E-40 loading.	Kiso-gawa
0.5	Short span	Creek
0.8	500 feet, steel	Stream
1.5	2 single track Warren Steel Truss bridges; 15 spans @ 60.96 meters, 1 span @ 30.48 meters. E-40 loading.	Gagara-gawa and Ibi-gawa
*2.8	Short span	Pref. Hwy.
2.9	Short span	Creek
*3.1	Short span	Road
5.0	600 feet, steel	Machiya-gawa
7.1	Short span	Creek
7.3	400 feet, steel	Asake-gawa
7.6	Short span	Creek
9.1	Short span	Stream
9.7	Short span	Stream
10.7	300 feet	Kaizo-gawa
11.4	200 feet, steel	Mitaki-gawa
12.9	2 short spans	Streams
13.1	Short span	Tempaku-gawa
13.7	Short span	Creek
15.4	Short span	Utsube-gawa
19.5	Short span	Creek
19.8	Short span	Creek
22.7	500 feet, steel	Anraku-gawa
23.6	Short span	Muku-gawa
28.9	Short span	Ono-gawa

Restricted

*29.4	Short span	Ise-Betsu Hwy.
30.6	Short span	Suzuka-gawa
31.2	Short span	Kabuto-gawa
*31.5	Short span	Pref. Hwy.
31.9	Short span	Kabuto-gawa
33.9	Short span	Kabuto-gawa
34.2	Short span	Kabuto-gawa
34.9	Short span	Kabuto-gawa
37.1	Short span	Kabuto-gawa
37.2	Short span	Stream
37.5	Short span	Pref. Hwy.
37.6	Short span	Creek
38.1	Short span	Creek
39.0	Short span	Creek
*44.3	Short span	Road
44.4	500 feet, steel	Kawai-gawa & Pref. Hwy.
44.8	Short span	Creek
46.0	Short span	Road
49.8	Short span	Creek
*51.0	Short span	Road
51.3	Short span	Creek
53.4	Short span	Pref. Hwy.

TABLE 61

Tunnels, Kansai Main Line, Mie-ken.

Mileage from Aichi-ken boundry	Length (in feet)
31.9	700
32.3	500
36.3	2,900 Kabuto tunnel
53.0	500

6. Sangu Kyuko RR (Kuwana Line).

See 3. of this appendix for specific information.

TABLE 62

Stations and Features, Sangu Kyuko RR (Kuwana Line),  
Mie-ken.

Mileage from Gifu-ken boundry	Features
0.0	Gifu-ken boundry Single track
1.0	Tado Sta.
2.3	Shimo-Nojiro
3.9	Shimo-Fukaya Sta.
6.3	Kuwana-shi. Southern terminal of line. This Sta. is also northern terminal of Sangu Kyuko RR (Ise Line)

TABLE 63

Bridges and Overheads(\*), Sangu Kyuko RR (Kuwana Line),  
Mie-ken.

Mileage from Gifu-ken boundry	Length & Type	Obstacle
0.8	Short span	Depression
*0.9	Short span	Pref. Hwy.
*1.4	Short span	Road
1.7	Short span	Creek
1.8	Short span	Hijie-gawa

7. Kansai-Kyuko RR.

The southwestern terminal of this railroad is at Kuwana-shi. Extending northwesterly, it crosses the Aichi-ken border 4.0 miles from Kuwana-shi.

8. Sangu Kyuko RR (Ise Line)

See 3. of this appendix for specific information.

TABLE 64

Stations and Features, Sangu Kyuko RR (Ise Line),  
Mie-ken.

Mileage from Northern Terminal	Features
0.0	Sta. in Kuwana-shi. Northern terminal of line. Sta. is also Southern terminal of Sangu Kyuko RR (Kuwana Line). Double track.
0.7	Masuo Sta.
1.5	Machiya Sta.
2.3	Asahi Sta.
3.3	Kawagoe Sta.
4.2	Tomisuhara Sta.
5.0	Nishitomida Sta.
6.8	Akuragawa Sta.
7.4	Kawarmachi Sta., Yokkaichi-shi
7.8	Yokkaichi-shi
8.3	Suwa Sta., Yokkaichi-shi. End of double track.
8.9	Yokkaichi-shi
10.5	Miyamoto Sta.
11.2	Shiohama Sta.
12.4	Kita-kusu Sta.
13.3	Kusu Sta.
14.7	Mida Sta.
16.0	Ise-wakamatsu Sta. Branch extends 2.4 miles westerly to Kambe-machi Suzuka-shi
16.9	Chiyosaki Sta.
18.7	Shiroko-machi, Suzuka-shi
19.5	Tsuzumigaura Sta., Suzuka-shi
20.6	Sta. in Isoyama, Sakae-mura
22.5	Ise-Ueno Sta.
23.5	Toyotsuura Sta.
24.9	Sakagawa Sta.
25.7	Takabazonzan Sta.
26.7	Edobashi Sta
27.3	Tsu-shi
28.2	Tsu-shi, begin double track
28.8	Tsu-Kaigen Sta.
29.5	Okogiura Sta., Tsu-shi
30.2	Sta. near Fujiedacho
31.1	Yonezu Sta.

