

LAND READJUSTMENT IN INTERNATIONAL PERSPECTIVES: APPLICABILITY AND CONSTRAINTS OF TECHNOLOGY TRANSFER IN URBAN RESTRUCTURE

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Backgrounds of Land Readjustment

The Land Readjustment (LR) is one of urban development methods that are widely practiced mainly in Japan and Germany more than a century, and also it is implemented in later stages in Korea, Taiwan, India, Australia etc. Although the name and process of the LR project differ slightly to country to country, but the basic idea of the LR is based on the re-assembling of land parcels by a new layout plan together with the development of new infrastructures. Land contribution by each landowner is essential to utilize for the site of newly established infrastructures and to cover the project cost. External funding is also needed to develop major urban infrastructures that will serve for the city-wide level.

The Land Readjustment as terms of English was defined in the first International Conference on Land Consolidation (original formal name) held in Taiwan in 1979. The Conference was jointly organized by the Lincoln Institute of Land Policy (USA) and Land Reform Training Center (Taiwan) under the auspices of the World Bank that was interested in applying the LR method in their assisting urban development projects in developing countries. Even though the Conference had the name of *Land Consolidation*, the

Conference decided to change the land consolidation into land readjustment after realizing a variety of LR projects exposed in the Conference.

Land Consolidation was widely used in Taiwan and some ASEAN countries influenced by the training course provided by the Land Reform Training Center in Taoyan, Taiwan. Land Readjustment is not authentic English, but it might be created in Japan for the English translation of *Kukaku Seiri*. Australia is using Land Pooling for the privately initiated land development. Legal projects are called Resumption Development Scheme and Guided Development Scheme. Block Reconstitution is used in India mainly for Gujarat and Maharashtra States. Germany uses own German word as *Umlegung*, but they use Land Readjustment in English. Thus, the name differs by country to country and the system is also different as formality, but the substantial approach of urban development through the joint land management is basically same.

The English terms of Land Readjustment is still misunderstood among the many urban policy makers and planners that it is an only technique of land boundary adjustment and not seriously considered as the strategic urban development project. Therefore, the name of the LR should change to more realistic English terms like "Urban Restructuring Project". This is only matter of translation, but in order to make better perception among the people and represent real nature of the project, it is a time to change the English terms as indicated above.

Nowadays, cities in the developing countries are soaring by numerous urban problems, and the LR is regarded as an effective development method for these cities because of the LR characteristics such as no land purchase, semi-self financing etc. On the contrary, the LR is a new approach for many countries, so that it needs some new arrangements for the implementation of the LR project. It needs compulsory participation, land replotting, land contribution, change of land registration, etc. Many people accept as idea and general theory of the LR, but when it comes in real implementation, the interests of landowners are quite complicated and intricate procedures discourage the planners. The LR has wide applicability for many cases for urban development not only for developed countries, but also for the cities in

developing countries. International transfer of the LR method has many barriers to overcome in each country.

