

JICA URBAN DEVELOPMENT COURSE
ON
REPLOTTING DISPOSITION SYSTEM
AND REGISTRATION FOR LAND READJUSTMENT

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§1. Right and Registration of Land

Land is one of the most important assets, but ownership of it may change hands through sale, purchase or inheritance. Rights other than ownership have also been established for land, such as the right of hypothec. Such a transfer of “real rights”¹ by transfer of ownership or establishment of hypothec, for example, requires registration.

Registration of a plot of land specifically means entry in the registry and its attached map² of the location; the lot number; the area of the lot; the type of land, such as whether it is residential or agricultural; and the necessary data of the owner. Registration is closely related not only to the protection of an individual’s property rights and to his or her livelihood, but also to public projects because the function of registration, which provides a rapid and precise indication of the transfer of rights, reduces the capital- and time-related costs of land acquisition for public facilities.

Land used as real estate has the following characteristics, which differentiate it as an asset from movables such as precious metals, machinery or crops.

Its natural characteristics are that it is geographically immobile (non-movable) and nonsubstitutable. How land is used is subject to change, and it may be merged or separated. The fact that the nature of land means it can be freely subdivided or merged provides a significant degree of freedom in real estate dealings. When the right to a plot of land is transferred as a result of sale, purchase or inheritance, the plot may pass to its new owners with its original form or area retained or altered due to merging or subdivision during the transfer.

§2. Exchange and Consolidation of Land Ownership

Exchange and consolidation of land ownership may be explained using the model shown in Figure 1-1. Let us assume that there are two irregularly shaped lots of land, A and B, as shown in the figure, where A is owned by Mr. X and B by Mr. Y. If both are rearranged to become regular in shape, as illustrated in Fig. 1-2, their use ratio and real estate value as a building lot will increase because the lots are now easier to use.

¹ A generic term which generally means ownership, which includes usufructuary rights such as those of tenancy, security interest such as hypothec, and possession.

² These are generally referred to as the lot area registration book and cadastral map, which together constitute the basis for the land registration system. Under the Japanese legal system, their official names are the “land register” and the “map as per Article 14 of the Real Estate Registration Act.” “Public maps,” prepared over 100 years ago and still used in some instances today, are included in the definition of “cadastral map” in its broad sense, but are not treated as a map as per Article 14.

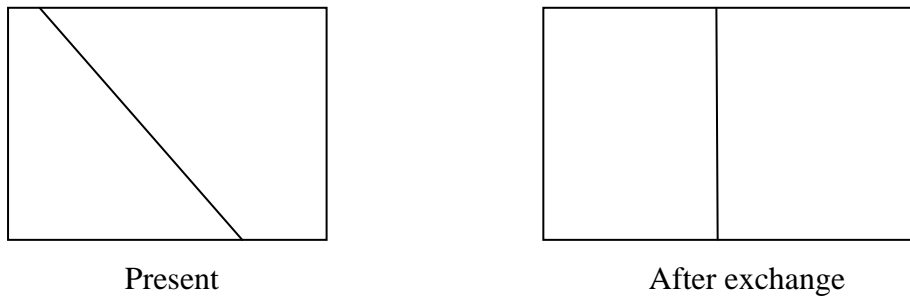


Fig. 1-1. Land ownership exchange model (1)

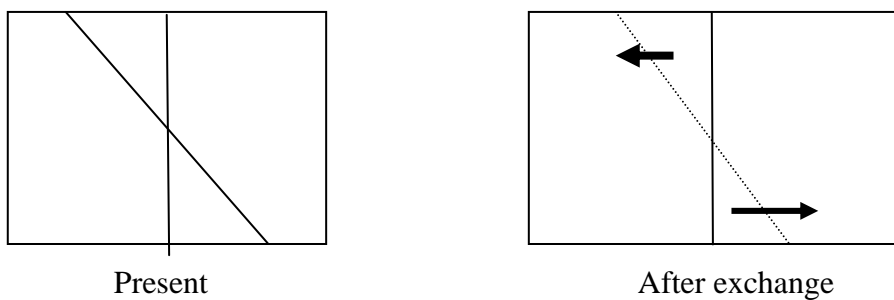


Fig. 1-2. Land ownership exchange model (2)

As shown in the figure on the left-hand side of Fig. 1-2, A is divided into A-1 and A-2, and B into B-1 and B-2. Then, A-2 is exchanged with B-2, and A-1 and B-2 are merged to become A', while B-1 and A-2 are merged to create B', completing the exchange and consolidation of land ownership.

The important point to note with regard to the above process is that the dividing and merging of land ownerships and their transfer require registration. Mr. X and Mr. Y may mutually agree to this process and use the land as A' and B', respectively, but without registration, A-2 and B-2 remain the property of Mr. X and Mr. Y, respectively. They are simply occupying the lots as agreed on a de facto basis. If, for instance, Mr. X transfers A' to a third person, he will almost certainly find himself in conflict with Mr. Y regarding the handling of the A-2 and B-2 sublots.

