CASE STUDY
LAND READJUSTMENT IN JAPAN

Source: City of Yokohama.

WORLD BANK GROUP

Tokyo Development Learning Center

The author of this case study is Minoru Matsui, Manager, Overseas Project Office, Tamano Consultants Co. Ltd.
Mansha Chen, Shigeyuki Sakaki and Mara T. Baranson from the World Bank edited the paper.
Yuko Okazawa from the World Bank facilitated the overall production of this paper.

CONTENTS

List of Tables

1

INTRODUCTION

HISTORY

The origin of Land Readjustment (LR) in Japan dates back more than 100 years. The modern land management system and Agricultural Land Consolidation (ALC) were established in the late 19th century. ALC was an agricultural land development tool to reorganize agricultural lands and develop passage and irrigation channels to improve agricultural productivity. In the early 20th century, ALC was applied to residential area developments in large cities facing rapid population growth. Because ALC required land owners to pay cash for construction, it was difficult to involve poor land owners in the target area. To recover part of the project cost, "surplus lands"—which can be created from private lands under the provision of ALC law—were sold on the market. The idea of surplus lands gave way to the "reserve lands" of the LR Law, which was established in 1954.

The Urban Planning Law established in 1919 was incorporated with provisions of LR, establishing the legal basis of LR. Provisions of the ALC Law were applied as the implementing procedures of LR.

During the period of the 1920s to 1950s, LR—implemented mostly by the central and local government[1]—was applied to several objectives such as post-earthquake reconstruction in the Tokyo region, urban renovation in large cities, industrial city construction nationwide, and post-war reconstruction after World War II. Through those experiences, LR techniques were improved and refined. Also, the Agrarian Reform of 1947 to 1950 had increased the number of landowners, which increased the necessity of LR.

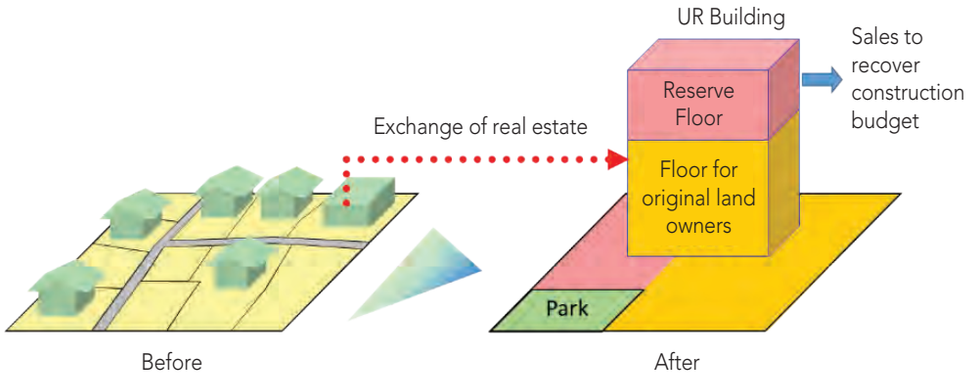
In 1949, the ALC Law was repealed and the Land Improvement Law, focused on agricultural land development, was established. This resulted in the conflicting situation that LR followed the repealed ALC Law, even though the Land Improvement Law also covered LR. To resolve the situation, the LR Law was established in 1954. It aimed to foster completion of the post-war LR projects as well as implementation of large-scale LR projects for new town development in response to socio-economic recovery and increased housing demand.

In the period including rapid economic growth during the 1950s to 1990s, large-scale LR projects had been implemented in the major metropolitan areas. Through the experiences of a large number of LR projects, the LR system improved in terms of the approval process, land replotting techniques, and financing; this contributed to quicker and smoother implementation.

After the collapse of the bubble economy in the early 1990s, decreased housing demand contributed to financial issues in private LR projects that depended on sales of reserve lands. At the same time, the

[1] There were also cases of LR projects by cooperatives. However, it seems that under the ALC Law, it was popular to undertake land consolidation projects for projects in peri-urban areas even after establishment of LR by the Urban Planning (UP) Law, due to the availability of financial support from government for land consolidation.

Figure 1.1: Conceptual Model of UR



Source: Author.

government changed its policy to promote LR for urban renovation in city centers, areas around transit stations, and other urban areas.

Although the number of on-going LR projects has decreased nowadays,[2] LR has been playing very important role in urban development in Japan through supporting various development purposes. The detailed history of LR in Japan is shown in Annex 1.

KEY ACHIEVEMENTS

LR is one of the popular urban development methods in Japan. It has been used for various development purposes around the whole country. The development purposes include not only residential area development in peri-urban areas, but also urban renewal in urbanized areas, and post-disaster reconstruction and integrated urban development with urban transport facilities. To date, LR has created and redeveloped urban areas with a total area of approximately 3,700 km^2, occupying 30 percent of the total urban area in the whole country.

Furthermore, LR has developed urban public facilities such as roads, green parks, and station plazas, with achievements including the following:

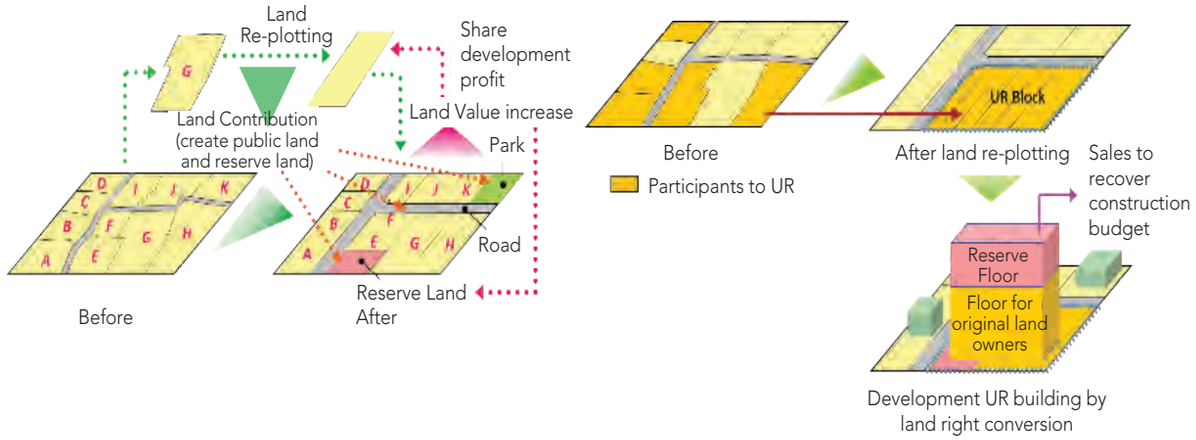
- city planning roads with a total length of approximately 11,500km (accounting for one-quarter of the total length of all city roads designated on urban plans);
- green parks with a total area of 150 km^2 (comprising one half of the total area of community parks, neighborhood parks and district parks across the entire country); and
- station plazas with a total number of 950 facilities (one third of station plazas at stations with more than 3,000 passengers per day).

OTHER RELATED URBAN DEVELOPMENT TOOLS: URBAN REDEVELOPMENT (UR)

In this paper, a broad definition of LR is taken. In this context, urban redevelopment (UR) is considered to be an application of LR. UR in Japan[3] converts land rights in a project site to a part of building rights by using land right conversion. For approval of the project and to apply for the national subsidy, the project area must be designated[4] as an urban

[2] Currently there are about 900 projects covering a total area of 363km^2.
[3] The Urban Redevelopment Law in Japan was established in 1969. UR aims to promote high-intensity land use under the UR Law.
[4] In the urban planning context, "designation" means decision and public notification by local government.

Figure 1.2: Conceptual Model of LR and Integration with UR



Source: Author.

redevelopment promotion area in urban planning or must satisfy several other conditions such as: designation as a high-intensity land use area, vulnerability to fire hazards, and improving the efficiency of land use. These conditions focus utilization of UR on urban redevelopment in urbanized areas—distinguishing the UR objectives from those of LR. The conceptual model of UR is illustrated in Figure 1.1.

In the case of LR projects for city center redevelopment and station area reconstruction, integrating LR with UR can be applied for the purpose of building development for high-intensity land use. Land rights which participate to UR are replotted into specialized urban redevelopment blocks within the LR project site. After replotting, the land rights are converted to UR building rights and a share of the joint ownership of the plot of the UR building.

The conceptual models of LR as well as integrating LR with UR are illustrated in Figure 1.2.

2

LEGAL AND INSTITUTIONAL FRAMEWORK

OVERALL LEGAL FRAMEWORK

LR in Japan is an urban development tool with legal basis in the LR Law.[5] The legal framework for LR consists of the LR Law, other related laws such as the Urban Planning Law and the Urban Redevelopment Law, and the related regulations and guidelines. Figure 2.1 illustrates the overall legal framework of LR and UR in Japan.

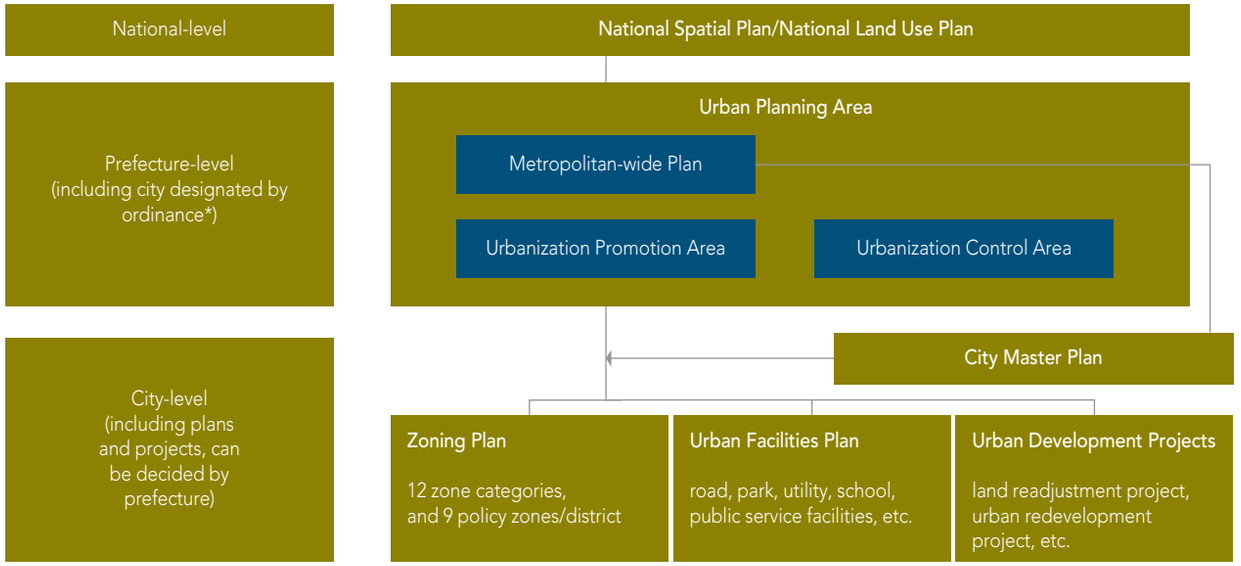
The LR Law is a procedural law mainly stipulating the rights and obligations of LR implementers and stakeholders in the approval and implementation processes. Annex 2 shows the approval process for two categories of implementers: (a) LR cooperatives and (b) local governments. Other related laws function as the legal basis for specific activities in the

[5] Law No.119 of 1954.

Figure 2.1: Legal Framework of LR and UR in Japan

Source: Author.

Figure 2.2: Urban Planning System in Japan



Source: Author.
*City designated by ordinance: Large city, with population of 500,000 or more, which is designated by ordinance under the Local Autonomy Law.

approval and implementation procedure, such as: coordination with the urban planning process (and related activities), compensation, and real estate registration.

In the case of LR projects integrated with UR, the UR Law functions as the legal basis for the urban development project in the designated block within the LR project area.

URBAN PLANNING SYSTEM

The urban planning system in Japan (illustrated in Figure 2.2) consists of three levels: (a) national level, (b) prefecture level, and (c) city level. The prefecture- and city-level urban planning play a main role in urban management.

