

Part II.

Land Readjustment: International Experiences, Case Studies and Future Possibilities

International Experiences of Land Readjustment

A Brief History of Land Readjustment in the World and Case Studies

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Origins

It is not an easy task to identify the early days of land readjustment across the world. In Europe, the rural land consolidation procedures are old, and they have been used as examples on how to develop such activities in urban areas. In Nordic countries, like Finland and Sweden, it is known that there were some readjustment procedures about 1,000 years ago, mainly for agricultural land but also for housing areas (Viitanen 2000a). In fact, it is most likely that similar type of activities existed in some areas much earlier, soon after when it was not possible anymore to occupy land freely, perhaps many thousands of years ago. In those early rural proceedings, town center areas were readjusted and planned in a similar way to the like urban land readjustment procedures used today. But, of course, all activities in those times, as also later and even today, have relied on the local land ownership system, and on the land use planning and land management systems of each country.

Regardless of the names or terminologies used, the origin of land readjustment for urban development has experienced impasses concerning its authorship. The first ideas on urban land readjustment were documented, as far it is possible to find, by Otto von Guericke in 1632 for the city of Magdeburg in Germany, and by Christopher Wren in 1666 after the Great Fire of London in the United Kingdom. But these ideas could not be realized. Also, in 1842, after the Great Fire of Hamburg, a law concerning the reconstruction of the affected areas was enacted, which partially had the characteristics of land readjustment. It is suggested that land readjustment has two main roots: (i) to create new building areas by rezoning farmlands, and (ii) to rebuild areas after disasters like great fires. For the former, parcel structures must be changed to build new

construction, and existing regulations often did not fit the needs for proper building land. For the latter, land readjustment was used to reduce the density of buildings and to compensate some of the owners in new urban developed areas. Consequently, it is important to mention three well-documented experiences of land readjustment, dating back from the 18th and the 19th centuries, in three different scenarios.

The first is from the United States of America, 1791, where President George Washington and 19 landowners promoted an arrangement very similar to land readjustment to solve impasses in the development of a very large rural area into a new federal city (Doebele 1982; UNESCAP 1995). According to these arrangements the land was divided for roads, squares and city blocks for private buildings, and the government received the land for roads for free, while the plots for buildings were shared equally between the government and landowners. Then, the government sold part of its plots to provide funds for government buildings and for other public improvements.

The second scenario is from Spain, 1861, during the planning and implementation process of a project named “Eixample de Barcelona,” created by Ildefonso Cerda. For the implementation of this project, a mechanism was created to finance the redevelopment process, since its creator did not consider the use of expropriation, but the imposition of additional taxes for those who would benefit from the project, restricting their tendency to become wealthier individuals (García-Bellido 1995; 2002). The land readjustment mechanism proposed by Cerda was based on a compensation system, in which those who would have advantages from the project should pay its expenses. The mechanism was included in a draft law to regulate “techniques for distributing costs and benefits among individuals involved in redevelopment projects,” but the government in the same year of the proposal denied the draft.

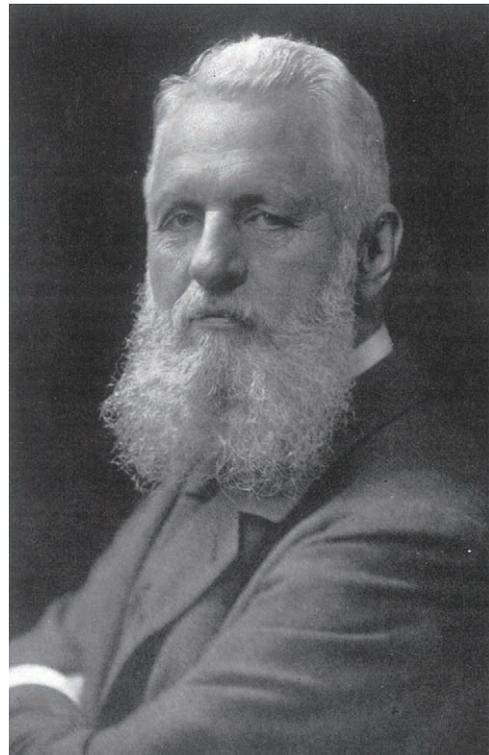
The third scenario is from Japan, 1870, where documents indicate that farmers had developed a system to improve the productivity of their lands in Kobe. Its main purpose was to observe irregular limits and readjust them to eliminate small passages and paths among lands (Nishiyama 1992). As a result, farmers started to notice that these readjustments really increased the productivity of farming and they became a popular activity in the surrounding areas. Such arable land readjustment began to modernize agriculture in Japan and the *Arable Land Readjustment Act* enacted in 1899 was based on similar practices, aiming to set the replotting framework legally, which involved transfer of ownerships and land registration.

These initiatives anticipated the formulation and approval of the first legislation related to urban land readjustment in the world. This was enacted in Mainz, Germany in 1875, but it did not work in practice because 75% of all owners had to pay for the land

readjustment process. However, afterwards, the principles of urban land readjustment spread and used in Germany in single cases to develop new building lands (e.g. Cologne in 1885), or to redevelop building lands (e.g. Hünfeld in 1888). All these cities were near to Frankfurt and Franz Adickes (1846-1915, see Figure 3.1), mayor of that city, knew of such cases and started the first voluntary agreements with landowners in 1891, to reorganize the land structure of urban properties. In 1902, after approving the “law related to the transfer of lands in Frankfurt,” known as “*Lex Adickes Frankfurt-am-Main*,” a compulsory process of land reorganization was initiated, hindered by the heritage of old laws that created extensive and narrow lands of difficult use for development. The main idea of the process was to exchange lands between the government and the private sector, without requiring their expropriation (Müller-Jökel 2004). For the first 10 years, 14 areas were regrouped and redistributed with the consent of their owners, summing up a total of 643 plots in 375 hectares, with the reduction of 25 to 40% of these lands to build a new road system (Dawson 1916). After this process, inevitable differences of evaluation and land prices were compensated in cash. Thus, Adickes was able to upgrade the old and improper structure of Frankfurt, preparing it to the new requirements for the economy, traffic, and consequently, citizens’ new demands.

After the results of this new legislation in Germany, an international dissemination of land readjustment to other countries was initiated. Japan translated the *Adickes Law* and adapted it for the approval of its *City Planning Act* of 1919 (Ishida 1986; Siman 1990). Until this approval, many land readjustment projects based on the *Arable Land Readjustment Act* of 1899 were implemented in the country, even when the objective was to reduce sprawl in urban areas. In 1923, after the Great Kanto Earthquake, which destroyed the highly populated areas of Tokyo and Yokohama, the method and legislation were improved mainly to reconstruct the affected residential areas (Sorensen 1999).

Other countries, following Japan’s example, started studying the German legal framework to develop their own laws and apply land readjustment in areas previ-



▲ Figure 3.1. Franz Adickes, 1846-1915, mayor of Frankfurt am Main (1891)

ously destroyed by natural disasters. Turkey, which had a simplified version of the mechanism, since 1930 adapted it to speed up the reconstruction process of areas affected by earthquakes, fires, floods, and in areas previously conceived for urban development projects (Turk 2005).

Colonies and occupied territories

In the United Kingdom, due to the strong British culture of taxation, property ownership and private development, the German land readjustment system was not incorporated, being rejected several times during the elaboration of urban planning laws in that country. However, British planners had an important role spreading land readjustment ideas to some British colonies during the first half of the 20th century, after Britain's first town planning legislation was passed in 1909. In 1915, the mechanism was implemented in British India during the approval of the *Bombay Town Planning Act*, and later applied at the States of Maharashtra and Gujarat (Home 1997b). In 1921, the British Mandate for Palestine included several articles about the mechanism in the local *Town Planning Ordinance*, giving permission for projects with previous requirements through land readjustment (Home 2007). In 1928, Western Australia authorized a pooling system in its *Town Planning and Development Act*, by which owners could transfer their lands to local authorities before project implementation, which would retransfer the reorganized plots back to the original owners.

Following this process of international transfer, Japan introduced land readjustment in Taiwan (Republic of China), in 1930, through the *Land Act*; and in South Korea, in 1934, through the *Colonial Urban Planning Act* (Lee 2002). At that time, Taiwan and South Korea were Japanese colonies, which made possible the propagation of land readjustment. For many Japanese planners, land readjustment implementation in the occupied territories was important because it helped to test some concepts and techniques, even though several projects were started without any public consultation or compensation to landowners (Hein 2003). In 1937, the first results could be seen in Seoul, with the implementation of the first pilot project, and the beginning of other four projects sizing 1,023 hectares (Hayashi 2000).

World War II

Prior to World War II (1939-1945), many European countries developed legal frameworks to consolidate property rights, mainly in agricultural lands, where land subdivision was irregular or had doubtful ownership, following the same process that the

United Kingdom had been through a century before. These actions had no great progress since landowners could easily appeal against land consolidation decisions, preventing implementation. After World War II, unlike what had previously occurred, the mechanism became more important due to the demand for food and the consequent need to intensify agricultural productivity in the reconstruction process of several countries. Countries such as the Netherlands, France, Belgium, Austria, and Finland – all affected by the war – started rural land readjustment projects according to different procedures, influenced by their cultures, traditions and laws.