Merging of ownerships is possible only under the condition that the two lots belong to the same person. Even if Mr. Y uses B' as mutually agreed, he won't be able to register B' as B' unless he first obtains A-2 from Mr. X and registers the transfer of ownership. In other words, the de facto use of lots may differ from the ownership status of the lots recorded in the registry. Seen from an objective, third-party perspective, the land ownership status for these lots remains as shown in the figure on the left-hand side of Fig. 1-1.

Ownership of real estate, including land, may be set up against a third party when registered. This is known as the “requirement for setting up against a third party”³. Registration is defined here as entry of the necessary data in a registry available at the registration office. In other words, registration of subdivision and merging of plots of land is “administrative disposition”⁴ conducted by a registrar based on a public law named the Real Estate Registration Act⁵.

§3. Development and Site Acquisition

1) Road construction and right-of-way acquisition model

Now let us create a model to simplify the process of development, using road construction as a public project. The figure on the left-hand side of Fig. 1-3 represents the present land use and the road construction plan. There are four parcels of land, A through D, owned by Messrs. W, X, Y and Z, respectively. There is a plan to build a road across their parcels of land. The figure on the right-hand side of Fig. 1-3 shows how the four landowners’ parcels are divided by the right-of-way for the road across their land. These subdivisions are to be purchased by the local government conducting the public project (hereinafter referred to as the “Implementer”).

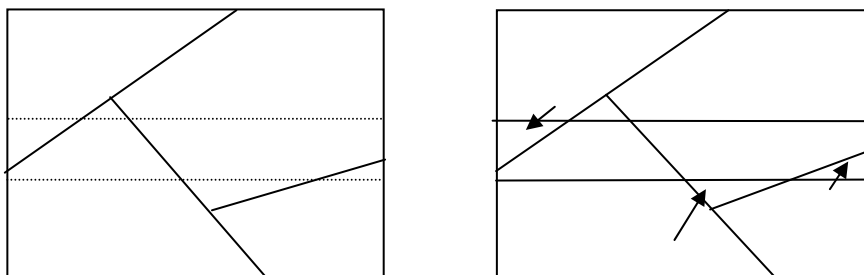


Fig. 1-3. Model of a road development plan with purchased right-of-way

The right-of-way contains four subdivisions, A-2, B-2, C-2 and D-1, as shown in the figure, which are to be purchased by the Implementer. Should it prove difficult to use the remaining subdivisions B-3 and C-1 as they are, it is quite common for the

³ Asserting a legal relationship that becomes effective among the parties in terms of private law to a third party. It protects the trust in the principle that there will be no change of real right if no change in registration is made public. In fact, a transaction will not apply even if one has trusted a forged register.

⁴ A generic term meaning administrative acts conducted by public administration, such as the issuance of permission, approval, confirmation, decision, judgment, license, or prohibition. In contrast, under private law, contractual acts between the parties involved determine everything.

⁵ An act that stipulates the relationships existing between the national or local government and an individual. The Civil Code is a set of regulations that stipulates relationships between or among individuals.

Implementer to buy them as well. Since this is a public works project, if some owners refuse to sell their land, the authorities are entitled to purchase the land by force (land expropriation) by providing the necessary compensation to the owner.

2) Model of residential area development and site acquisition

Next let us consider a case in which residential development is carried out.

Let us assume that Developer M buys the four parcels of land from their owners, Messrs. W, X, Y and Z. The public facility construction plan is shown in Fig. 1-3. Together with the road construction, the developer installs the necessary waterworks and sewage systems such as water supply and drainage and then sells the developed residential area, recovering the invested capital and making a profit.

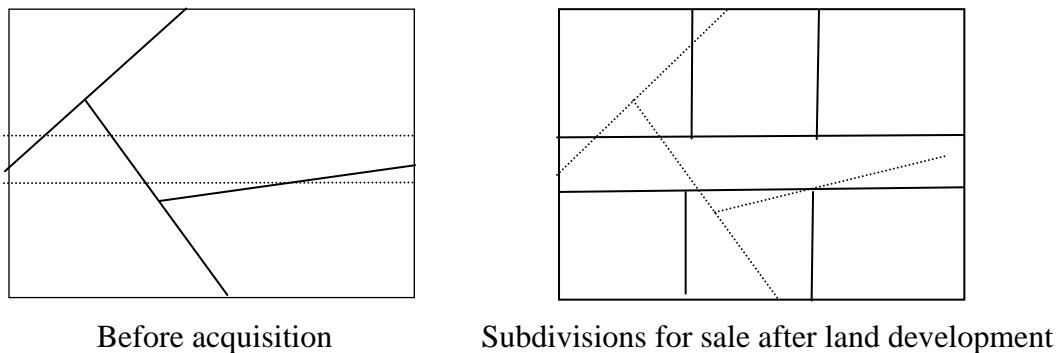


Fig. 1-4. Model of residential land development (act of development)

Since the four subdivisions of the land were purchased by the developer, their sole owner is the developer, who, as such, is entitled to merge the lots. After constructing the roads and utilities as planned, the developer subdivides the merged land into lots of a size suitable for sale as residential land and sells them to consumers. The public facilities constructed on the land, such as roads, are handed over to the local government, who acts as the administrator for the public facilities. The figure on the left-hand side of Fig. 1-4 shows the situation before development, while that on the right-hand side shows the situation after development.