The urban planning area designated by the prefecture government is divided into two zones: (a) urbanization promotion area and (b) urbanization control area, based on development policy in the prefecture-wide plan. The urbanization *promotion* area aims to strategically promote urbanization as a priority. It covers existing urbanized areas and future urban areas to be urbanized within about 10 years. On the other hand, in the urbanization *control* area, development and building activities are basically prohibited based on the policy to preserve agricultural areas and natural resources.

City master plans are intended to decide the fundamental policy for urban development of the city area. They usually provide vision, development goals, urban structure, a conceptual land use plan, and development policies of each sector (e.g., transportation, center area, housing, city scape control, and disaster management). Remarkably, city master plans in Japan do not show detailed land use plans. Zoning plans, urban public facilities plans, and urban development projects designated in the urban planning process are based on the city master plan, control building and development activities.

The zoning plan in Japan (see Figure 2.3 for an example) consists of 12 zone categories, and nine policy zones and districts. The zoning plan divides

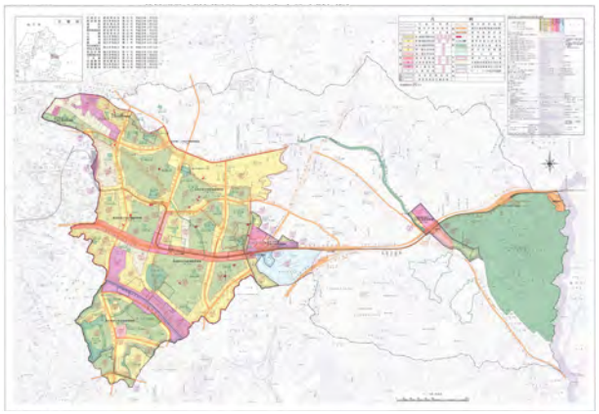
the urbanization promotion area into the zone categories such as low-rise residential zone, middle and high-rise residential zone, commercial zone and industrial zone. These zones are provided with control items regulating building use, building coverage ratio (BCR), floor area ratio (FAR), building height and other aspects related to building profile.

Urban planning is institutionally the upper-level plan of LR. LR must follow what the urban planning map shows, including the zoning. Regarding alteration of zoning plans in the LR project site, local government revises the zone category, BCR and FAR, *etc.* to meet the land use plan of the LR project through discussion with the LR implementer and land right holders. In cases where more details or relaxation of building controls are required for township management (e.g., historical cityscapes, unified streetscapes, and high-rise development) at the district level, municipalities lay down a District Plan. The Plan shows not only the future vision of the district but also provides the regulations relating to detailed matters, such as site, use, construction and building. The Plan also shows individual features that reflect the views of the local community.

Under the Urban Planning Law, each "urban facility" is to be designated with its location and boundary on the urban plan. Urban facilities are cateagorized into 12 types: (a) transportation facility, including road; (b) public open space; (c) utility and its plant; (d) river and canal; (e) educational and cultural facility; (f) medical and social service facility; (g) other medical and social service facility; (h) market, slaughterhouse and crematory; (i) collective housing facility; (j) collective government and public office facilities; (k) distribution business park; and (l) other facility, such as disaster prevention and mitigation facility.

According to the LR Law, the LR Implementation Plan must follow designated urban facilities. Roads and green parks are typical urban facilities included in LR project. Lands for urban facilities in LR projects are secured by land contribution from the land

Figure 2.3: Zoning Plan in Nagakute City



Source: Nagakute City, Japan.

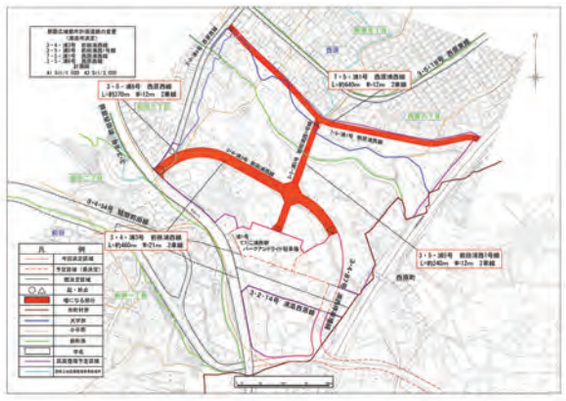
right holders within the site. In addition, the LR project can apply for national subsidy equivalent with compensation cost for the lands and buildings in a hypothetical case where land acquisition is made.

The procedure for the designation or alteration can be executed for each facility as necessary. Each facility's basic parameters, such as size and boundary, are decided through discussions at public meetings and through the Urban Planning Advisory Committee in the city or prefecture government. This flexibility is useful for rapid urban development as well as LR project implementation. An example of the designation map for a road as an urban facility is shown in the Figure 2.4.

In the Urban Planning Law, LR and UR are defined as urban development projects to be designated on the urban plan. In the designation process, the necessity, function and scale are decided through discussions at public meetings and through the Urban Planning Advisory Committee in the city or prefecture government. In addition, the project must be located within the Urbanization Promotion Area.[6]

[6] There are many cases where Urban Planning Areas are not divided into Urbanization Promotion Areas and Urbanization Control Areas. In such cases, LR can be implemented if the project area is not located within an Urbanization Promotion Area.

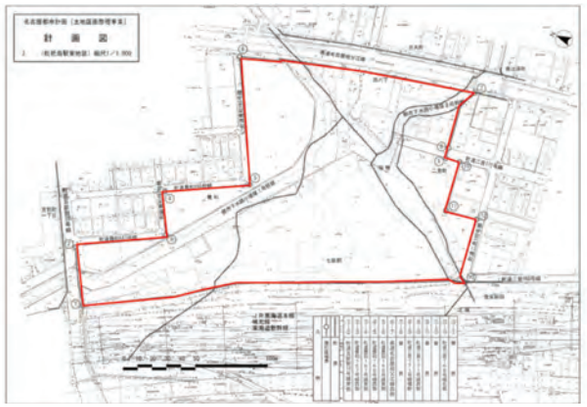
Figure 2.4: Official Map for Designation of Urban Facility (Road)



Designated City Planning

Source: Urasoe City, Japan.

Figure 2.5: Official Map for Designation of LR Project



Source: Kiyosu City, Japan.

If a development through LR is planned within an Urbanization Control Area, the following procedures are required: (a) the Urban Planning Area Master Plan and City Master Plan must include the development; (b) the Urban Promotion Area needs to be expanded to include the proposed LR site; and (c) The LR project needs to be designated—and (b) and (c) must take place simultaneously.

The urban planning designation map must provide clarity about the project location and boundary, so that landowners can judge if their land is included in the area of the LR/UR project(s). After the public announcement of the designation, building activities are restricted in the designated area under the Urban Planning Law.[7] This restriction system aims to facilitate implementation with respect to the negotiation with the land right holders and reduction of the compensation. Meanwhile, land right transaction is not prohibited; land rights can be sold and bought after the designation. Figure 2.5 provides an example of a designation map for an LR project.

[7] Both the Urban Planning Law and the LR Law stipulate building restrictions. The Urban Planning law enforces restrictions until the implementation plan for the LR project is approved.

3

OBJECTIVES AND CHARACTERISTIC OF JAPANESE LR

OBJECTIVES AND SCOPE

LR in Japan is an urban development method; its fundamental objectives are as follows: (a) development and improvement of public facilities and (b) enhancement of land usability. Based on these, the LR scopes and functions have flexibility to enable applicability to multiple development objectives according to changing social-economic situations and urban management policy. LR addresses a range of scopes and functions, such as:

- land replotting to reorganize and reshape land plots;
- land contribution to create public spaces and reserve lands to recover development cost;
- development of public facilities; and
- promotion of public and private participation.

Most LR projects in Japan do not include new building development in their scope. New buildings are developed by land right holders and the purchaser of reserve land. However, there are some cases where the development objective of LR projects include building development (e.g., high-rise building development in underutilized areas and social housing development in large-scale new town development).

As previously described, high-rise buildings can be developed by integrated use of collective land replotting and urban redevelopment, converting the replotted lands to building rights under the UR Law, or cooperative rebuilding without special legal basis.

Regarding social housing development, the Japan Housing Corporation (JHC)[8] has played a major role since the 1950s. JHC was established in 1955 in order to implement new town developments and to develop, sell and rent social housing. JHC purchased private lands and state lands in the LR project area before LR implementation. After LR, JHC constructed social housing on the replotted lands that were gathered into the site for the social housing development. Through this method, JHC was the implementer as well as a land right holder in the LR project. The social housing was constructed out of the scope of the LR project.

CHARACTERISTICS

Japanese LR has contributed to better-managed urbanization achieving various objectives across the whole country. The projects are controlled and promoted through the urban planning system and various subsidies under the governmental urban management policy. Characteristics of Japanese LR are summarized as follows:

[8] Now it's called Urban Renaissance Agency (URA).

Coordination with urban planning. As previously described, LR projects implemented by public implementers, or subsidized by central government, are required to be designated within the urbanization promotion area on urban plans in the preparation phase of the LR project. This coordination system ensures that LR projects generate positive social and economic impacts under the urban planning policy of the local governments. LR has also been an implementation tool to realize the polycentric spatial development patterns of large cities through construction of urban facilities such as city centers, new town areas, and transit corridors in coordination with urban planning.

Various LR implementers. The LR Law provides for three categories of public implementers: (a) local governments (prefecture and city), (b) central government, and (c) government corporations; as well as three kinds of private implementers: (a) individuals (i.e., a land owner or land owners group with several persons or entities), (b) LR cooperatives,[9] and (c) LR corporations.[10] In addition, the outsourcing agent for LR cooperatives is stipulated in the Law. This is one of the methods for private developers to participate in LR projects. Private developers, as the outsourcing agent, invest in the LR project and receive the reserve lands stipulated under the contract with the LR cooperative as return on their investment. After LR, the private developer carries out real estate development using the reserve lands.

Notable differences between public and private implementers include that public implementers are limited to implementing LR projects designated in urban planning. In other words, LR projects of public implementers are required to have necessity in urban management policy under local government. On the other hand, private LR projects basically are not required to have necessity—whether or not it is designated within urban planning; however, LR projects subsidized by central government must be designated in urban plans even if they are private projects.

The public sector has implemented LR projects of high urgency and social needs, such as post-disaster reconstruction, new town development and city center reconstruction. On the other hand, the private sector has tended to implement profitable LR projects generating high land value increases. LR cooperatives are organized by land rights holders within the LR project site, and have implemented most LR projects in Japan. The number and project area of LR projects in Japan are shown in Table 3.1.

Agreements from land right holders.[11] Private implementers are required to collect land right holder's agreement in the approval procedure. In the case of individual-implemented projects having several land right holders, a representative land owner must collect agreements from all of the other land right holders (i.e., an agreement ratio of 100 percent is required for individual-implemented LR projects). In the case of implementation by LR cooperatives or LR corporations, agreement of two-thirds of the land owners and two-thirds of the land lease holders is required. The agreement ratios are calculated both in terms of the number of land rights holders and land area. Although the requirement of agreement ratio is two-thirds under the LR Law, local governments as approvers generally suggest to collect the agreement of 80–90 percent in consideration of the project risk, since the larger the percentage of people who oppose or misunderstand the project, the more difficult the implementation may become. In addition, it is worth noting that the agreements are sought on the Implementation Plan

[9] LR cooperatives are organized by land rights holders within the LR project site. To establish the LR cooperative, the applicant group (comprising seven or more land right holders) is required to have agreement of more than two-thirds of the land right holders. After establishment of the cooperative, all land right holders are registered as the cooperative members.

[10] LR corporations are a type of special purpose company organized by land rights holders and a private company. This provision was added to the LR Law in 2005. To establish the LR corporation, land rights holders must invest more than 51 percent of the capital of the LR corporation.

[11] Public implementers are not required to collect agreement from land right holders.