In Germany, during the rise of the Third Reich in 1937, an act approved land readjustment for extensive agricultural usage, but it became nationally popular during the reconstruction of some cities from 1940. After that, the *Federal States Reconstruction Law* (1948-1952) was the one that effectively consolidated the use of the mechanism in urban areas, aiming for the country's reconstruction, after being destroyed by the Allied Forces under the lead of the United States of America.

In Japan, a *Special City Planning Law*, enacted in 1946, was responsible for establishing land readjustment for the country's reconstruction after the war. Most Japanese cities were destroyed by air attacks, and more than 100 implemented land readjustment policies to further the country's reconstruction and reorganization process. In 1954, the national *Land Readjustment Law* was enacted.

From 1950s to 1960s

During the 1950s and 1960s, countries like South Korea, Spain, Taiwan, Germany and Israel updated the mechanism according to their postwar context. In South Korea, after the end of the civil war in 1953, the mechanism was used to provide basic infrastructure, such as roads and residential sites. During the postwar rapid urbanization process, big scale projects – between 300 and 400 hectares – were implemented in the suburbs of urban centers (Hayashi 2000). In Spain, the principles of cooperation and compensation among all owners in urban projects became mandatory as established by the *Land Law* in 1956. From that, every square meter transformed shall balance costs with benefits, according to the premise designed by Ildefonso Cerda almost 100 years earlier (García-Belido 1995; 2002). In Taiwan, the urban land readjustment was applied as an experiment in 1958 and approved as a national policy four years later. In the city of Kaohsiung, yet without a law that would officially establish the mechanism, approximately 80% of the lands were reorganized through land readjustment (Hayashi 2000).

In Germany, land readjustment was one of the main mechanisms used for the develop-

ment and approval of new construction according to the *Federal Building Code* of 1960, targeting projects for wide residential areas and for the redevelopment of urban centers (Müller-Jökel 2004). The country had a higher population density than before World War II, and fast economic development and a good traffic infrastructure allowed a lot of people to have a single-family house in the outer urban fringe of cities. A lot of new building areas were needed and, therefore, land readjustment was an easy way to develop such areas so that farmers could have a high income by selling land for building. In addition, a simplified procedure was also introduced to easily solve issues, called “boundary regulation.”

In the State of Israel, created on the last day of the British Mandate for Palestine, new articles concerning land readjustment were added to the *Planning and Building Law* of 1965. According to the law, the mechanism could be used to join or divide lands inserted in consorted projects, with or without the consent of owners (Home 2007). In France, land readjustment was legally adopted in the *Spatial Planning Law* of 1967, with different types of Urban Land Associations (*Associations Foncières Urbaines*) for land readjustment, voluntary and obligatory, according to the *Code de l’Urbanisme*. The process was tested in France from the 1940s to rebuild urban areas damaged by World War II (Gohier 1990; Viitanen 2000a).

1970s: Method emphasized by the World Bank and Japan

During the 1970s, the World Bank stated that programs to reduce poverty in developing countries through the improvement of housing conditions and the provision of basic infrastructure services were a priority. The main impediments to solving these problems were found in: (i) the rapid process of migration from the countryside to the city; (ii) the fragmented conditions of agricultural and urban lands, making it difficult to develop infrastructure; and (iii) the lack of mechanisms to intervene in private ownership and to capture the benefits created by public investment.

In 1974, the economist Orville Grimes and professor William Doebele were assigned to investigate mechanisms that could contribute to solve the problems pointed out by the Bank. Their studies identified three alternatives adopted in countries with different realities, according to the following explanation:

“The first was the well-known land banking system that had produced high-quality urban growth in Sweden at a relatively low public cost. The second was the institution known as *valorizaciones*, a sophisticated form of special assessment taxation that had transformed Bogotá, Colombia – particularly its major thorough-

fares – at modest public expense. The third assignment was to report on the system of land readjustment that had great success in the rebuilding of urban Japan after the massive aerial bombings of World War II and in the recovery from Korean War devastation in South Korea.” (Hong and Needham 2007, ix)

Professor William Doebele was from Harvard University, and at that time, the World Bank’s consultant, visited South Korea and checked the success of land readjustment after the country’s destruction. The initiative of the professor was responsible for the focus given to the instrument, which at that time was relatively unknown and unstudied. The possibility of implementing projects, including the development of fragmented lands, with the construction of housing that could be self-financing, or that in some way could reduce the burden of the government expenses, seemed to be the most effective method for application in developing countries.

The World Bank’s interest resulted in a conference that changed the visibility of the mechanism: the “First Land Consolidation Conference,” in Taiwan, 1979. The English term “land readjustment” was emphasized in this event. At the beginning, the name of the technique was “land consolidation,” but during the presentation of a wide range of projects, it seemed to the specialists that the terminology “land readjustment” was more appropriate as it refers to a process of readjustment, reorganization and rearrangement of lands rather than being only a consolidation process of title deeds. The conference was sponsored by the Lincoln Institute of Land Policy (Cambridge, Massachusetts, USA) and by the Training Center of Land Reforms (Taoyuan, Taiwan), under the auspices of the World Bank (Hayashi 2000). However, after the conference, the World Bank reduced its interest in promoting the mechanism, as the procedures appeared to be very complicated, involving social transformation and enactment of legislation, in both practice and planning processes, and in initial financing conditions in countries with so many institutional problems.

Japan gained importance, exactly after the Taiwanese conference, in disseminating the land readjustment concept. In 1982, Japanese experts organized the “Second International Seminar on Land Readjustment and Urban Development” to celebrate their results in applying such a mechanism. The city of Nagoya and the United Nations Center for Regional Development jointly committed to an event to disclose the end of a project involving 3,450 hectares that had been started after the destruction of almost the whole city during World War II. In 1985, the Japanese Ministry of Construction (currently the Ministry of Land, Infrastructure, Transport and Tourism) hosted a new international seminar, focused on the concept’s implementation in Asian countries, which started an important process of diffusion of land readjustment in the coming years.

1980s

During the 1980s, Australia and Turkey started improvement processes of their legal frameworks and the United States of America started a process to implement land readjustment in three States, but with no success. In Western Australia, land readjustment procedures were updated in the *Town Planning and Development Act* of 1984, which established two different types of implementation plans: the resumption development plan (RDS), and the guided development plan (GDS) (Archer 1988). For the resumption development plan, local governments mainly implement the project, and landowners participate by offering their properties in exchange for financial return, without any contribution system. The conversion of the title deed is carried through the purchase and sale of new and reordered properties. For the guided development plan, the project is individually implemented in regions where private owners have large plots of lands. This plan coordinates implementation time, infrastructure expenses and the conversion of ownership differently because it results in amalgamation, returning the new and rearranged plots of land to the landowner after project implementation. In Turkey, land readjustment was introduced legally with more specific procedures through Article 18 of the *Zoning Law* of 1985, updating previous laws that referred to the mechanism, such as the *Municipal Expropriation Act* of 1934 and the *Amnesty Law* of 1983 (Turk 2005). This article gave to the local government the right to apply zoning with specific areas for land readjustment, without the prior consent of landowners.

In the United States of America, the States of California, Hawaii and Florida tried to start a process to implement land readjustment. The California State undertook significant efforts to formulate the first land readjustment law of the country, the *S.B. 442*, a land readjustment statute authorizing both public and private projects. However, due to strong opposition from the private sector and the fear of granting power to another instrument, other than the already powerful North American instrument of expropriation, known as “eminent domain,” the approval process of this law was abandoned (LCIR 2003). Meanwhile, in Hawaii, the old urban structure of Honolulu needed extreme intervention, and land readjustment was studied as a way to transform the city. However, this project was not implemented, and the proposed draft law was not approved, remaining only a document covering the pilot project development process (Minerbi 2002). In Florida, the introduction of the mechanism had similar misunderstandings and fears to the ones that occurred in California, resulting in similar legal barriers (Hong and Needham 2007). The only recent successful example in this country, a curious process without any legal foundation, occurred in Dallas, Texas. There, owners of 80 hectares created a company and, with the consent of all, started a process of formation of a land bank that, after the property’s reorganization, was shared in accordance with conditions stipulated in a previous agreement (Hayashi 2000).

1990s

During the 1990s, Spain improved its legal system, Sweden and Finland legally established the mechanism for its usage in urban areas, Germany allowed land readjustment in existing built-up areas without any binding land use plan, and Japan carried out some technical cooperation projects in Asian countries such as Indonesia, Malaysia, Nepal, Philippines and Thailand, and in Colombia in Latin America.

In Sweden, the *Joint Land Development Act*, approved in 1987, started being applied in 1990. From there, formal initiatives for land readjustment came from interested land-owners and each one of them received an area for development and construction according to their share, through mutations and subdivisions, by adjusting the cadastral division to the new plan afterwards (Kalbro 2002). However, the procedures for urban land readjustment were not really accepted by Swedish land developers and municipalities, and very few projects were undertaken, leading to the cancellation of this legislation by 2012. In Germany, with the amendment of the *Federal Building Code* in 1993 it was permissible to use land readjustment in existing built-up areas without any binding land use plan. However, this could only be used if the development could be unambiguously determined from the character of the surrounding area. In general, it can be said that the German legislation has continually expanded the possibilities for the use of land readjustment over the past 50 years.

