

JICA URBAN DEVELOPMENT COURSE
ON
THE JAPANESE LAND SYSTEM

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Introduction

During the 1970s and 1980s, Korea, Taiwan, Hong Kong and Singapore took off economically and were called “Newly Industrialization Economics : NIES” or “Four Dragons.” These four regions set a good example by demonstrating that developing countries could catch up with developed countries if they persevered with die-hard determination in efforts to seek a political stability, suitable economic policies and national affluence during the era when it was allegedly difficult for them to become economically independent.

According to an economist¹⁾, conditions for developing countries to take off during such an era were as follows: ① no conflict among ethnic groups domestically, ② no conflict among religious groups domestically, ③ a high level of the spread of primary education, and ④ the abolition of the latifundist (concentration of property in a few hands) landowner system (implementation of land reform).

He indicated that a factor for economic growth was a land system which did not necessarily expect the social structure where political stability, wide-spread education and a handful of rich and a majority of poor existed.

A U.S. economist recently cited the following four conditions as prerequisites for economic growth:

- a. Property rights
- b. Scientific rationalism
- c. Capital markets
- d. Fast and efficient communications and transportation

With regard to property rights, he expressed the view that these rights create a sense of assurance that an individual can keep ‘most’ of the product of his own labor as just reward, and that it is this sense of assurance that guarantees all other rights. Although property rights are usurped to some degree by the levying of taxes and inflation, property cannot be arbitrarily confiscated by those in power. However, those in power can harm the willingness of newcomers to the property market by granting exclusive rights to a project to a specific group of people²⁾.

The land system has taken root in each region and society over the course of a long historical progression; therefore, it is not easy to change it. Still, there is no doubt that the land system has a great influence on economic development of a society and fair allocation of the fruits to its each and every constituent.

Although Japan was forced to open its doors by world powers 150 years ago and thrown into the competitive arena, it has since established a society characteristic of first-rate affluence and second-to-none equality. In the modern history of Japan, the land system has played a significant role as one of the fundamental and social infrastructures.

I would like to briefly introduce the summary, characteristics and formation process of the land system in conjunction with geographical and historical facts in this text. I would also like to summarize its relationship with urban programs and urban development projects - the land zoning system in particular.

Note 1) Keitaro Hasegawa, "Farewell Asia," 1986, Nesuko

Note 2) William J. Bernstein, *The Birth of Plenty: How the Prosperity of the Modern World Was Created*, translated by Iehiro Tokugawa, Nihon Keizai Shimbun Inc., 2006

1. Definition and Significance of the Land System

1. Definition in an academic sense

Academically speaking, a land system signifies a “land register system”; that is, it is a system which clearly indicates the location, nature and ownership of each piece of land by means of “cadasters” and “cadastral maps.”

A cadastre mainly consists of physical factors of each piece of land such as “location,” “address,” “usage” and “area” and its ownership factors such as “owner,” “type of right” and “right transfer history.”

A cadastral map is a single map (usually drawn on a scale of 1 to 500) which shows the entirety of a single lot, where the “boundary” and “address” are indicated and the coordinates of the boundary points are separately given. It shows the boundaries of such public pieces of land as roads and rivers in order to demarcate each piece of land; however, it necessitates no data as to topography, artificial and natural features and contours.

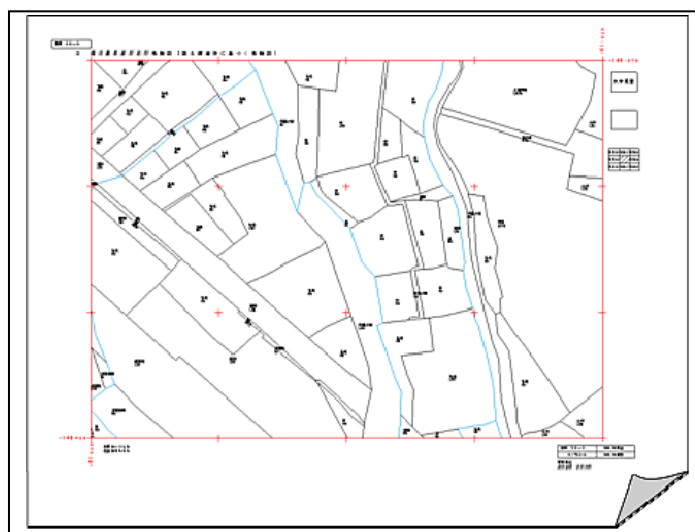


Figure 1 Sample of a cadastral map

From the standpoint of public economics, the “land register system” is deemed as an “institutional asset,” which is one of the “social assets.” In other words, it laid the groundwork for property rights to secure living, having contributed to the protection of assets held by people.

The civil code in the Japanese legal system contains provisions¹⁾ as to contract and inheritance involving real estate as well as rights to ownership and usage of real estate based on Article 29 of the Japanese Constitution, thereby guaranteeing the safety of dealing in land in the real

estate market in conjunction with the Real Estate Registration Law. Thus the credibility of the data concerning real estate “disclosed publicly” through the register helps its transactions to be made smoothly.

The Japanese real estate registration system, however, does not acknowledge “power of public confidence” even though damages come about due to errors in the register. The register is regarded as just the means to provide objective data for individuals who survey real estate.

<Reference>

The Constitution of Japanese

Article 29 1. The right to own or to hold property is inviolable.
2. Property rights shall be defined by law, in conformity with the public welfare.
3. Private property may be taken for public use upon just compensation therefor.

The Civil Code regarding the land system

Article 86 Land and things firmly affixed thereto are immovable.
Any thing which is not real estate is regarded as movable.

Article 177 The Acquisition, or loss and change, or any alteration in a real right over an immovable cannot be set up against a third person until it has been registered in accordance with the Immovable Registration Law (Law No. 123, 2004) and other laws related to registration thereof.

Article 206 An owner has the right, subject to limitations by law and ordinances, freely to use, take the profits of, and dispose of the things owned.

Article 207 Subject to limitations by laws and ordinances, the ownership of land extends both above and below its surface.