Restricted

32.5	Kumosu Sta.
33.2	Karasu Sta.
34.1	Onoe Sta.
35.1	Tempaku Sta.
36.6	Yonenosho Sta.
38.0	Matsue Sta.
38.4	Matsuzaka-Kitaguchi Sta.
39.0	Torijinjamai Sta., Matsuzaka-shi
39.5	Shin-Matsuzaka Sta.
39.9	Hanaoka Sta.
41.4	Tokuwa Sta.
42.8	Kamikushida Sta.
43.6	Koishiro Sta.
44.8	Minami-Saiku Sta.
46.1	Minami-Myoro
47.7	Ise-Uta Sta.
50.2	Miyagawatsutsumi Sta.
50.7	Daijingumae Sta.
51.0	Tokiwacho Sta., Ujiyamada-shi, southern terminal of line.

TABLE 65

Bridges and Overheads(\*), Sangu Kyuko RR (Ise Line), Mie-ken.

Mileage from Northern Terminal	Length & Type	Obstacle
1.2	700 feet, steel	Machiya-gawa
*1.9	Short span	Kansai Main Line
3.3	600 feet, steel	Asake-gawa
*3.6	Short span	Road
*4.6	2 short spans	Kansai Main Line & Sangi RR, & Road
5.9	Short span	Creek
*6.9	Short span	Street
7.1	Short span	Stream
7.2	Short span	Kaizo-gawa
7.7	200 feet, steel	Mitaki-gawa
*7.9	Short span	Street
9.1	Short span	Stream
*9.6	Short span	Street
9.8	Short span	Stream
*9.9	Short span	Kansai Main Line
*10.0	Short span	Tempaku-gawa & Road
11.7	500 feet	Utsube-gawa
*11.8	Short span	Road
*11.9	Short span	Road

Restricted

*12.0	Short span	Road
*12.6	Short span	Road
12.7	600 feet, steel	Suzuka-gawa
*13.1	Short span	Street
15.3	Short span	Stream
16.7	500 feet, steel	Kinsai-gawa
19.9	Short span	Stream
21.0	Short span	Nakano-kawa
21.9	Short span	Tanaka-gawa
25.4	Short span	Shitomo-gawa
26.2	Short span	Stream
28.0	Short span	Ano-gawa
29.2	500 feet, steel	Iwata-gawa
31.4	Short span	AI-kawa
*31.5	Short span	Road
31.9	Short span	Stream
33.6	1,000 feet, steel	Kumozu-gawa
36.1	400 feet	Miwatari-gawa
37.2	Short span	Sangu Kyuko Main Line
37.3	Short span	Road
37.5	Short span	Road
37.7	Short span	Sangu Line
38.6	Short span	Sakauchi-gawa
39.8	Short span	Matsuzaka Electric RR
40.2	Short span	Creek
*40.4	Short span	Road
40.8	Short span	Creek
41.0	Short span	Creek
*41.3	400 feet	Sangu Line
41.7	Short span	Creek
42.9	Short span	Creek
*43.0	Short span	Road
43.1	600 feet, steel	Kushida-gawa
44.2	Short span	Harai-gawa
47.0	Short span	Stream
47.5	Short span	Stream
48.4	300 feet, steel	Tokida-gawa
*48.7	Short span	Sangu Line
*48.9	Short span	Road
49.0	Short span	Creek
49.2	Short span	Creek
50.0	1,000 feet, steel	Miya-kawa

There are 2 tunnels: 400 feet and 500 feet in length, 50.3 and 50.5 miles respectively, from the northern terminal.

9. Sangu Kyuko RR (Tsu Line).

See 3. this appendix for specific information.

TABLE 66

Stations and Features, Sangu Kyuko RR (Tsu Line),  
Mie-ken.

Mileage from Tsu Station	Features
0.0	Tsu Station, northern terminal of line. Sta. is on Sangu Kyuko Main Line.
1.5	Tsu-Shimmachi Sta.
4.6	Hisai Sta.
5.6	Momozono Sta.
7.6	Junction with Sangu Kyuko Main Line
7.7	Sankyu-Nakagawa Sta., southern terminal of line on Sangu Kyuko Main Line.