In Finland, the *Real Property Formation Act* of 1995 redefined the procedures of land readjustment and introduced its application to urban areas; updating the old legislation approved in 1960 that was never really put into practice. Therefore, the new legislation created legal support for the use of land readjustment only when the first “Detailed Local Land Use Plan” was prepared, and could not be used in a situation where a detailed plan would be changed (Viitanen 2000b). In Spain, in 1998, *Law N° 6 on Land Regime and Valuations* was approved, simplifying previous rules with the purpose of offering greater autonomy to the States and municipalities to implement land readjustment projects (García-Belido 1995; 2002).

Japan and the dissemination of land readjustment to other countries

Japan, from the initial activities of the World Bank and the former Ministry of Construction, and currently through the Japan International Cooperation Agency, became the major country responsible for the dissemination of land readjustment through training courses and financial support to more than 60 countries. Despite all the difficulties, after attempts and failures, many countries started to present significant results

in adapting and implementing this instrument. It is important to observe that the knowledge exchange generated demand, and motivated an increased interest of the Japanese government in transferring it, supported by several Japanese consultant companies.

In Indonesia, the mechanism was established through the *Regulation of the Head of the National Land Agency N° 4* of 1991. Previously, while no laws and regulations existed in Indonesia, several land readjustment projects were conducted, but after the technical cooperation with the Japan International Cooperation Agency, the technique was applied countrywide, totaling 274 areas in 27 provinces (Yoshida 2003). The main problem faced by the country was the difficulty to provide a government fund to subsidize public infrastructure in land readjustment project sites (Sitorus 2005). In Nepal, the mechanism was introduced in 1988 by the *Town Development Act*, with the goal to provide basic urban infrastructure through the contribution and participation of owners (Karki 2004). The participation of the government in strategic projects was the main reason for implementing the mechanism to spend less financial resources. The Japan International Cooperation Agency conducted focused training courses to Nepalese experts aiming to improve project technical standards and the trainees led several projects in Kathmandu and the review of the *Town Development Act* to integrate the Japanese land readjustment method into it.

In Malaysia, the government initiated attempts to approve the legal framework on land readjustment in 1999. The system, known as “resignation and alienation,” was designed to allow the development within plots with multiple ownerships, joining them collectively and redistributing properties by the previous resignation and consequent alienation of the plot of land that was not intended for public purposes. The first pilot project called Puchong Malay was developed, but received no approval by the “Master Committee of the State Governor” to start its implementation (Hayashi 2000). In the Philippines, feasibility studies were developed in the cities of Quezon and Paranaque in the capital Metro Manila. During the implementation process, a strong political instability began, which made land readjustment impracticable in the country (Hayashi 2000).

In Thailand, the mechanism was introduced in 1985 in urban planning projects with the strong support of Japanese experts. In 1991, in Bangkok, the “Sixth International Seminar on Land Readjustment and Urban Development” was held; there, the concepts were nationally presented, making public the discussion about introducing the instrument in that country. In 1992, an evaluation committee was created and the first pilot project, Rama 9, was designed. Since then, several projects have been initiated, and in 2004 the *Land Readjustment Act BE 2547* was promulgated in that country.

In Colombia, land readjustment implementation contrasted with the traditional way of urbanization, conducted over the past decades, in which the responsibility for the provision of infrastructure was assumed solely by the government. The *Law N° 9 on Urban Reform* of 1989 and the *Law N° 388 on Urban and Territorial Development* of 1997 established the concept of the Japanese land readjustment in Colombia, and reinforced the Spanish concept of “contribution for betterments” and “*captura de plusvalía*” as introduced in 1921 by the *Law N° 25* (Carrillo 2002; Jaramillo 2001). Colombia, unlike Spain, does not have an urbanizing agent in charge of making complete developments, nor it has the obligation to establish an owner’s association in the framework of land readjustment or, at least, such obligation is not clear enough, which is why the concept is not developed. Also, due to some legal problems, such as no regulatory decree to establish operating rules for the Colombian “*reajuste de tierras*,” the instrument is still under development, and its implementation process relies on “land-to-land” and the “land-to-floor” conversion systems.

2000s onwards

Since 2000, the dissemination process of urban land readjustment has experienced different realities, from countries where the private ownership of land did not exist, such as Vietnam and China, to countries where private ownership is guaranteed by its Constitution, like Bhutan, Brazil and the Netherlands. In China, after 14 years of impasse, to make possible the guarantee to private property, the National Congress passed law measures that will enable the implementation of land readjustment in the country, named *State Measures of Compensation for Housing Relocation and Resettlement in Urban Areas*. From 2001, urban redevelopment processes have legal support and may scale up due to the rapid economic growth estimated for the years to come (Li and Li 2007).

In Bhutan, the concept of land pooling was first introduced in 1998 during the revision of the “Thimphu Urban Development Plan” (1986-2000), with the support of the United Nations Human Settlements Programme (UN-Habitat). However, the concept was not put into practice until 2002 while preparing the urban development plan for Rangjung, Tashigang. Since then, several projects are in progress, and in 2009 the *Land Pooling Rules* of the Kingdom of Bhutan were adopted.

In Vietnam, a country where there are concessions to use land for a certain period, partnership projects between the government and the “Cities Association of Vietnam” have led to four small projects in the provinces of Hai Duong, Quang Nam and Long An. Although the experiences were successful, the term land readjustment is unavailable in the national legislation, and there is no support for community initiatives in the

existing laws. The World Bank is currently supporting a “new” pilot project to substantiate a possible national legislation.

In Brazil, the dissemination process began through a technical cooperation with the Japan International Cooperation Agency in 2005, and two books were published since then: “Land Readjustment and Joint Urban Operations” (Montandon and Souza 2007) and “Urban Planning Methods: Land Readjustment and Urban Redevelopment Projects” (Souza 2009), which contributed to spread the knowledge to several States and municipalities countrywide. As a first result of this cooperation, during the review process of the “São Paulo Municipal Master Plan” (2002-2012), articles were incorporated into the amendment to introduce land readjustment. The draft law with these amendments was never approved though, and similar articles were enacted at the newly approved São Paulo master plan for 2025. Besides São Paulo, other municipalities like Curitiba and Belo Horizonte started to explore the concepts related to land readjustment as a means of facilitating strategic urban intervention. Curitiba started a pilot project supported by the Japan International Cooperation Agency in 2012, and its implementation is still ongoing.

In the Netherlands, the Minister of Planning has presented a new *Land Law*, which will include regulations for urban land readjustment, but only on voluntary basis. This draft law, presented back in July 2016, is now open for consultation and will go to the Parliament later this year. It is expected that the new law will be effective from 2018.

Case studies: International implementation of land readjustment

The following pages will present 19 different international experiences related to land readjustment (see Table 3.1 and Figure 3.2 for a complete list of urban land readjustment in the world). Several specialists have contributed, aiming to explain the history of the implementation method, its legal origin, objectives, purposes, and organizational processes and results, and to identify the conflicts and impasses faced throughout its implementation. These case studies range from basic functions of land readjustment to the most complex processes, and are used to provide a better understanding of the fundamental contributions of the instrument to different systems of governance and urban planning. International readers seeking to implement – or improve – land readjustment within their own contexts can learn from experiences of others around the world and develop an appreciation of the major challenges, advantages and disadvantages of the process. The presentation of such cases is a statement that there is path for land readjustment in different contexts and realities.

Table 3.1. International Experience Related to Urban Land Readjustment

Country	Legal Origin, Related Legislation and/or the Ultimately Enacted Law	(Practice Origin) Year of Legislation	Terminology or Similar Technique
USA	Some authors argue that President George Washington used a similar approach to assemble land needed to build the capital of the United States of America.	(1791)	Land Assembly
Germany	Introduced in Mainz, but widely recognized at the "Lex Adickes," a law concerning the apportionment of land in Frankfurt, then promulgated by the "Federal Building Code."	(1871), 1902, 1960, 1986, 1998, 2004	Baulandumlegung
India	Introduced by the "Bombay Town Planning Act," and promoted by the "Maharashtra Regional and Town Planning Act," and by the "Gujarat Town Planning and Urban Development Act."	1915, 1966, 1976	Town Planning Scheme, Town Development Scheme, Land Pooling
Japan	Introduced by the "Arable Land Readjustment Act," adapted in the former "City Planning Law," and promoted by the "Land Readjustment Law."	(1870), 1899, 1919, 1954	土地区画整理 (<i>tochi kukaku seiri</i>)
Western Australia	Introduced by the "Town Planning and Development Act," and updated by the "Town Planning and Development Act."	1928, 1984	Land Pooling
Turkey	First experiences based on the "Regulation of Roads and Buildings," and the "Law N° 1,663" of Ankara, but formally introduced through Article 18 of the enacted "Zoning Law."	(1864), 1930, 1985	Arazi Düzenlemesi
Taiwan	Introduced by the "Land Act," the "Equalization of Land Rights Act," the "Urban Land Readjustment Regulation," the "Farmland Readjustment Act," and then through the "Rural Community Land Readjustment Act."	1930, 1943, 1979, 1980, 2000	土地重劃 (<i>tǔdì zhòng huà</i>) 市地重劃 (<i>shì dì zhòng huà</i>)
Austria	Introduced by the "Building Code of the City of Vienna," and promoted by the "Spatial Planning Laws" of Lower Austria, Styria, Tyrol and Vorarlberg States.	1930, 1960s onwards	Baulandumlegung
South Korea	Introduced by the "Colonial Urban Planning Act" (조선시가지계획령), then promoted by the "Land Readjustment Act" already abolished, and now used under the "Urban Development Act" (도시개발법).	1934, 1966, 2000	토지구획정리 (<i>toji-guhoegjeongli</i>)
Palestine/ Israel	Introduced by the "Town Planning Ordinance" (when the British ruled Palestine), and promoted by the "Israel Planning and Building Law."	1936, 1965	Halukah Hadasha, Repartzellazia
Spain	Introduced by the "Land Law" (<i>Ley del Suelo de España</i>), and promulgated through "Law N° 6" (<i>Ley sobre Régimen del Suelo y Valorizaciones</i>).	(1861), 1956, 1998	Reparcelación
Finland	Introduced by the "Real Property Formation in Urban Areas Act N° 101," then reintroduced by the "Real Property Formation Act N° 554."	1960, 1995	Kaavausjako, Rakennusmaan Järjestely
France	Introduced by the "Spatial Planning Law."	(1940), 1967	Remembrement Urbain
Switzerland	Introduced by the "Federal Spatial Planning Law."	1979	Landumlegung, Remembrement, Ricomposizione Particellare