The registration procedure for the above example would be to consolidate subdivisions B, C and D to A, merging them to form a larger lot A, and then to allocate a branch number to each of A-1 through A-6 for subdivision⁶. Merging is not a necessary requirement, but if the lots are not merged, the residential land that should be A-1 would

⁶ The lot number that represents the lot that has been subdivided is called the parent number or original number, and lot numbers split from the original plot are called branch numbers.

have to be made up of land from three lots, lot A and land split from lots B and C. Such a lot would be inconvenient in terms of its designation as residential land and would incur a considerable clerical cost for registration.

§4. Basic Land Readjustment Model

- 1) The "basic land readjustment model" as compared with the act of development

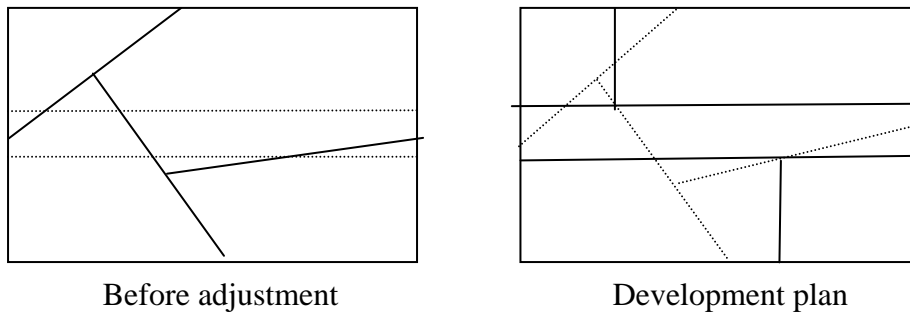


Fig. 1-5. Basic land readjustment model (1)

Land development by means of site acquisition has already been explained in the previous section. Another approach to residential land development is “land readjustment” using the “replotting” system. The figure on the left-hand side of Fig. 1-5 shows a planned site for development, with a road planned for its center.

The most typical case of development by means of site acquisition is an “act of development” to be conducted with a permit acquired in accordance with the Urban Planning Act. This system is based on the condition that the developer has acquired the land proposed for development, as explained in the earlier model.

For the land readjustment procedure, the Implementer, as defined by the relevant act, acquires a permit for the “project plan” and prepares a “replotting plan”⁷. Under this process, each of the original parcels of land A, B, C and D is assigned their own replot, A' through D', respectively, as shown in Fig. 1-5. This does not result in any change in the ownership relationships among the four owners, Messrs. W, X, Y and Z. In other

⁷ A “replotting plan” includes the “replotting design,” which identifies replots corresponding to the original lots, and the “settlement fee,” which is for monetary adjustment of the excesses or shortages of the replotted areas. For some projects, the settlement price is not determined at the beginning and the project proceeds with only the replotting design being publicly announced, such that the replotting plan is submitted to public inspection only at the final stage. In this course, while it would be more accurate to refer to a “replotting design,” we intentionally use the term “replotting plan” as it is easier to understand the situation by saying that a replotting plan exists under the framework of the project plan.

words, unlike the Implementer for a development plan, the Implementer of a land readjustment plan does not necessarily have to acquire any land. Each landowner, Messrs. W, X, Y and Z, would, however, have to accept the replotting of their original parcels A, B, C and D as A', B', C' and D', respectively.

The design technique of replotting will be explained at a later stage. For now, it is sufficient for us to know that the area of each replot is determined by reducing the increment of the public area according to the area and value of the original lot, with consideration given to the area and price of the original lot. The locational relationship of the replots is also determined according to the locational relationship of the original plots.

When development work has been completed in accordance with the project plan, an administration disposition known as “enforcement of replotting” is conducted to legally establish the replots. In other words, the original lot is equal to its replot, and the replot is registered in place of the original lot. The road constructed under the land readjustment plan is then handed over to the local government, who acts as administrator for this public facility.

Although a replot differs from the original lot in terms of its location, shape and area, it is regarded under the law as being equal to the original plot. Thus, if a hypothec was established for the original lot before approval for the project had been granted, the hypothec would automatically be transferred to the replot. Rewriting the data in the register incurs no registration and license tax or any taxation with respect to transfer of the lot.

In the case of a development plan, however, if a hypothec was established for the purchased site, no registration for merging or subdivision would be possible unless the hypothec was first annulled. If a tract of residential land is put up for sale, a registration and license tax is imposed on it at the time of subdivision, and tax related to real estate acquisition is imposed on each subdivision when the final purchaser of the subdivision performs the procedure for ownership transfer.

2) Difference between land pooling and land readjustment

Australia has a “land pooling” system, a scheme designed to simplify the registration procedure for land development. It is very similar to Japan’s land readjustment system, except with regard to the concept of “replotting.”

To explain land pooling, let us start from the situation that existed prior to the project, as

shown in Fig. 1-5. The owners of four parcels of land, A through D, temporarily transfer their land rights to the state government. As a result, the state government acquires all the rights for a site planned for development and can therefore merge the four parcels. The government then subdivides the merged land and registers the subdivisions as residential lots for sale and performs the procedure for reselling them to their original owners. This process ensures the same results in terms of registration as those resulting from the basic land readjustment model.