TABLE 67

Bridges and Overheads(\*), Sangu Kyuko RR (Tsu Line),  
Mie-ken.

Mileage from Tsu Station	Length & Type	Obstacle
*0.7	Short span	Street
1.7	Short span	Iwata-gawa
*2.6	Short span	Road
*2.7	Short span	Road & Chusei RR
3.4	Short span	Stream
3.7	Short span	Stream
5.8	Short span	Stream
6.8	1,200 feet, steel	Kumozu-gawa
7.4	Short span	Stream

10. Meisho Line.

TABLE 68

Stations and Features, Meisho Line, Mie-ken.

Mileage from Ise-Okitsu Sta.	Features
0.0	Ise-Okitsu Station, western terminal of line in Okitsu. Single track
2.3	Sta. in Hitsu
4.2	Ise-Yachi Sta.
5.8	Ise-Kamakura Sta.
8.6	Ise-Takewara Sta.
10.8	Ieki Sta.
13.6	Ise-Kawaguchi Sta.
17.2	Isegi Sta.
19.6	Ise-Hata Sta.
22.5	Gongemmae Sta.
25.4	Junction with Sangu Line from North. Begin double track
26.3	Junction on Sangu Line with Sangu Kyuko Main Line from North
26.8	Matsuzaka Station, on Sangu Line. Eastern terminal in Matsuzaka.

It is probable that this line connects Okitsu with Nabari-  
machi, which adds a distance of 13 miles to the length of the  
line. The construction work for part of this distance was  
completed prior to 1936, and the construction work for the  
remaining distance is probably completed by now.

TABLE 69

Bridges and Overheads(\*), Meisho Line, Mie-ken.

Mileage from Ise-Okitsu Sta.	Length & Type	Obstacle
1.5	Short span	Kumozu-gawa
2.0	200 feet, steel	Kumozu-gawa
2.6	300 feet, steel	Kumozu-gawa
3.4	Short span	Kumozu-gawa
4.0	Short span	Kumozu-gawa
4.4	Short span	Kumozu-gawa
5.7	Short span	Kumozu-gawa
5.9	Short span	Kumozu-gawa
8.2	Short span	Hatemata-gawa

Restricted

9.2	300 feet	Kumozu-gawa
10.2	300 feet	Kumozu-gawa
14.5	Short span	Creek
17.5	Short span	Haze-kawa
18.3	Short span	Haze-kawa
19.0	Short span	Haze-kawa
*21.3	Short span	Road
21.3	200 feet, steel	Nakamura-gawa
*23.1	200 feet, steel	Road

TABLE 70

Tunnels, Meisho Line, Mie-ken.

Mileage from Ise-Okitsu Sta.	Length (in feet)
1.9	200
6.2	400
6.8	200
16.6	1,200

11. Kusatsu Line.

Passenger traffic: 13 to 14 trains daily each way traveled over this route (1937 and estimated 1945).

TABLE 71

Stations and Features, Kusatsu Line, mie-ken.

Mileage from Tsuge Station	Features
0.0	Tsuge Station on Kansai Main Line. Southern terminal of line. Single track
0.1	Junction. Line leaves Kansai Main Line.
0.9	Shiga and Mie-ken boundry

12. Matsuzaka RR.

In 1942 the Matsuzaka RR had 69 employees, 5 passenger cars and 49 freight cars. Its income was 14,000 yen from freight and 56,000 yen from passengers. Also in 1942 the railroad carried 261,000 passengers and hauled 62,232 metric tons of freight.

Restricted

TABLE 72

Stations and Features, Matsuzaka RR, Mie-ken.

Mileage from Oishi Station	Features
0.0	Oishi Sta., southern terminal of line. Single track east of Oishi-mura
0.6	Katanobashi Sta.
2.5	Daishikuchi Sta.
3.8	Dego, Izawa-mura
4.7	Hongo, Izawa-mura
6.9	Oka-machi
7.4	Chuma Sta.
8.3	Shimo-Takoji
8.9	Takoji Sta.
11.1	Mayanoheta Sta.
11.4	Hanaoka Sta.
11.8	Chayomachi Sta.
12.2	Matsuzaka-shi
12.3	Spur extends 0.1 miles north to Sta. in Matsuzaka-shi
13.9	Spur extends 0.1 mile south side of railroad to Okuchi Sta.
15.2	Northern terminal of line at factory near waterfront

There are 2 overheads on this line in Matsuzaka-shi.

13. Hokusei RR.

In 1942 the Hokusei RR had 92 employees, 17 passenger cars and 44 freight cars. Its income in the same year was 105,000 yen from passengers and 36,000 yen from freight. Also in 1942 the railroad carried 755,000 passengers and hauled 93,049 metric tons of freight.