Table 3.1: Number and Area of LR Projects in Japan (as of March 2013)

Category/Implementer		Completed		Under Implementation	
		No. of Project	Project Area (ha)	No. of Project	Project Area (ha)
LR under the former Urban Planning Law		1,285	67,862	—	—
LR under the LR Law		9,624	261,386	928	36,297
Public sector	Local government	2,244	102,012	504	20,925
	Central government	83	4,150	—	—
	Government corporations	385	26,969	35	4,462
	Sub-total	2,712	133,131	539	25,387
Private sector	Individual	1,293	17,512	51	890
	LR cooperative	5,618	110,738	337	10,016
	LR corporation	1	5	1	3
	Sub-total	6,912	128,255	389	10,909
Total		10,909	329,249	928	36,297

Source: Urban Regeneration and Land Readjustment Association, Japan.

and the articles of incorporation of LR cooperatives and LR corporations. The Implementation Plan is not required to include detailed plans relating to land replotting and compensation for each land right holder. These detailed plans are only formulated after the project approval.

Central government subsidy. Central government subsidy can be used for development of city planning roads in the LR project site. The maximum amount of subsidy is calculated by: (a) estimating a hypothetical cost of land acquisition, then adding (b) the compensation costs for the buildings and structures within the area of city planning roads, and also adding (c) the construction cost of roads. This is to provide comparability with the other subsidy programs for road construction. Since LR implementing bodies secure public lands for city planning roads through land contribution and not through land acquisition, but nevertheless have to spend (b) and (c), the amount for (a) can be used for other purposes, such as project management cost and compensation cost in areas outside the urban planning roads. In subsidized LR projects, more than 50 percent[12] of the total of land value increase must be recouped into the project revenue through the sales of reserve lands.[13] In other words, the development profits that land rights holders can obtain are limited to less than half of total development profits in the LR project supported by a central governmental subsidy. This subsidy system has promoted implementation of LR projects as well as development of urban infrastructure such as roads and parks while balancing public investments and land rights holders' profits.

Governmental technical and financial support for private LR projects. A private LR project can receive technical and financial support from central and local governments. A person or group who tries to implement a private LR project can apply to local government for technical support for preparation and implementation. Local government dispatches LR experts to support preparation activities such as land owners' meetings, feasibility study and

[12] This ratio has been the practice, while never formally stipulated.

[13] There are the exceptions in cases where the LR projects did not increase the total land value.

formulation of Implementation Plan, and provides subsidies for implementation activities and construction of public facilities under the local government's bylaw. This support system effectively promotes private LR projects under the local government's jurisdiction. LR cooperatives and LR corporations can obtain other public financial support, such as no-interest governmental LR funds.

Tax exemption for LR implementers and land owners. LR implementers can receive exemption and reduction of taxation. Tax exemption is granted for the real estate registration tax for replotting lands and for the sale of reserve lands, and for corporate tax and income tax on the LR cooperative and government corporations.[14] Also, land owners whose land is expropriated or acquired receive a reduction in the income tax on the income they receive from compensation and land expropriation. These tax incentives motivate land right holders to apply and cooperate in LR. These supports are intended to foster future increases in social and economic value and tax revenue from real estate developed in LR projects.

Sales of reserve land. Reserve land is a major financial resource for LR projects. The LR Law provides that reserve lands can be sold by LR implementers to recover LR project cost and to be used for the purposes prescribed in the LR articles. The LR Law also provides the upper limit of value of reserve land: the total value of reserve lands must not exceed the increase in total value of the lands in the project site. These provisions secure benefits of land right holders regardless of their agreement or disagreement regarding project implementation.

Land exchange methods and land valuation. The main principles of land exchange under LR are securing the existing private land value and maintaining fairness among land rights owners. The land exchange and land valuation are targeting the private lands in the LR project. The fundamental framework—regarding average land contribution ratio, total land areas, and average land prices before and after the LR project—is formulated through a 'project frame' as shown in Annex 3. Based on this framework, land exchange of individual land plot is calculated. In LR, **t**here are three calculation methods for the size and location of replotted land: (a) land valuation-based method, (b) area-based method, and (c) mixed method using (a) and (b). Currently, the land valuation-based method is widely used. Under this method, the valuation is not based on the land price, but on the intrinsic value of each plot. As such, the results of the valuation are indicated by 'points', not 'Yen' in order to exclude external factors that affect land prices. The value of a land area after the project is calculated by multiplying the value of the existing land by the value-increasing ratio of the LR project. For each replotted area, value is obtained by division of the land value after the project by the unit land value of the replotted location. For instance, existing land with area of 1,000 square meters (m^2) and value of 500,000 is provided with after-project land value of 750,000 (resulting from multiplication of 500,000 by the value-increasing ratio of 1.5). If the land is replotted in the area with the unit value of 1,000 per m^2, the replotted area is calculated as 750 m^2.

Regarding land valuation, although there are several kinds of land evaluation methods, the land value assessment based on accessibility, established in 1950, is widely used due to ease of use, which facilitates fast evaluation of many plots of land. If a land plot has better access by road, the unit value is higher. Based on this method, the total points in the area will be first calculated before and after LR and the value-increasing ratio is obtained. All the land parcels are entitled to be replotted so that the value for each parcel will be increased at the same value-increasing ratio. It is inevitable to have small differences (i.e., value more or less than this

[14] When the cooperative sells the reserve land, the sale income is tax exempt. Note: this exemption also applies to individual-implemented and corporation-implemented LR.

entitled value), and that difference will be settled through an adjustment payment.

By comparison, UR is basically carried out based on the principle of keeping the value of the existing real estate, including buildings, the same before and after the project. The value of each building unit which is provided through the UR project must be equivalent to the value of the real estate before the project.

Land right protection by designation of land replotting plan. Securing of land rights at any point throughout the repolotting process is most important both for the land right holders participating in an LR project and for the implementing bodies. In Japanese LR, the land replotting plan—indicating the location, figure, and area of replotted land rights—is officially designated before the LR construction stage. This is called "tentative designation of replotted land" because it is not final replotting until the survey after construction is done. Each replotted land parcel is legally connected with the original land right by the designated replotting plan. During implementation, land right holders keep their certificate of original land right. If necessary, the replotting plan can be altered. After the completion of the construction work, each of the replotted land parcels will be registered all at once based on the final replotting plan. This designation system secures land rights both of original and replotted lands during project implementation. Even in the case of complicated land replotting in urbanized areas, this protection measure can smoothly transfer original land rights to new land rights.

In addition, the LR law provides the correlation principle in land replotting so that replotting land shall be correlated with the original land in terms of location, area, soil condition, water utilization, land use, environment, and so on. This provision secures the similarity of conditions between replotting land and the original land. The LR Law also provides for exception to the above principle based on the land owner's requests for specific purposes such as promoting high-intensity land use and protecting owners of small land parcels.

Adjustment payment. The LR Law provides an adjustment method through monetary payment to correct for differences between the calculated replotted area and the measured area after development. The LR implementer pays or collects money to/from the land right holders based on the final replotting plan. This method can resolve minor differences in the values that could not be avoided in designing the replotting plan.

Special treatment for small land parcels. In the land replotting planning, small land parcels can be provided with special treatment, such as: (a) exchanging land for money; and (b) designation of minimum size of replotted land. Exchanging land for money is carried out through the adjustment payment *in lieu* of receiving the replotted land, based on the land owner's request. Land contribution for small lands can be reduced by adhering to a minimum size designated by the LR implementer.[15] To make up for the reduced contribution from small land parcels, land contribution for other larger land parcels may be increased.

Restriction of building activity. Building restriction in the LR project area is enforced by two stages of the planning and implementation process. In the planning stage, before approval of the LR project, the restriction under the Urban Planning Law is enforced (as described in the section on urban planning). Under the LR Law, after approval of the LR project, permission from the approver of the LR project is needed for any land development, new building, rebuilding, and/or extension of building that could possibly interfere with the LR project implementation, and any installation of unmovable structures. This provision functions to foster smooth implementation of LR projects.

[15] These land right owners still have to pay an adjustment fee in such cases to ensure equity among the land rights holders.

Temporary relocation. In order to undertake construction activities during the implementation stage, usage of specific land parcels by the holders of land rights in the project area is temporarily terminated by notification from the LR implementer. For houses and shops, the users temporarily rent other houses and shop buildings while they are unable to use their own. The cost, including rental fee and moving, is compensated by the LR implementer. In public LR projects in urbanized areas, there are some cases where the LR implementer constructs apartments for temporary relocation of the existing residents.

Forced relocation on site. LR implementers can relocate or demolish buildings and structures any time after expiration of the period stipulated on the relocation notification. In case of LR projects implemented by private implementers, once they have the required approval of the mayor of the municipality. This forced relocation is not a regular method, and is recognized as a last resort due to the time and costs associated with obtaining the approval and supervising of the relocation work. In fact, there are many cases to solve by negotiation before executing forced relocation.

Dispute resolution. Regarding dispute resolution, the implementer's implementation activities (e.g., designation of replotting plan) are defined as administrative disposition, which is eligible for request for examination under the Administrative Complaint Investigation Law. Persons and legal entities can submit a request for examination to the prefecture Governor or Minister of Ministry of Land, Infrastructure, Transport and Tourism (MLIT), depending on the type of the implementer. In case of dissatisfaction with the Governor's decision, the person or legal entity can submit a request for re-examination to the Minister of MLIT.

Penalty. The LR Law provides for penalty—for individuals, land right holders, executives of LR cooperatives and LR corporations and stakeholders—for bribery, concealments, obstructions and violations of governmental orders and inspections.

Combining LR and other land value capture tools. In LR, a part of land value increase shall be contributed to reserve lands through land contribution. The remaining value belongs to private lands. Although Japanese LR doesn't have any tool to directly capture the remaining value from the project in order to use for other public purposes, administrative bodies can capture part of the remaining value through the levying of the real estate tax for all properties and urban planning tax[16] for properties in urban areas. In addition, it is expected that revitalization of land use and activities will increase other tax revenues, such as corporate tax, income tax and consumption tax. This is one of the incentives of governmental support for general urban development and redevelopment projects including LR in Japan.

TYPOLOGIES OF JAPANESE LR PROJECTS

Given its flexibility, Japanese LR has been used to achieve multiple development objectives. The types of Japanese LR projects are categorized as follows:

- new town development in peri-urban areas;
- post-disaster reconstruction;
- city center and station area redevelopment;
- improvement of congested and wooden residential areas;
- integrated LR with railway development; and
- small-scale LR for land consolidation in urbanized areas.

New town development in peri-urban areas. The most typical LR projects in Japan are those that aim to develop large- and medium-scale residential areas in agricultural land and vacant land areas. During the period of huge housing demand in the 1950s to 1990s, LR supplied numerous housing lands. LR

[16] One kind of real estate tax imposed by some municipalities in Japan.

Figure 3.1: New Town Development in Peri-urban Area

Cadastral map before LR project | **Land Re-plotting Plan**

Source: Memorial Bulletin of Hirate Nanbu LR Project, Hirate Nanbu LR cooperative, Nagoya City.

cooperatives are often adopted as the implementing entity due to profitability and ease of operation. Most of the LR cooperative project have utilized sales of reserve land as the major financial resource. Figure 3.1 illustrates an example of new town development in a peri-urban area.