Where this differs from the basic land readjustment model is that the subject lots need to be temporarily transferred to the state government for merging and subdivision to be conducted and then resold to the original owners. In a system using replotting, the rights of the original landowners remain unchanged, and the one-to-one correlation between the original lot and the replot does not change even during the development project.

Land pooling is considered to be an effective method if there is a relatively small number of landowners involved and the system of transferring ownership to an official body, such as the state government, is institutionally guaranteed⁸. If the people have insufficient trust in their government, however, or an excessive amount of time would be required to transfer registration for a large number of small lot owners, it may be easier to obtain the understanding of the land rights holders involved if a system of land readjustment using the replotting scheme, guaranteeing one-to-one correspondence of ownership.

3) Extension of the “basic land readjustment model”

Let us expand the model to include the more common situation in which a road already exists at the site prior to development. We will also further generalize the model by assuming that there is profit to be made from the development plan. The “development profit,” which is obtained in the form of a land price increase following the project as a result of business investment, goes to the developer. However, if the original landowners can keep their land after the development, the development profit will go to the landowners. Such profit is, however, a capital gain realizable as cash only if the land is sold or leased.

⁸ This was established based on the Torrens System. It is known as “surrender & realienation” in Malaysia, which is another member of the British Commonwealth.

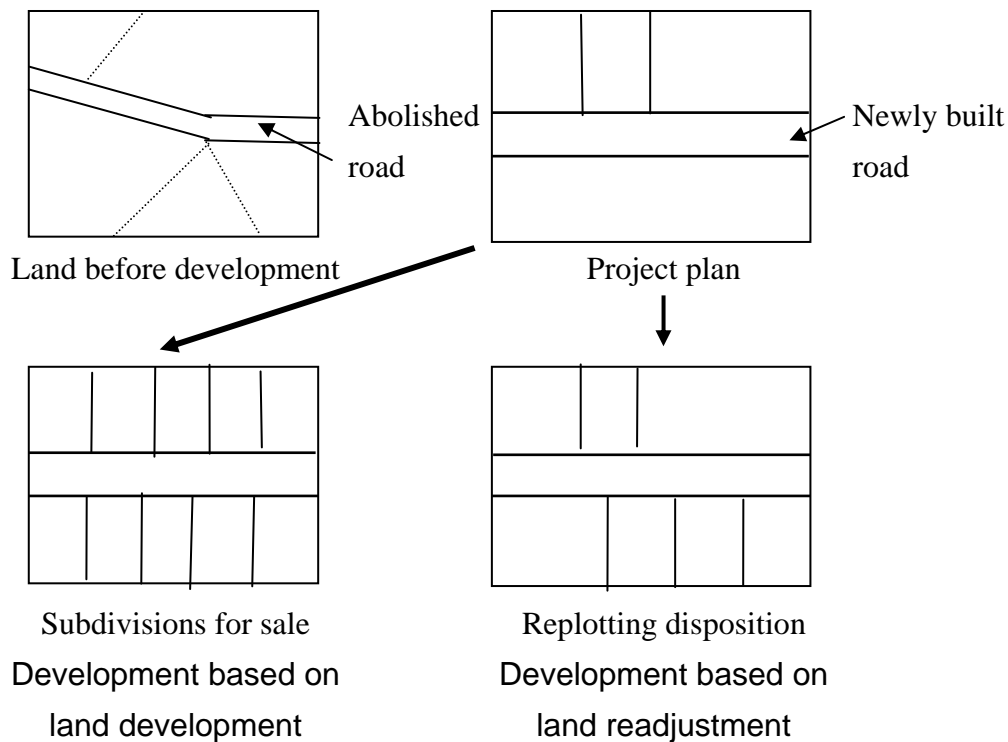


Fig. 1-6 Basic model of land readjustment as compared with land development (2)

Now let us consider development of an area of land with an existing narrow road as in the example of Fig. 1-6. The project plan (development plan) envisages the building of a wide road through the center of the land and the setting aside of some land for a small park.

The figure on the bottom left-hand side of Fig. 1-6 is based on land development as in the case of Fig. 1-4. After acquisition of the land, the area north of the existing road is merged to form lot A, while the area south of the road is merged to form lot C. The work is conducted according to the development plan, and after completion of the work, the areas north and south of the road are subdivided for sale into A-1 to A-4 and C-1 to C-5, respectively. The completed road and the constructed park are handed over to the local government who acts as the administrator for these public facilities. The original road undergoes the procedure for discontinuation before commencement of the work.

Once approval has been granted for the project plan for construction of a wide road and a park, the land readjustment procedure is employed to determine replots, A', B', C', D' and E', that correspond to the five parcels of land that existed before the development according to the replotting design. After completion of the work, replotting disposition is conducted, and the replots are registered as the property of the original parcel owners. The road ledger is updated, and the existing road area becomes part of the new road.

If the land price increase resulting from development is sufficiently high, part of the land may be designated as a “reserved area” instead of being determined as a replot. The plot labeled "Reserved" in the figure on the bottom right-hand side of Fig. 1-6 is such a lot. The scheme guarantees that the Implementer shall sell the reserved area and use the profit for the project.