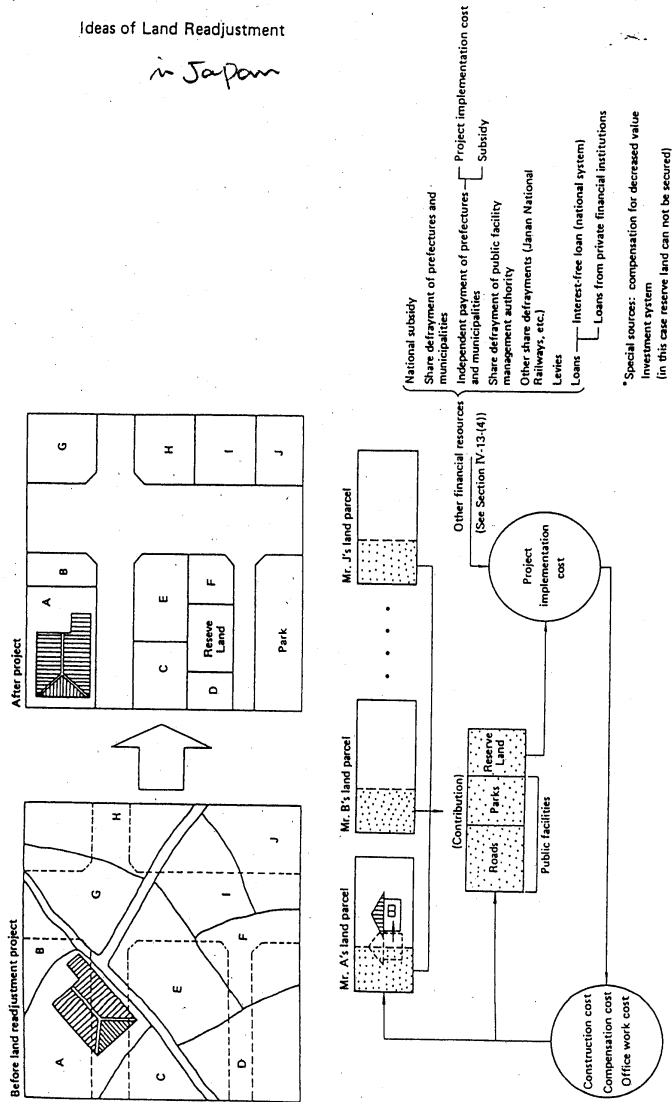
LR as a Crucial Tool for Urban Development.

The agricultural land readjustment is extensively practiced in many countries in the world, but urban LR is limited in some countries. Japan and Germany are also obvious to develop the present urban LR method from own agricultural LR experiences. Other countries mentioned in later chapter are influenced by Japanese or German urban LR directly or indirectly to induce the LR system rather than to develop their own agricultural land consolidation.

The LR is a dominant urban development method in Japan, and almost a half of existing urban area is developed by a variety of the LR projects, and particularly, Nagoya, the third largest city in Japan, is exclusively applying the LR method. Almost 90% of the whole built up area are developed by more than 300 LR projects in past 95 years.

The LR can assist or substitute the many difficulties those encounter to urban development, such as financial weakness, difficulty of land acquisition, area-wide coordinated development, public/ private partnership, etc.. The LR can be used both for new development at urban perimeter and urban redevelopment for already built up area. The LR is a crucial urban tool for a variety of cities, and urban infrastructures are improved through the public/ private partnership sharing the development profit derived from the LR project.