▲ Figure 3.2. Urban land readjustment implementation across the world



LEGEND:

- Countries with National/State Legislation Enacted
- Country's Name | (Year of the First Experience) Year of the Legal's Origin
Name Given to Urban Land Readjustment
- Countries without National/State Legislation Enacted
- Country's Name | (Year of the First Experience)
Name Given to Urban Land Readjustment

Greece	Introduced by the “Law for Residential Areas” (land readjustment zones).	1979	Αστικού Αναδιασμού (<i>astikou anadasmou</i>)
Philippines	Metro Manila Commission conducted a feasibility study, but that was suspended due to the political instability in the country.	(1980)	Land Readjustment
Indonesia	Promoted by the “Circular of the Minister of Home Affairs N° 590/5648,” then through the “Regulation of the Head of National Land Agency N° 4,” and mentioned in other acts, like the “Act of Housing and Settlement N° 1.”	1985, 1991, 2011	Konsolidasi Tanah
Sweden	Introduced by the “Joint Land Development Act” (<i>Lag 1987:11 om exploateringssamverkan</i>) already abolished.	1987, cancelled in 2012	Exploateringssamverkan
Nepal	Introduced by the “Town Development Act.”	(1975), 1988	Land Pooling, जग्गा एकीकरण (<i>jaggā ekīkaraṇa</i>)
Colombia	Introduced by “Law N° 9 on Urban Reform” (article 77), and promulgated by the “Law N° 388 on Urban and Territorial Development.”	1989, 1997	Reajuste de Tierras
China	Introduced partially through the “State Measures of Compensation for Housing Relocation and Resettlement in the Urban Areas.”	2001	土地整理 (<i>tǔdì zhěnglǐ</i>)
Thailand	Introduced by the “Land Readjustment Act, B.E. 2547.”	(1985), 2004	การจัดรูปที่ดินเพื่อพัฒนาพื้นที่ (<i>kār cād rūp thīdīn pheūx phat’hnā phūñthī</i>)
Angola	Two pilot projects already implemented, and no legislation enacted.	(2006)	Reajustamento de Terra
Bhutan	Introduced by the “Thromde Act” and by the “Land Act,” and fully detailed in “Land Pooling Rules” of the Kingdom of Bhutan.	(2000), 2007, 2009	Land Pooling, ས་རྒྱུ་འཛུགས། (<i>sachha dezhip</i>)
Vietnam	Six pilot projects for housing implemented, and no legislation enacted.	(2011)	Tái Điều Chính Đất
Argentina	The Province of Buenos Aires introduced “Law N° 14,449 on the Fair Access to the Habitat” (articles 89, 90 and 92).	2012	Reajuste de Tierras
Brazil	Two books published, and one pilot project has been conducted based on the enacted municipal master plan of Curitiba.	(2007, 2009), (2012)	Reajuste de Terrenos, Reparcelamento do Solo
Afghanistan	Preliminary studies and implementation under consideration. Nowadays, there is a capacity building program for municipal staff.	(2012)	دې ځمکو مجدد تنظيم (<i>de zmeko mojjād tanzim</i>)
Mongolia	Introduced by the “Urban (Cities and Settlements) Redevelopment Law” (<i>Хот, суурин газрыг дахин хөгжүүлэх тухай хууль</i>).	(2012), 2015	Газрыг дахин зохион байгуулах (<i>gazryg dakhin zokhion baiguulakh</i>)

Note: This chart does not include countries or experiences utilizing exclusively land readjustment for rural/agricultural land consolidation/readjustment purposes. That is the reason why some countries were not included, for instance, like the Netherlands (*ruilverkaveling*), and Estonia (*maakorraldusseedus*).

(Source: Felipe Francisco De Souza).

Land Development and Land Readjustment Possibilities in Afghanistan

Habib Ahmad Javid

Since 2001, the urban population of Afghanistan has grown rapidly, and its current urbanization is taking place at an even faster rate. There is an actual demand for massive public programs to start new development projects, or to expand or to develop new Afghan cities, and most of these development projects involve the acquisition of land. Historically the land acquisition method used by the government was compulsory purchase – or expropriation – but nowadays governments at the local or at the central level do not have enough financial resources to expropriate the large amount of land that is necessary to meet the demand for development of and investment in infrastructure. Besides that, there is a criticism on the exercise of expropriation by the government because it generates severe loss for the people presently living and obtaining a livelihood from the occupied lands. People usually get relocated, especially the urban poor, to remote areas with limited access to jobs and public services. Expropriation in Afghanistan, therefore, implies social resistance and a financial burden on municipalities to compensate landowners, making it a difficult land development method to use. Given the lack of equitable and efficient land development policies, land markets are becoming blockages for any development process, exacerbating urban problems and the living environment quality.

In Afghanistan, the possible implementation of land readjustment would provide some benefits. First, it can be used to address problems caused by rapid urbanization in the capital city of Kabul, and in other big Afghan cities like Kandahar, Herat, Jalalabad, Mazar and Ghazni. The rapid urbanization brought problems like limited provision of planned areas and urban facilities, and informal settlements in the fringe areas. As the government of Afghanistan does not have enough financial resources to acquire all the necessary land for the demand for development, land readjustment can be used as a mechanism to plan growth and to promote new and necessary facilities at low project costs. Second, the urban planning structure of the country lacks community participation in plan making and urban development. Most of the governmental institutions involved in urban planning are carrying out planning activities without the involvement and consensus of the public. The method can be used to promote an active and cooperative involvement from community members and leaders within the project area supported by the government or any private implementation agency. And third, in Afghanistan land transfers go through a very complicated system, and there are too many laws and too many institutions dealing with it. The base for all land related laws

is *Islamic Law*, and ownership of the land can be acquired through inheritance, purchase, government land allocation, or transfer of ownership. Any process to acquire ownership of fully surveyed land for urban development must also proceed through the municipality. In this sense, the land readjustment method can be used to facilitate and clarify land ownership and tenure-related issues.

Recently, a survey was conducted around the Dehsabez area, where a new city is going to be developed, on possible use of the land readjustment method. Aiming to understand the general perception of landowners about the method, first an explanation was made followed by individual and group interviews. From this survey it was apparent that most landowners understand the main benefits of land readjustment. Also, the answers indicated that a potential increase in the land value motivated landowners of large plots in a possible joint effort to promote the method, but for small landowners there was a major concern related to the remaining size of their land parcels after land contributions for public facilities. Thus, the goal to be achieved when attempting to implement land readjustment is an environment where the majority of the landowners have reached agreement.

From the analysis of various literatures, it has been clarified that landowners are the most important stakeholders in land readjustment and their participation in the initiation and implementation process is one of the key principles for successfulness. Therefore, most efforts should be put on convincing them to cooperatively carry out the method. In order to do that, the implementing agency should draw the interest of landowners into the project by helping them to understand how land readjustment works and let them know how it will benefit their current and future land values and necessary urban services. Landowners will be convinced when they realize how they will benefit even if affected for some period of time. Their existing community will be highly improved by exercising land readjustment, so all efforts will pay off.

Land readjustment was very successful during the period of rapid urbanization and economic growth of countries like Japan and South Korea. Currently, Afghanistan is going through an era of rapid population growth, high urbanization trend and an improved economy, so exercising land readjustment for urban development may bring successful results. In the future, we expect that the government will offer exchange of land rights “from land to land” and “from land to apartment,” respectively. And, by doing so, that the government will be capable of undertaking the rehabilitation of informal settlements and land parcels regularization for poor families through land readjustment.

Participatory and Inclusive Land Readjustment in Huambo, Angola

Allan Cain, Beat Weber and Moises Festo

After a protracted civil war, Angola has been reconstructing its social and physical infrastructure and developing new policies and legislation to address the chronic poverty that many families live in. Four decades of war were characterized by forced removals, resettlement, and massive internal displacement of rural and urban populations. Urban expansion became uncontrolled, and informal land transactions flourished with few legal tools and little financial and human resources to manage land properly. Land has emerged as a critical point of potential conflicts, and a recent research has demonstrated that, after the civil war, thriving land markets have come to exist in Angola; however, they are largely unregulated, and informal real estate transactions are the norm and are considered legitimate (Development Workshop 2005; 2012). Most settlement and housing-plot acquisition has been through this informal land market, and only a small percentage of urban residents have acquired full legal title to the land they occupy. Lack of tenure security in the form of “title” seriously undermines the wellbeing of poor families, and puts at risk their principal assets if expropriated. This is because only titleholders are eligible to receive compensation when land is expropriated for public development projects. The poor are thus at risk of losing their land and housing, even if purchased and occupied in good faith after demolitions and relocations.