TABLE 73

Stations and Features, Hokusei RR, Mie-ken.

Mileage from Eastern Terminal	Features
0.0	Kuwana-shi, eastern terminal. Single track.
0.4	Kuwana-shi
1.1	Umamachi Sta.
1.7	Arioshi-mura

Restricted

2.5	Arioshi-mura
3.0	Arioshi Sta.
3.5	Arioshi-mura
4.7	Nanawa Sta.
5.3	Ano Sta.
6.1	Roppano Sta.
6.8	Kitaoyashiro Sta.
7.4	Sta. in Ogi, Inabe-machi
7.9	Oizumi-Higashi Sta.
8.4	Nagamiya, Inabe-machi
9.1	Inabe-machi
9.3	Sohara Sta.
10.4	Kami-Kasada Sta.
11.6	Ota, Yamazato-mura
12.1	Ukkaku Sta.
12.9	Ageki Sta., western terminal of line

TABLE 74

Bridges and Overheads(\*), Hokusei RR, Mie-ken.

Mileage from Eastern Terminal	Length & Type	Obstacle
*0.8	Short span	Street
*0.9	300 feet	Kansai Mail Line & Sangu Kyuko RR (Ise)
9.9	Short span	Stream
10.9	Short span	Yamoda-gawa
12.6	Short span	Creek

14. Chusei RR.

TABLE 75

Stations and Features, Chusei RR, Mie-ken.

Mileage from Iwabashi Sta.	Features
0.0	Iwabashi Sta. in Tsu-shi, eastern terminal of RR. Single track
0.7	Sta. in southern Tsu-shi
2.5	Sta. near Aikawa-mura
3.3	Hisai Sta. on Sangu Kyuko Main Line
3.7	Teramachi Sta., Hisai-machi
4.1	Sta. near Hisai-machi
4.7	Sta. near Heki-mura
5.6	Sta. near Deya
6.0	Sta. near Deya

Restricted

6.4	Nanakuri Sta.
7.3	Sta. in Sonokura
7.9	Sta. near Ishigashi
9.0	Sta. near Onoki
10.6	Sta.
11.6	Ise-Nihongi Sta., in Nihongi
12.4	Sta. near Gyoiden
12.7	Western terminal of line, adjacent to Ise-Kawaguchi Sta. on Meisho Line

There is an overhead 0.9 miles from Iwabashi station and a bridge 300 feet in length over the Kumozu-gawa, 12.0 miles from Iwabashi station.

15. Ano RR.

TABLE 76

Stations and Features, Ano RR, Mie-ken.

Mileage from Southern Terminal	Features
0.0	Southern terminal, Sta. in Hatcho, Tsu-shi. Single track
1.0	Noso Sta.
1.5	Sta. near Naka-Atobe
2.2	Sta. near Shikamo
2.8	Zone Sta.
3.3	Uchido Sta.
4.3	Ano Sta.
5.1	Okamoto Sta.
6.4	Ansai Sta.
7.4	Mukumoto Sta., northern terminal of line in Mukumoto-mura

16. Godō RR.

TABLE 77

Stations and Features, Godō RR, Mie-ken.

Mileage from Naigu Station	Features
0.0	Naigu Sta., southern terminal of line near Naigu. Single track
0.5	Uji Sta. Begin double track
1.3	Kusube Sta. Junction with Asama Branch extending East. There are 3 stations and

Restricted

and 2 short span bridges on this branch. At the end of the branch is a cable railway powered with 110 h.p. 220 volts A.C. Theodore Bell Electric Motors  
 2.4 Nakayama Sta., begin single track  
 2.5 Spur extends 1.5 miles to West to Sta. in Ujiyamada-shi  
 2.8 Nikenjaya Sta. Junction with spur from the West. This spur is 1.0 miles long and joins spur of this line leading to Ujiyamada-shi

There is a 400 foot steel bridge over the Isuzu-gawa, 4.2 miles from Naigu station.

17. Sangi RR.

TABLE 78

Stations and Features, Sangi RR, Mie-ken.

Mileage from Tomida Station	Features
0.0	Tomida Sta. Sta. in Yokkaichi-shi adjacent to Tomida Sta. on Kansai Main Line. Southern terminal. Single track
1.6	Oyachi Sta.
2.5	Heitsu Sta.
3.2	Kayo Sta.
4.3	Yamajo Sta.
5.9	Hobo Sta.
7.0	Onaga Sta.
8.1	Umedoi Sta.
9.4	Oide Sta.
10.6	Misato Sta.
12.1	Nyugawa Sta.
12.9	Aise-Hata Sta.
14.3	Higashi-Fujiwara Sta.
15.7	Sta. in Nishinoshiri
16.5	Nishi-Fujiwara Sta. Northern terminal of line

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 Restricted

Restricted

TABLE 79

Bridges and Overheads(\*), Sangi RR, Mie-ken.