Figure 1. Land Readjustment Mechanism

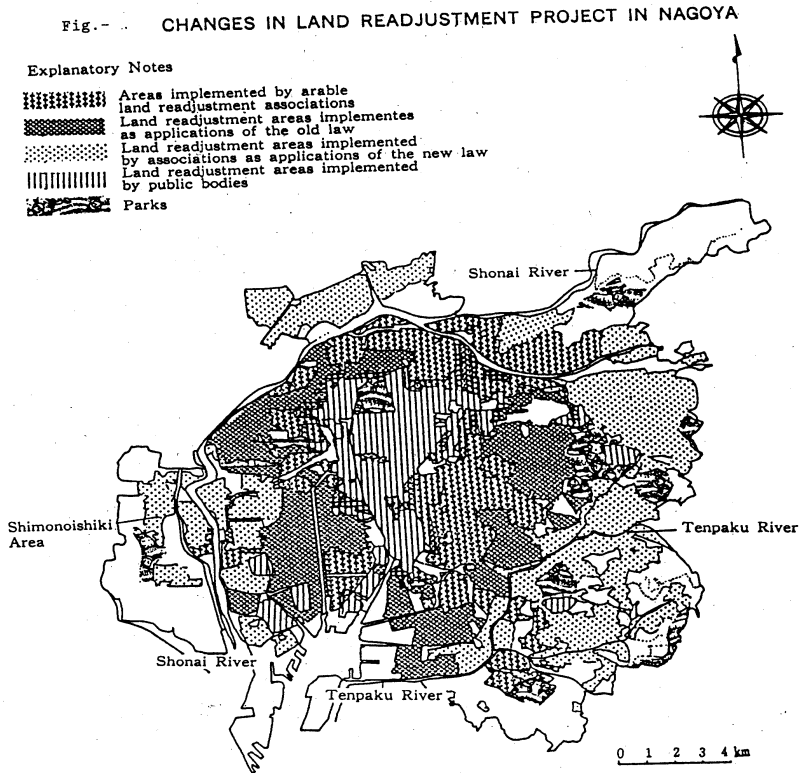


Many cities in developing countries are soaring the hazardous urbanization, and needed urban infrastructures are not adequately provided to cope with urban expansion. This may derived from weakness of institutional arrangements, financial resources, management capability, difficulty in land acquisition, etc. As a result, the city is facing a lot of urban problems such as traffic congestion, housing shortage, slum/ squatters, environmental problems and other poor urban services. LR as an urban development method can contribute to mitigate or prevent these conspicuous urban problems and issues. It can apply to the city in developed and developing countries, also for new development and renewal of built up area.

International Movements of LR Technology Transfer

It is said that about 150 years ago, the agricultural LR method was transferred to Germany from Zurich County, Switzerland. German **Adjikes Act** of Frankfurt am Main in 1902 greatly influenced to Japanese LR method. Japanese LR method was introduced to Korea and Taiwan before World War 2. In 1930's, British planners transferred the idea of German LR to India and Australia. In 1979, the World Bank organized the first International Seminar on Land Consolidation (Readjustment) in Taiwan. This was the origin of recent international technology transfer for the LR. Taiwan Conference was organized mainly supported by the World Bank, but after the Conference, it was seemed that they lost the interest in the LR due to the complicated procedure and necessary legal and financial arrangement needed for the implementation of the LR projects.

Figure 2. Land Readjustment Project in Nagoya



The City of Nagoya, Japan in 1982 organized the International Seminar on Urban Development Policies and Land Readjustment as a commemorative event to celebrate the completion of the War Recovery Land Readjustment Project. This project is the largest scale of LR project in the World, covering the area of 3,450 hectares of destroyed central Nagoya City. The Seminar was jointly organized by the City of Nagoya and the United Nations Center for Regional Development located in Nagoya.

In 1985, Japanese Ministry of Construction succeeded the results of previous two Conferences, and organized the International Seminar on Kukaku Seiri. The Seminar is bi-annually organized in Asia such as Indonesia, the Philippines, Thailand and Japan. The Seminar name is modified as "International Seminar on Land Readjustment and Urban Development, and this year 2000, the seminar will be held in Bali again, Indonesia. The Seminar is not opened for the public, but limited only for the persons nominated mainly from government officials, scholars, etc. The Seminar should be internationally opened for those interested in the LR and its technology transfer.

Great efforts are made to transfer the LR method in more than 20 years by the World Bank, the City of Nagoya, Japanese Ministry of Construction, Japan International Cooperation Agency (JICA) and other relevant agencies as well as the Governments and academicians of many countries interesting in inducing LR system to their countries. Particularly, JICA conducted extensive LR feasibility studies in Thailand and Malaysia, and partly in Indonesia. Also, a series of JICA LR training courses are provided for the people from developing countries. Nevertheless, practical technology transfer of LR method is not showing remarkable progress except some achievements made in Indonesia in associating with the creation of land registration system. Great constraints and difficulties are seemed to exist for LR technology transfer.

Many people accept the mechanism of LR approach in general, and appreciate the role played in urban development, but when it comes to the implementation of LR projects, the barriers and tasks are so huge that many people simply gave up to make efforts to introduce the LR method to their

countries. It is true that the introduction of the LR method requires a lot of legal arrangements and modification of existing administrative procedures

Country Situations

Japan

Japan's first recorded LR project was implemented in the 1870's in Kobe, and many similar projects were practiced in order to improve agricultural land. In this time, the main emphasis of the project was still agricultural land improvement, focused on the reshaping of irregular boundaries and abolishing bending small footpaths. As a result, the farmers sometimes received a substantially more wider cultivation area by a realigned paddy field. This provided a big incentive for the farmers to implement agricultural LR projects.

Until 1919, when the first City Planning Act was enacted in Japan, many LR projects were implemented based on the Agricultural Land Readjustment Act. Many of them were not aimed at any agricultural purpose, but applied to urban development in the suburban expansion of large metropolitan areas.

