Urbanization and Urban Problems in Japan

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After World War 2, Japanese society has undergone a great change, urbanization, and the Tokaido district has developed into a highly urbanized society, with the result that various kinds of problems have arisen throughout the Tokaido Megalopolis.

The object of this paper is as follows: (1) to grasp the actual state of urbanization in Japan from the point of the concentration of manufacturing industries and population in the big cities, and to clarify the characteristic of urbanization in Japan, (2) to investigate the cause and effect of urban problems, that is, rise in land prices, small houses, insufficiency of life environment facilities, traffic problems and environmental pollution, and to find out how to solve these urban problems.

After world war 2, Japanese society has undergone two great changes, namely, industrialization and urbanization. These two have had a close connection with each other, enabling Japan to develop into one of the most advanced countries of the world.

Since 1955 Japan has achieved a rapid economic growth, which is called a modern miracle. Especially in the 1960's manufacturing industries such as machine, metal and chemical industries made great progress in technological innovation.

At the same time, manufacturing industries and population have concentrated in the district which stretches from Tokyo and Yokohama to Osaka and Kobe, and this has developed into a highly urbanized society called the Tokaido Megalopolis, with the result that various kinds of urban problems have arisen throughout the Tokaido Megalopolis.

A. Urbanization in Japan

First of all we have to form a clear definition of urbanization. The word is given various definitions such as the concentration of manufacturing industries, the concentration of population, the increase in non-agricultural land use and change in a mode of living. In essence, however, we should like to define it as the concentration of manufacturing industries and population in the cities.

1. Concentration of Manufacturing Industries

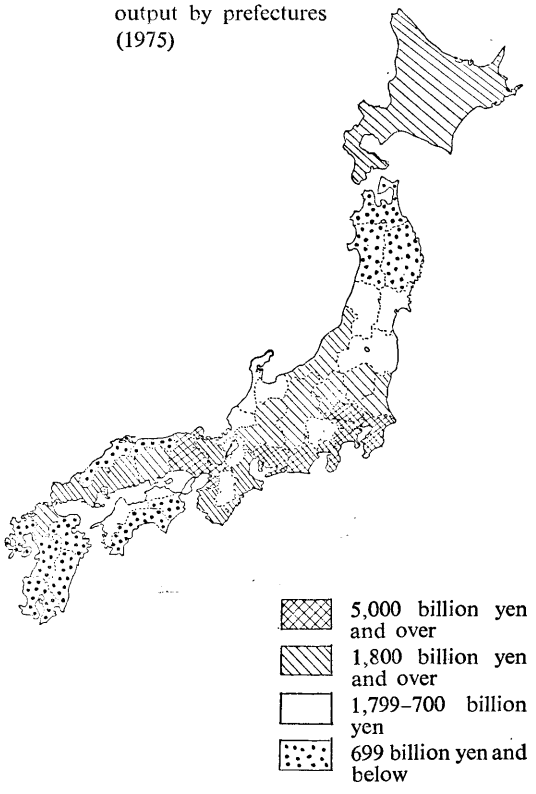
Modern manufacturing industries in Japan began to develop in the middle of the Meiji era. The Meiji government was forced to construct the new Japan on an industrial basis, and made every possible effort to promote the industries.

At that time, Keihin district (Tokyo and Yokohama were its centers), Hanshin district (Osaka and Kobe) and Chukyo district (Nagoya) had the advantage of capital, workers, raw materials, markets, transportation and technical skills. While coal fields made it possible for North Kyushu district to prosper as an industrial region. Then Keihin, Hanshin, Chukyo and Kita Kyushu districts developed into four major industrial regions in Japan.