Note 1) Article 207 of the civil code, which was enacted over 100 years ago, stipulates that “the ownership of a lot of land shall be effective above and under the land within the scope of the Ordinance,” and yet building skyscrapers and underground structures have become an issue of late. Thanks to the “special action law as regards the public use of deep subterranean space” (commonly known as the deep subterranean law), it is basically possible to set up a right to use a subterranean space over 40 meters below the earth surface, which is ordinarily out of use, with neither adjustments to the right nor pre-action compensations. In addition, the “adjoined buildings design system” and “exceptional zoning application plots,” which were introduced by amendment of the building standard law in response to the TDR (Transferable Development Right) available in the U.S. in 1999 and 2001 respectively, in order to transfer an unused zoning portion to other land.

2. Geographical Factors in the Formation of the Land System

The Japanese archipelago belongs to the monsoon region in East Asia, so it rains a lot and it is hot there in the summer. Topographically speaking, 80% of the land consists of mountains teeming with forests¹⁾. Valleys in the mountains and plains at the feet of them are rich in water resources; therefore, they are suited for agriculture. People have constructed the society since ancient times by focusing on the cultivation of rice thanks to these favorable natural conditions.

Rice has such characteristics as high output per unit area and capability of consecutive cultivation. Even in the 18th century, when no chemical fertilizer was available, 150 kg of rice could be cropped out of 10 ares of rice paddy. This crop amount corresponded to the annual consumption per person in those days. Rice is relatively nutritious; therefore, the diet the Japanese in those days took consisted of rice as the main dish with vegetables and a relatively small amount of poultry and fish²⁾.

In passing, Japan's population during the 18th and 19th century was more or less 30 million, and approximately 3 million hectares of land was available for cultivation. These figures point out that if farmers made up of a married couple had cultivated a little less than one hectare of rice paddy and given a rather large amount of annual tribute to the government, they could have made ends meet³⁾.

In other words, each married couple with a few children basically conducted their own agricultural production activities; the size of land for cultivation, which did not exceed land of which one household could take care of with a horse or cow, varied depending on the household.

Thus, it is assumed that the ramification of land laid the groundwork for the establishment of the land system in which a majority of farmers could own their own arable land.

Note 1) The breakdown of 370,000 km² of land is as follows: forests take up 67% of it, arable land 14% and land for urban development 8% (11% rivers and fields). The population density is 1500 per square kilometer if livable land consisting of residential and agricultural land is used in its calculation. The population density of Germany, which boasts land almost the same size as Japan and a little less people than Japan, is 77 per square kilometer. If these two figures are compared, the scarcity of flat land in Japan is outstanding.(These figures are based on data obtained in 1992)

Note 2) There is a concept of 'staple food' in the Japanese diet, which signifies rice.

Note 3) Farmers dried rice paddies up in the winter and planted wheat or barley. They grew beans and potatoes as well. Rice cropped was either consumed or used as an ingredient for rice wine. However, rice is never used as feed for animals in Japan. The average rice crop per 10 ares is approximately 450 kg today; in some districts,

however, as much as 600 kg of rice is harvested. The gross rice crop in Japan is somewhere between 11 and 12 million tons (ranked eighth in 1997).

Table 1 Change in rice crop per unit area with time

Years	Area of rice paddy (in 10,000 ha)	Crop (in 10,000 tons)	Crop per 10 a (in kg)
742-785	105	106	100
1553	120	180	150
1598	105	185	177
1688	164	249	192
1700s	164	316	192
1836	156	300	192
1880s	258	477	185
1975	276	1317	481

3. Formation Process of the Japanese Land System

1. The land system existing from the ancient to medieval times

The imperial government introduced the farm land distribution system combined with the family registration system from China, then the advanced country in East Asia, in the middle of the 7th century. Under this system, land was nationalized, and residents' addresses were surveyed for the purpose of registration every six years; arable land sized to match the number of family members based on the family registry was rented out and a pre-determined amount of farm produce was rendered to the government as a tax. The Japanese, however, improved upon China's system and turned it into one where maps were used as well as land ledgers.

The ancient land system, which was expected to help nationalize land, turned into the "manorial system" put under control by nobles in the medieval period, and yet they kept on utilizing ancient maps to develop and manage land. Armed, independent farmers called "samurai," however, started to become powerful and established a military government by themselves after the 12th century; a group of samurai came to control villages at first hand after getting rid of control of manors by nobles. In the meantime, the practice of drawing maps was phased out.

Feudal lords called "daimyo," who headed the rest of samurai in their own territories, gradually became powerful so as to control and rule them in and after the 15th century. As a result, it became possible to deploy a number of farmers, which greatly contributed to pushing forth with the development of alluvial plains by conducting large-scale construction projects for the purpose of flood control and irrigation, enlarging production and boosting the population.

Furthermore, since the right to use water for irrigation, which came into being in those days, was traditionally powerful, the rule that old rice paddies took precedence over new ones in terms of the supply of water for irrigation took root. This practice is still in use¹⁾.

Note 1) It is a complex task to make arrangements for the right to use water for irrigation; water for the development of power generation, agriculture, industry and drinking is strictly managed. Still, a traditional orderliness has been maintained for the utilization of water resources in the process of a rapid industrialization; as a result, it is not too much to say that running out of water due to wasteful use is out of the question.

2. Land System in the Modern Period

A daimyo who beat out the rest during the 16th century, dubbed the Warring States period, unified the whole nation and established a centralized government. His government surveyed arable land nationwide by use of a uniform standard, matched an arable piece of land up with its farmer and determined the amount of tax in kind. During this process, the use of the taxation ledger called “kenchi-cho” for the whole land but Hokkaido and picture maps took root. Thus, a brand-new land system¹⁾ combined with the then taxation system, under which rice was rendered to the government as a tax, was established.

In the beginning of the 17th century, the last samurai regime was established to centrally govern about 300 daimyo nationwide, each of whom ruled his own territory²⁾. A group of samurai, who had backed up a daimyo’s military power, left his territorial land to dwell in a city under his control; they gradually turned into a group of bureaucrats who took charge of administrative, judicial, security matters and so on.

Although each daimyo had the right to collect taxes in kind from his own territorial land, the ownership of land belonged to farmers³⁾. The daimyo conducted survey of farm land within their own territories (kenchi) and drew up precise taxation ledgers (kenchi-cho). A government system, under which autonomous villages rendered a certain percentage of rice harvest as a tax based on these ledgers, functioned.

Urban dwellers including samurai, who accounted for some 10% of the population in those days, were exempted from paying taxes.