The City Planning Act 1919 established the legitimacy of urban LR project as a method of urban development, but practical procedures depended on the Agricultural Land Readjustment Act. This irregular application lasted until 1954 when the present Land Readjustment Act was enacted.

In 1923, the Great Kanto Earthquake hit the Tokyo/ Yokohama region. And the built-up areas were tremendously destroyed. The LR method was applied to reconstruct the destroyed areas. Thus, the LR method was first adopted for large scale urban reconstruction in Japan. Furthermore, when the Second World War ended, the majority of cities were destroyed by air-raids, and the reconstruction of more than 100 of these cities also implemented the LR projects.

The main application of LR method is suburban development largely implemented by the LR Cooperative Association, which is an approved legal

body consisting of landowners and leaseholders in the LR project area.

The LR system in Japan has a wide range of development types, and it is applicable to urban redevelopment and rehabilitation, suburban expansion, new towns etc. The implementing bodies of LR projects are also diversified, such as individual(s), cooperative association, local governments, public corporation and the Minister of Construction. The LR in Japan has very flexible procedures and a wide applicability for a variety of urban development purpose. The LR is the dominant method of urban development, and it is considered as the most effective method to be accepted by the people involved and concerned.

Germany

Germany is also famous for LR practice, and the Adickes Act of Frankfurt am Main is often regarded as the first modern LR legal system in the world. However, this was not the actual origin of the world land readjustment. It is said that the German concept of agricultural LR was handed down from the Zurich area to then called Prussia in the nineteenth century. The origin was land consolidation for farmland made necessary by the inability of rapid growing towns to solve the problems of town expansion.

Franz Adickes, the Lord Mayor of Frankfurt am Main, started LR by voluntary contracts in 1891, and by 1902 had succeed in enacting compulsory LR, including expropriation, as embodied in the "Act Concerning the Land Readjustment in Frankfurt am Main." He established a procedure nearly 100 years ago that in essence still works today.

According to the changing conditions in this century German LR has always changed its purpose between development and redevelopment tasks. The German Reich Readjustment Ordinance of 1937 readjusted rural land, and was extended in 1940 to readjust built-up land. The War Reconstruction Acts of the Federal States (1947~1950) addressed the massive destruction brought by World War II. The LR was the basis for the 1960 Federal Building Act which provided large scale urban development for residential areas. In the 1970's, its purpose changed to the redevelopment of inner city areas. In

the 1990's, it changed again in order to develop residential areas to reduce a housing shortage as well as to provide land for industries and office buildings.

Today, the Building Law of 1986 is the legal basis of public LR. The Law also includes paragraphs on planning, building, urban renewal, expropriation and valuation. A different law for rural areas is the Land Consolidation Act. LR is connecting linkage between planning and building. LR can be done either by voluntary arrangements or by compulsory measures. Compulsory LR is only permitted if its purpose cannot be achieved by voluntary LR. LR is the main instrument in realizing local plans. Above all LR is able to equalize the charges and profits of development between the landowners. LR can only be carried out by order of the local council, and landowners' agreement is not necessary.

Korea

The LR project was implemented first in Seoul in 1936, and four LR projects covering 1,023 ha. of the project areas were completed before the Second world War ended in 1945. South Korea (R.O.K.) restarted the LR project in 1960 in order to reconstruct the cities destroyed by Korean Civil War and also to meet the need of rapid urbanization in metropolitan regions.

In 1966, South Korea enacted the Land Readjustment Act, providing the legal basis for LR projects. This encouraged the promotion of the LR projects, and 42 projects covering approximately 11,700ha. Were implemented between 1960 and 1980. This period was a most dynamic time for Korean LR project experiences. Yong Dong area, the south of Han River is one of the largest LR projects in the world, and the project has more than 3,000ha.

One of the characteristics of Korean LR in this period was a very high land contribution ratio reflecting the sharp increase of land price and rapid urbanization. Municipalities depends largely on LR projects to improve the built-up area and develop the new suburban areas as the self-financing project. Furthermore, the LR project in Korea brought the surplus profit of project balance sheet because of high land contribution ratio and sharp land

price increase. Municipalities often benefited from the LR project implementation, and the revenue derived from the sale of LR financial land exceeded more than 20% of the total revenue of the general account of municipalities.