Being entirely destroyed during World War 2, manufacturing industries in Japan gradually recovered between 1947 and 1954. Since 1955 Japan has achieved a rapid economic growth, and manufacturing industries output in Japan increased 10 times between 1955 and 1970.[1] Because of the energy revolution from coal to oil, Kita Kyushu industrial region was unable to make much progress, while Keihin, Hanshin and Chukyo industrial regions have made great progress, where a great many factories and offices have been built in rapid succession. As a result, seven prefectures (Tokyo, Kanagawa, Osaka, Hyogo, Aichi, Kyoto and Fukuoka) provided 54 percent of manufacturing industries output in 1970.[2]

Moreover wholesale and retail sale industries have concentrated in the big cities to a high degree. In 1970 Tokyo and Osaka prefectures provided 55 percent of all the wholesale goods and had control of all commercial business throughout Japan.[3]

figure 1 manufacturing industries output by prefectures (1975)



What is more important is the concentration of pivotal management functions in the big cities. These mean administrative bodies, head offices of enterprises, cultural and educational agencies, banking facilities. In 1970, 60 percent of head offices of enterprises capitalized at over 5 billion yen concentrated in Tokyo.

The reason why they have concentrated in Tokyo is as follows; profitable connections with administrative bodies, availability of various kinds of information, opportunities for business relations with other enterprises. It is obvious that centralization of power has produced the excessive concentration of pivotal management functions in Tokyo.[4]

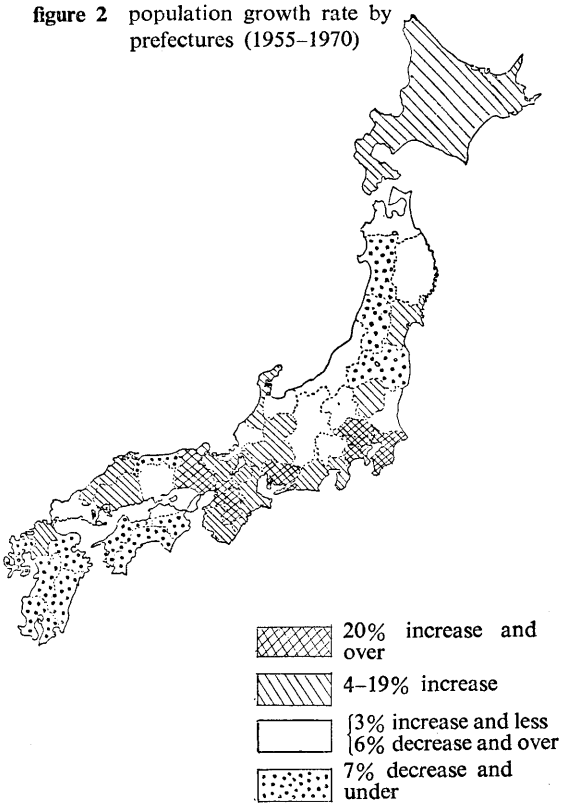
The causes of the rapid economic growth in Japan are as follows; belief in economic growth, cooperation between the government and the people, the introduction of foreign techniques, protective trade, good and plentiful labor.

2. Concentration of Population

Japan is a narrow, overpopulated country, that is, an island with an area of 377,000 square kilometers (about 30 percent of it is fit for use), and with a population of 117,000,000. Therefore the population density of Japan is higher than any other advanced country. This is the most important point in discussing population in Japan.

With the concentration of manufacturing industries, a lot of young people have settled in the big cities of the Tokaido Megalopolis: they have come from all over the country seeking employment and cultural, liberal atmosphere. While in rural areas the demands of the work force have been diminishing because of farm mechanization and the use of agricultural fertilizers, in short, rural areas have driven the people into the big cities.

figure 2 population growth rate by prefectures (1955–1970)



As a result, Tokyo, Osaka, Nagoya and Yokohama each showed a considerable increase of 64, 52, 98, 135 percent in population between 1950 and 1970.[5] Tokyo now has a population of more than 8,300,000 and Osaka has more than 2,600,000. The population density of Tokyo is more than 14,000 per square kilometer and that of Osaka is more than 12,000 per square kilometer. Nearly half of the population in Japan lives in the Tokaido Megalopolis (eleven prefectures) which oc-

cupies only 17 percent of the whole country.[5]

In the 1960's a great many young people concentrated in the big cities themselves, and it was called a great migration of the Japanese people. In the 1970's, however, people concentrating in the big cities gradually began to decrease in number, at the same time people have chiefly concentrated in the suburbs of the big cities.