Note 1) The rice production system, under which the basis for social orderliness rested on rice production, was in use. Daimyo were rated based on their relationships with the central government as well as rice production in their territories. In addition, a duty such as to deploy 250 solders per 10,000 koku was imposed on the daimyo(1 koku is an unit of volume, 1koku=180 little).

Note 2) The central government monopolized the right to trade with foreign countries; it strictly limited trading partners to the Netherlands and China. As a result, the Japanese society was prevented from having a human exchange with the rest of the international community. This policy was called “sakoku.”

Note 3) Although the ownership of land by a farmer was similar to that of today, it was tinged with feudal characteristics such as abstractness, absoluteness and a duty of paying taxes in kind. Communal land also assumed a strong feudal characteristic because it was managed by a village.

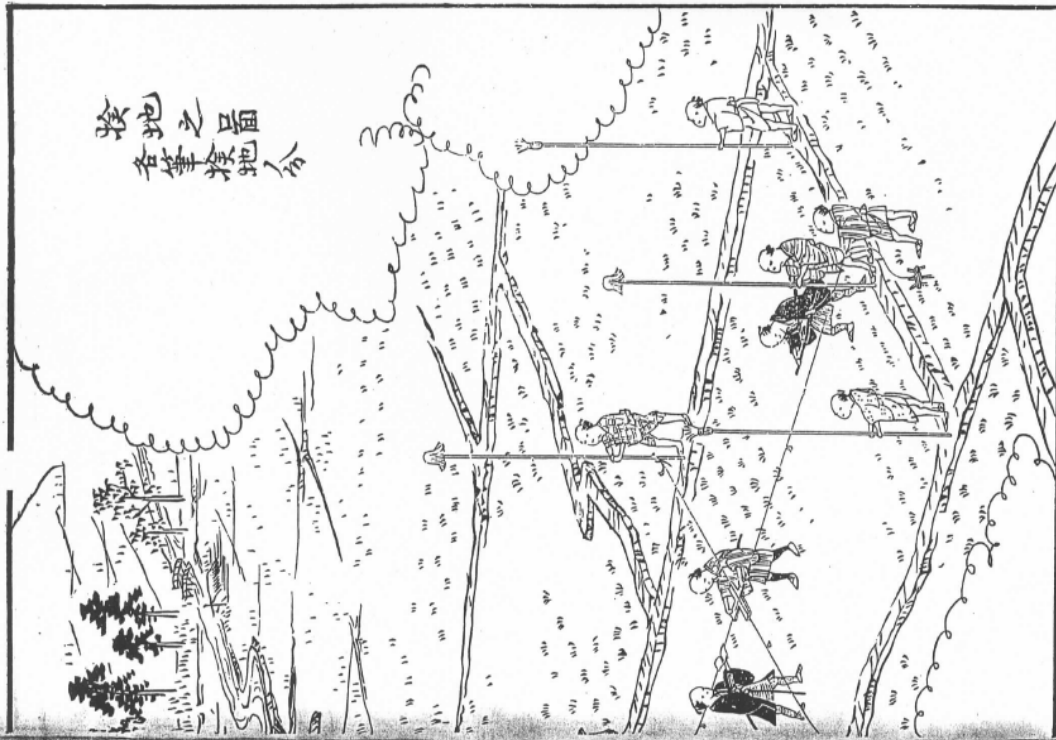


Figure 2 Scene of kenchi or survey of land (17th century)

3. Land system existing from the late 19th century to the beginning of 20th century

1) Land system under the Meiji government (part 1)

Japan, which emerged from international isolation thanks to the gunboat diplomacy by the U.S. navy in 1853, proceeded to become a modern centralized political regime headed by the emperor in 1868 - whose presence represented an ancient political authority as a host of Shinto ceremony - in the wake of a political conflict over a new political regime. The imperial government (to be called the “Meiji government” hereinafter) confiscated the government right to a territory from all daimyo and guaranteed the then existing right to own land to farmers.

The Meiji government carried out a nationwide survey from the 1870s through the 1880s and implemented the modern land ownership system as well as a reform in taxation. Under the new taxation system, tax was paid in cash instead of the agricultural produce, namely rice, and tax payments were fairly imposed on urban dwellers as well. This reform was called the land tax reform or “chisokaisei.”

The Meiji government issued over 100 million land owner certificates (called “chi-ken”) based on the land survey conducted nation-wide at the time, thereby compiling the basic data to establish the modern land system. The nationwide land survey, however, was conducted by farmers who were trained in ways of taking a land survey and drawing maps only for a short period of time, so such problems as (1) poor survey technique, (2) the under-declaration of taxes to be levied, and (3) the obligation to maintain the practice of the then existing land use caused less area of each lot of land than the actual one to be registered. Furthermore, some cadastral maps were far from precise in terms of the calculation of area of land.

Many of the small-sized farmers, who fell into poverty due to a rapid modernization, left for cities to become either labor force or tenants without land; on the other hand, large landowners, who held as much as 1,000 ha of arable land, came into being. Tenant farmers took care of 46% of all the arable land in Japan in 1941.

2) Land policy under the Meiji government (part 2)

The constitution, which confirmed that the property right is one of the fundamental rights granted to the Japanese citizens, was enacted in 1889. The land tax reform brought about the following: the then existing land system was inherited by the land ledger system, proceeding to the system under which the management of land was entrusted to the local administrations.

The enactment of the land registration law and the civil code in 1889 and 1890 respectively completed the modern land system in Japan. The public disclosure of land and buildings, which was guaranteed by the registration system, made it possible for them to be freely traded on the real estate market; thus, the Japanese social system came to become a factor which would contribute to the construction of the modern society.

The Industrial Revolution took place at the beginning of the 20th century, and a large population of people converged into cities as factory labor force. New city dwellers who came from local places had no means to protest against the rise in rent repeatedly carried out by landowners. The government implemented the policy of strengthening tenants' rights in order to eliminate the instability of the right of abode.

Although the residential development boomed in the urban suburbs as cities grew, large landowners often set up cooperative associations to develop land for houses by taking advantage of the "land consolidation act" enacted in 1899 (a project law aimed at providing farm roads and channels along with intensive agriculture by way of exchanging and dividing rights to farm land).

In the first development period, land consolidation for arable land, evolved from method for arable land to building land. It was called "land readjustment(Kukaku-Seiri)".