The landowners involved in the LR projects began to realize their situation of high contribution ratio since the ratio sometimes exceeded more than 70%. This means that the Landowner only received less than 30% of the previous land as a replot. Also, the social and economic gap between the large landowner and the people who could not afford to have the land in cities were conspicuous.

In order to mitigate the criticisms regarding the implementation of LR projects, the government introduced some countermeasures to provide low income housing and other social facilities in the LR area. The surplus profit accrued from the LR projects were utilized for these purposes. The cross-subsidy system was introduced in the LR projects. In Japan, this system is regarded as an illegal procedure.

It is worthwhile to note that the international movement of LR probably started from Korea. Because, Professor William Doebele of Harvard University visited Korea as a consultant of World Bank, and studied the Korean experience of LR projects recognizing that they were the most effective urban development for the third world countries. His first encounter to the LR in Korea lit a fire of international attention for the LR project. He recommended the LR method to the World Bank as a self-financing urban development project suitable for housing development projects financed by the World Bank in developing countries.

The interest in the LR project by the World Bank enabled first International Seminar on Land Readjustment which was held in Taiwan in 1979. This Seminar became a substantial origin of the present international movement of the LR, which was later succeeded by the City of Nagoya, Japan, in 1982.

Taiwan

The LR projects in Taiwan are also influenced by Japan. There is no record whether the LR project was implemented or not before the second world War. But, it is believed that some LR projects were implemented with Japanese legal system. According to the present understanding, the LR projects after the War began in 1958 in Kaohsiung. There was no legal provision for the LR project at that time, but the project started based on the power given by the Equalization of Urban Land Rights Act, 1954, and the city ordinance of Kaohsiung was especially formulated for the LR project. In 1979, the Taiwan Government enacted The Implementation Regulation on Land Readjustment. This Regulation has become a main legal framework for the implementation of LR projects in Taiwan.

The LR projects in Taiwan are generally implemented by local governments. On the other hand, privately initiated LR project still being a small proportion. In both cases, there are conditions to acquire an agreement from more than half of the landowners and leaseholders involved in the LR projects. There is a way to request to implement the LR project to government agencies from the landowners if there is an agreement of more than half of the landowners and leaseholders. This type of request of the LR is not common practice. The government sectors' initiative is normally stronger to implement the LR project.

Between 1958 and 1993, Taiwan implemented 10,718ha. Of the LR projects by the publicly initiated project, and about a quarter of these are implemented in Kaohsiung City. Taipei City is not so popular for the LR project.

The first International Seminar on Land Readjustment was held in Taiwan, and played an important role in the international movement of LR. The Land Reform Training Center at Taoyuan, a suburban city of Taipei was the venue of the seminar. The Center was established by a joint venture between the Taiwan Government and the Lincoln Institute of Land Policy in the U.S.A. The Center provides a range of international training programs on land issues including the LR to Asian professionals. Therefore, the early stage of the international LR movements initiated by the people concerned with the Land

Reform Training Center. The Center also published the LR textbook and other brochures.

India

India had the experience of the LR projects in two States. Since the city planning power belongs to the State governments, the legislation of the LR is an optional matter for each State Government. Several states have legislated the LR (Block Reconstitution in the Indian terms) projects. Among them, only two states have had actual LR projects: the State of Maharashtra and the State of Gujarat, and their respective capital city is Mumbai (Bombay) in Maharashtra and Amedabad in Gujarat. Particularly, Amedabad has extensive LR projects throughout the city, and even now they are implementing very actively, instead Bombay is now almost gave up to implement the LR projects due to its Indian way of intricate LR system.

Recently, the World Bank again interested in the LR project, and made the feasibility study on the LR pilot project in Chennai (Madras). This LR pilot operation is based on the Japanese system.

Australia

Australian LR is generally called "land pooling", and only practiced in the State of Western Australia. The power of town planning and land development is in the hand of State Government. Only Western Australia has provided the legal arrangements and implemented projects.