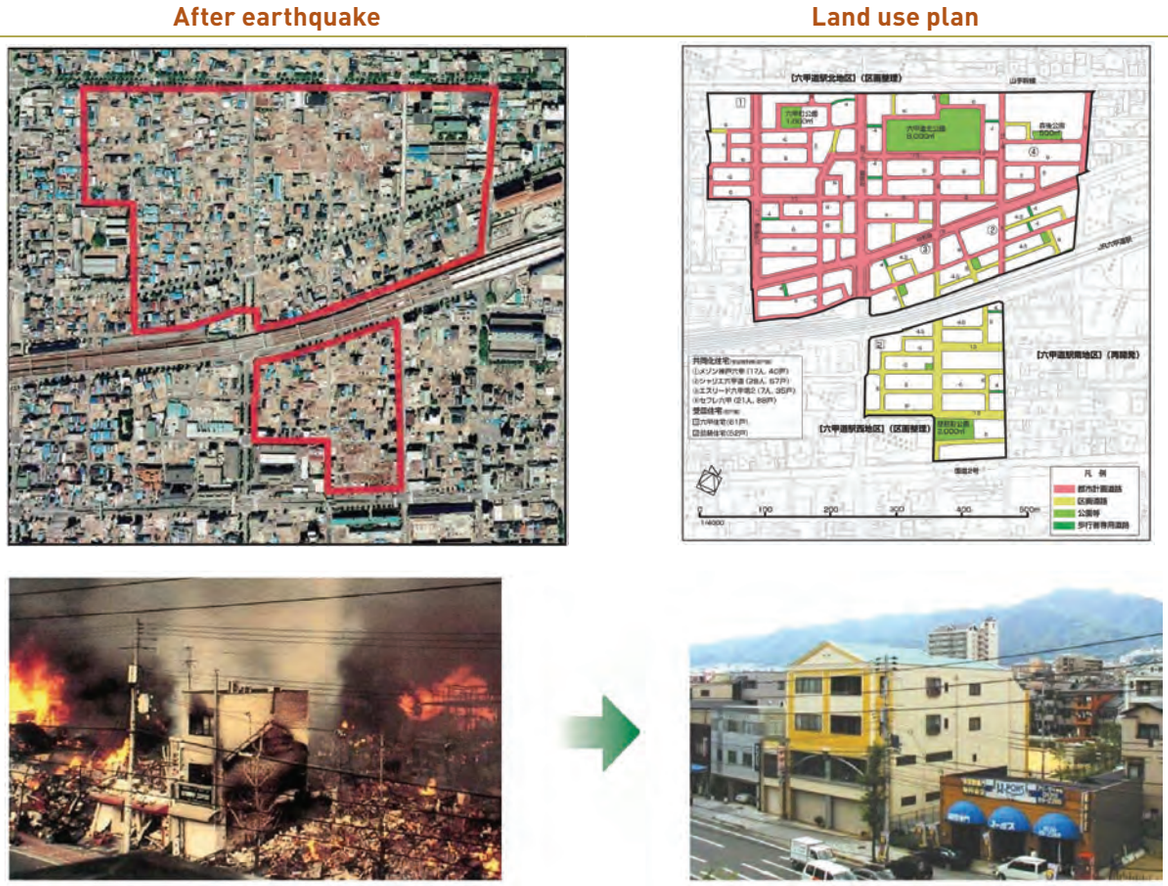
Post disaster reconstruction. LR has been applied for urban reconstruction after WWII and after the Great Kanto Earthquake of 1923. In recent years, post-earthquake LR projects have been implemented after the Great Hanshin Earthquake in 1995 and the Great East Japan Earthquake in 2011. In Kobe City (see Figure 3.2), 13 LR projects with a total area of 145 ha have been implemented for post-earthquake reconstruction. In these projects, effective use of collective land replotting into a large-scale site has supported apartment development, and land right exchanging with money has provided support for livelihood restoration of the disaster affected people.

City center and station area redevelopment. To meet the objective of urban redevelopment for city center and station areas (see Figure 3.3 for an example), LR is applied for land and infrastructure development. This type of LR project is mostly implemented by local governments due to urgency, high-priority, complication of existing land rights and financial constraints,[17] but is also implemented by railway companies and the Urban Renaissance Agency (URA). In this type of project, land replotting is effectively used for consolidation of vacant lands and private lands for the improvement of the land use, and for creating spaces for urban facilities such as arterial roads and station plazas. Simultaneously with the LR project, other related projects—such as commercial complex development, station building reconstruction and railway elevation—are implemented by local government, private companies and the railway companies.

Integrated LR with railway development. Under this category, there has been only one special case so far—the Tsukuba Express Railway (see Figure 3.4). Tsukuba Express connects Akihabara in Tokyo and a suburban research and development area and has total length of 58km with 22 stations. To secure the right of way for the railway facilities, a special methodology—using a combination of prior-LR land acquisition and land replotting—was established

[17] Because there is little space available to create reserve lands.

Figure 3.2: Post-Earthquake Reconstruction LR Project

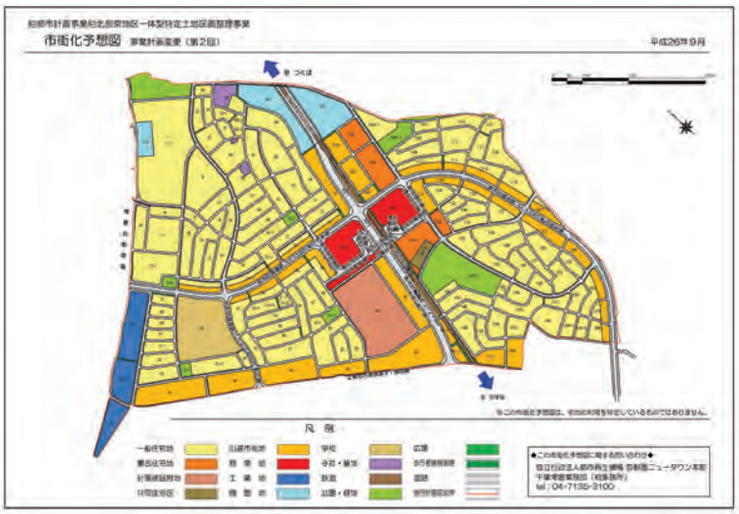


Source: Rokkomichi North Station LR Project and Rokkomichi Western Station LR Project, Kobe City.

Figure 3.3: Station Area Redevelopment

Source: Akihabara Station Area LR Project, Tokyo.

Figure 3.4: Integrated LR with Railway Developmentv



Source: Kashiwa Hokubu East LR Project, Urban Renaissance Agency, Japan.

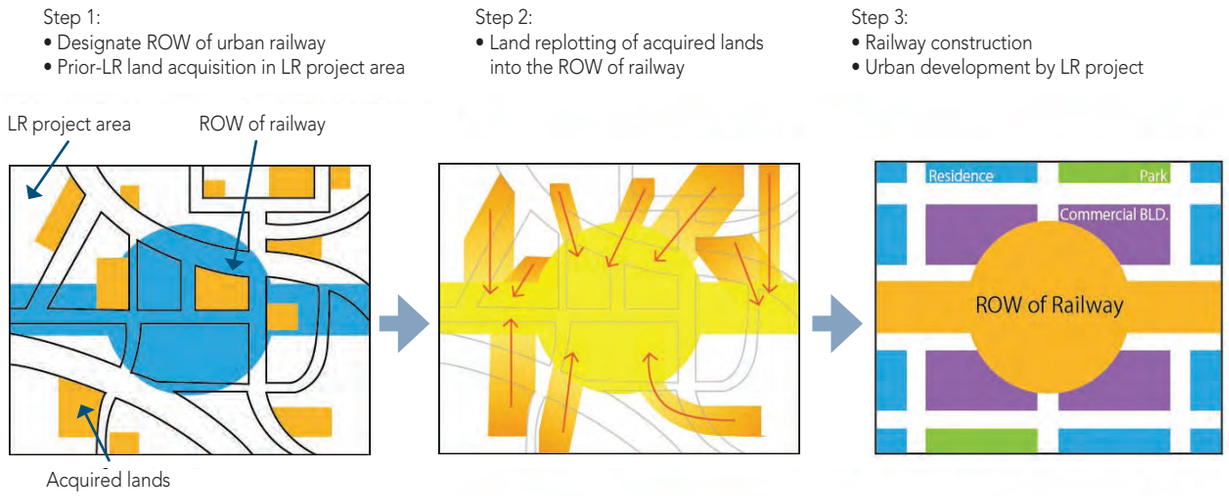
under the Law on Special Measures Concerning the Promotion of Integrated Urban Development with Railway Development in Metropolitan Area.

This method aims to widely cover target lands which are easy to acquire. The outline of the methodology is shown in Figure 3.5.

Parts of the section of the right of way were secured through this method and 15 station areas were developed by the LR project.

Improvement of congested and wooden residential areas. This type of LR aims to improve the safety and disaster prevention of urban

Figure 3.5: Methodologies of Integrated LR with Railway Development



Source: Author.

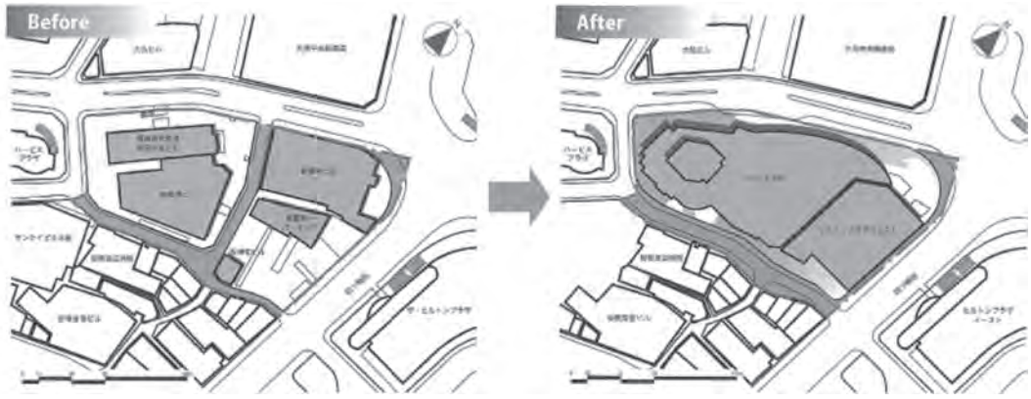
Figure 3.6: Improvement of Congested and Wooden Residential Area

Source: Suehiro Minami LR LR Project, Kadoma City, Japan.

infrastructure and buildings in existing congested residential areas with wooden structures (see Figure 3.6 for an illustration). The LR project has the specific objectives such as: (a) securing evacuation routes and public spaces to prevent fires from spreading; (b) promoting reconstruction of old buildings having high risks of collapsing and burning down; and (c) land consolidation to support collective reconstruction for apartments.

Small-scale LR for land consolidation in urbanized areas. This type of LR has been used for maximizing the usability of private lands and vacant lands in urbanized areas. The major objectives of this type of LR are land consolidation and replacement of existing roads. This type of LR does not require increasing the amount of area for public facilities; hence, land contribution is not always necessary. In addition, where appropriate, application of exceptional or reduced standards for road width and park areas is encouraged, based on the LR Management Guideline published in 2001. Through land replotting, the land owners can receive a collective land lot to be used for large-scale building construction (see Figure 3.7).

Figure 3.7: Small-scale LR for Land Consolidation in an Urbanized Area



Source: Land Readjustment Promotion Agency, Umeda 2-chome LR project, Osaka.

4

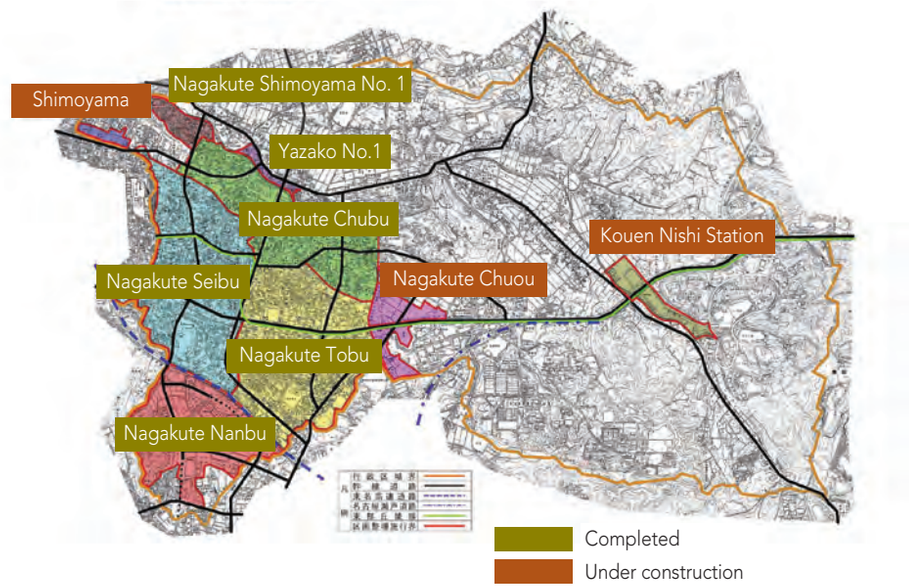
PROFILES OF SELECTED LR PROJECTS

NEW TOWN DEVELOPMENT IN PERI-URBAN AREAS: NAGAKUTE NANBU LR PROJECT IN AICHI PREFECTURE

Background. Nagakute City is a city adjoining Nagoya, which is the third largest city in Japan. As of 2015, the city has an estimated population of approximately 58,000, and total area is 21.6 square kilometers. Until the 1960s, the city's population was approximately 10,000 and most of the city area was covered by farm lands and forests. After opening a terminal station of the urban railway in 1969, new town development using LR was promoted by the city government.