If individual landowners are provided with replots smaller than their original parcels, it means they offered land, not cash, as their contribution to the land area necessary for the public facilities (or the right-of-way for the extended part of the road and the lot for the park in this case) and reserved area. If the value of the replot is greater as an asset than that of the landowner’s original parcel, no loss will occur from the project, and, therefore, it is generally not considered necessary to provide any compensation for the reduction in the land area.

4) Replotting and transference of land rights

Replotting is a concept unique to the land readjustment scheme. As mentioned earlier, it is understood that the right to a plot of land is transferred to the corresponding replot that is allocated by replotting disposition. The reserved area is a new area of land created by land readjustment and is therefore newly registered by replotting disposition.

Let us now assume that Mr. W, the owner of plot A, cedes ownership to Mr. Q, and let us also assume that Mr. Q thinks he can get a profit by using plot A as is and is not interested in its replot A'. Even so, Mr. Q will still have to accept replot A' in place of the original plot A as a land readjustment project is a statutory project and the assigning of replots is part of the statutory procedure. Mr. Q, who acquired a plot during the project prior to replotting, is supposed to inherit the right to its replot.

Next, we are going to compare differences with regard to changes of rights between land readjustment and land development to make sure that the concept has been fully understood.

With a focus on land ownership, let us take a look at the model in Fig. 1-6. For land development, which is development by means of site acquisition, the ownerships of the original parcels shown there are transferred from the original owners to the developer, who then merges them. After completion of the development work, the merged land is subdivided, and the ownerships of these subdivisions are transferred to the new owners that have acquired them. In this process ownership changes hands twice, first with the transfer from the original owner to the developer and then with the transfer from the developer to the purchaser of the developed residential lot.

In a land readjustment project, however, since the owner of the original parcel is “granted” a replot in place of his/her original parcel, no change to land-related rights occurs between the original parcel and its replot (cession of ownership by the owner of the original parcel to a third party during the project is an act independent of the project, and as such it is not prohibited).

In Japan, there are two kinds of residential land development schemes using site acquisition. The first is land development based on the Urban Planning Act, which is based on voluntary acquisition of the site for development (this is sometimes called “general residential land development”). The second is a project undertaken by a public implementing entity for a public purpose based on the application of the Land Expatriation Act, under which land may be compulsorily acquired, such as a New Residential Area Development Program, land development for distribution estates, or construction of public housing⁹. Such projects, which during the rapid economic growth of the 1960s were intended to provide housing to people amid the accelerating concentration of population in major cities, are judged to be duly urgent and of a public nature.

On the other hand, development based on replotting disposition, as represented by a land readjustment project (which is called a “replotting system” as compared with the “site acquisition system”), also plays a pivotal role in “land improvement projects” intended to facilitate the exchange or consolidation of agricultural fields and to construct, develop, or improve agricultural roads and water channels (called “field improvement”). “Conversion of rights” as per the Urban Redevelopment Act, which is similar to the replotting system, is designed to convert rights effective before a redevelopment project to the floor of the building being constructed under the project.

5) Development based on voluntary exchange of land rights

Exchange and consolidation of land rights may be voluntarily conducted without replotting disposition in accordance with the relevant provisions of the Civil Code. Since it is a voluntary program, however, any agreement reached among the parties involved can be cancelled while the process of rights exchange is ongoing as a result of the circumstances of those who own part of rights. That is, this type of process will not work in a practical sense if the project involves a large number of rights holders or requires a lot of time to complete. In addition, being a voluntary project means it is

⁹ Even though the Land Expatriation Act applies to those projects, land is, in most cases, sold and purchased through negotiation, and land is expatriated only when such efforts failed and no other option remains.

subject to the land taxation system.

I hope that those reading this now understand what a pivotal part replotting plays in the system of land readjustment.

§5. Subsystem for Land Readjustment Practice

1) Mechanism of consensus building for land readjustment

If the project overseer is a land readjustment union, the land rights holders participate in decision-making for a project by attending the general assembly of the union or the general meeting of the representatives. If a local government is the overseer, landowners select representatives to form a land readjustment council. In this case, the overseer asks the council to comment on the replotting design so that their views may be reflected through proposals and consent.

The location, shape, and area of replots are designed according to the land evaluation and the standards for replotting design, which are determined separately, while using the rate of land decrease for the entire area as the control total. Specifically, it involves “inserting replots” in the city block, demarcated by roads and public facilities. The specific standards for replotting design are determined with the consent of the union’s general assembly or of the land readjustment council for each project.

2) Designation of replots and administrative review

Land rights holders are generally informed of the details of the replotting when a briefing session on replotting is held after completion of the replotting design. Although the holding of a briefing session is not a regulatory requirement, it is very important to build consensus for a land readjustment project. It is now an established process in today’s land readjustment projects.

When replotting work is conducted and the developed replots are ready for substitution with the original plots, the next step required is that of an administrative disposition known as the “designation of replots.”