In the narrow definition, land pooling is a private and voluntary land development project for the area where the land is subdivided into small parcels and difficult to purchase by the private developers for a large scale development. In broader sense, the legal land development system is stipulated under the Town Planning and Development Act 1928 and Local Government Act 1960. There are two types of legal land development and sometimes are called land pooling in the wider context.

The Resumption Development Schemes (RDS) is the land development

project for suburban new development, and landowners involved in the RDS area have two alternative choices. One choice is to sell their land for municipal government, and another choice is to keep the title and receive as a replot after the development of the area. The project is only implemented by the local council including infrastructure improvement and land subdivision, the landowner must choose either to be purchased the land or to keep the share of total value of the former land, and receive a profit depending on the share when subdivided land is sold, or retain an equivalent value of the land in the area.

The Guided Development Scheme (GDS) is another method of land development and subdivision for the large scale of land parcels with comparatively small numbers of land owners who wish to develop and subdivided their own land by themselves. The cost of the infrastructure improvement is shared based on the formula to coordinate different development phase and other factors affecting the individual development.

The RDS is somehow similar to the Malaysian Land Surrender and Realienation with compulsory and collective procedure or the partnership development in Dallas in the U.S.A., and the latter GDS is a kind of the guided local plans. Australian land pooling project in the narrow definition derived from the weakness of the legal land development system, and it is supplementing those large-scaled land development.

Other Countries in Practice

Some European countries, such as France, the Netherlands, and Norway are often said to have land readjustment projects. Particularly, the Netherlands has many experiences in agricultural land consolidation, and some urban types of LR projects are introduced on occasion in international seminars. However, the weight of LR seems very small in the overall urban development system. Lebanon is reported that they are implementing huge scale of urban LR in Tripoli and other cities. This LR is mainly studied from Germany.

Efforts to induce the LR Project in Other Countries.

Many countries in the world, particularly the ASEAN countries are now eager to induce the LR into their development system. Among them, Indonesia has made the most conspicuous progress in recent years, and it is reported that they are now implementing approximately 300 LR projects. Indonesia might be called as the experienced country of the LR project very soon. But, majority of these projects are still in planning stage, and also many of implementing projects are rural type projects associating with the establishment of land registration system.

In its early stage, Indonesia is often regarded as the most difficult country to induce LR project because there was not and still only partly exists land registration. It is often difficult to distinguish the landowner and relevant titles and rights. These conditions were thought as uneasy constraints to implement the LR project. On the contrary, Indonesia becomes the First country of the LR project implementation beside the countries already experienced before the first International Seminar in Taiwan in 1979. The success of LR inducement might be encouraged by the strong political leadership and the ample experiences of the Kampung Improvement Project, which overcomes the constraints of land issues in Indonesia.

The Philippines seemed a first runner for LR study, and a few case studies were made in Quezon City and Paranaque city in Metro Manila. However, the political surge and instability became heavy burdens for the inducing the LR project.

Thailand is also eager to induce the LR project to meet the rapid expansion of suburban areas in Bangkok. The Ministry of Interior (DTCP), National Housing Authority (NHA), and Bangkok Metropolitan Administration (BMA) are trying to induce the LR in respective ways. Among of them, NHA started a pilot LR project in Lad Kabang area covering 130ha. The NHA already purchased a half of the area, and was negotiating to implement the LR project with ten other private landowners who were reluctant to sell the land to NHA. This was a NHA initiated voluntary project without a special legal provision. In stagnating to launch the LR project, private developers

purchased the land remained in the area, and develop to divide land into the small parcels, anticipating the main infrastructure will be developed by NHA. As the LR project, the whole area is now totally unsuitable for LR project, and only the area purchased by NHA will be developed in conventional way, and surrounding area are developed with private housing construction neglecting the installation of main infrastructures.

BMA is currently doing a LR pilot project at Nong Bua Mong, covering about 150ha of the area and developing 60meterwidth of arterial road. The area is located at north-east of Bangkok. They have already had several meetings with landowners based on the LR Master Plan.