On the other hand, farming villages, fishing villages and mountain villages in Tohoku, Hokuriku, Sanin, Kyushu and Shikoku districts have rapidly decreased in population in the 1960's because of the migration of young people. The population of these districts, however, has remained on the same level in the 1970's.

Urbanization has developed a wide difference between urban and rural areas. In 1965, the population density of Tokyo prefecture was 60 times as high as that of Iwate prefecture, and manufacturing industries output of Tokyo prefecture was 80 times as much as that of Tottori prefecture.[6] The gap between these two areas has become one of the most important problems in Japanese society.

The Japanese government has carried out some policies in order to solve the problem. In 1962 the government planned a National Multiple Purpose Development Program, which aimed to develop 15 production centers (new industrial cities) in rural areas, and to decentralize production. It was called a center development system. Nevertheless manufacturing industries and population kept concentrating in the big cities because of the benefit of centralization.

In 1969 the government decided a New National Multiple Development Program, which was called a large-scale development project system. The object of this program was to construct national transportation and communication networks and to make a few large-scale industrial development bases in rural areas. It, however, failed because of the increase of pollution and the rise in land prices.

In 1972–73, the steep rise in oil prices overtook Japan suddenly and struck a heavy blow at her economy and put an end to her rapid economic growth.

In 1977 the government proposed a Third National Multiple Purpose Development Program named a human settlement zone system. Its object was to provide new living zone fit for human residence in rural areas, and to control the concentration of manufacturing industries and population in the big cities. We cannot expect this program to obtain the desired effect because of financial difficulties of the government.

B. Urban Problems in Japan

We must have a clear definition on the meaning of urban problems. We could define them as problems which prevent people in an urban society from living healthy and cultural lives, and they take place mostly in the Tokaido Megalopolis which includes three metropolitan areas (Keihin, Hanshin and Chukyo).

Urban problems in Japan chiefly consist of (1) rise in land prices, (2) small houses, (3) insufficiency of life environment facilities, (4) traffic problems, (5) environmental pollution.

1. Causes of urban Problems

The main causes of urban problems in Japan are as follows; overcrowding of manufacturing industries and population in the big cities, inappropriate urban policies of the Japanese government, insufficiency of public services.

In the first place, as stated above no other district in the world is so dense in manufacturing industries and population as the Tokaido Megalopolis. It is obvious that this high density has produced urban problems such as rise in land prices, environmental pollution and traffic problems. We should consider this to be the most fundamental cause.

In the second place, the Japanese government has traditionally attached great importance on the development of manufacturing industries and agriculture, because the Liberal-Democratic Party in power chiefly depends on the contributions from the economic world and on the rural votes.[7] As a result, the Japanese government has subordinated the improvement of the life of city people to the development of manufacturing industries and agriculture, having given little attention to urban policies. That is the reason why the Japanese government has not carried out effective and appropriate urban policies. This is, I think, peculiar to Japan.

In the last place, because of the above-mentioned traditional policies, the Japanese government could not afford to provide the public services which are necessary for city people to live healthy and cultural

lives.

Therefore public services in Japan such as sewage disposal, parks, railroads, libraries are insufficient compared with those in other advanced countries. The phrase "first class economic development vs. third class national life" symbolizes Japan exactly. It is clear that insufficiency of public services has created various kinds of urban problems, just as the lack of sewage disposal has created water pollution.