Mileage from Tomida Station	Length & Type	Obstacle
*0.6	300 feet	Street & Kansai Main Line
*5.2	Short span	Road & creek
6.3	300 feet, steel	Asake-gawa Creek
6.4	Short span	Uga-gawa
9.7	500 feet, steel	Genta-gawa
10.9	Short span	Stream
12.5	600 feet, steel	

18. Mie RR.

In 1942 the Mie RR had 81 employees, 21 passenger cars and 59 freight cars. Its income in the same year was 94,000 yen from passengers and 11,000 yen from freight. Also in 1942 the railroad carried 746,000 passengers and hauled 27,805 metric tons of freight.

TABLE 80

Stations and Features, Mie RR, Mie-ken.

Mileage from Yunoyama Station	Features
0.0	Yunoyama Sta. Western terminal of the Yunoyama Line of the Mie RR
1.7	Nakakomono Sta.
2.5	Komono-machi
3.0	Shukuno
3.6	Kamori Sta.
4.1	Kitaku
5.4	Takatsuno Sta.
6.2	Kitagawahara
6.8	Komo
7.8	Oide
8.5	Hinokuchi
8.7	Hinokuchi
9.3	Horiki
9.6	Suwa Station adjacent to the Suwa Sta. of the Sangu Kyuko RR in Yokkaichi-shi
10.1	Minamiwhamada Sta.
10.4	Akahori

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 Restricted

10.8	Hinga Sta. From here a branch extends 2.0 miles westward to Ise-Hachioji. There are 5 stations on this branch
11.3	Minamihinga Sta.
12.0	Tamori Sta.
12.5	Oiwaki Sta.
12.8	Osoge
13.2	Utsube Sta.
13.4	Southern terminal of Utsube Line of Mie RR

There are 3 short span bridges on this line, 11.0, 11.1, and 12.1 miles from Yunoyama Sta.

19. Kuwana Tramway.

The Kuwana Tramway provides a shuttle service 0.5 miles long from the Kuwana station on the Kansai Mail Line to the middle of Kuwana-shi.

20. Shima RR.

TABLE 81

Stations and Features, Shima RR, Mie-ken.

Mileage from Terminal in Toba-machi	Features
0.0	Toba-machi. Northern terminal of line.
0.6	Single track
2.2	Nakanogo Sta.
3.1	Funatsu-mura
4.0	Kamo Sta.
5.0	Matsuo-mura
6.7	Shiraki Sta.
7.6	Gochi Sta.
8.6	Sta. near Kutsukake
9.4	Shima-Isobe Sta.
10.7	Hasama Sta.
12.4	Anagawa Sta.
13.0	Sta. near Ugata-mura
14.1	Sta. near Ugata-mura
15.0	Shima-Shimmei Sta.
	Shin-Juko Sta. Southern terminal of line

TABLE 82

Bridges, Shima RR, Mie-ken.

Mileage from Terminal in Toba-machi	Length & Type	Obstacle
2.3		
4.5	Short span	Kamo-gawa
4.7	Short span	Stream
9.2	Short span	Stream
10.1	Short span	Stream
		Ikeda-gawa

21. Logging RR in Kitamuro-gun.

The eastern terminal is in Nakura, near Nagashima-machi. From there the railroad extends westerly 4.5 miles where it branches. One branch extends northwest for 1.8 miles, the other branch extends southwest for 1.3 miles. There are 2 short span bridges on this railroad.

22. Logging RR in Kitamuro-gun.

The eastern terminal is at Hikimoto-machi. From there the railroad extends westwardly 5.4 miles terminating in the Kowadani National Forest.

23. Logging RR in Take-gun.

The southern terminal is adjacent to Kanotokeishi. From there the railroad extends 2.4 miles northward terminating near Takiya (Kotaki).