It is noteworthy, however, that the fact that an exceptional rule under the land registration law to make getting a registration permit for exchanging and dividing rights to farm land tax-exempt contributed to promoting the land consolidation project.

3) Land policy under the Meiji government (part 3)

A massive earthquake hit Tokyo and Yokohama in 1923, causing over 100,000 people to be either killed or injured. A remarkable improvement in planning and design technique was seen thanks to the use of land readjustment during the period of restoration from the disaster; thereafter, the use of land readjustment played a key role in the urban development in Japan.

After the world stock market crash in 1929, major countries moved on to replace the free market economic system with the war-time restricted economic system. The Japanese government, too, adopted the policy of setting tenant fees at a lower level in 1939 in order to protect farmers who would be called up as soldiers over the course of the transition to the war-time economic system. In addition, the government controlled rents in the same year 1939 to protect the poor in cities and enforced a law which narrowed the scope of reasons to evict tenants in 1941. It was alleged that this measure was for stabilizing the livelihood of each family of soldiers who were killed or wounded.

4. Land system in the modern period (latter half of 20th century to present)

1) Post-war agricultural reform

A number of drastic policies were implemented under the U.N. occupation in order to promote Japan's democratization after it lost the war in 1945.

Learning a lesson from the fact that the presence of poor tenant farmers had stirred up the Japanese militarism, the government adopted the policy of land being bought up from large landowners and sold to tenant farmers on the cheap. Large landowners lost all land but land they could cultivate for themselves, while a large number of tenant farmers turned into independent farmers. This was called the land reform or "nouchi-kaikaku."

The land reform affected 1,940,000 ha of arable land (half of the whole arable land). As a result, large landowners vanished from Japan except for in the mountains.

Systems dealing with arable land, which thus came into being, increased the number of independent farmers by leaps and bounds. Farmers aspired to work harder thanks to the fact that they could possess their own land; the land reform proved to be effective in increasing the rice production per unit area. On the other hand, preventing anyone other than farmers from possessing arable land for the purpose of protecting them contributed to suppressing the mobility of land ownership.

As a result of the land reform, Japan became self-sufficient in rice during the 1960s. Even so, the average size of land owned by rice farmers was no more than one hectare and poor in productivity in comparison with farming by use of machines on a large scale abroad; lacking in international competitiveness left Japan with no choice but to depend on protectionism.

In the meantime, many a small landowner who emerged thanks to the land reform obtained a certain purchasing power; consequently, the Japanese domestic market expanded, and the consumption of factory products increased.

2) Remarkable growth of economy and population convergence into cities

Continuous air raids by the U.S. from 1944 to 1945 devastated 215 cities accounting for 64,500 ha in Japan. However, the fundamental guidelines for post-war restoration plans passed the diet in December, 1945; in the ensuing year, the land lot arrangement project was kicked off for the restoration, covering 51 regions or 12,551 ha. In the end, the arrangement of land lots was carried out for the post-war restoration of 115 cities or 19,500 ha, thereby completing a high level of urban infrastructure in such cities as

Nagoya, Sendai and Hiroshima. The completion of infrastructure for major cities through the post-war restoration project helped smoothly usher in the motorization which was to be in full swing starting in the 1960s¹⁾.

The land readjustment law, which was a law effective for a single project, was enacted in 1954 on the basis of the favorable outcome brought about by the post-war restoration project. Thus, the system for the urban development was completed in order to enter a new era while the post-war restoration project was approaching the final phase.

The economy in Japan grew at an annual rate of more than 10%; hence, economic affluence was swiftly achieved. In addition, the population convergence into cities took place by leaps and bounds, and more than 80% of the people came to reside in cities. The population shift into three major cities - Tokyo, Osaka and Nagoya metropolitan area - in particular accounted for 500,000 people annually causing the absolute want of houses in these regions²⁾.

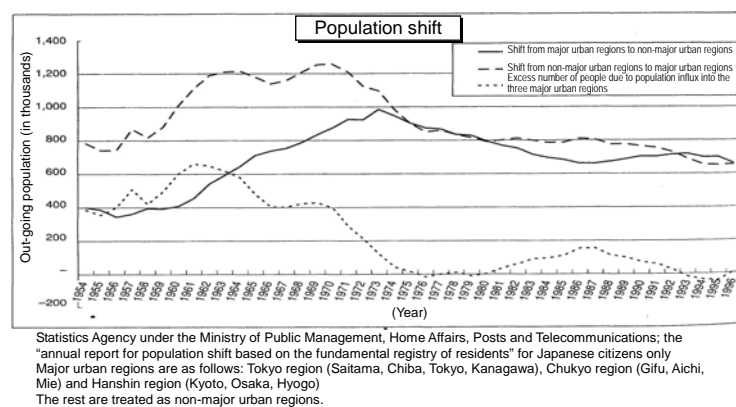


Figure 3 Phenomenon of urbanization during the latter half of the 20th century

In the meantime, a wide variety of housing measures were taken, and yet the tenancy law was amended in 1966 in such a way as to favor tenants more than before the war. These measures were designed to protect the living rights for people in need of living quarters; conversely, such a system resulted in arresting the development of the Japanese real estate distribution market.

The city planning law, which was designed mainly to head off the residential sprawl due to rapid urbanization, was enacted in 1968. It was at this point in time that the mechanism to prevent the residential sprawl was worked out by halving the city planning zone - that is, the separation of an "urbanization promotion area" where putting up buildings was promoted and an "urbanization control area".

Note 1)

Table 4 Transition to motorization in Japan

Year	Passenger vehicles (in thousands)	Freight vehicles (in thousands)
1948	30	210
1960	500	2,300
1970	9,000	9,000
2000	52,450	17,930

Note 2) Japan succeeded in urbanization in no more than 50 years, whereas it took the United Kingdom (U.K.) and America (U.S.A) approximately 150 and 100 years respectively for their urban population to move up to 80% from some 10% (Figure 4). It was said that Japan was in need of 4,500,000 houses in 1945 when the war ended. The country lacked 2,500,000 houses even in 1955; it was in 1968 that the number of houses nationwide exceeded the number of households. At this point in time, however, the number of households in need of houses accounted for nearly half of the total in major cities including Tokyo.