2. Urban Problems

(1) Rise in Land Prices

Because of the concentration of manufacturing industries and population in the big cities, there has developed a sudden land rush in the Tokaido Megalopolis. Therefore land prices in six big cities has risen 41 times dur ing last twenty-five years (especially residential quarters 58 times), while the consumers' prices index has risen only 4 times for the same years.[8]

Table 1 Land prices index in 6 big cities in Japan

year	business quarter	residential quarter	industrial quarter
1955	100	100	100
1956	116	113	117
1957	137	150	160
1958	161	191	213
1959	173	236	270
1960	231	303	361
1961	370	436	675
1962	500	614	1,017
1963	558	763	1,192
1964	641	928	1,391
1965	696	1,038	1,514
1966	711	1,075	1,516
1967	747	1,146	1,554
1968	798	1,288	1,660
1969	915	1,525	1,869
1970	1,058	1,832	2,187
1971	1,164	2,176	2,554
1972	1,271	2,504	2,866
1973	1,586	3,459	3,697
1974	1,827	4,148	4,357
1975	1,691	3,836	3,963
1976	1,696	3,910	3,970
1977	1,727	4,086	3,998
1978	1,765	4,300	4,043
1979	1,860	4,843	4,206
1980	2,059	5,844	4,573

Real Estate Research Institute of Japan

This eye-opening rise in land prices has made it almost impossible for the government and local public bodies to purchase the land necessary for public facilities and for city people to buy the land for housing.

Land prices in Japan are more expensive than in any other advanced country, for instance in 1976 land prices of residential quarters in Japan were 35,000 yen per square meter, while those in America, England and West Germany were each 3,900, 2,100, 6,100 yen per square meter.[9]

As a result, it is said that urban problems in Japan cannot be solved without lowering land prices, and that rise in land prices is the source of all evils. The Japanese government, however, has not been able to execute effective measures to control rise in land prices, so that land prices in and around the big cities have been rising continuously and remarkably except in 1974.

We would make the following proposals; the government should freeze land prices in the big cities at least for five years under the provisions of the Land Utilization Planning Law; the government should increase land holding tax in the big cities to a high degree substantially, and then landholders will be forced to dispose of some of their land, as the result of the increase in supply of land we should be able to expect land prices to fall gradually.

(2) Small Houses

A great many houses in Japanese big cities were destroyed by fire during World War 2. Japan was 1,620,000 houses short in 1948, so the shortage of houses was a big social problem then. In the 1950's not few houses were built in the big cities, but it was impossible to provide enough houses for the rapid increase in city dwellers. In the 1960's and 1970's, a great many public and private houses were gradually built, so that a long pending plan "one house per family" was completely realized in 1968, and in 1978 empty houses amounted to 2,620,000.[10] The focus of the housing problem has changed from quantity to quality.

Because of the rise in land prices and in building expenses, many city people have to either give up building their own homes and keep living in poor rented apartments, or build small homes of their own in small

Table 2 Housing in Japanese big cities

	floor space per house	mat per man	person per room
Sapporo	65.80	8.45	0.78
Tokyo	52.76	6.39	0.89
Kawasaki	51.30	5.98	0.94
Yokohama	61.61	6.70	0.87
Nagoya	67.61	7.38	0.78
Kyoto	69.97	7.24	0.73
Kobe	59.44	6.52	0.83
Osaka	55.29	6.00	0.86
Kita Kyushu	65.68	6.71	0.81
Fukuoka	61.88	7.05	0.81
	(square meter)	(mat)	(person)

the Big Cities Conference; "Big cities Statistics Year Book"

building sites at places far from cities and be troubled with debts for a long time. "Small rooms, high rent, far from cities" are the main complaints of many city people.

According to a survey in 1978, 38 percent of the Japanese people were not satisfied with their homes chiefly because of "smallness".[11] There are a great many private frame apartments in the big cities, 60 percent of which are only one room (10 square meters) without kitchens. That's the reason why Japanese houses were called "rabbit hutches" in a EC secret report.

In 1976, the Japanese people were able to buy a house of 100 square meters with land of 165 square meters for 13,960,000 yen, while the American people were able to buy the same house and land for 8,100,000 yen.[12] Needless to say, the great expense in Japan is due to the rise in land prices.