DTCP of Thailand is spending nearly ten years to launch a pilot LR project associating with the JICA project. The project area is located at Rama 9 road, Huaikwang. For the general feasibility study area made by JICA, and the formulation of the master plan of the LR focus on about 300ha. The LR implementation area is now became about 15ha. This will provide a great impetus to promote the LR project in the Thailand. Furthermore, the establishment of LR Training Center within the DTCP is under consideration, and JICA is now associating with this idea, and promoting a special four year project to enhance the urban development system mainly focused on the LR method. It will be a focal function of the LR promotion not only for Thailand, but for those neighboring countries interested in the LR. Thailand has experienced "Land Sharing Project" which normally applied to slum/squatter areas in order to guarantee land tenure after the long occupancy of squatted area from social points of view. The Land Sharing Projects were implemented in Klong Toey and Manangkasila areas. The experience of LSPs as well as the achievement of agricultural land consolidation will provide very important clues to institutionalize the LR system in Thailand.

Sweden is also interested in the LR project, and a pilot project is taking place in Lissbrandan, Rattvick, a small resort town located about 300km north-west from Stockholm. Swedish LR is based on the Joint Development Act, and the project cost including the infrastructure is shared either by land contribution or monetary adjustment. Some feasibility studies on a small scale are also being done in suburban Stockholm.

California, Hawaii and Florida of the United States have tried the legislation of the LR system in their respective states. The House of Representative, California once passed a Bill of Land Readjustment, but this bill was abandoned at the Upper House of California due to the anxiety to grant the power of Eminent Domain to the LR project which included private development, and regarded it as not important like the “Comprehensive Development Area” which is normally designated at the downtown area. California now again has a new movement to induce the LR system considering the experience of failure many years ago.

The LR has been studied and discussed more than 30 years in Hawaii, however, the efforts made so far just remain the study itself. The old urban area needs a drastic project in Honolulu. And the redevelopment type of Japanese Title Strata Conversion System has been discussed.

In Florida, the inducement of the LR is a stalemate due to the misunderstanding of the project effects, and a similar legal barrier observed in California. Furthermore, Florida has a comparatively low density of habitation, and it is still not difficult to find and purchase land for new development. There is some demand to enhance the existing land use which is not appropriate and efficient. The land as a whole has still many alternative substitutes in Florida. The land subdivision and land reassembly by purchase remain as the land development system.

In Dallas, about 80ha. Of the adjacent area to the downtown is targeted as the American way of LR project. This is basically the purchase system of land, and remaining land owners set up a development company with the partnership, and the area will be developed.

Columbia in South America, has stipulated the two articles of LR in the City Construction Basic Act, which provides the legal basis to implement the LR project. The detailed implementing legal provisions have still not yet been prepared.

In Nepal, the members of Japan Overseas Cooperation Volunteers (JOCV) worked on the feasibility study of LR application in Saibu Bhaishi area in Katomandu in 1991. Nepal has a similar legal provision for land development which is called “Plotted Development” since 1976.

Many other countries are trying to study the LR project in almost all parts of the world, where the urban issues are seriously caused by the land issues, such as the shortage of housing, traffic congestion, environmental issues, etc.

Constraints of LR Technology Transfer

In past 20 years, many people are getting familiar and understanding the theory and mechanism of LR method as general. When it comes to concrete matters, it will conflict with existing systems those are often handled by different government Departments/ Agencies. For example, land registration system is firmly established in many countries, and difficult to reform. It is also difficult to get consensus among the landowners of hundreds without compulsory legal arrangements. Furthermore, too much theoretical discussions on minor aspects often discourage the implementation of LR project.

There are plenty of constraints and difficulties for the LR technology transfer since the LR method is deeply connected with many aspects of socio-economic, administrative and legal systems, and needs the change or modification of each system. Followings are major aspects of the LR technology transfer.