To date, nine LR projects have been implemented by phases in the city area. The total project area is 599 ha, which covers 80 percent of the urbanization promotion area. Among the nine projects, eight projects were implemented by LR cooperatives. As a result of the well-controlled urbanization, Nagakute city was chosen by the City Data Pack in 2015 (published by Toyo Keizai Inc.) as the third-best livable city in Japan. The locations of the nine LR projects are shown in Figure 4.1.

Figure 4.1: Location of LR Projects in Nagakute City



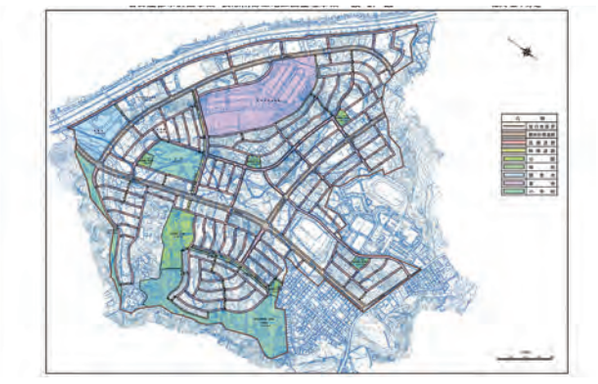
Source: Nagakute City.

OVERVIEW OF THE NAGAKUTE NANBU LR PROJECT:

- Project Area: 98.2 ha
- Implementer: Nagakute Nanbu LR cooperative
- Number of Land Right Holders: 780
- Project Period: 17 years (from 1998 to 2015)
- Total Expenditure: 20.8 billion JPY (208 million USD)
- Average Land Contribution Ratio: 39.86%
- Planned Population: 5,000 people

Preparation of the Nagakute Nanbu LR project started since 1990. At that time, the project area was mostly covered by farm lands and forests within the urbanization control area. Motivation for the project came from the land owners who were concerned about environmental deterioration from increasing dumping of garbage and lack of public infrastructure. The land owners' group conducted study meetings and surveys to discuss the need for town development. For two main reasons—difficulty of land acquisition and importance of land owners' participation—they chose the LR scheme. In 1993 the preparatory meeting was held to formulate the Implementation Plan and establish the LR cooperative, with technical support provided by the municipality. In 1997, the project area was incorporated into an urbanization promotion area, and the LR project, urban facilities and zoning plan were designated on the urban plan. Through the legal procedures, the LR cooperative and the Implementation Plan were approved in 1998.

Figure 4.2: Land Use Plan of Nagakute Nanbu LR Project



Source: Nagakute Nanbu LR Cooperative.

Overview of the LR Project. The Nagakute Nanbu LR project aimed to develop a new town with residential area, commercial and business area, a primary school and a nursery school, and green parks and cemetery areas, under the concept of "People and Nature-friendly Town". The project included development of four roads designated on the urban plan. The project was implemented by an LR cooperative organized by the land right holders in the project area. The project cost of 20.8 billion JPY (208 million USD) was covered by central government subsidy, municipal subsidy and sales of reserve land. The sales of reserve land were the major financial resource accounting for 67 percent of the total revenue. Around 40 percent of the total area of private lands was used for both public facilities and reserve lands through the land contribution. The project was completed in 2015.

The land use plan is shown in the Figure 4.2 and Figure 4.3 shows the site conditions before and after the LR project. The project frame abstracted from the approved Implementation Plan is described in Annex 3.

Notable features. For the enhancement of the convenience and amenity as a new town area, and promotion of the project finance, the LR cooperative applied special techniques and programs as described below.

(a) Request-basis land replotting. For the commercial area development in the center area, collective land replotting based on the land owners' request was used (see Figure 4.4). Lands for which the owner wanted to join the lease business were collectively replotted into the large-scale commercial block. The shape of each replotted land parcel was designed to be long and narrow in order to avoid

Figure 4.3: Site Condition Before and After the LR project

Source: Memorial Bulletin of Nagakute Nanbu LR.

its individual land use.[18] After the replotting, the land owners collectively leased their lands to a commercial developer to build a shopping center.

In addition, the project included an eco-friendly residential area in the southern area with natural and hilly landscape. This was also carried out through a request-based land replotting.

(b) District plan and cityscape guideline. A District Plan, which controls land use and building profiles in more detail than the zoning plan, was designated

[18] The LR law does not allow conversion of a group of individually owned land parcels into a jointly-owned parcel in order to protect property rights of individual landowners, except for special cases for small land parcels.

Figure 4.4: Collective land replotting for commercial area

Source: Nagakute Nanbu LR Cooperative.

Figure 4.5: House and Open Space with Planting

Source: Tamano consultants Co. Ltd.

in the project area. The plan regulates minimum land size, construction line, advertisement, structure of fences, building height, and specific land use. In addition, a cityscape guideline was formulated to control wall and roof color, size and illumination of advertisement, and to promote planting in open spaces (see Figure 4.5). The plan and guideline had an effect not only in terms of improving the living environment, but also increasing land value which is important for cost recovery through the sale of reserve lands.

(c) Promotion for sales of reserve land. With the stagnation in the housing market in Japan, the sale of reserve lands is key to successful implementation of an LR cooperative project. In the replotting plan, priority was given to having the reserve lands at good and commercially attractive locations before assigning lands for replotting. In addition, promotion targeting housing companies started in the beginning stage in order to incorporate the opinions of the housing company (as the buyer) in terms of the land use plan and replotting plan. Through those efforts, the reserve lands were sold earlier than expected.

(d) Local government subsidy. The LR cooperative received financial support from Nagakute City in accordance with the municipal bylaw. The subsidy covers a part of the cost for the project's activities (e.g., establishment of LR cooperative, securing public land for a part of the road exceeding the width of 12 m, drainage, green park, and administration costs). This helped to secure profitability for the LR cooperative and promoted the LR cooperative's project.

(e) Establishment of town management association. The LR cooperative implemented not only the LR project, but also nature-friendly activities for the community including new residents. The LR cooperative had conducted several community events for planning, agricultural experience tour, and wildlife preservation activities in the green area in the project site (Figure 4.6). However, the LR cooperative had to be dissolved at the end of the project according to the LR Law. For the continuation of the LR cooperative's mandates, a town management association, Nagakute Minami Satoyama Club, was established by the members of the LR cooperative. The town management association continues to implement those community-based activities, collaborating with the municipality, universities and private companies.

Key results of LR project:

The development effect of the LR project is summarized as follows:

Figure 4.6: Community Events in Project Area

Source: Tamano consultants Co. Ltd.

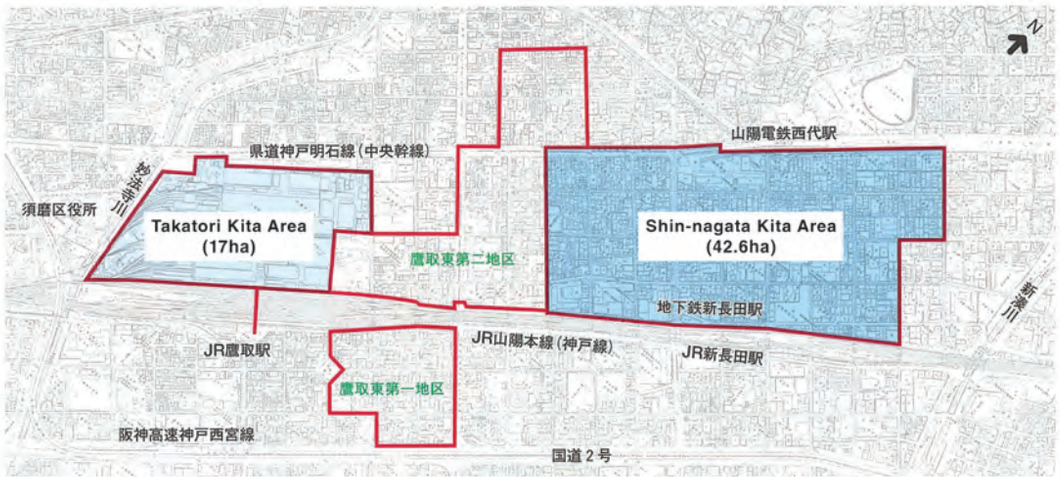
- city road network was developed, connecting to other neighboring cities and public green park;
- creation of new town brought convenience and defined the cityscape;
- promotion of private buildings (such as residences, apartments, and shops) constructed by land right holders and buyers of reserve created new uses of land; and
- the number of residents in the LR project area increased from 30 to 5,000 people.

POST-EARTHQUAKE RECONSTRUCTION: SHIN-NAGATA EKIKITA POST-EARTHQUAKE RECONSTRUCTION LR PROJECT IN KOBE CITY

Background. The Shin-nagata Ekikita area is one of the enormously damaged areas affected by the Great Hanshin Earthquake that occurred on the 17th of January 1995. The earthquake brought about 4,600 deaths, with 15,000 injured in Kobe City only. 123,000 buildings collapsed or were partially destroyed, and 7,000 building were burned. In the project area, around 80 percent of the buildings were demolished or partially destroyed by the earthquake and fire. Before the earthquake, Shin-nagata area was a congested urbanized area with many small, wooden houses along narrow passages, and small factories and workshops of shoe manufacturers. The local industry had been on the decline due to the aging workforce and intensification of international competition. For urban reconstruction, Kobe City urgently designated the Shin-nagata Kita area (42.6ha) as an LR project on the urban plan in March 1995. The project plan of the LR was approved in July 1996. In addition, the Takatori Kita area (17 ha) was incorporated into the LR project in 1997. Figure 4.7 illustrates the location of the LR project area.

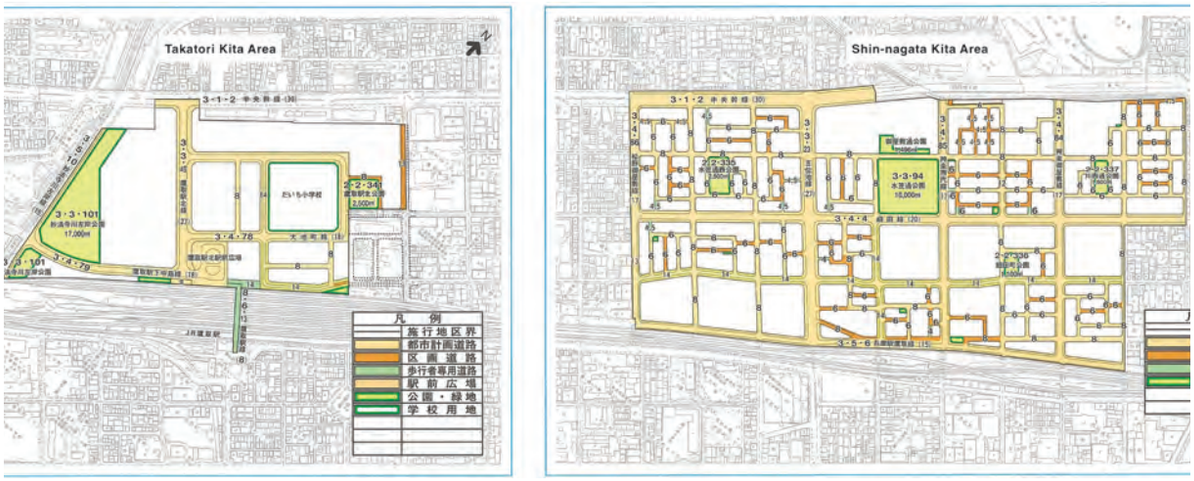
Overview of the LR Project. The project area consists of two areas: (a) Shin-nagata Kita area, a congested area with many wooden houses; and (b) Takatori Kita area, part of a huge factory land parcel owned by the railway company. The LR project's objectives were to reconstruct the urban facilities and improve land use as well as the livelihoods of the disaster-affected residents in Shin-nagata Kita area. Takatori Kita area was incorporated into the LR project to develop a new housing area with disaster-prevention function and providing commercial and cultural facilities. The LR project was implemented by Kobe City. The project cost of 103 billion JPY (1.03 billion USD) was covered by public funds such as central government subsidy, contribution for urban park construction, and municipal general budget. Reserve land was not secured due to a

Figure 4.7: Location of Shin-nagata Ekikita Post-earthquake Reconstruction LR Project



Source: Kobe City.