In the Huambo municipality, the local administration had made provision for the distribution of land for self-help housing for those on a housing waiting list. The provincial government, which was struggling with the response to the high number of requests for housing sites, invited Development Workshop to coordinate the implementation of two participatory urban planning projects. Development Workshop suggested that a modified land readjustment or land-sharing model was appropriated to the context of Angola’s current urban crisis. As a result, two projects were implemented during a three-year period (2006–2008) when important decentralization reforms were underway through the creation of municipal administrations that were assigned new powers for managing land. These two projects, illustrating Angola’s first-ever experience of land readjustment, one successful and the other not, provided lessons on how this approach can be adapted for future public land and settlement policies.

The first project demonstrated how the land readjustment model could reduce land conflicts by regularizing tenure status, thus incorporating an informal settlement into

the formally planned urban part of the city (see Table 3.2 and Figures 3.3-3.4 for Sassonde and Camussamba project). It showed how market mechanisms created land value that benefitted former occupants, new owner-builders, and the State, thereby providing the incentive to these parties to work together. It also demonstrated the crucial role of social mobilization by Development Workshop, and the need for government buy-in to secure the success of the project. The process of building social inclusiveness involved convincing land occupants to participate in the project and proved to be onerous and time-consuming. Existing land-occupiers, whose land would be affected in the readjustment process, were registered and their land boundaries mapped using hand-held geoprocessing equipment. A compensation process was developed which foresaw that each land-occupier would receive plots in the newly urbanized area in accordance with the size of the land he or she lost, as a form of land readjustment. The overall distribution was crucial in this case: 30% of the land was reserved for infrastructure, including roads; 35% for redistribution to original local land occupants; and 35% for sale with the objective of covering basic infrastructure costs.

Under the auspices of the provincial government, all owners of the redistributed parcels (including previous land occupants and new residents) were issued with “provisional tenure licenses” (*licença de arrematação*), and given two-year renewable leases before having the right to apply for a full land title. The project sold the remaining 35% of the plots to private individuals and families who had registered themselves on the government’s housing waiting list. With the funds acquired from the sale of land parcels, investments were made in layout planning, clearing roadways, and installing boreholes for drinking water. Without doubt, one important factor contributing to the relatively successful completion of the pilot project was the vibrant land market that facilitated the immediate sale of the land parcels for the creation of the infrastructure fund. The leading agency and one member of the management group jointly managed the infrastructure fund. It proved that such arrangements could be made without a legal or institutional framework for this purpose.

Huambo’s first land readjustment project contributed to create a socially diverse neighborhood (*bairro*), with a population consisting of different income groups, ranging from the poor to the middle class. No conflict was noted between social classes or ethnic groups who occupied the *bairro*. The inclusion of the poor was achieved through a compensation process with the allocation of redeveloped land parcels rather than a monetary compensation. The project was perceived to be successful by all participants in the process, as evidenced by the families who acquired secure land tenure and who financially benefited from the increased value of their land and income gained from the sale of the plots created through the process of readjustment. The sub-division and registry of plots by the government was a primary factor that unlocked land value.

This land redevelopment increased market value that benefitted former occupants, new owner-builders, financial intermediaries, and the State.

After the success of the pilot project the Huambo municipal administration asked Development Workshop to implement a second project. The same overall approach was used, initiating a process of registering and mapping of the developed, informal area and implementing a readjustment scheme at the periphery of the peri-urban area. The second case, however, demonstrated that the project did not generate sufficient resources to sustain itself, because it lost the essential ingredient of financial control and the opportunity to take advantage of the booming land market to create value. It was launched shortly after the publication of the new decentralization law in 2007. However, the municipal administration failed to take up opportunities that the new law had opened up. The decentralization law gave municipalities the responsibility to manage land under 1,000 square meters, at a domestic/housing scale, and gave them the rights to levy fees for local services and collect fees. A shortcoming of the decentralization law obliged all income raised locally by the municipal administrations from taxes and fees to revert to the central government's account. The only local investment funds made available to municipalities were allocated through their annual budgets. Municipal authorities therefore had no incentive to create surplus income from local sources. Locally generated income was not left for them to manage locally. Instead of selling land plots to create an infrastructure development fund, the municipal administration distributed the parcels for free to individuals who were on the municipality's long waiting list for land for housing. Without cost-recovery, there were no funds to invest in basic infrastructure.

It is recommended that a major effort be invested in the capacity building of municipalities in managing land and in fiscal responsibilities that they must now assume. Municipalities must also be given the possibility to generate their own financial resources through transaction fees and taxes. Income from the regularization of land tenure can be one of the ways that municipalities can sustain themselves in the future, at least until all informal land has been converted, after which time new forms of value capture will need to be devised. The fact that urban development projects can be both self-financing and create secure tenure rights for informal land occupants is probably the most powerful argument for replicating the pilot projects. The economic aspect has obvious appeal to government institutions. Given budget constraints under which many municipal administrations operate, this provides a valid and interesting approach to manage urban expansion and improve conditions of slums.

While the authors are strong proponents of Angola's administrative decentralization program, they conclude that the devolution of land-management responsibilities to a

newly appointed municipal administration that did not have sufficient financial autonomy to capture and deploy income from the increased value of land they developed, led to the failure of the second pilot project. It became evident that a major effort must be invested in the building of the capacity of municipalities to manage land and the other responsibilities that they must now assume, such as the supply of basic services including water and sanitation. Municipalities must be given the possibility to generate and retain their own sources of revenue through transaction fees and taxes. Income from the regularization of land tenure may be one of the ways that municipalities can sustain themselves in the future.

The two Huambo land readjustment case studies demonstrated that *de facto* recognition of the good faith occupation rights of existing land owners-occupiers is important for the functioning of an inclusive land market. The recognition of occupants' rights allows them to benefit economically, along with all the other actors in the market at the time of legalization and regularization of tenure through a process of participatory land readjustment. However, the current land legislation will need to be revised to accommodate the principle of occupation in good faith. Bylaws and regulations will need to define the proofs that can be used to validate this occupation and the procedures that will be used to register these claims. Once these rights are defined legally, mechanisms will also need to be established to adjudicate conflicting claims. The strengthening of municipal Courts to deal with local land claims will be essential.

The experience shows that despite a rather challenging environment, land readjustment in Angola has the potential to become an important tool for urban planning (Cain 2010; Cain, Weber, and Festo 2013). It shows that, while there is still no legal framework for land readjustment and a very limited culture of participation in urban planning processes, growing land markets and the cooperation between land occupants and public and private investors can make land readjustment a viable option for local governments. If land readjustment is to be an effective tool for urban development in Angola, the lessons from these case studies need to be understood by urban policy makers and facilitating legislation enacted, allowing land value capture and its reinvestment by municipalities. The capacity of municipalities to plan and manage such projects on a much larger scale must be built. Land readjustment provides a win-win mechanism for all involved parties to regularize peri-urban settlements, providing sustainable infrastructure and access to services, while at the same time strengthening the rights of tenure and protection of assets of the poor. If municipal fiscal rules were to be reformed, land readjustment could also provide local government with an opportunity to capture some of the added land value as cities grow.

Table 3.2. The Sassonde and Camussamba Land Readjustment Project in Huambo, Angola

Name of the project:		Sassonde and Camussamba Land Readjustment Project
Location of the project:		Huambo, Angola
Name of the implementation agency:		Development Workshop Angola
Project period:		2006-2008
Implementation of the project period:		2006-2008
Area of the project:		60 hectares
Rights holders:	N° of landowners:	62 originally, 597 at end of the project.
	N° of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	30%
	Decrease for reserved land:	35%
	Total ratio of decrease:	65%
Implementation plan, stages:		Project completed in 2008.
Total built-up area of the project:		42 hectares
Density involved before and after the project:		Before the project: 7 inhabitants/hectare. After the project: 100 inhabitants/hectare.
Reserved land and additional built area:		Approximately 20 hectares.
Land evaluation:		Approximately USD 1,000/ hectare before the project. Land price after: USD 13,300/ hectare. Land price today: USD 186,700/ hectare.
Real estate market evaluation:		No real estate market evaluation implemented.
Benefits to the local government:		Training for local government staff. Demonstration of a model to address urban development. USD 80,000 in infrastructure funded.
Benefits to the landowners (and/or leaseholders):		Full compensation & legal regularization of land holdings.
Benefits to the investors:		Promotion of effective and sustainable land readjustment model for the Angolan context.
Principal and eventual conflicts (site/landowners):		No conflicts found.
Finance of the project:		-
Total cost of the project:		Around USD 200,000.
Features of the project:		1. Participatory urban planning project to stem informal growth at the urban periphery and to provide access to legal land. 2. Emphasis of government and civil society organization and institutional partnership. 3. Land readjustment allowing full compensation and creation of an infrastructure fund. 4. Principle of value capture from land markets using land tenure regularization. 5. Effective mitigation of any land related conflicts.