Compulsory participation

In a small scale of the LR project, it might be possible to develop a certain area with unanimous agreement among the landowners and other titleholders concerned. But, the area is larger and involves the more landowners and titleholders, some people will not accept the LR plan for the area, and wish to be excluded even their land are located in the mid of the LR project area. Therefore, in order to develop the area with a suitable boundary, it is essential to involve all landowners and other titleholders even though they are unwilling or opposing to the LR Project. Compulsory participation is important to develop area-wide urban development. Compulsory

participation is often criticized, but the case of LR is essential conditions to involve every landowner in the project. In case of LR, compulsory participation does not totally affect to the property, but often it will be minor change by replotting. The people lived in the project area will stay nearest available replot with better urban services.

Replotting system and land registration

The replotting system of the LR will require special consideration of land registration system. In normal case, the land is subdivided in plural parcels or amalgamated several parcels into one land parcel. The change of land parcel boundary is based on the basic process of subdivision and amalgamation of the land parcel. But the replotting of the LR project needs the simultaneous subdivision and amalgamation over hundreds and thousands land parcels, and also the location, size character of the replot are different from the original land that is the subject of replotting. The replotting is substantially the exchange of land before and after the LR project. In many countries, these group exchange is rare, and land registration and cadaster system can not follow the huge scale of replotting system. This procedure must be supported by special legal arrangements and drastic change in land registration system. The Land Readjustment as the nature of the public project, a variety of land application and reading of the registration books must be free of charge throughout the project period.

Financial Constraints

It is often believed that the LR is self-financing method, so that it does not need budgetary arrangements for the LR project. Sometimes, it is also believed that it brings a lot of development profit, therefore, the LR project can be implemented without the public financing. This was not true for many cases of LR project. Particularly the project is implemented in built up area or the area needs substantial major infrastructure improvement that is not only serving to the project area but for the rest of the city, public financing is

essential. In early stage of the project, public loan with low or zero interest will provide a smooth LR implementation, and also public sector guarantee is important to borrow the loan from private financial agencies.

Measures for Breakthrough

Strong leadership at both political and professional levels is needed to induce LR method, and by the men/ women of country where LR will be induced. LR technical transfer must mainly promoted by the intention of local people who are in charge of urban development. International or bilateral assistance is, in a sense, important to start the LR project. But, without eager efforts and willingness of recipient country, external assistance to the operation of LR project will not work properly. LR method must be introduced as the national urban policy, and needed relevant legal arrangements, planning coordination and co-financing procedures must be set up by inter-ministerial policy.

On the contrary, the implementation of LR project must be executed by the public/ private partnership, because the LR will involve the people and landowners, and directly affects their life and property. Government sector planning also can be integrated in the process of LR project. As the first stage, planning and financing of arterial road construction should be coordinated for urban area. Then, the development of other major urban facilities, such as rivers, parks, railways, schools, utilities etc. are coordinated for the development of better urban community.

LR is very useful method for urban development, particularly for the cities in development countries. The inducement of LR requires a lot of legal and administrative reform, and also the thinking way of bureaucrats and others. The speech by the top class people, like the prime minister or premier will bring tremendous impact in the planning society of the country, and will become a strong inertia to propel the LR project. LR is often called in Japan as "a mother of city planning" since the LR project has largely developed the urban facilities envisaged by the city planning.

As the conditions suited for the implementation of the LR project are the following political and socio-economic environs.

- Political stability and the continuation of administrative decision-making.
- Rapid urbanization and economic growth.
- Comparatively high land price and the shortage of land supply.
- The land parcels are small in area with irregular shape/
- Difficulty exists in land purchase.
- The area needed a self-financing land development.
- The area needed large scale infrastructure improvement in built-up area.
- It is effective if the area has similar land development methods, e. g. Agricultural Land Consolidation, Site and Services Project, Kampung Improvement Project, etc.

As results, following six points are very important to make a breakthrough against the stalemate of present LR technology transfer, and each country should make efforts to develop the LR method recognizing as a key tool for Urban development.

- To enhance the political and professional leadership for the promotion of the LR.
- To enact the LR Act to enable the LR project with Eminent Domain.
- To create the LR Fund to assist the LR promotion and projects.
- To strengthen the public and private partnership for urban development (LR)
- To establish the LR Research and Training Center in each country.
- To change the terms of "Land Readjustment" into "Urban Restructuring", thus attracts many people for the urban development project.