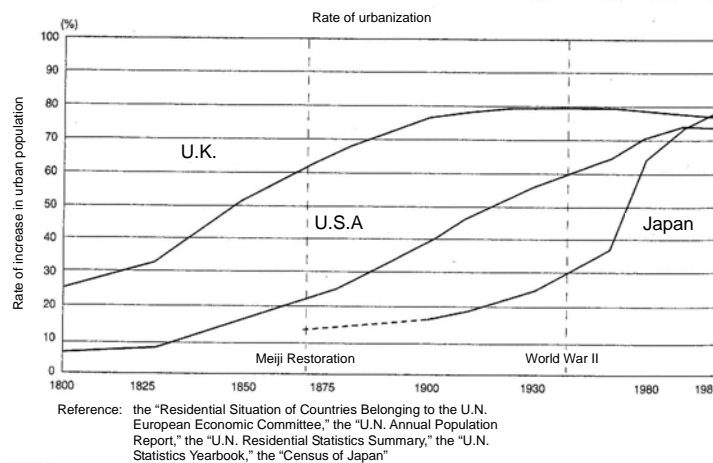


Figure 4 Comparisons in terms of urbanization among three countries - Japan, U.S.A and U.K.

3) Current land policy

By and large, it is said that a rate of increase in land prices is almost the same as that in GDP. The rate of increase in land prices in Japan from the 1950s to 1990, however, was much larger than that in GDP. Reasons for this phenomenon are as follows: (i) a remarkable economic growth, (ii) a rapid population convergence into cities and (iii) the policy adopted by financial institutions under which land was taken as a security. Many of the land policies implemented by the government during this period were aimed to head off a large increase in land price.

The bubble economy and deflation due to its burst during the end of the 20th century made citizens wake up from the dream of the “land myth” that land prices would increase forever. The land lease and house rent law was amended in 1992; besides, the system for renting land for 50 years, which was that a lessee must return land to a lessor without trouble once a contract expires, was established.

It was made possible for corporations to enter agriculture businesses.

Even so, the level of residential land prices is still quite high, so the improvement in agricultural productivity has yet to be achieved as well.

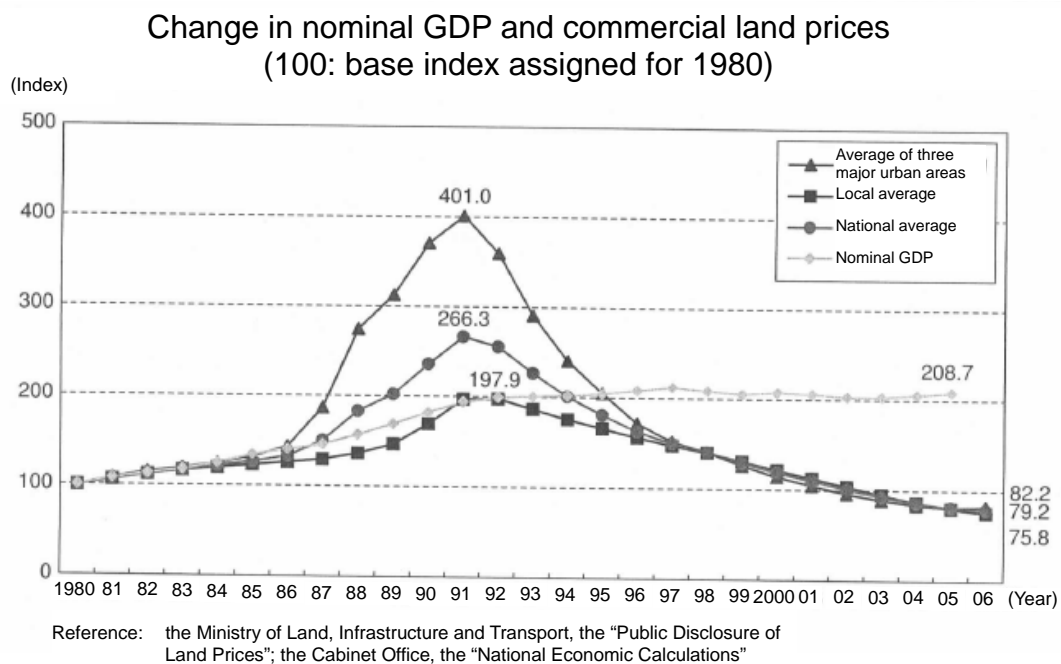


Figure 5 Change in level of land prices and nominal GDP

4. Overview and Characteristics of Japanese Social System Related to Real Estates

1. The Japanese Society and background of the system

Japan is among the world-leading countries in terms of GDP per capita, and its average life expectancy is ranked first or second in the world, and Japan is well renowned as one of the richest countries in the world. However, individual Japanese citizens do not seem to feel themselves to be so rich, which would be because¹⁾ of the extremely narrow income gap¹⁾ and especially because of low housing standards in large cities.

More specifically, there are few super rich people who can afford to own private aircraft, but instead there is an extremely small population of the poor²⁾. In other words, most Japanese citizens belong to the middle class in “average life standard” to own small residential assets and financial assets just enough for living expenses after retirement to supplement pensions (of course, however, consumption propensities vary depending on individual differences, generation differences, or individual preferences. Especially, those in the generation who allocate much of their income to education for their children tend to save on basic consumption). They may not be so rich as the upper-middle classes in Europe and the U.S., but many Japanese can be grouped into this “average citizen” category.

Also, housing units for residents in large cities are generally small, and even those in the upper end of the middle class do not own housing with guestrooms³⁾. In addition, in the Tokyo Metropolitan area, as a result of expansion of urban areas to suburbs, it usually takes between 60 to 90 minutes per one-way to commute to the central Tokyo area, and many citizens take an even longer time for commuting⁴⁾.

Tendencies in provincial areas are different, but because a large volume of information is dispatched from Tokyo, the lifestyle in Tokyo area tends to be regarded as an average form for Japanese citizens (8 prefectures in the Kanto region have 1/3 population of the total 47 prefectures across Japan).

Note 1) In the Gini coefficient, which is an indicator for social inequality in income distribution, Japan's score is around 0.25, meaning a society with small income gap in the same level with Scandinavian countries and Belgium.