▼ Figure 3.3. Sassonde and Camussamba land readjustment pilot project (2007)

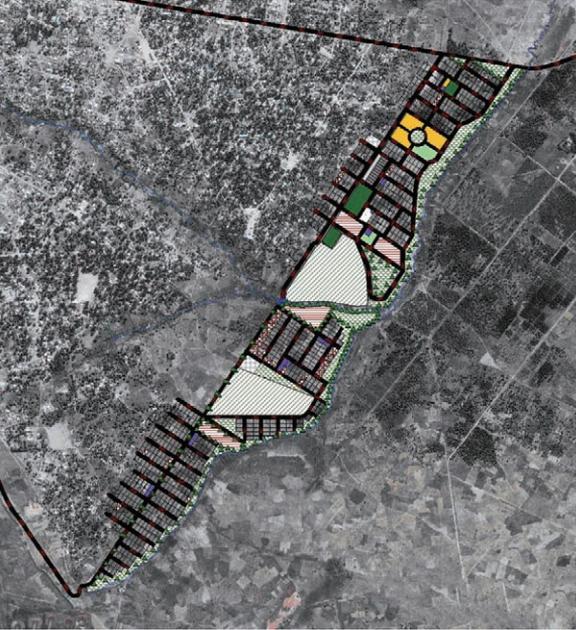


Figure 3.4. Official occupation licenses distributed to new landowners (2007) ▲

Land Readjustment, an Urban Planning Tool in Bhutan

Tashi Wangmo

Bhutan is a small country located in the Himalayas. It has a rich but ecologically fragile environment with a very difficult terrain, in which just a very small land percentage is used for agriculture and human settlements. Despite the country's rapid urbanization, most of its population, about 70% of 635,000, lives in rural areas (Population and Housing Census of Bhutan 2005). The Bhutanese society, therefore, is still very agricultural with strong social and cultural values, and religion often plays a central role in people's daily lives. The Bhutanese had always learnt to live and work with nature, often as per the tenets of religious texts, and the socio-cultural belief system has not only helped Bhutan to sustain its strong cultural traditions and community values but also helped to protect its natural environment (MoWHS 2008). It is famously recognized that Bhutan adopted and pursued the development philosophy of "Gross National Happiness" (GNH).

Prior to 2000, all urban development plans were prepared on private land acquired by the government (Wangmo 2011). This planning process became increasingly difficult and unpopular due to opposition from landowners, loss of land titles and the requirement of high compensation costs. By 1998, during the revision of the “Thimphu Urban Development Plan” (1986-2000), with the support of UN-Habitat, the idea of land pooling/readjustment was first introduced. According to Meghraj Adhikari, urban specialist working at the Department of Human Settlement, Ministry of Works and Human Settlement, the first pilot project prepared with land readjustment was in Changzamtok, Thimphu. Such pilot project, unfortunately, remains unimplemented, but later the concept gained wider public acceptance and was used in other towns across the country.

The successful utilization of land readjustment can be attributed to the soundness of the concept and, after almost a decade, many projects were implemented with the adoption of the *Land Pooling Rules* of the Kingdom of Bhutan (2009). Until 2009, the concept was practiced without legal support. There are many reasons for the land readjustment recognition and acceptance as a planning tool in Bhutan (Wangmo 2011):

- a. Preservation of the interests of original landowners: in the past, Bhutanese planners used a land acquisition method that displaced original landowners to redistribute land to new owners. This brought resistance from stakeholders and delayed the management of urban growth in many cases. With the introduction of land readjustment, the original landowners retain the title for majority of their lands and disruption in the existing community is avoided;
- b. An incentive-based approach for urban management: with land readjustment, landowners contribute with a percentage of their land to the development, but in return they receive more: the plot shape and configuration becomes more appropriate for urban uses; the creation of infrastructure, public facilities, and services is possible; and the efficiency of urban plots is boosted, thus increasing the land value;
- c. A participatory approach: unlike the conventional planning approach, land readjustment requires all stakeholders to participate in the planning process. Landowners’ opinions form an important part of the planning process starting from inception to the implementation of the plan;
- d. Environment protection and the conservation of heritage structure: it is impossible for the government to finance alone the management of environmentally sensitive areas and the conservation of heritage structures. Planning through land readjustment may designate precincts, such as environmental precincts and heritage pre-

cincts, through contribution of land where development can be restricted thus enabling protection and conservation.

The land readjustment technique was first implemented in Rangjung, Trashigang district, in 2002, under the Bhutan Urban Development Project 1 (BUDP 1), and funded by the World Bank (see Table 3.3 and Figures 3.5-3.7 for Rangjung project). Rangjung is a small service town located 17 kilometers from Trashigang town, and it serves six “*gewogs*” (blocks), namely Shongphu, Radhi, Phongmey, Bidung, Merak and Sakten. The Rangjung project has an area of 31.5 acres; its land is relatively flat and is predominantly vacant with a few houses along the existing road that housed shops and residential units. It has 74 registered landowners with the plot sizes averaging 41 decimals, or 1,659 square meters (MoWHS 2002). Since the concept of land readjustment was new, the planning team started the planning process with public consultation, held on August 30, 2002. The concept was explained in local language by drawing simple maps to all stakeholders, like the head and officials from the district administration, and the landowners. The planning team worked at the project site for easy clarification and queries from the stakeholders and the planning process was not limited to public consultations. In addition, the project area was divided into 5 units and workshops were carried out in each unit separately for smaller audiences (MoWHS 2002). The intention was to involve all the stakeholders in the planning process enabling the planners to clearly impart the concept of land readjustment as well as planning principles. This also provided an opportunity to stakeholders to voice their opinions and to express their desires on future needs and priorities for the town. The final public consultation was held on September 14, 2002 with all the stakeholders. The project was finally accepted by approximately 93% of the landowners (69 out of 74 landowners) with 35% of contribution ratio, which was a consensus of more than two thirds of total landowners and the contribution was higher than the allowable ratio of 30% prescribed in the *Land Pooling Rules*.

However, even though the concept of land readjustment has gained wider public acceptance and has been used in towns across the country, it is not free of challenges. Some of the challenges during the preparation of the subdivision plan and implementation of the technique are as follows (Drukpa 2012; Wangmo 2011):

- a. Contribution ratio: the restriction of contribution ratio to 30% by the *Land Pooling Rules*, to protect the land holding sizes, poses limitation on the amount of land for quality infrastructure, particularly in the hilly terrain of Bhutan. It is a challenge for planners to design an efficient layout plan on steep slopes;
- b. Landowners with access to infrastructure: the contribution ratio is the same for all

landowners in land readjustment projects, irrespective of the plot location. This has been observed to cause problems for landowners who already had access to infrastructure and services before the project. These landowners generally oppose land readjustment. The *Land Pooling Rules*, however, have a provision for the calculation of different contribution ratios, which has not yet been implemented due to the lack of technical capabilities;

- c. Landowners' support of the scheme: the *Land Pooling Rules* ask for the agreement of two thirds of the landowners to initiate a land readjustment project. This has been observed as a problem as an adequate number of landowners do not show up for the meetings. Many of them live in other areas, they often do not value the meetings, and their prime motive could be speculation;
- d. Legal support to the *Land Pooling Rules* (2009): the 2009 Rules do not have direct legal effect. Land readjustment is mentioned in the *Land Act* (2007) as one of the mandatory planning techniques, but the law does not detail on how to carry it on. This is posing serious challenges to planners, particularly when landowners take land issues within the project area to the Court;
- e. Infrastructure financing: landowners agreed to contribute with a land percentage of land for infrastructure, but do not agree to contribute to share the cost of providing infrastructure. Since the land contribution ratio is limited to 30%, the scheme does not generate adequate reserved plots for auctioning to infrastructure financing. The government, therefore, still needs to finance the cost for infrastructure development, which is the main cause of delay for the implementation of several projects;
- f. Awareness of land readjustment: landowners generally understand land contribution as being a contribution to the government. As mentioned before, prior to the usage of land readjustment, land acquisition was the main means of obtaining land for development. It was observed that landowners still fear that the government is taking their lands and displacing them for the purposes of development. This is one of the main reasons for the unwillingness to contribute even 30% of their land; and
- g. Traditional landholding patterns and the culture of individual household: the contradiction between the minimum plot sizes in rural and urban areas (10 decimals, or 404.6 square meters in rural areas, and 13 decimals, or 527 square meters in urban areas) also poses as a challenge for planners. Plots sized less than 13 decimals result from consolidation during the subdivision plan, and this may bring

conflict with landowners because of the strong culture of individual and traditional landholding patterns.

Finally, Bhutan is a small and mountainous developing country constrained with both land and financial resources. Its challenges are compounded by the rapid rate of urbanization and the increasing demand for urban infrastructure and services. On top of this, Bhutan's goal of providing an enabling environment for happiness calls for a balanced approach to urban planning. Despite the cumbersome and time-consuming process, planners are using land readjustment wherever possible because landowners are not rendered landless and government needs not to compensate for infrastructure development through land acquisition. When most are concerned with cost-benefit analysis and maximum utilization of resources, which in most up-coming towns is land, land readjustment can provide a way forward by enabling productive development of urban centres while also ensuring that the development is economically, environmentally, socially and culturally sustainable. Despite the insufficient skills and lack of adequate know-how, as none of landowners and even urban planners were formally trained before undertaking projects, land readjustment is the most accepted and popular planning tool used in Bhutan for human settlement planning and development nowadays.