## APPENDIX III

## ELECTRIC GENERATING PLANTS

The following abbreviations are used in this Appendix:

Technical terms.

a	ampers
ac	alternating current
adv	advertisement
ave	average
Btu	British thermal unit
C	centigrade
cap	capacity
conn	connection
cont	continuous
cm	centimeter
cm <sup>2</sup>	square centimeter
cyc	cycles
dc	direct current
D-D	delta-delta (transformer connection)
D-Y	delta-Y (transformer connection)
econ	economical
eff	effective
est	estimated
F	Fahrenheit
ft	feet
ft <sup>2</sup>	square feet
hp	horsepower
in	inch
inc	includes
in <sup>2</sup>	square inch
kg	kilogram
kg/cm <sup>2</sup>	kilograms per square centimeter
km	kilometer
kv	kilovolt
kva	kilovolt-ampere
kw	kilowatt
kwh	kilowatt-hour
lb	pound
lbs/in <sup>2</sup>	pounds per square inch
m	meter
m <sup>2</sup>	square meter
m <sup>3</sup>	cubic meter
m <sup>3</sup> /sec	cubic meters per second
max	maximum
max pk	maximum peak
min	minute
mini	minimum
no	number
opp	opposite

pf	power factor
ph	phase
qv	which see
reg	regular capacity
reg pk	regular peak
res	reserve, reserve capacity
rpm	revolutions per minute
sec	second
spec	special capacity
supp	supplement, supplementary capacity
t	ton
t/hr	tons per hour
v	volt
Y-Y	transformer connection
@	each
*	indicates that kw have been estimated from kva at 80 percent power factor

Non-Japanese trade names.

AC	Allis-Chalmers Mfg. Co.
AEG	Allegemeine Elektricitats-Gesellschaft
ASEA	Allmanna Svenska Elektriska Aktiebolag
B	Boving & Co., Ltd.
BEC	Brown, Boveri & Co., Ltd.
BTH	British Thomson-Houston Co., Ltd.
B & W	Babcock & Wilcox Co.
D	Dicker
EC	Erie City Boiler Co.
EE	English Electric Co., Ltd.
EW	Escher, Wyss Co.
G	Green Economizer Co.
GE	General Electric Co.
H	Heine
IPM	I.P. Morris Co.
MV	Metropolitan-Vickers Electrical Co., Ltd.
P	Pelton Steel Casting Co.
R	Russell
S	Shepardson
SB	Sulzer Brothers, Ltd.
SS	Siemens Schukert Werke A.G.
STAL	Svenska Turbin fabriks Aktiebolaget Ljungstrom
V	Voith
W	Westinghouse Electric & Mfg. Co.
WE	Western Electric Co.

## OI KARYOKU STEAM PLANT

Location: Hinaga, Yokkaichi-shi.  
 Installed capacity (in kw): 1500, as of Dec. 1934.  
 Date of construction: completed Jan. 1912; in operation  
 Dec. 1934.

Details: particular capacities (in kw): \*1500 installed cap.; 1500 reg.  
 Plant, external features: of brick construction with 1 stack @ 119 ft. high  
 Plant, equipment:  
 Fuel supply: delivered by water; coal handled manually.  
 Feedwater: 5 artesian wells and a settling pond for purification.  
 Boilers: 3 (incl. 1 res.) @ B & W-type, 200 lbs/in<sup>2</sup> 200° C, 5000 ft., B & W-make.  
 Turbines: 1 @ 2100 hp., Curtis-type, BTH-make.  
 Generators: 1 @ 1875 kva., 3-ph., 2300 v., 1800 rpm., 60 cyc., BTH-make.  
 Transformers: 3 @ 750 kva., 1-ph., 5.775/45 kv., D-D conn., water-cooled, 60 cyc., GE-make.  
 3 @ 200 kva., 1-ph., 2.3, 2.25, 2.2, 2.1/11 kv., D-D conn., self-cooled, 60 cyc., Shibaura-make.  
 Other equipment: 1 condenser; 3 B & W-superheaters; no economizers; 1 feedwater heater; 1 exciter @ 16 kw.; 1 overhead crane @ 12-ton cap.

## TSU KARYOKU STEAM PLANT

Location: 203, Furukawa-oaza, Tsu-chi; 50 yds. from inlet.  
 Installed capacity (in kw.): \*9600, as of Dec. 1933.  
 Date of construction: completed Sept. 1925; in operation Mar. 1940.

Details: Particular capacities (in kw.): 2700 reg.; 5000 supp.  
 Plant, external features: of concrete construction.  
 Plant equipment:  
 Fuel supply: used 2.4 lbs. of 6000 to 6300 Btu/lb coal for each kwh generated in 1927  
 Boilers: 3 @ B & W-water tube-type, 17.55 kg/cm<sup>2</sup>, 575 m<sup>2</sup>, B & W-make.  
 3 @ B & W water tube-type, 14.1 kg/cm<sup>2</sup>, 575 m<sup>2</sup>, B & W-make.  
 Turbines: 1 @ 9000 hp., impulse-type, horizontal-shaft, EW-make.  
 1 (res.) @ 4200 hp., impulse-type, horizontal-shaft, EW-make.  
 Generators: 1 @ 8250 kva., 3-ph., 3500 v., 3600 rpm., 60 cyc., W-make.  
 1 (res.) @ 3750 kva., 3-ph., 2300 v., 3600 rpm., 60 cyc., W-make.  
 Transformers: 4 @ 2000 kva., 1-ph., 3.3/42.8, 40.4 kv., and 3.5/38.2, 36.4 kv., D-Y conn., water-cooled, shell-type, Hitachi-make.