Figure 4.8: Land Use Plan of Shin-nagata Ekikita Post-earthquake Reconstruction LR Project



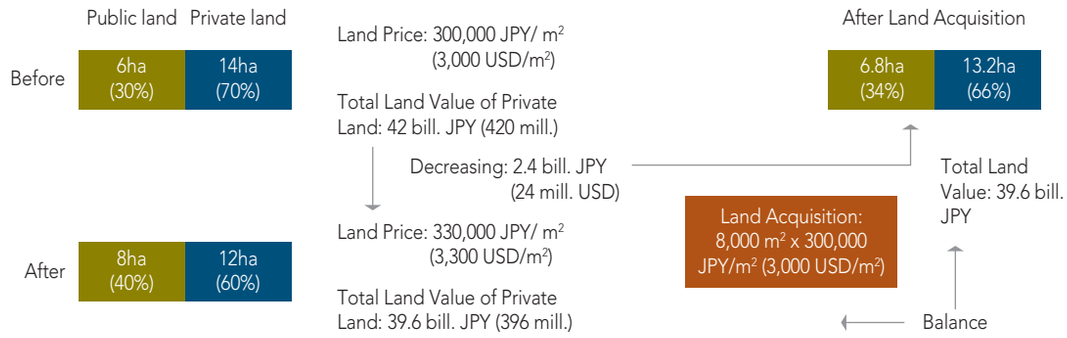
Source: Kobe City.

OVERVIEW OF THE LR PROJECT:

- Project Area: 59.6 ha (Shin-nagata Kita Area: 42.6ha, Takatori Kita area: 17ha)
- Implementer: Kobe City
- Number of Land Rights: approximately 2,400
- Project Period: 17 years (from 1995 to 2011)
- Total Expenditure: 103 billion JPY (1.03 billion USD)
- Average Land Contribution Ratio: 15.07%

decrease in total land value. The average land contribution ratio for both areas was 15.07 percent. Within Shin-nagata Kita area, the average land contribution ratio was set at 9 percent in consideration of existing small land lots with an area of around 40 m^2. In addition, land contribution for small plots with an area of 60 m^2 or less was reduced to 0–9 percent as a special treatment. The project was completed in 2011. The land use plan is shown in Figure 4.8.

Figure 4.9: Model of total land value decreasing and the balancing by land acquisition



Notable features. For the reconstruction of urban facilities and livelihoods in disaster-affected areas, the LR project applied special techniques and programs as described below.

(a) Land acquisition as a means of compensation due to decrease in total land value. Most LR projects aim to increase land value; however, in some cases, in urbanized areas, the total land value of private land after the LR project is lower than it was before the LR project. The decrease in private land value is a result of a combination of land contribution from private to public land and small increases in land unit price due to the already high unit price of existing land. According to the LR Law, the LR implementer must compensate if there is a decrease in land value. In reality, it is commonly practiced that the public LR implementer acquires lands before LR instead of paying the compensation after LR. The purchased lands are defined as public lands, which decreases the pre-LR total value of private land. As the result, the total value is balanced between before the LR project and after. The calculation model is shown as Figure 4.9.

In the Shin-nagata Ekikita LR project, the land value was estimated to have decreased by 27 billion JPY (270 million USD). Kobe city purchased lands instead of paying the compensation later, and reclassified the purchased lands to public land. The land acquisition supported the speedy resettlement of the disaster-affected peoples.

(b) Joint apartment development using collective land replotting. In the project area, many of land right holders lost their houses due to the earthquake and fire. The reconstruction faced a number of challenges, such as: (a) under the current building code, it was impossible to secure the same living spaces as before the disaster; (b) land right holders lacked their own budget due to old age and "double loan" problem.[19] To address this, joint apartment development was proposed. Through the coordination and participation of the land right holders, eight apartment projects were implemented in the LR project site (see Table 4.1 and Figures 4.10 and 4.11).

Those apartment projects were ordinary building projects—not following the UR Law, in order to avoid losing time to the legal procedures. Land rights holders who joined the apartment development were replotted into the apartment project site. After designation of the land replotting plan, the apartment developer temporarily purchased the participants' land rights, under a contract that

[19] Households already had a loan for the house they owned. When their house was demolished or burned by the earthquake and fire, in order to re-build they needed to take out another loan -- while they still had the original loan as well.

Table 4.1: Joint Apartment Development in Shin-nagata Ekikita LR Project

	Land Area (m^2)	Participated land right holders	Apartment Plan		
			Total housing (unit)	Housing for sale (unit)	Shop (unit)
1	2,072	42	99	67	15
2	1,639	25	93	63	3
3	1,033	19	35	21	7
4	1,669	45	88	56	22
5	1,226	20	73	48	2
6	651	19	18	12	-
7	728	17	34	20	2
8	195	5	11	5	1

Source: Kobe City.

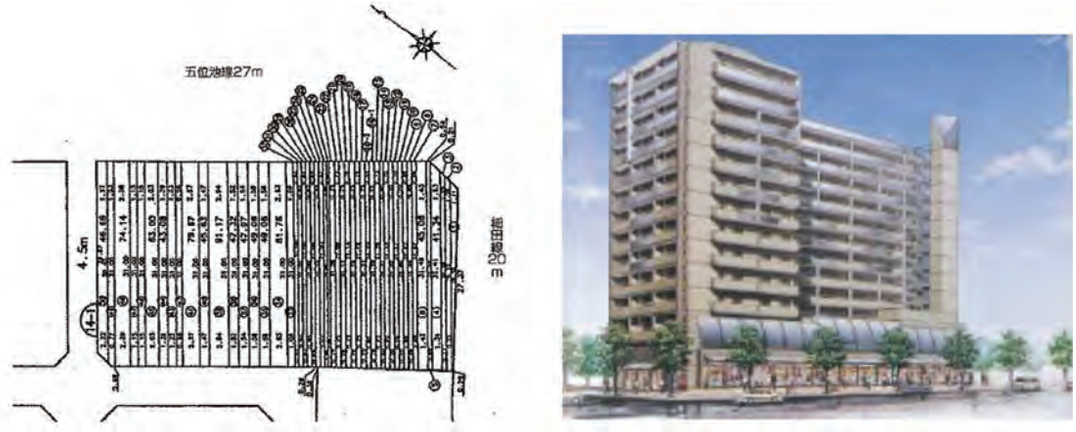
Figure 4.10: Location of Joint Apartment Development

Source: Kobe City.

described the condition for returning the rights with an apartment unit. After development, the developer sold a part of the apartment building to the market to recover the development costs. Then, the original land right holders received the remaining apartment units. This process supported livelihood recovery as well as disaster prevention of housing, and also promoted high-intensity land use while keeping the existing community intact.

(c) Proposal of land use plan from Residential Town Planning Committee. Shin-nagata Kita area

Figure 4.11: Collective Land Replotting for Joint Apartment Development



Source: Kobe City.

consists of more than 20 urban blocks with an area of approximately 1 ha each block. Kobe City decided to establish twenty-one units of the Residential Town Planning Committees in each community after the designation of the LR project on the urban plan. The activities of the committees were supported by town planning experts such as university professors and consultants who were dispatched by Kobe City. Each committee formulated a local land use plan for each urban block, with technical advice provided by the town planning expert, and proposed it to Kobe City. Based on the proposal, Kobe City adjusted the land use plan of the LR project. In addition, the committee discussed joint apartment development, as previously described, and also proposed an increase of the designated FAR, to improve feasibility of the apartment development. Then, Kobe City adjusted a part of the Zoning Plan and formulated the District Plan in order to support the joint apartment development.

Key results of the LR project:

The development effect of the LR project is summarized as follows:

- disaster prevention of the project area was improved through widening city roads, creating community roads and open spaces, newly-built buildings with aseismic and fireproof structure, and construction of a fire prevention water tank;
- livelihood rehabilitation of disaster-affected people was aided by the exchange of money for existing land rights through land acquisition before approval of the LR project, and joint apartment development using collective land replotting.
- the population in the project area increased from 7,587 persons before the earthquake in 1994 to around 9,400 persons after completion of the LR project in 2011; and
- the cityscape in the project area was improved by development of underground power lines and cityscape guidelines formulated by the Residential Town Planning Committee.

STATION AREA REDEVELOPMENT: AKIHABARA STATION AREA LR PROJECT IN TOKYO

Background. Akihabara station area is located at the city center of Tokyo, just 2km north of Tokyo Station. It has an important transport hub function in Tokyo and is also one of the world's largest shopping areas for electrical product, with both big vendors as well as many medium- and small-size shops. Previously, the area had huge vacant lands along the railway tracks that were used for a public vegetable market and a freight depot. The market land (area of 2.7 ha) was owned by the Tokyo Metropolitan Government. The freight depot land (area of 3.2ha) was owned by the former Japanese National Railway Settlement Corporation. In 1993, a decision was taken to build a new urban railway, the Tsukuba Express, which provides a 58km-long connection between Akihabara station and a research and development area in Ibaraki prefecture.

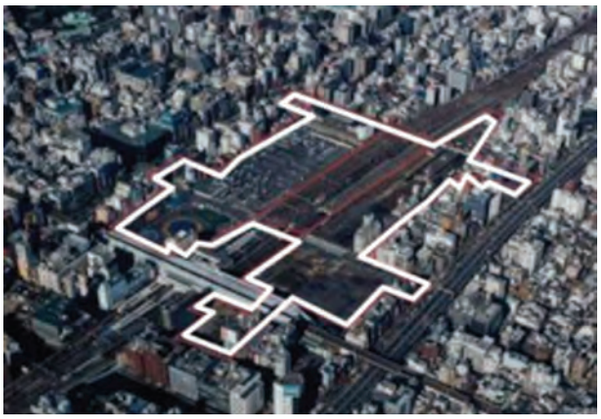
The Tokyo government included redevelopment of the vacant lands in the Akihabara station area in the 3rd long-term development plan in 1990, and formulated the conceptual plan for the urban redevelopment in 1992. In the conceptual plan, LR would be implemented by the Tokyo government for the redevelopment due to the necessity to reorganize land rights of the huge vacant land parcels and surrounding small private lands. Furthermore, urban control and

OVERVIEW OF THE LR PROJECT:

- Project Area: 8.76 ha
- Implementer: Tokyo Metropolitan Government
- Number of Land Right Holders: 35 (as of project approval)
- Project Period: 19 years (from 1997 to 2015)
- Total Expenditure: 34.6 billion JPY (346 million USD)
- Average Land Contribution Ratio: 35.10% (34.22 % for public land, 0.88% for reserve land)

Source: History of Akihabara Station Area LR Project, Tokyo Metropolitan Government.

Figure 4.12: Akihabara Station Area (Before construction in 1997)



Source: Tokyo Metropolitan Government.

Figure 4.13: Route Map of Tsukuba Express

Source: Japan Railway Construction, Transport and Technology Agency.

integrated land use were to be achieved by applying the District Plan and guidelines. The LR project and the related urban facilities were designated in the urban planning in 1996. The Implementation Plan of the LR project was approved in 1997.