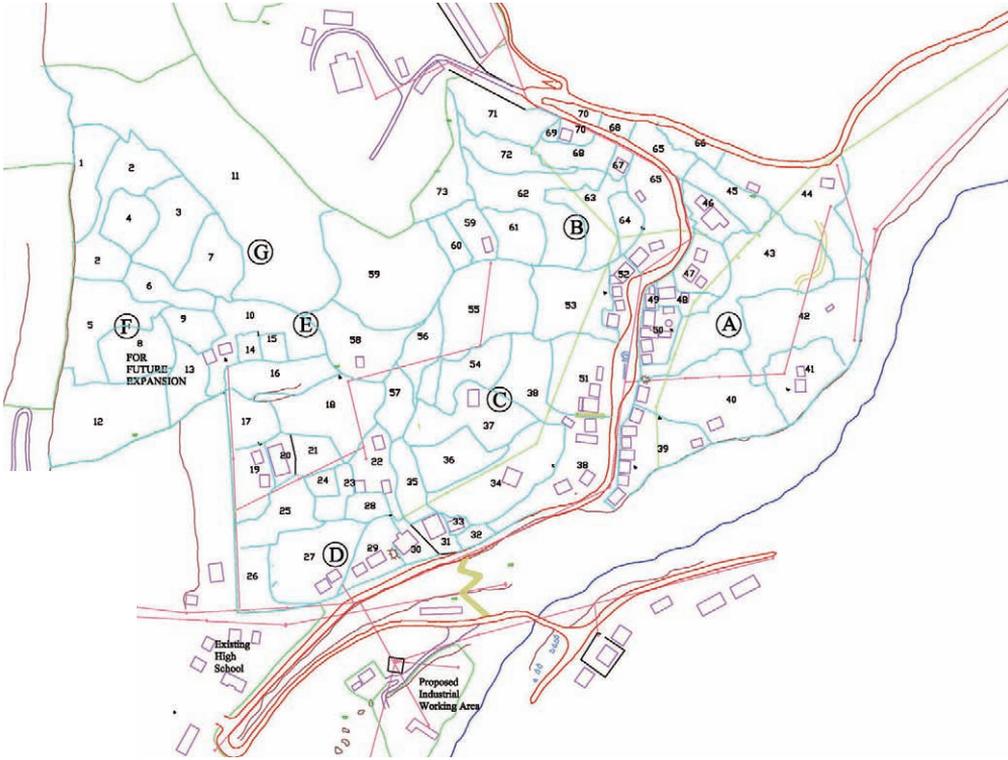
Table 3.3. The Rangjung Land Readjustment Project in Trashigang, Bhutan

Name of the project:		Rangjung Land Readjustment Project
Location of the project:		Trashigang Dzongkhag, Kingdom of Bhutan
Name of the implementation agency:		Ministry of Works and Human Settlement of the Kingdom of Bhutan, with support by the World Bank.
Project period:		2000-2002
Implementation of the project period:		2002
Area of the project:		12.74 hectares (31.5 acres)
Rights holders:	N ^o of landowners:	74
	N ^o of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	35%
	Decrease for reserved land:	0%
	Total ratio of decrease:	35%
Implementation plan, stages:		August 2002: planning process started with public consultation; the plan was explained to all stakeholders. September 2002: final public consultation, with 93% of consensus (69 out of 74 landowners accepted the plan).
Total built-up area of the project:		The project area was predominantly vacant with few houses along an existing road, which housed shops and residential units.
Density involved before and after the project:		No information.
Reserved land and additional built area:		No reserve land approach.
Land evaluation:		No information.

Real estate market evaluation:	No information.
Benefits to the local government:	With land contribution, government creates enough infrastructure, public facilities and services.
Benefits to the landowners (and/or leaseholders):	Original landowners retain title over the majority of their lands and disruption to the existing community is avoided.
Benefits to the investors:	-
Principal and eventual conflicts (site/landowners):	The project was accepted by approximately 93% of the landowners (69 out of 74 landowners accepted), although the contribution ratio of 35% is higher than the allowable ratio of 30% prescribed in the <i>Land Pooling Rules</i> (2009).
Finance of the project:	Fully financed by the government.
Total cost of the project:	No information.
Features of the project:	The planning process was not limited to public consultations, the project area was divided into 5 units and workshops were carried out for each unit separately for smaller audiences. This also provided an opportunity for the stakeholders to voice their opinions and to express their desire of future needs and priorities of the town.

▼ Figure 3.5. Rangjung area after the land readjustment project (2014)





▲ Figure 3.6. Original cadastral map before the land readjustment implementation (2000)

▼ Figure 3.7. Subdivision map after the land readjustment implementation (2002)



Land Readjustment and its Planning Perspectives for Belo Horizonte, Brazil

*Livia Monteiro, Tiago Esteves Gonçalves Da Costa,
Thiago Medeiros De Castro Silva and Leonardo Amaral Castro*

Belo Horizonte is going through a period of significant review of its most important norms for municipal planning. The *draft law N° 1,749* of 2015 is a proposal authored by the Executive for approval by the municipal city council, and updates the master plan of Belo Horizonte, the main territorial planning law of the municipality. The proposed changes are the result of a deep recognition of the territory developed during the consolidation of the “Regional Master Plans,” and of a set of guidelines approved in a public forum for shared discussions named the “4th Municipal Conference on Urban Policy.”

The “Regional Master Plans” have collected enough information to allow a general reform of the Belo Horizonte urban legislation. The review of the forms of land subdivision, occupation and use proposed by the municipality that increase the possibility of the operationalization of the urban policy instruments established by the municipal master plan (as amended) occurred through the *Law N° 9,959* of 2010. The urban policy instruments included in the municipal regulations follow the premises of the Brazilian *Federal Law N° 10,257* of 2001, known as the “Statute of the City,” that regulates Articles 182 and 183 of the National Constitution (promulgated in 1988), in addition to the establishment of general guidelines for urban policies to be carried by Brazilian municipalities. The Federal Constitution and the Statute of the City progressively confirmed: (i) municipal autonomy; (ii) the guidelines for the treatment of urban issues; and (iii) the concepts and assumptions for the development of systems for municipal planning and management. The federal norms present, however, some generic devices that do not have any direct application to the ordering of urban space. It is the responsibility of municipal governments to dovetail the instruments for urban policy in specific regulations with the purpose of their application based on national laws.

Land readjustment will be incorporated into the Belo Horizonte legislation during the review process as a mechanism to be applied under another instrument called “urban operation.” In this sense, land readjustment will be conceptualized in the master plan of Belo Horizonte as an alternative to direct urban expansion as practiced in countries like Spain and Colombia. The research on Spanish urban policy mechanisms (Monteiro 2014) started mainly from studies on urban intervention models developed in Barcelona. The capital of Catalonia has the “Metropolitan General Plan” (PGM) approved in

1976 as a device that establishes general guidelines for the organization of the urban fabric of Barcelona and its metropolitan area. The “Special Plans for Interior Reform” in Barcelona were studied as examples demonstrating the “organicity” between planning scales, starting from the PGM scale and culminating in the block scale, which allocates “action unities” where “reparcelació” (reparcelization) takes place. The *reparcelació* is a mechanism by which there is a reformulation of the existing parceling into a more regular one, in which there is the improvement of the road system, the infrastructure and the collective space, with shared responsibilities between the landowners and investors, who receive benefits proportional to their obligations in the project.

The Colombian legislation also presents a hierarchy of plans for territorial planning based on *Ley N° 388* of 1997. The Colombian “Partial Plans” are part of the “Territorial Management Plan” (POT) – mandatory for municipalities depending on their size and configuration – as a higher-level development instrument that includes “action unities” in which new patterns of urban design, occupancy and land use can be proposed. Within action unities, land readjustment projects take place, under the influence of international models, mainly, from the Japanese “*kukaku seiri*” practice and from the Spanish initiatives. The international planning experiences researched converge to the concern about the formation of a complex intervention system in the urban space by means of consorted operations. The examples demonstrate, on a regional and local scale, intermediate and non-conclusive plans. They are general approximations for the municipalities or metropolitan regions, which still require complementary actions and instruments for the implementation of urban development guidelines. Following such understanding, the so-called urban operations in Belo Horizonte will require that a mechanism enabling intervention using land readjustment be developed to reorganize the necessary land patterns.

The master plan of Belo Horizonte, since 2010, foresees two types of urban operations: simplified urban operations and consorted urban operations. The use of each instrument depends on its goals, on the extent of its area, and on the positive and negative influence they might have on citizens’ lives. On the one hand, the simplified urban operation is a set of interventions and measures coordinated by the Executive with the objective of achieving the neighborhood’s betterment, through local urban transformation, social improvements and environmental valuation. It has a more localized structuring profile, with smaller effects on the urban grids and can be proposed by the municipal administration or by any interested party. On the other hand, the consorted urban operation is a set of interventions and measures coordinated by the Executive, with the participation of owners, residents, permanent users and private investors, with the objective of achieving structural urban transformation, social improvements and greater environmental valuation, with more perceptive effects in the urban network.