We would insist that the government should control rise in land prices and build a great many high-storied apartments with necessary living facilities in the big cities. Moreover the government needs to let them at a low rent.

(3) Insufficiency of Life Environment Facilities

Various kinds of life environment facilities are necessary for city people to live pleasant and comfortable lives. They consist of parks, libraries, shops, hospitals, schools, sewage disposal and so on. Life environment facilities in Japanese big cities are insufficient compared with those in other advanced countries. Especially the following four facilities are unbelievably insufficient for Japan which has developed into the second economic power in the free world.

Table 3 Life environment facilities in Japanese big cities

1979	city park area per inhabitant	drainage district/ urban district
Sapporo	4.8	99
Tokyo	1.7	65
Kawasaki	3.2	21
Yokohama	1.8	34
Nagoya	4.0	77
Kyoto	2.0	57
Kobe	5.5	96
Osaka	2.4	96
Kita Kyushu	5.8	44
Fukuoka	4.1	41
	(square meter)	(percent)

the Big Cities Conference; "Big Cities Statistics Year Book"

In the first place, recreation facilities such as parks, play grounds, athletic grounds, gymnasiums are insufficient in the big cities. For example, park area per inhabitant in Tokyo is 1.5 square meter and that in Osaka is 1.9 square meter, while that in Washington, London and Paris are each 46, 30, 8 square meters.[13] As city people will need more recreation facilities in the coming leisure society, it is necessary to provide them in the big cities.

In the second place, the lack of disposal facilities such as sewage and garbage disposals has become a more and more serious problem in Japanese big cities. For instance, in 1973 the sewage rate in Tokyo was only 52 percent, while those in New York, London and Paris were each 80, 100, 100 percent.[14]

In the third place, Japanese big cities with small wooden houses standing roof to roof, underground shopping centers and skyscrapers, overhead freeways and subways are open to fire, earthquake and gas explosion. But facilities preventing these disasters are insufficiently provided for in the big cities.

Finally, it is essential to provide social welfare facilities which lend support to the aged and the handicapped. Especially the increase in the number of the aged and the nuclear family has made facilities for the aged such as senior citizens' homes more and more necessary in Japan.

(4) Traffic Problems

Traffic plays such an important part in the big cities that it is often compared to the blood vessel. It is not too much to say that traffic decides whether the big cities prosper or not.

Transport facilities of passenger traffic in Tokyo are as follows; 27 percent of passengers avails themselves of national railroads, 23 percent private railroads, 17 percent subways, 5 percent public buses, 6 percent private buses, 6 percent taxies, 16 percent personal cars. Those in Osaka are as follows; 18 percent, 31 percent, 18 percent, 6 percent, 1 percent, 6 percent, 20 percent.[15]

Table 4 Traffic in Japanese big cities

rush-hour trains

	1955	1965	1975
Yokosuka line (Tokyo)	255	307	292
Chuo line (Tokyo)	280	289	260
subway Higashiyama line (Nagoya)	—	235	236
Kanjo line (Osaka)	214	148	245
subway Midosuji (Osaka)	241	224	217

(percent)

average of one rush hour in the morning passengers/seating capacity (10 persons per 3.3 square meters)

traffic jams (road length per motor vehicle)

	1956	1979
Tokyo	32.3	4.9
Yokohama	133.2	12.7
Nagoya	60.5	7.9
Kyoto	74.0	9.3
Osaka	30.6	5.5
Kobe	107.0	13.6

(m)

motorcar accidents

	accidents	persons killed	persons injured
1950	33,212	4,202	24,450
1955	93,981	6,379	76,501
1960	449,917	12,055	289,156
1965	567,286	12,484	425,666
1970	718,080	16,765	981,096
1975	472,936	10,792	622,467
1980	476,677	8,760	598,719

the Ministry of Transportation; "City Transport Year Book"
the Seven Big Cities Conference; "Seven Big Cities Statistics Year Book"
the Prime Minister's Office; "Traffic Safety White Paper"

Traffic problems in Japanese big cities can be divided into rush-hour trains, traffic jams, traffic (motorcar) accidents.