Overview of the LR Project (see Figures 4.12 and 4.13)**.** The LR project's objective was to redevelop the Akihabara station area, including the huge vacant lands, for urban land use with commercial, office, residential and cultural facilities. It also aimed to achieve synergy with urban transportation and enhancement of urban function utilizing the existing characteristic as an electrical shopping town.

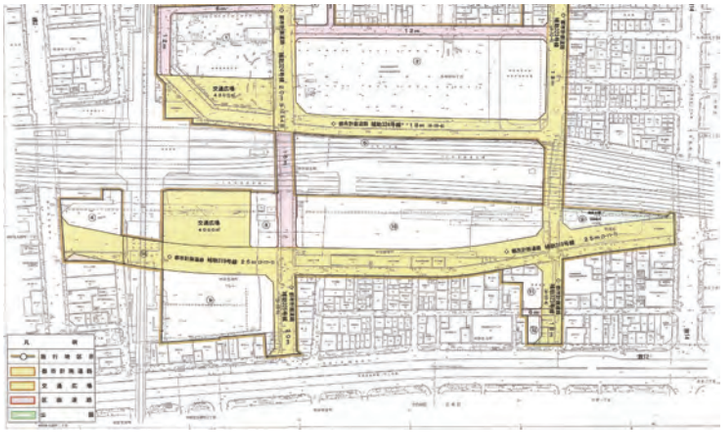
The development concept targeted to introduce three urban functions: (a) innovation hub for digital media and next-generation industries; (b) communication and information function; and (c) living and accommodation function. The LR developed four city roads designated in the Urban Plan, including two station plazas, and community roads and a park. The project cost of 34.6 billion JPY (346 million USD) was covered by a central government subsidy, Tokyo government's general budget, and sales of reserve land (600 m^2 of 2.3 billion JPY (23 million USD)). The average land contribution ratio was 35.10 percent, and was mostly used for securing of public facility land. The basic design of public facilities is shown in Figure 4.14.

The replotting plan was designated in 1998. After land rights registration for replotted lands in 2011, the project was completed in 2015. Figure 4.15 illustrates the private urban development that has taken place in the Akihabara Station area.

Notable features. To achieve the project objective, the LR project applied special techniques and programs as described below.

(a) Designation of Urban Renaissance Urgent Redevelopment Area (URURA). The URURA is a central government program to support creation of urban centers in large-scale cities through public-private collaboration under the Act on Special Measures Concerning Urban Renaissance, established in 2002. In the area, designated urban

Figure 4.14: Basic Design of Public Facilities of Akihabara Station Area LR Project



Source: History of Akihabara Station Area LR Project, Tokyo Metropolitan Government.

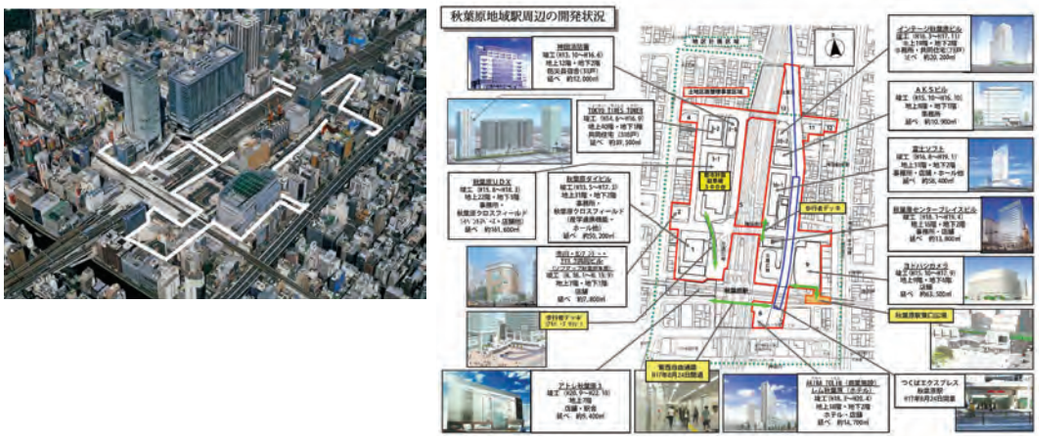
development projects can receive special measures such as: deregulation of land use control, private proposal of urban planning, expediting of legal procedure, and Minister's permission for financial support[20] and tax reductions.[21] In addition, relevant government offices and local government strongly promote projects and programs for urban renewal under the development policy decided by the Urban Renaissance Headquarters of the Prime Minister's Office. At present, 63 areas with a total area of 8,372ha are designated as URURA in Japan.

Akihabara and Kanda Area, with an area of 157ha including the LR project urban area, was designated

[20] Long-term loan with stable interest rate for middle-risk investments for private urban renewal projects.

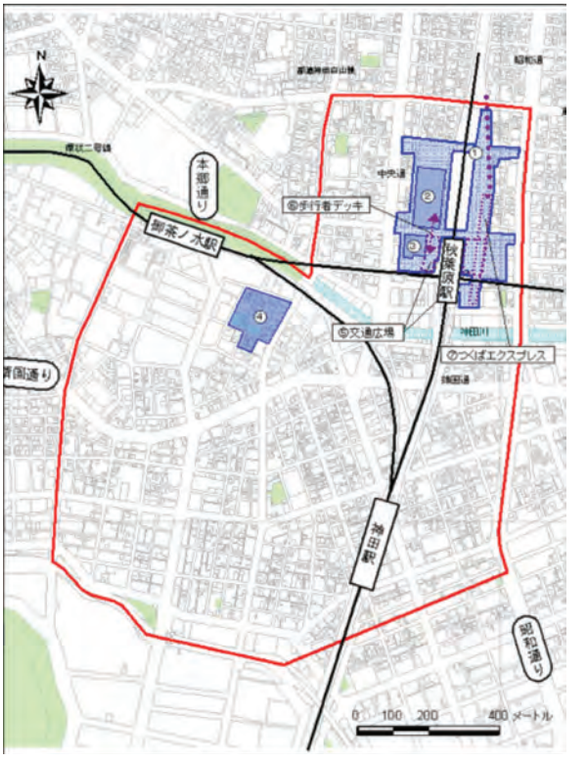
[21] Tax reduction is applied to (a) real estate acquisition tax on land acquisitions by the certified project implementers; (b) income tax, corporate tax, registration and license tax, real estate acquisition tax, real estate tax and urban planning tax on building constructions by the certified project implementers; and (c) income tax and corporate tax on land transaction from land owners to the certified project implementers.

Figure 4.15: Private Urban Developments in Akihabara Station Area



Source: Chiyoda Ward Office, Tokyo

Figure 4.16: Urban Renaissance Urgent Redevelopment Area of Akihabara and Kanda



Source: Prime Minister's Office, Japan.

OUTLINE OF AKIHABARA UDX:

- Project Area: 1.1 ha
- Building: 22 stories and 3 stories of basement
- Floor area: 161,600sqm
- Floor use: office, shops, event space
- Construction Period: 3 years (from 2003 to 2006)

Source: Chiyoda Ward Office, Tokyo.

as an URURA in 2002 (Figure 4.16). The development policy aims to create an urban core of IT industry through land use renewal using huge vacant lands. In the Akihabara and Kanda Area, the special measures of the URURA related to: (a) financial support and tax reduction for a private urban reconstruction project in the LR project area; and (b) deregulation of the maximum floor-area-ratio for UR projects and private urban reconstruction projects—which are designated as a Special Urban Renewal District in the area outside of the LR project (but still within the URURA).

(b) District plan. The District Plan was designated in the project area. The plan designates urban facilities, such as roads and open spaces, and regulates land use and building in detail in terms of land size, FAR, construction line, advertisement, structure of fences, building height, specific land use and eco and green technologies. In particular, deregulation of the FAR is provided for two urban blocks to promote large-scale urban development projects .

(c) Special Purpose Company for Commercial and Office Complex. For the development of a commercial and office complex in the LR project area, a special purpose company, UDX, was established by investment companies. The UDX developed the Akihabara UDX Building and leased its floors to tenants. In the beginning of the establishment of the UDX, the project cost was funded from the sale of preferred equities issued by the investment companies and project finance aiming to achieve high profitability. For the development, UDX purchased replotted land owned by Tokyo government. The project scheme is shown in Figure 4.17.

(e) Effect of the LR Project[22]

In the History of Akihabara Station Area LR Project, the development effect of the LR project is summarized as follows:

[22] Source: History of Akihabara Station Area LR Project, Tokyo Metropolitan Government.

Figure 4.17: Project Scheme of Akihabara UDX

Source: Author based on information from UDX.

- convenience for shopping, pedestrian safety, and cityscape were improved;
- in the surroundings of the LR project area, the number of offices related to the IT industry has increased 30 percent (194 offices) over six years (since 2000);
- 121 new apartment buildings (total floor of 480,000m^2) were developed and the population increased 27 percent (681 people); and
- the total economic multiplier effect of the LR project was 10 times the investment: (i) building relocations in the LR project area triggered private construction investment equivalent to 6.4 times the compensation cost; and (ii) construction for the LR project and related private development created economic activities, such as procurement of construction materials and other consumption, amounting to 2.55 times the construction cost.

5

CONCLUSION

LR in Japan has been used quite successfully for various kinds of urban development countrywide over a long period of time. LR realizes reorganization of fragmented land parcels and supports development of public facilities through land contribution. This can be achieved while firmly protecting land rights throughout the replotting process. Two main factors have contributed to the need for LR in Japan: (a) highly fragmented patterns of land ownerships resulting from establishment of the modern land management system in the 19th century and the Agrarian Reform in 1940s; and (b) low share of publicly owned land in urbanized areas. At the same time, a number of factors have contributed to the success of LR as a community-based development tool in Japan, including: (a) strong land ownership rights, secured by the modern land management system since the 19th century; (b) general trend of increasing land price; (c) provision of framework to support community-based LR; (d) good governance, with government's consistent urban management policy; (e) local governments have political and financial autonomy, including taxing power which generates budget for local government to support LR; (f) capacity at prefectural and municipal governments as well as the private sector; (g) comprehensiveness of urban planning system covering all aspects of land uses, urban development and infrastructure into one integrated system; (h) people's recognition of the value of land and awareness about the advantages of town improvement; and (i) provision of government subsidies and incentives with respect to taxation.

To effectively apply LR in developing countries, it is important to:

- clarify the need for and objectives of applying LR in terms of its contribution to social and economic benefit in the major cities and countrywide;
- clarify the process for LR and its relation with urban planning, incorporating the definition of LR into the urban planning system while maintaining consistency with the government's urban management policy;
- have clarity, with as much detail as possible, in the decision making procedure;
- make available governmental technical and financial support in order to promote effective undertaking of LR and to provide incentive;
- establish other land-based financing mechanisms such as property taxation to generate resources to support sustainable development;
- establish effective uses of land replotting, such as: collective replotting for large-scale land use, converting land rights to building floor area rights, special consideration for small land plots, and responding to land use demand and accommodating specific purposes;
- secure land rights and ensure fairness in land replotting and land valuation in order to promote consensus building among land right holders;
- delineate appropriate requirements for agreements;
- consider the compulsory relocation clause as a last resort; and
- ensure that measures are in place to prevent activities such as land development and building construction that would otherwise harm LR implementation.