Replotting did not become an institutionalized scheme until 1954. It is desirable to carry out a land readjustment project in an area greater in size than a certain level in order to realize the rational land usage envisaged by urban planning. Spatial expansion of a project means an increase in the time required to complete the project. Use of replots was thus granted as a tentative measure to cope with the demand of landowners who wished to use temporary replots in a small area of land where site preparation had been

completed. Essentially, replots are determined by replotting disposition. Before this, lots were designated as “lots planned for replotting,” but then new land boundaries drawn in the replotting design had to overlap the original land use (which were registered with boundaries).

The solution that was found was to divide the concept of land ownership into the right of commercial use and the right of disposal and then suspend the right of commercial use for the original lot (the right of disposal, or “registration,” of the original lot, however, remains in effect), so that only the right of commercial use for the replot was allowed. This makes it possible for Mr. Y to begin using replot B’, which overlaps the original lot A, for profit, while Mr. X is unable to use his replot A’ due to the progress of work. In such a case, administrative disposition temporarily granting use of replot B’ as a “temporary replot” is called “temporary replot designation.” On the other hand, Mr. X is in a difficult predicament as he cannot use original lot A because of temporary replot B’ and he also cannot use replot A’. To protect the property rights of Mr. X, the law allows payment of compensation to Mr. X until replot A’ is available for use.

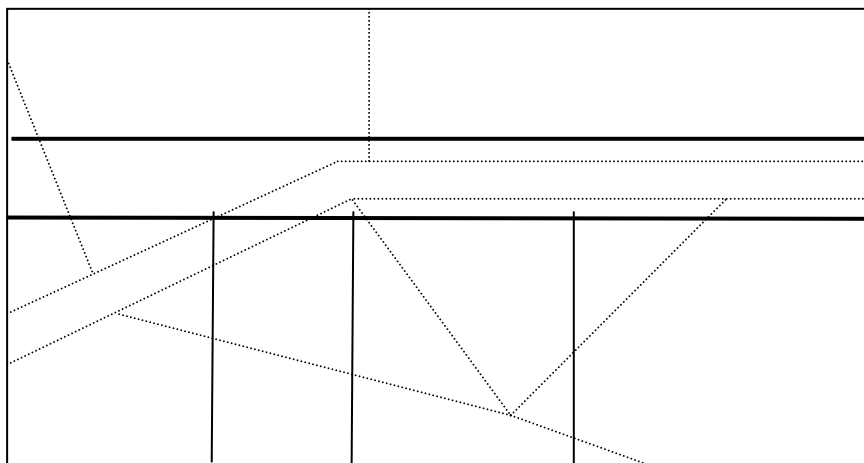


Fig. 1-7 Case where temporary replot designation is granted

As the work progresses, more and more replots are gradually put to commercial use. Eventually the entire project area is ready for profitable use. This is when the project has been completed, which initiates the replotting disposition. Since the institutionalization of the replotting system, the period during which land is unavailable for commercial use has been reduced. It thus made it possible to implement large-scale land readjustment projects that would take a lot of time until completion.

It is desirable that replotting designation be conducted with the consent of the land rights holders. However, if land rights holders are unhappy with the replots designated

by the overseer, they are entitled to request an administrative review by filing a request for review with the competent authority. In response to the complaint, the project overseer is required to provide a letter of explanation for examination. Landowners unhappy with the result of the review may file a suit.

3) Replots, relocation of buildings, and settlement money

A replot is monetarily guaranteed with the rights to the original lot ensured together with the settlement money¹⁰. Replots and settlement money are generally determined in the replotting plan, but replot plans are made public, and the landowners involved can issue statements expressing their views on the content of the plans.

The following are the practical details.

The standard procedure is to design replotting so as to minimize the need for building relocation. Under some designs it may be necessary to relocate a building standing on an original plot to its replot. It is possible to avoid payment for the relocation costs by granting a replot larger than the replot initially determined in the design. In such a case, the portion of the area that exceeds the initially designed replot is subject to payment of settlement money. This settlement money is granted to the neighboring landowners, thereby ensuring equilibrium over the entire project, with no excess or shortage. Collection and granting of settlement money is the responsibility of the Implementer, however, and it is never done between the relevant landowners themselves.