The scale of the Gini coefficient is between 0 and 1, with a score closer to 0 meaning a smaller gap, and a score closer to 1 meaning a larger gap. Generally speaking, scores between 0.2 and 0.3 are usually regarded as normal. If a score is over 0.5, the gap is considered so large that the social distortion will exceed the tolerance level to require rectification such as political measures. Based on the Lorenz curve, the Gini coefficient was developed by an Italian statistician Corrado Gini in 1936.

Table 5 List of country rankings in income gap by Gini coefficient

Ranking	Country	Gini coefficient	Richest 10% - Poorest 10%	Richest 20% - Poorest 20%	Year of survey
1	Denmark	24.7	8.1	4.3	1997
2	Japan	24.9	4.5	3.4	1993
3	Sweden	25	6.2	4	2000
4	Belgium	25	7.8	4.5	1996
14	Germany	28.3	6.9	4.3	2000
22	Mongolia	30.3	17.8	9.1	1998
25	Russia	31	7.1	4.8	2002
26	South Korea	31.6	7.8	4.7	1998
27	Bangladesh	31.8	6.8	4.6	2000
34	France	32.7	9.1	5.6	1995
35	Pakistan	33	7.6	4.8	1998
37	Switzerland	33.1	9.9	5.8	1992
38	Sri Lanka	33.2	8.1	5.1	1999
43	Indonesia	34.3	7.8	5.2	2002
51	U.K.	36	13.8	7.2	1999
56	Nepal	36.7	9.3	5.9	1995
59	Vietnam	37	9.4	6	2002
60	Laos	37	9.7	6	1997
73	Cambodia	40.4	11.6	6.9	1997
79	Iran	43	17.2	9.7	1998
80	Uganda	43	14.9	8.4	1999
82	Thailand	43.2	13.4	8.3	2000
85	Uruguay	44.6	15.7	9.1	2001
88	China	44.7	18.4	10.7	2001
90	Philippines	46.1	16.5	9.7	2000
92	U.S.	46.6	15.9	8.4	2000
101	Malawi	50.3	22.7	11.6	1997
107	Zambia	52.6	41.8	17.2	1998
112	Zimbabwe	56.8	22	12	1995
114	Colombia	57.6	57.8	22.9	1999
117	Brazil	59.3	68	26.4	2001

Based on 2005 Development Programme Report.

However, the data for the U.S. is based on US Census Bureau, 2004 data.

Note 2) As of 2007, population of homeless people is estimated to be 18,564 across Japan. The city with largest population of homeless people is Osaka City with 4,911,

followed by Tokyo with 4,690 (according to a survey by the Ministry of Health, Labor and Welfare in 2007).

Note 3) In a Japanese traditional house, the floor is covered with tatami mats and residents take off their shoes in the house. It is not necessary to specify an area for a bedroom, because a living room can be also used as a bedroom by spreading a futon set. As rooms are multi-functional in spite of smaller floor space than Western type houses, it is possible to explain that practical floor space is unexpectedly large. It should be also noted that to a question about the size of a house, Japanese people do not usually answer it by the number of bedrooms.

Table 6— 1 Housing standard in Japan
The 1998 Housing and Land Survey

	Nationwide average	Average in Tokyo Metropolitan Area
Average number of rooms in dedicated houses	4.74 rooms	3.97 rooms
Average gross floor space of dedicated houses	89.6 m ²	71.4 m ²

Table 6— 2 Housing standard in Tokyo

Gross floor space in housings in Tokyo Metropolitan area	Distribution ratio
50 - 69 square meters	16%
70 - 99 square meters	19%
100 - 149 square meters	21%
150 square meters or larger	13%

This data covers a zone within 70 km from central Tokyo. The floor space is much larger in suburban areas and provincial areas. The average gross floor space of houses is over 150 square meters in the areas along the Sea of Japan and prefectures in the Tohoku region.

Note 4) The distributions of average commuting time for workers across the country and those in urban areas in Kanto region are indicated as below. However, concerning the workers in the Tokyo Metropolitan area taking the commuting time of 60 minutes or longer, the ratio is almost double the national average.

Table 7 Distribution of average commuting hours

Time zone	Nationwide	Urban areas in Kanto region
30 min. - 59 min.	30%	30%
60 min. - 89 min.	15%	28%
90 min. - 119 min.	5%	11%

The 2003 Housing and Land Survey

2. Characteristics of the system

As backgrounds for formation of Japanese people's awareness of real estate, the following characteristics of social system can be pointed out related to the land system.

① Ownership of extremely small pieces of land by numerous citizens.

For the total population of 120 million, land owners including mortgages account for 40 million. There are approximately 10 million farm land owners, and the average area farmed for a farmer is about 1 hectare⁵⁾. In addition, a majority of farmers are so-called part-time farmers with sources of income other than agriculture.

Note 5) Land ownership in Japan seems to be categorized as indicated below, according to a survey by the Ministry of Internal Affairs and Communications on fixed asset tax and a survey on the ledger for state- or public-owned land.

Table 8 Category of land ownership
(according to a survey on fixed asset tax, etc.)

	State-owned land	Public-owned land	Private-owned land	Others (unknown)
Space (km ²)	76,470	2,945	16,316	7,843
Ratio (%)	20.5	7.9	43.8	27.9

However, the size of national territory is approximately 370,000 km²

Out of those categorized as unknown, the total space of roads and water channels with unknown owners accounts for 6.8%, and forest reserves under private ownership represent 7.0%. The remaining 14% presumably comes from gaps between space recorded in the ledger and corresponding actual space, as well as land that has not undertaken the survey (concerning farm land and forestry, the space recorded in the ledger is usually smaller).

Table 9 Owned land space and distribution of owners

Category of owned land space	Distribution of owners
100 m ² or smaller	12.7%
100 - 300 m ²	37.5%
300 - 1,000 m ²	21.4%
1,000 m ² or larger	28.4%

(The number of owners of private land is 35.67 million.)