Rush-hour Trains

Commuters from bed or satellite towns to big cities are increasing considerably year by year, for instance, more than 2,500,000 people flowed into Tokyo (23 ku) every day in 1980.[16] While the transport capacity of railroads etc. has hardly been improved.

As a result, every morning and evening trains are crowded far beyond their capacity with commuters, it is often called "a hell on earth". And commuters are exhausted by the crowding every day.

For solving the rush-hour problem, it is necessary to construct new railroads which link big cities with bed or satellite towns. But rise in the cost of construction have made it almost impossible to construct new railroads for commuting, with the result that the hell on earth will continue for a long time.

Traffic Jams

In spite of the rapid increase in the number of cars running on the roads, road area has hardly increased in the big cities. For instance, during ten years between 1965 and 1975 in Tokyo, cars increased 8 times, while road area increased only 1.5 time.[17]

Therefore every morning and evening main roads in the big cities are crowded with many cars for a distance of several miles, so that people have to drive cars at a snail's pace.

We should insist that it is necessary to keep needless and useless personal cars out of central business areas of the big cities on weekday mornings. In other words, we consider that public transportation (railroads and buses) should play a more important part in such denser populated cities as Tokyo, Osaka and Nagoya.

Motorcar Accidents

The rapid increase in the number of cars, the lack of safety facilities on the roads and the violation of traffic regulations by drivers have increased the number of motorcar accidents year by year. In 1970, 16,765 people were killed and 981,096 people were injured by motor-

car accidents. Since then the killed and the injured have gradually decreased in number (in 1979, 8,461 and 596,287).[18] It may safely be said that motorcar accidents problem, called a traffic war, is one of the greatest urban (social) problems.

The most important point about motorcar accidents in Japan is that 46 percent of those killed are pedestrians and bicycle riders. While in America 18 percent are pedestrians and bicycle riders. In this sense, cars are called "running weapons" in Japan. To solve this problem, both pedestrians and bicycle riders must be protected from the "fangs" of cars. Cars in Japan, however, have begun to change from"running weapons" to "running caskets".

We insist strongly that the best way to reduce motorcar accidents is to make drivers keep traffic regulations by means of exercising strict control over them, and to provide safety facilities such as sidewalks, traffic signals, overhead pedestrians' bridges, in short, to separate pedestrians from cars as much as possible.

(5) Environmental Pollution

In keeping with a rapid economic growth, environmental pollution such as air pollution, water pollution, noise, vibration, bad odors, ground subsidence and soil pollution has occurred in every part of the Tokaido Megalopolis since 1955. And it has been getting worse and worse throughout the 1960's.

The causes of pollution can be divided into (1) increase in the matter causing pollution, (2) the concentration of pollutant in the big cities, (3) insufficiency of anti-pollution policies of the government, (4) insufficiency of the investment in equipment of the enterprises.

As a result, the air over the big cities has been polluted with sulfur oxide and nitrogen oxide, and the rivers flowing through the big cities have been polluted with mercury, lead, cyanide and cadmium, and city people have lived amid various kinds of noises and vibrations. The number of official sufferers amounted to 76,340 in 1979 (unofficial sufferers, about 200,000).[19] Japan which was famous for her great natural beauty has turned into a country notorious for pollution such as Minamata disease.

In the 1960's, there happened serious conflicts between inhabitants who suffered from pollution and the enterprises which caused pollution. Inhabitants have often organized themselves and have developed various kinds of movements; they have claimed damages from pollution, they have opposed the establishment and enlargement of factories, they have entered lawsuits against the enterprises.