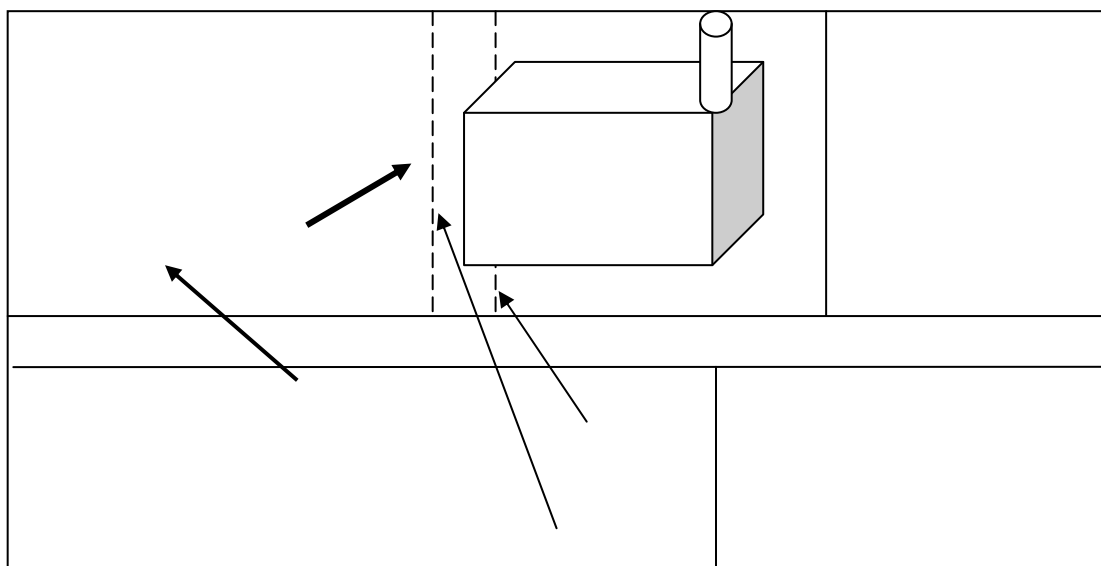


Fig. 1-8 Adjustment of excess or shortage by settlement money

¹⁰ If the actual replot area differs from the calculated replot area, settlement money will be granted or collected.

As shown above, since a land readjustment project is about handling the land-related rights of individuals, a procedure has been put in place that guarantees the relevant individuals' rights to access the project plan or replotting plan and express their views, providing a system that allows for correction of the plan if the view is considered to be just and reasonable. There is also a structure in place to enable the incorporation of views on replotting: for a project implemented by the union of landowners, this is the general assembly, the decision-making organ for the project; and for a project implemented by a local government, this is the council composed of representatives of the landowners. If any landowners still feel dissatisfied, they can seek an administrative review of the administrative disposition, such as the temporary replotting designation or replotting disposition, as explained earlier.

§6. Land Readjustment and Urban Development

1) Past land readjustment projects

At the beginning of the 20th century, residential land development was conducted as arable land development projects for agricultural land in suburban areas of major cities such as Tokyo, Osaka, and Nagoya in accordance with the Agricultural Land Readjustment Act¹¹. Since agricultural land readjustment was originally intended to develop and improve arable fields and develop agricultural roads and water channels, residential areas thus created lacked the infrastructure necessary for urban areas.

In 1919, the former Urban Planning Act was enacted. Learning from the experience of residential land development based on agricultural land readjustment, land readjustment was designed to serve as a system for urban planning. To date, some 340,000 ha have been developed under this system. These areas occupy one third of the existing urban areas of today's Japan¹².

It should be noted, however, that land readjustment under the former Urban Planning Act was intended to apply the Agricultural Land Readjustment Act to the implementation of projects. Therefore, there too many restrictions were imposed, such as the need to exclude plots with houses from the project area, for urban development projects.

¹¹ The Agricultural Land Development Act, enacted in 1899, was extensively revised in 1909. The Act prior to this was referred to as the former Agricultural Land Development Act and that subsequent to this as the new Agricultural Land Development Act. This act was abolished in 1949 and succeeded by the Land Improvement Act.

¹² Source: 2004 data of the Ministry of Land, Infrastructure and Transport

The Great Kanto Earthquake of 1921 wreaked havoc on Tokyo and Yokohama. The former Special Urban Planning Act was implemented to facilitate reconstruction, and land readjustment was executed for some 3,500 ha of land in Tokyo and Yokohama. These projects resulted in the development of various technologies and also helped spread the use of land readjustment across the entire nation, greatly promoting reconstruction following disasters and residential land development.

Fig. 1-9 shows an example of land readjustment in Tokyo at that time.

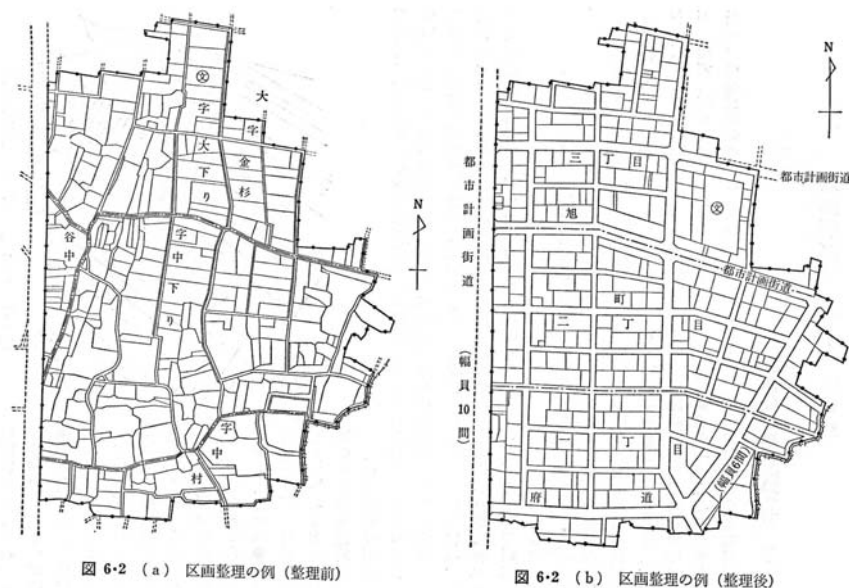


Fig. 1-9 Example of land readjustment (project for recovery from the damage of the Kanto earthquake)

World War II, which ended in 1945, devastated 215 cities and about 64,500 ha of land all over Japan. The Special Urban Planning Act was again enacted so as to promote post-war recovery. To recover from damage suffered in the war, land readjustment projects were carried out in 112 cities and for about 19,500 ha of land in total. These projects resulted in development of urban infrastructures that would later be able to cope with motorization.