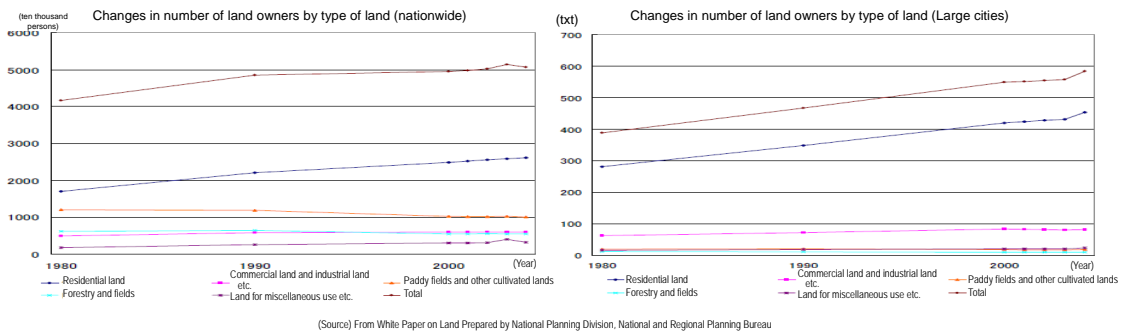


Figure 6 Number of land owners by type of land

Please note that these data cover all types of land.

According to “Statistical Table on Agriculture, Forestry and Fisheries 5 Comparison of income from agricultural business between farmers in settlements and independent farmers (nationwide)” published in March 2007, arable area for the business is 1.1 ha.

② Strict restriction on transfer and transaction of farm land

Strict restriction is set on ownership and transaction for other use of farm land from a viewpoint of protecting the agricultural industry, and it is strictly restricted for parties other than those engaged in farming the land to own it. Also, using farm land for other purposes will be subject to processes with strict restrictions⁶⁾.

Note 6) If a piece of farm land is used for non-agricultural purpose, a permission in compliance with the Farmland Act is required.

Table 10 Categories for permission requirement on transferring use of farm land

2 ha or smaller	Head of Agricultural Committee of a municipal government
2 to 4 ha	Prefectural governor
4 ha or larger	Minister of Agriculture, Forestry and Fisheries

* Agricultural Committee is an administrative body of each local government.

③ Strong private rights concerning ownership and lease of real estates

Due to strong ownership rights and lease land rights, expropriation of land for public works takes time-consuming processes. Also, this country's society is very cautious in exercising the right of land expropriation in a compulsory manner, and it takes time to obtain a social agreement⁷⁾.

Note 7) Although it is a political issue with difficulty in evaluation, the issue over the Narita International Airport can be pointed out as a case in which the government changed its policy while exercising the right for expropriation.

The Narita International Airport was planned in 1966 with 1080 ha in space and 3 runways (in 4,000 m, 2,500 m, and 3,200 m). However, it took time to acquire the land and the airport opened in 1978 with only the 4,000 m runway. In 2002, a runway in length of 2,180 m came into temporary use (including 1.7 ha of land in the area owned by residents against the plan). Compulsory execution has been carried out twice, but currently the parties concerned seek solution for the issue over the land through dialogues.

④ Expensive pricing on housing land space and housings

Mortgage prices for ordinary household in large cities account for about five times the acquirer's annual income⁸⁾, yet they have a strong desire to have their own housing. The distribution market for owned houses and existing houses is regarded as less developed than in Europe and the U.S.

Note 8) It takes 5 years of annual income to purchase a collective housing (with around 70 square meters in size) and 5.6 years of annual income to purchase a built-for-sale housing (with 165 square meters of land and a house with floor space of 100 square meters) (According to the 2002 White Paper on National Lifestyle).

60% of total number of housing units, which is 43.92 million, are owned by residents.

70% of 16.73 million rented houses are managed by private bodies, of which public houses including public housing accounts for less than 30% of rented houses.

41% of houses in Tokyo are owned by residents, but the rate is much higher in provincial areas. (According to the 2003 Housing and Land Survey)

Magnification of annual income to mortgage prices in the Tokyo Metropolitan area

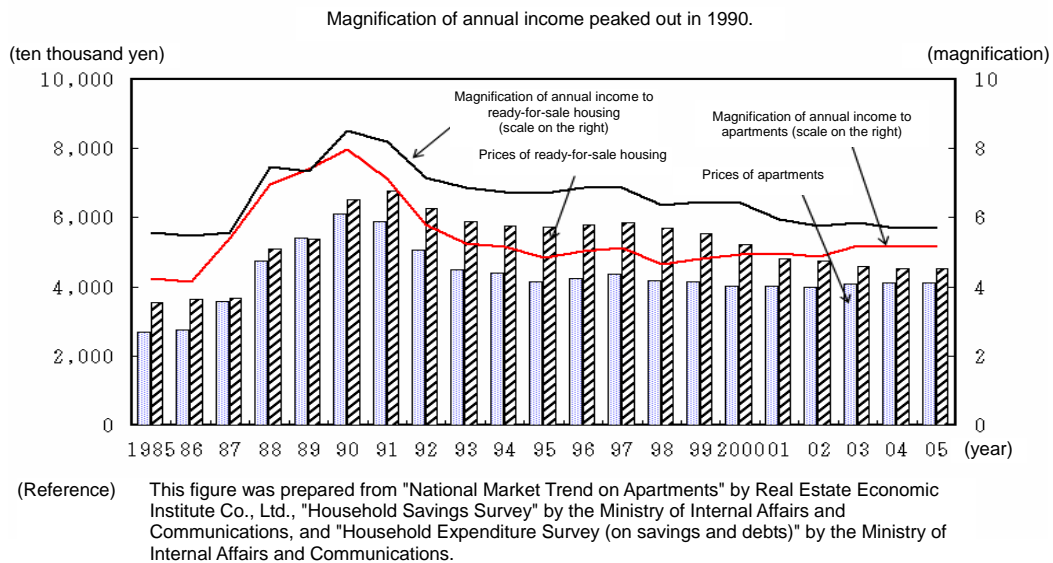


Figure 7 Changes in acquisition prices of housing and annual income

⑤ Special license requirement for trading and registration of real estate

Since it is difficult to determine prices of real estate properties in a free market compared to general merchandise, there is a system with restriction in conducting the business to experts with a license so that there will be no drawback for consumers due to imbalanced distribution of information on real estate⁹⁾. There is also a system to publish land prices¹⁰⁾.