Annex 1: History of LR in Japan

Year	Topics	Explanation
1872–1899	Establishment of modern land management system	Certificates of land title had been published since 1872, and the cadastral maps covering the whole country, without Hokkaido and Okinawa, were completed in 1885. The Real Property Registration Law was established in 1899.
1899	Establishment of Agricultural Land Consolidation Law	ALC was established for agricultural land development. The ALC projects were implemented by landowners' cooperatives, and the expenses were raised by landowner's own budget and subsidy of local government.
1919	Establishment of LR under the Urban Planning Law	Provisions of LR were added into the Urban Planning Law. Institutionalization of LR is understood to have been with reference to a German LR Law.[a] Provisions of the ALC Law were applied to the implementation procedure of LR.
1923	Application of LR to post-earthquake reconstruction	LR was applied to the post-earthquake reconstruction of Tokyo region after the Great Kanto Earthquake. For the smooth implementation in financing, replotting and compensation, the Special Urban Planning Law was established in 1923.[b] After the completion of the LR projects, the Law was repealed in 1940.
1933	Formulation of design guideline for LR	Based on the experiences of LR, the design guideline for LR was formulated by the Government.
1946	Application of LR to post-war reconstruction after World War II	LR was applied to urban reconstruction in war-damaged cities across the whole country. For implementation, the Special Urban Planning Law was established again in 1946, and the rule of LR was improved to allow for national subsidy for local governments and to protect small land plots in consideration of the serious economic and land situation.
1947–1950	Implementation of Agrarian Reform	The central government expropriated agricultural lands from huge landowners and distributed those land rights to the tenant farmers. As a result, the increasing number of agricultural landowners prompted the need for LR.
1949	Repeal of ALC Law	The ALC Law was repealed, and the Land Improvement Law was established, focused on agricultural land development. As a result, LR lost the legal basis for its implementation procedure.
1954	Establishment of LR Law	The LR Law was established by utilizing the experiences of LR projects and related old laws such as the Urban Planning Law, the Special Urban Planning Law, and the ALC Law.
1950s-	Implementation of large-scale LR projects in rapid economic growth	Large-scale LR projects had been implemented for housing supply to address huge population growth in the major metropolitan areas. For the promotion of LR projects, the central government established financing programs, such as the national subsidy, by using the Special Account for Road Construction and no-interest loans for LR cooperatives.
1955	Establishment of Japan Housing Corporation (JHC)	JHC was established to implement new town developments and develop, sell and rent social housing. In new town LR projects, JHC secured lands for construction of social houses in the LR project site.
1968	Establishment of the Urban Planning Law	The new Urban Planning Law was established to control rapid urbanization. The LR project was defined as one of the urban development projects under the Law.
1995	Application of LR to post-earthquake reconstruction	LR was applied to urban reconstruction after the Great Hanshin Earthquake. In the LR projects, a land replotting system was effectively used for integration with apartment development—and the exchange of land rights to money helped with livelihood restoration for the earthquake-affected land owners.

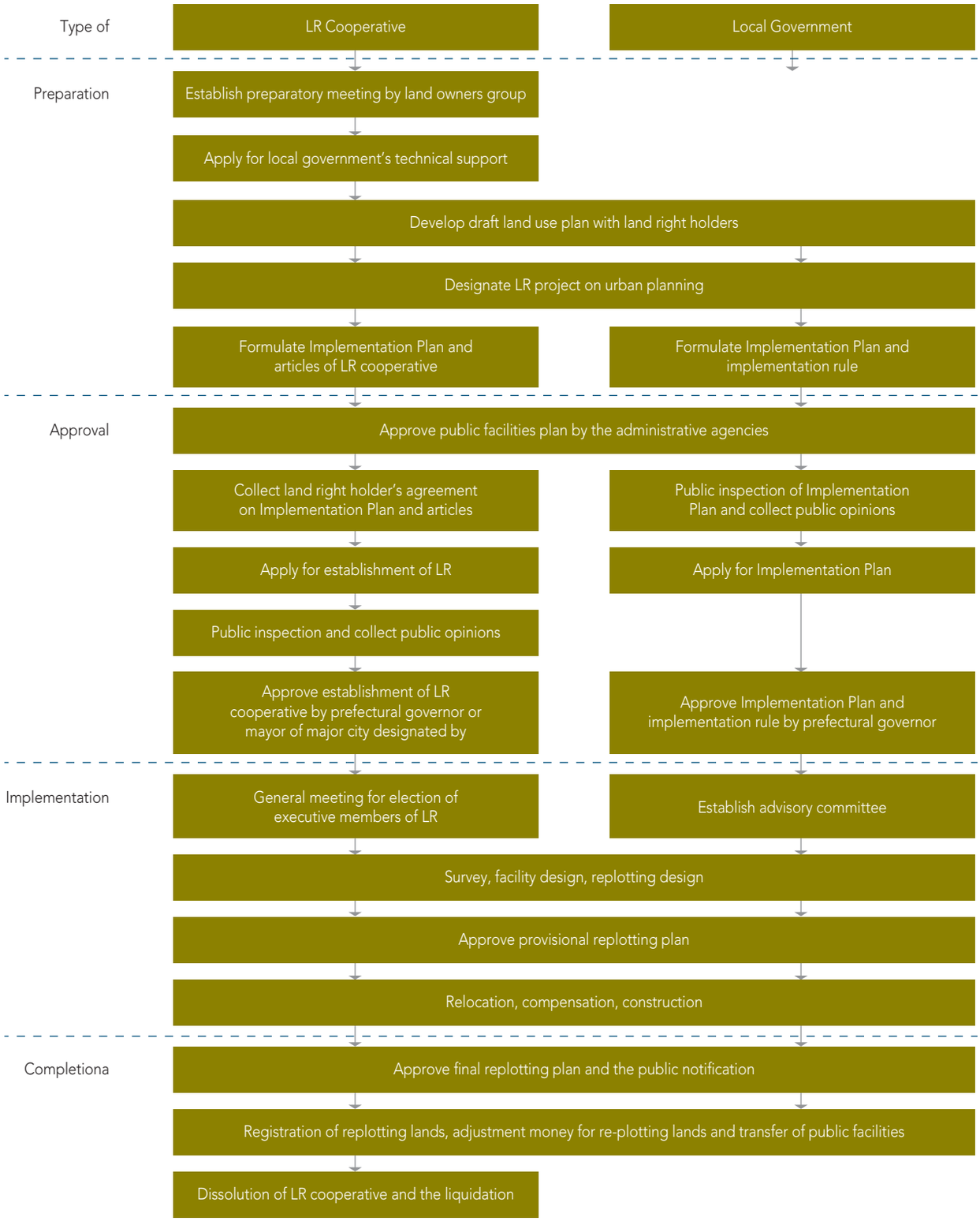
(continued on next page)

Annex 1: History of LR in Japan *(continued)*

Year	Topics	Explanation
1990s	Struggles of private LR and shifting the purpose of LR	After the collapse of the bubble economy in the early 1990s, private LR projects depending on the sale of reserve lands stagnated. For financial recovery, some counter-measures—such as additional land contribution to increase reserve lands and additional charges—were required of land owners in the project site. In addition, the project plans were revised to reduce cost and local governments increased their subsidy to help LR's financial problems. The purpose of LR was shifted from new town development to urban renovation, such as station area redevelopment, integrated urban development with commercial complex, and small-scale LR for land consolidation in urbanized areas.
2001	Formulation of the LR Management Guideline	The LR Management Guideline was formulated by reorganizing past governmental and ministerial circulars relating to LR. In addition, the guideline presents the governmental policy to utilize LR for urban renovation.
2005	Addition of LR company	Provision of LR company as LR implementer was added into the LR Law in order to promote private investment in LR projects. The LR company is organized by land right holders and a private company (such as developers and construction companies).
2011-	Application of LR to post-earthquake reconstruction	Post-earthquake LR projects are currently being implemented for reconstruction after the Great East Japan Earthquake in 2011.

[a] *Adickes Act. Der Gesetzentwurf Betreffend Stadterweiterungen Und Zonenenteignungen (lex Adickes, 1894). Frankfurt am Main).*
[b] The major objectives of the Special Urban Planning Law were: (a) allowing inclusion of lands with buildings into LR; (b) cost allocation to local government; (c) land contribution with 10 percent without the compensation; (d) organizing the Inspection Committee for compensation; and (e) tentative land replotting to allow land use before the registration of replotted lands.

Annex 2: Legal Procedure of LR Project in Japan



Source: Author.

Annex 3: Project Frame of Nagakute Nanbu LR Project[a]

(a) Land Classification

Items	Original (Before Project)		Plan (After Project)	
	Area (m^2)	Rate (%)	Area (m^2)	Rate (%)
Public Facility lands				
Road	*25,824.49*	*2.63*	*194,587.30*	*19.82*
Park	*652.87*	*0.07*	*30,003.14*	*3.06*
Green	—	—	*64,473.71*	*6.57*
Drainage	*12,313.23*	*1.25*	*22,302.00*	*2.27*
Sub-total	*38,790.59*	*3.95*	*311,366.15*	*31.72*
Private lands and non- administrative lands				
Private land	*825,382.86*	*84.07*	*541,346.80*	*55.13*
*Non- administrative lands owned by municipality**	*38,504.29*	*3.92*	*25,801.77*	*2.63*
Sub-total	(A) 863,887.15	87.99	(B) 567,148.57	57.76
Reserve lands	—	—	(R) 103,332.01	10.52
Difference between registration and measurement**	(s) 79,168.99	8.06	—	—
Total	981,846.73	100.00	981,846.73	100.00

Note: * Lands for nursery school and cemetery, which to be obliged with land contribution.
** Difference in area between total of land registration and result of measurement of project boundary.
[a] Abstracted from the Implementation Plan, 8th amended in 2012.

(b) Land Contribution

Total Private Land Area (Before Project) (m^2)	Total Private Land Area including Difference (m^2)	Total Private Land Area (After Project)	
		Incl. reserve land (m^2)	Excl. reserve land (m^2)
A	A' = A + s	D = B + R	B
863,887.15	943,056.14	670,480.58	567,148.57

Total Area of Land Contribution			Land Contribution Ratio		
For public facilities land (m^2)	For reserve land (m^2)	Total (m^2)	For public facilities land (%)	For reserve land (%)	Total average (%)
P=A' – D	R	E = P + R	P/A'	R/A'	E/A'
272,575.56	103,332.01	375,907.57	28.90	10.96	39.86

Annex 3: Project Frame of Nagakute Nanbu LR Project *(continued)*

(c) Reserve Land

Total Land Value			Average Land Price	
Before project (JPY)	After Project (JPY)	Increasing (JPY)	Before Project (JPY/ m^2)	After Project (JPY/ m^2)
V = A x a	V' = D x a'	$\Delta V = V' - V$	a	a'
75,464,528,840	93,062,704,504	17,598,175,664	80,000	138,800

Reserve Land

Maximum area for reserve land (m^2)	Planned reserve land (m^2)	Ratio of planned reserve land (%)
$R_{max}=\Delta V / a'$	R	R/R_{max}
126,788.01	103,332.01	81.50

(d) Expenditure

Items	Unit	Amount	Cost (JPY)
Public Facilities			
Arterial roads	*m*	*3,358*	*974,404,124*
Community roads	*m*	*61,793*	*1,114,521,976*
Pedestrian roads	*m*	*2,258*	*129,202,700*
Park and Green	*L.S.*	*1*	*0*
Drainage	*L.S.*	*1*	*1,645,393,509*
Sub-total			3,863,522,309
Relocation and Reconstruction			
Relocation of existing building	*building*	*12*	*1,621,000,000*
Reconstruction of existing utilities	*L.S.*	*1*	*181,689,034*
Sub-total			1,802,689,034
Utility			
Water supply	*L.S.*	*1*	*650,188,488*
Gas supply	*L.S.*	*1*	*216,083,331*
Sub-total			866,271,819
Land reclamation	L.S.	1	6,034,000,000
Miscellaneous	L.S.	1	2,626,862,563
Allocated charge	L.S.	1	1,173,000,000
Survey and design	L.S.	1	2,193,000,000
Compensation	L.S.	1	130,000,000
Loan interest	L.S.	1	175,654,275
Administration	Year	17	1,945,000,000
Total			20,810,000,000

Annex 3: Project Frame of Nagakute Nanbu LR Project *(continued)*		
(e) Revenue		
Items	**Revenue (JPY)**	**Remarks**
Subsidy		
Central government subsidy	*4,324,798,000*	
Local government subsidy	*2,207,000,000*	
Sub-total	6,531,798,000	
Sales of reserve land	13,919,600,000	103,332 m^2x 134,700 JPY/ m^2
Others	358,602,000	
Total	20,810,000,000	

WORLD BANK GROUP
1818 H Street, NW
Washington, DC 20433

Tokyo Development Learning Center

The Tokyo Development Learning Center (TDLC), The World Bank
10F Fukoku Seimei Building
2-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-0011 Japan