The Land Readjustment Act was enacted as a single project-related law in 1954. Developed based on past experience and data, the act contained provisions designed to systematically help urban development and residential land development. With increasing population concentration in major cities during the period of rapid economic growth in the 1960s and 1970s, land readjustment projects were widely conducted mainly in the three major city areas of Tokyo, Nagoya, and Osaka, and in the prefectural

capitals throughout the country due to the growing demand of new urban residents for housing and residential land.

During this period, large-scale new towns, each covering an area of over a few hundred hectares, were constructed, such as the Heijo New Town in Kansai, the Kozoji New Town in Aichi, and the Kohoku New Town in Yokohama.

Land readjustment was then applied to the redevelopment of former factory sites or railroad marshaling yards. The scheme is now commonly used as an effective means of stimulating urban rejuvenation for the redevelopment of existing urban areas and improvement of core cities. Fig. 1-10 shows approved project area by year.

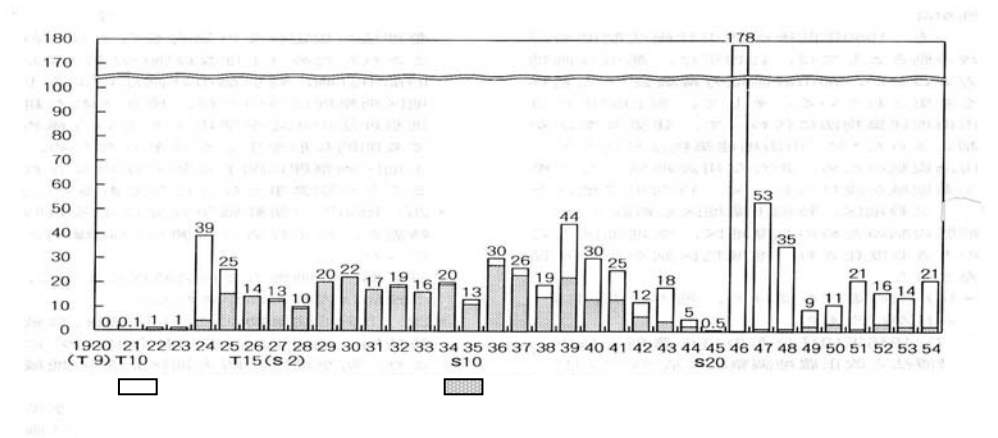


Fig. 1-10 Changes in areas subject to land readjustment (unit: 100 ha)

2) Background for promotion of land readjustment

Land readjustment is certainly not an easy project approach compared with site acquisition type projects. It is true that a replotting plan is eventually realized by replotting disposition, but the project still involves a lot of negotiations with many landowners and leaseholders and requires consensus building with regard to the project and replotting. If a large number of landowners and leaseholders are involved, getting their agreement is extremely time and energy consuming.

Unlike those in Europe or America, however, many landowners in Japan own small areas of land. The existence of so many small-scale landowners is probably attributable to Japan's social structure, which was established over hundreds of years based on small-scale family-based rice farming.

In Japan, small flat areas are densely populated due to its characteristic topography. Since wet-rice agriculture enjoys a high yield and allows continuous cropping, it can feed a large number of people even with only a small amount of arable land available. Western countries, meanwhile, were societies with a production system centering on upland cropping and stock raising based on three-field farming, and this required a vast area of arable land. Latifundism was thus established by enclosure during the transition from the Medieval to the Modern age. Large-scale latifundia mainly operating plantations are common in non-European regions colonized by Western countries.

Where small-scale landownership is prevalent, use of the land readjustment system is a rational approach to development of arable land and urban areas. The fact that the arable land readjustment approach was established in Germany, where equal inheritance under German law promoted land segmentalization, is useful to know in reviewing the growth of land readjustment. In 19th century Germany, arable field readjustment was actively utilized to build and improve roads and other urban infrastructures in expanding major cities, including Berlin.

When Japan's arable field readjustment law was developed, the Japanese learned from Germany's land readjustment system. It is also widely known that the law enacted by the then mayor of Frankfurt, Am Main Franz Adickes ("Lex Adickes"), had a major impact on the establishment of a Japanese version of the land readjustment system.

It is no surprise to learn that land readjustment was introduced to South Korea and Taiwan, which were once under Japanese colonial rule. Today, though, other Southeast Asian countries are also introducing land readjustment techniques to cope with rapid urbanization. Indonesia has successfully carried out a succession of land readjustment projects, albeit small in scale, and a land readjustment law was enacted in Thailand in 2004.

Needless to say, the efforts of the Japan International Cooperation Agency as well as many other international organizations and specialists have made contributed greatly to the overseas introduction of the land readjustment system and related techniques. It is logical to assume, however, that the drive behind this is the social climate and structure that makes land readjustment necessary.