Under the pressure of the development of these movements, the government had to place great importance on the prevention of pollution, and established the Pollution Prevention Fundamental Law in 1967, and enacted more than 20 related laws during the succeeding years.

table 5 air pollution (sulfur dioxide)

	1967	1969	1971	1973	1975	1977	1979
Tokyo	0.066	0.054	0.035	0.029	0.027	0.021	0.018
Yokohama	0.039	0.035	0.028	0.019	0.012	0.013	0.011
Kawasaki	0.100	0.065	0.049	0.040	0.028	0.016	0.016
Yokkaichi	0.081	0.051	0.047	0.021	0.010	0.013	0.011
Sakai	0.073	0.047	0.037	0.035	0.025	0.021	0.021

(ppm)

air pollution (nitrogen dioxide)

	1967	1969	1971	1973	1975	1977	1979
Tokyo	—	0.035	0.027	0.037	0.030	0.024	0.035
Kawasaki	—	0.030	0.028	0.039	0.033	0.035	0.036
Nagoya	—	0.010	0.012	0.014	0.020	0.021	0.022
Osaka	—	0.012	0.022	0.037	0.038	0.035	0.030
Amagasaki	—	0.022	0.018	0.022	0.017	0.025	0.027

(ppm)

water pollution (rivers)

	1966	1970	1972	1974	1976	1978
the Sumida	16.0	21.0	8.9	5.7	5.9	4.6
the Meguro	41.0	46.0	39.0	43.0	32.0	21.0
the Hori	24.0	15.0	8.4	5.4	3.9	3.6
the Yamato	6.9	19.0	12.0	11.0	9.1	9.5
the Tosabori	7.3	33.0	12.0	14.0	8.7	8.0

(BOD, ppm)

water pollution (sea areas)

	1966	1970	1972	1974	1976	1978
Tokyo Port	3.5	3.8	4.7	4.9	3.4	3.3
Nagoya Port	9.6	6.5	4.5	2.9	3.6	3.9
Osaka Port	5.7	4.8	3.5	2.3	4.4	4.4

(COD, ppm)

the Environment Office: "Environment White Paper"

On account of the regulation by laws, most enterprises have been forced to invest in equipment for the prevention of pollution. The amount of investment increased 31 times between 1965 and 1975 (from 30 billion yen to 930 billion yen).[20]

As a result, environmental pollution in Japan has

been gradually improved in the 1970's. Especially Japan has succeeded in reducing the density of sulfur oxide in the air to one-third during last ten years.

Finally we would insist that people's movements now play an important part in solving urban problems in addition to pollution.

Notes

1) the Ministry of International Trade and Industry; "Statistics of Industry"
2) calculating from "Statistics of Industry"
3) the Ministry of International Trade and Industry; "Statistics of Commerce"
4) Toyo Economy; "Local Economy Conspectus"
5) the Prime minister's Office; "National Census"
6) ditto.
7) In 1979, the total income of the Liberal-Democratic Party amounted to 14,309 million yen, and the economic world made a contribution of 10,050 million yen (71.9 percent of the total income) to the Liberal-Democratic Party. In 1980's general election, the Liberal-Democratic Party won 65 percent of the fixed seats in Tohoku six prefectures (rural areas), but won only 33 percent of the fixed seats in three metropolitan areas.
8) vid. table 1.
9) the Ministry of Construction; "Construction White Paper" (1979)
10) the Prime Minister's Office; "Housing Statistics Survey" (1978)
11) the Ministry of Construction; "Housing Demand Survey" (1978)
12) the Ministry of Construction; "Construction White Paper" (1979)
13) the Economic Planning Office;"National Life White Paper" (1976)
14) ditto. sewage population/total population
15) the Ministry of Transportation; 'City Transport Year Book" (1980)
16) the Prime Minister's Office; "National Census"
17) the Seven Big Cities Conference; "Seven Big Cities Statistics Year Book"
18) the Prime Minister's Office; "Traffic Safety White Paper" (1980)
19) the Environment Office; "Environment White Paper" (1980)
20) ditto.