4 (incl. 1 res.) @ 5000 kva., 1-ph., 70, 66, 63/44, 42, 40 kv., D-D conn., water-cooled, 60 cyc., shell-type, Kawakita-make.  
 4 (incl. 1 res.) @ 1000 kva., 1-ph., 2.3, 2.2, 2.1, 3.3, 3.5/44, 42, 40 kv., D-D conn., water-cooled, 60 cyc, shell-type, Kawakita-make.  
 4 (incl. 1 res.) @ 1000 kva., 1-ph., 2.3, 2.2, 2.1/44, 42, 40, 38 kv., D-D conn., water cooled, 60 cyc., shell-type, W-make.  
 6 @ 500 kva., 1-ph., 3.5/19, 18, 17 kv., D-D conn., water-cooled, 60 cyc., shell-type, Kawakita-make.  
 Other equipment: 1 exciter @ 50 kw. and 1 exciter @ 15 kw.; 2 surface condensers; 6 superheaters; 2 chain-grate stokers; 3 economizers.  
 Area served: Mie-ken.

## APPENDIX IV.

## Place Names and Locations.

<u>SHI</u>		<u>Lat. N.</u>	<u>Long. E.</u>
Kuwana		35.03	136.42
Matsuzaka		34.34	136.32
Suzuka		34.50	136.34
Tsu		34.40	136.30
Ueno		34.46	136.08
Ujiyamada		34.29	136.42
Yokkaichi		34.58	136.38

  

<u>MACHI</u>	<u>Gun No.*</u>	<u>Lat. N.</u>	<u>Long. E.</u>
Ageki	5	35.09	136.32
Aiga	7	34.06	136.15
Ansai	1	34.47	136.26
Ao	11	34.40	136.11
Atawa	10	33.48	136.02
Futami	15	34.30	136.47
Gokasho	15	34.20	136.41
Hamashima	12	34.17	136.45
Hanaoka	4	34.32	136.30
Hikimoto	7	34.07	136.15
Hisai	3	34.40	136.28
Ieki	3	34.37	136.18
Inabe	5	35.06	136.33
Ishinden	6	34.45	136.30
Kakino	4	34.30	136.22
Kambe	6	(See note 4.)	
Kameyama	13	34.51	136.27
Kamiyashiro	15	(See note 10.)	
Karasa	3	34.39	136.28
Kayumi	4	34.26	136.23
Kinomoto	10	33.54	136.06
Kobata	15	34.30	136.41
Kochi	1	34.47	136.21
Komono	9	35.00	136.31
Kusu	9	34.55	136.38
Nabari	11	34.37	136.06
Nagashima	7	34.12	136.20
Namikiri	12	34.17	136.53
Nishiki	7	34.13	136.24
Nishikuwana	8	(See note 2.)	
Oizu	14	(See Oyodo-machi.)	
Oka	14	34.07	136.09
Ominoto	15	34.31	136.44

<u>MACHI</u>	<u>Gun No.*</u>	<u>Lat. N.</u>	<u>Long. E.</u>
Owashi	7	34.04	136.12
Oyodo	14	34.33	136.39
Seki	13	34.51	136.09
Shiroko	6	(See note 4.)	
Takahara	15	34.20	136.26
Tamaru	15	34.29	136.37
Toba	12	34.28	136.50
Tomisuhara	9	(See note 11.)	
Tomita	9	(See note 11.)	
Tsuge	2	34.51	136.16
Ujii	1	34.48	136.24
Wagu	12	34.15	136.48

  

<u>MURA</u>	<u>Gun No.*</u>	<u>Lat. N.</u>	<u>Long. E.</u>
Agata	9	35.00	136.33
Aikawa	6	34.50	136.30
Akaba	7	34.13	136.17
Akeyai	1	34.47	136.25
Akira	6	34.50	136.09
Amana	6	34.50	136.32
Ano	1	34.46	136.28
Anori	12	34.21	136.54
Anto	1	(See note 5.)	
Arasaka	10	33.57	136.11
Arii	10	33.54	136.04
Ariyoshi	8	35.04	136.39
Asahi	9	35.02	136.39
Asakami	9	35.03	136.28
Asami	4	34.34	136.34
Asuka	10	33.58	136.07
Atashika	10	33.56	136.08
Awa	2	34.46	136.17
Azaka	3	34.36	136.28
Azena	12	34.17	136.53
Chihiroe	4	34.30	136.29
Chikusa	9	35.02	136.27
Fuchu	2	34.47	136.10
Fujimizu	1	(See note 1.)	
Fukaizawa	13	34.55	136.30
Fukaya	8	35.06	136.39
Funakoshi	12	34.16	136.52
Funatsu	7	34.10	136.15
Furuhama	8	35.07	136.37
Furumi	8	35.08	136.35
Furuyama	11	34.41	136.06