Note 9)	Real estate appraisers: Real estate transaction agent: Judicial scriveners: Real-estate surveyors:	appreciation of real estate prices, real estate trading registration of real estate on behalf [of owners] implementation of measurement for land registration and execution of registration on behalf [of owners]
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Note 10) In land price publication, normal prices for approximately 31,000 standard locations across the country are publicly announced once a year by the Ministry of Land, Infrastructure and Transport (the Land Appraisal Committee). With an objective to contribute to formation of appropriate land prices, such as providing an indicator for regular land trading prices and setting standards for calculation of acquisition prices for land for public works, this has been in practice based on “the Land Price Publication Law” enacted in 1969.

⑥ Two types of cadastres, for land and for buildings.

In the system for the “land” readjustment system, rights on previously original lot are transferred to replotting lot. Mortgages set on previously original land are also automatically registered to the replotting lot. As for buildings, works and plants, in principle, these are transferred from the previously original lot to the replotting lot, and transfer costs for reconstruction are subject to compensation.

Against the backdrop of the registration system separating land and structures, and immature development of distribution market for existing houses, the value of vacant land with high flexibility in construction is relatively high (published land prices are those for vacant land). In addition, around 40% of cadastral maps created more than 100 years ago do not have sufficient accuracy. Especially on forestry and farm land, the actual space is considered to be larger than that recorded in the ledger by 10% or more. Currently, these data are under update in addition to computerization of the information¹¹⁾.

Note 11) Topographical maps have high accuracy and those in a scale of 1 to 25,000 are available for any person to purchase across the country with no restriction.

5. Relationship between the Land System and Urban Development

The broad definition of a land system is the entire set of systems related to real estate transactions and compensation, such as “a land taxation system,” “a real estate appraisal system,” “a land expropriation system” and other systems in addition to “real estate registration system.” “An urban planning system” may be also taken as one of the constituents of a broader sense of a land system, since land use regulations by zoning, under the urban planning system, have a major influence on land value.

Reference: “major taxation on land”	
Local tax for land ownership “fixed asset tax”:	14/1,000 of assessed valuation
Local tax for land ownership “urban planning tax”:	3/1,000 of assessed valuation
Local tax for acquisition of land “real estate acquisition tax”:	40/1,000 of assessed valuation
National tax for inheritance of land “inheritance tax”:	progressive tax and 100 - 500/1,000
For gains from transfer of land, income tax (national tax + local tax) will be levied. : 20 - 39/1,000 of gains from sale	
Real estate registration and license tax	
For inheritance, 4/1,000 of assessed valuation of the real estate	
For trading, 20/1,000 of assessed valuation of the real estate	

On the other hand, a land register system has a deep relationship with the capital and time cost related to land acquisition for public works projects as the land registration scheme that swiftly and accurately reflects the changes of the land-related rights can guarantee smooth acquisition of land for public works projects. Protection of the people’s property right and execution of efficient public works projects cannot be realized without a transparent “land expropriation system” and an accurate “real estate registration system.”

The territory of Japan is covered with a large number of finely-segmented pieces of land, and each of them has a different owner. Under such circumstances, it is not easy to acquire many rights on land from numerous land owners in order to develop new large farms, industrial parks, or residential estates.

It takes a long time to obtain an agreement, and compulsory expropriation may lead to an escalating conflict with the local community.

There are many cases where compulsory expropriation is carried out for public works, such as highways and dams necessary for flood control, but in land development for commercial use, acquisition of land is mainly conducted in a voluntary manner. However, land development

has an effect of reorganizing social assets such as sewage system and parks, and these projects have substantial social significance.

During the 1960's and 1970's, when there was influx of population to large cities, a system for new town development allowing expropriation of land was created¹⁾, but the main system to promote residential land development in Japan was "land zoning", a system based on exchange and consolidation of land rights, which will continue in the future.

"Urban redevelopment projects²⁾" developed from the land readjustment system are promoting redevelopment of cities in Japan by directly exchanging the real estate rights in existing urban areas including small housing units, and rights for floors of buildings under big redevelopment to be constructed by the project.

Urban development is closely related to the urban planning system, based on the land system which serves as the basis of the social system.

Reference: special cases for taxation on "land readjustment" and "urban redevelopment"

As a result of exchange and consolidation of land in accordance with land readjustment, previously original lot is registered as "replotting lot" at the final stage of project. Even though location, shape and space are different from the previously original lot, the associated rights are regarded as unchanged. Therefore, taxes for transfer or acquisition of land and registration and license tax will not be levied. However, increase in asset value due to land readjustment will be reflected in land holding tax.

Floor with rights in urban redevelopment projects will be subject to similar treatment.

Note 1) This refers to "New Residential Area Development Programs" based on "the New Residential Area Development Law" enacted in 1963. This was used for big projects for new town development such as Tama New Town, Chiba New Town, and the central area of Tsukuba Science City. The main bodies for the development projects were state organizations, local governments, and public corporations established by them.

Note 2) This project is based on "the Urban Redevelopment Law" enacted in 1969.

Appendix)

Chronology of the Land System

Year	Main events	Events related to the land system
1853	Visit of Commodore of the U.S. Navy	
1868	Meiji Restoration	
1873		Start of land tax reform
1881		End of land tax reform (the reform partially continued since then)
1889	Promulgation of the Japan Imperial Constitution	Establishment of rules on land ledgers
1890		Promulgation of the Civil Code
1899		Enactment of the Real Estate Registration Law Enactment of the Land consolidation Law
1909		Law on protection of buildings
1914	World War I	
1919		Enactment of the Urban Planning Law Enactment of the Urban Building Law
1921		Enactment of the Land Lease and House Rent Law
1923	The Great Kanto Earthquake	Enactment of the Special Urban Planning Law (earthquake damage restoration program)
1939	World War II, the National Mobilization Law	Ordinance to control land rent and house rent, amendment to the Land Lease and House Rent Law Farm rent control ordinance
1941	Japan-U.S. War	Farm land price control ordinance
1946		Enactment of the Special Urban Planning Law (war damage restoration program)
1947	Enactment of the current constitution, farm land reform	
1950		The Building Standards Law
1952		Restriction on transferring use of farm land
1954	Promulgation of the Land Readjustment Law	
1960		Unification of registration
1964	Tokyo Olympic Games	
1966		Amendment of the Land Lease and House Lease Law
1968		Enactment of the Urban Planning Law
1970	Osaka Expo	
1992		Enactment of the Land Lease and House Lease Law
1995	The Great Hanshin Earthquake	Enactment of the special act for reconstruction of damaged urban
2011	The Great East-Japan Earthquake	