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<u>MURA</u>	<u>Gun No.*</u>	<u>Lat. N.</u>	<u>Long. E.</u>
Fuseda	12	34.16	136.50
Gokatani	14	34.27	136.27
Goza	12	34.16	136.46
Hamago	15	34.30	136.45
Hanagaki	11	34.43	136.05
Hananoki	2	(See note 6.)	
Hatadono	4	34.34	136.36
Hatsu	9	(See note 11.)	
Hatta	5	35.08	136.28
Haze	3	34.37	136.23
Haze	4	34.25	136.08
Heki	3	34.41	136.27
Higashifujihara	5	35.09	136.29
Higashikurobe	14	34.35	136.36
Higashitokida	15	34.28	136.36
Higashitsuge	2	(See Note 12.)	
Hijiki	11	34.42	136.12
Hinachi	11	34.37	136.09
Hinaga	9	(See note 11.)	
Hirata	13	(See note 4.)	
Hiru	13	34.49	136.28
Hobo	9	35.03	136.33
Hohara	15	34.19	136.37
Ichiki	10	33.46	136.02
Ichinomiya	6	(See note 4.)	
Ichinose	15	34.20	136.34
Ida	10	33.45	136.00
Ida	11	34.43	136.08
Idagawa	13	34.52	136.29
Iino	6	(See note 4.)	
Inaba	3	34.42	136.24
Inabe	5	35.06	136.35
Inako	11	34.43	136.10
Ino	6	(See note 4.)	
Iruka	10	33.52	135.55
Isato	10	33.59	136.03
Isedera	4	34.34	136.28
Iseji	3	34.31	136.15
Ishigure	5	35.06	136.28
Ishiyakushi	13	(See note 4.)	
Isobe	12	34.23	136.48
Isojima	8	35.03	136.43
Izawa	4	34.31	136.30
Jonan	2	(See note 6.)	
Jonan	8	35.02	136.42
Kabuto	13	34.50	136.19
Kagamiura	12	34.25	136.54
Kambara	15	34.19	136.43

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<u>MURA</u>	<u>Gun No.*</u>	<u>Lat. N.</u>	<u>Long. E.</u>
Kambe	1	(See note 1.)	
Kambe	11	34.38	136.10
Kambe	13	34.52	136.25
Kamikawa	10	33.56	135.59
Kamikawa	10	33.51	135.52
Kamimito	14	34.33	136.37
Kamijima	12	34.33	136.59
Kamo	12	34.26	136.49
Kanda	5	35.05	136.36
Kanzaki	9	34.59	136.34
Kasada	5	(See note 3.)	
Kasasagi	3	34.37	136.32
Kashiwazaki	15	34.17	136.24
Katada	1	34.43	136.26
Katada	12	34.15	136.50
Katsuragi	7	34.06	136.18
Kawabata	4	34.35	136.16
Kawagoe	9	35.01	136.41
Kawaguchi	3	34.38	136.21
Kawai	2	34.49	136.10
Kawai	3	34.39	136.28
Kawano	6	(See note 4.)	
Kawarada	9	34.55	136.36
Kawasaki	13	34.53	136.29
Kawashima	9	34.58	136.33
Kawazoe	14	34.25	136.28
Kida	15	34.30	136.38
Kisozaki	8	35.04	136.44
Kitahama	15	34.32	136.41
Kitawauchi	10	33.58	136.16
Ko	12	34.20	136.52
Kofu	13	(See note 4.)	
Koga	12	34.19	136.52
Koishiro	4	34.32	136.36
Komohara	11	(See note 7.)	
Koshika	12	34.16	136.47
Koshiyama	10	33.53	136.00
Kotsu	11	34.40	136.15
Kuki	7	33.59	136.15
Kumada	13	34.55	136.33
Kume	5	35.03	136.36
Kumozu	3	34.39	136.31
Kunitsu	11	34.35	136.09
Kuramochi	11	(See note 7.)	
Kurima	6	34.45	136.32
Kuroda	6	34.47	136.31
Kusao	1	34.46	136.25
Kushida	4	34.33	136.35

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