The decision made by the city planning authority to link the usage of land readjustment into urban operations is fundamentally justified by the legal guarantees necessary to carry out such operations, and by the obligation to carry on such operations with public participation. Urban operations, whether simplified or consorted, can be only instituted by law and generally have specific regulations for land subdivision, and occupation and use, as well as building regulations and a special building code. The rules may be more lenient or more restrictive than those contained in the municipal master plan and may reflect more effective territorial planning needs to address deficiencies and potentialities of a specific urban area. This regulation of operations involves special financing and management mechanisms for the formation of partnerships between public and private entities, aiming at achieving control of the territory they cover.

The planning of urban operations should be based on a notion of an appropriate relationship of the neighborhood and the proposed projects, plans and policies concerning multiple disciplines that balance city functions, i.e. environment, heritage, mobility, accessibility, sanitation, and housing, among others. The spatial changes must overcome the dissociation between the design of public spaces and the design of private spaces (components in serious need of integration). The consolidation of a complex urban plan based on urban operations also increases the condition of anticipating the effects of the transformation generated in the urban structure, allowing human and financial resources to reach decidedly participatory goals. The plan for each operation, drawn up in accordance with the conclusions from economic and financial feasibility studies, include the design of the construction stock to be made available by the government, and the conditions for land use, urban design and the definition of priorities, among the other conceptions that conclude the elaboration of scenarios and objectives. The interventions must be linked to an execution plan that seeks economic viability and self-financing for spatial transformations, and the operations shall be managed as a tool to recover the real estate added value constituted after legal changes and urban intervention.

The consorted urban operation “*Antônio Carlos-Pedro I Corridor and the East-West Hub*” (OUC-ACLO) was developed by the Belo Horizonte municipality, which foresaw the usage of land readjustment on private properties. Such operation involves an area of 30.4 square kilometers and was defined by the 2010 master plan review. The perimeter of the operation covers areas around the public transportation system along the center-north direction – served by the bus rapid transit system – and the east-west direction – where a single municipal subway line was implemented. The main objective of this operation was to promote a better utilization of the installed infrastructure associated with urban restructuring in the immediate surroundings along the priority axes of public transportation. This restructure is expected to increase the living envi-

ronment quality of the area, following the compact city concept, and to encourage (i) real estate typologies for mixed land use, (ii) the improvement of public spaces, (iii) social diversity, (iv) the promotion of non-motorized means of transport, and (v) the expansion of green areas, among other measures.

The area covered by OUC-ACLO is quite heterogeneous and it was subdivided into 12 areas organized according to specific plans. Both management and special plans provide detailed parameters and design standards, following guidelines defined in the specific OUC-ACLO law, and aimed at deliberation and consultation by the local management groups in the operation. The perimeter definition guarantees a greater unity to urban planning and design, and to provide (i) better services to the population, (ii) conflict resolution, (iii) public spaces and urban design, (iv) economic diversity, and (v) inclusive alternatives aiming common financing, predominantly generated through the valuation of properties that it includes. Aiming to achieve such goals, the OUC-ACLO has a pioneering disposition; the possibility of practicing land readjustment as a complementary phase, as noted in the following excerpt:

“OUC-ACLO will include land reorganization, on which real estate registry may be subject to unification or pooling for subsequent replotting, associated to urban requalification projects. This tool, complementary to consorted urban operations, shall be included in the new *Land Use Law* and city master plan, and has equivalent basis to the Colombian land readjustment scheme.” (Interim Report of the OUC-ACLO 2016)

To apply land readjustment processes within the OUC-ACLO area, real estate properties may be subject to unification for later re-parceling, associated to the implementation of urban qualification projects. The article that establishes land readjustment in the *draft law N° 1,749* of 2015, predicts that its usage will depend on:

- a. The definition of a minimum percentage for adhesion of the affected landowners, considering their number, the amount of real estate or their lands' extension;
- b. The definition of specific implementation and management mechanisms;
- c. The definition of financing schemes; and
- d. The measurement of the contribution to be equitably demanded from all the participants, which shall be proportional to their real estate values or to the financing they made available for the implementation of improvements and the urban benefits they receive.

In 2016, under the Japan International Cooperation Agency's training follow-up, a pilot area for land readjustment inside OUC-ACLO was selected. The landowner is a non-profit association, which owns approximately 18 hectares of an undeveloped and undivided land parcel, located in the Candelária district (see Figure 3.8). The landowner attempted to start a new development through parceling, and the "Parceling Commission" had arbitrated that the landowner should transfer to the municipality 15% of the total area, 5% of which would be designated for the creation of public spaces and 10% for urban and community facilities. As a preliminary action, the "Parceling Commission" also indicated the necessity to build three roads of 15 meters and one road of 7.5 meters wide. However, the landowner did not possess the economic resources required for such costly intervention, which led the urban planning secretariat to propose a different financing scheme for the process, namely through land readjustment.

The undeveloped area represents a major barrier in the neighborhood, since the massive undivided parcel interrupts the existing road system. The design proposal establishes a new proposed road network (shown in red, see Figure 3.9). This design seeks to solve the barrier characteristics of the undivided area, establishing the missing road links between the streets of the current network, thus providing better overall mobility. The layout aims to provide better and unrestricted access to the Venda Nova terminal station, enhancing the area's access to public transportation and enabling development with a lesser focus on private vehicles. Proposed pedestrian footpaths are shown as dotted red lines (see Figure 3.9). The proposal also establishes a public park and an environmental protection area. Other smaller parks, squares and green areas will be appointed in the future.

Besides the main area, some other plots/landowners might be incorporated into the project area. The neighborhoods around the main area have an overwhelmingly residential use, with some sparse mixed-use facilities, most of them located in the main avenues to the northeast. It is relevant to note the lack of vacant plots in the immediate vicinity of the area, which could denote an increased potential demand. Both measured built floor-area ratio and building height are considered very low. Most of the neighboring area is composed of low-rise single-family dwellings and low-rise mixed-use buildings, with some sparse high-rise developments. According to data from the property transfer tax, the average value of land in the region immediately to the east and south of the main area is significantly higher than that to the west. Apparently, the undeveloped and undivided area acts like a buffer zone, effectively establishing a lesser-valued area. This could arise from the barrier aspect of the land parcel, which creates a road system discontinuity and harms the accessibility of the area. Land readjustment shall be used to provide proper balance to the neighborhood.

▼ Figure 3.8. Candelária area before the land readjustment project



Figure 3.9. Land readjustment project proposal for Candelária ▲

Land Readjustment Within the Context of Partial Plans in Colombia

María Cristina Rojas Eberhard

In 1989 *Law N° 9* was enacted in Colombia. This law, on urban reform, contained instruments for management and land use planning, conferring to the State the protagonist role as city builder. During the law development process, the Japan International Cooperation Agency's participation was particularly reflected in the incorporation of instruments such as land readjustment and urban redevelopment. This law defined land readjustment as a mechanism to "encompass several land plots to, as consequence, subdivide them more adequately, providing basic infrastructure, such as roads, parks, water supply network, electricity and telecommunication networks" (article 77, *Law N° 9* of 1989), in areas without proper urbanization and real estate connectivity, designated for undeveloped areas, renewal, renovation or densification.

In this context, it is important to clarify that, unlike Japan and other countries, in Colombia there is no specific law on land readjustment, and both development and imple-

mentation of land readjustment projects occur using other instruments and legal frameworks. When *Law N° 388* was enacted, in 1997, several instruments were made available for urban development, among them, cooperation among stakeholders (article 47, *Law N° 388* of 1997), the partial plan, the urban action units (*unidades de actuación urbanística*), and the equitable share of costs and benefits, which were mainly adapted from the *Spanish Land Law*.

The “Partial Plan” is an urban planning tool used in the decision-making process, in consideration of what the “Territorial Management Plan” (POT) had previously stated in a more generic way, to extend some city districts, aiming for a “cascade” planning model, from the intermediate scale of buildings to the city as a whole. Within Partial Plans, the government can implement and develop “Urban Action Units” (*Unidad de Actuación Urbanística*) as “[...] the area consisting of one or more property buildings, explicitly defined by the legally enacted Territorial Management Plan (POT) as a planning unit, aiming to promote the rational use of land, to ensure the compliance of planning regulations, and to facilitate the provision with costs to their property owners of infrastructure, such as for transportation, public utilities and collective facilities through the equitable share of costs and benefits” (article 39, *Law N° 388* of 1997).

Whenever the development of a Partial Plan, or an Urban Action Unit, “[...] requires a new property definition for a better configuration of the land parcels that they constitute, or when it is required to ensure a fair distribution of costs and benefits, the execution of an Urban Action Unit will take place through the mechanisms of land readjustment or integration” (article 45, *Law N° 388* of 1997). Operationally, these instruments are intended to overcome the “construction plot-by-plot” (*predio-a-predio*) development model to structure urban projects (see Figures 3.10-3.12). According to Eberhard and Díaz (2010):

“In this sense, on the one hand, it is possible to make proper decisions on territorial planning, defining the conditions, sizes, infrastructure networks, land use and regulating the conditions for the physical transformation. On the other hand, these are tools for land management, which allows to set conditions to: (i) the control of land speculative process; (ii) the definition of rules for the participation of the original landowners in the real estate business; (iii) the coordination and articulation between the different actors involved in the urban development process; and (iv) the establishment of mechanisms for land management, such as land readjustment and the distribution of costs and benefits.”

▼ Figure 3.10. Comparison of development forms: typical land plots' subdivision



▼ Figure 3.11. Option A: “construction plot-by-plot” development model



▼ Figure 3.12. Option B: urban development model through a Partial Plan



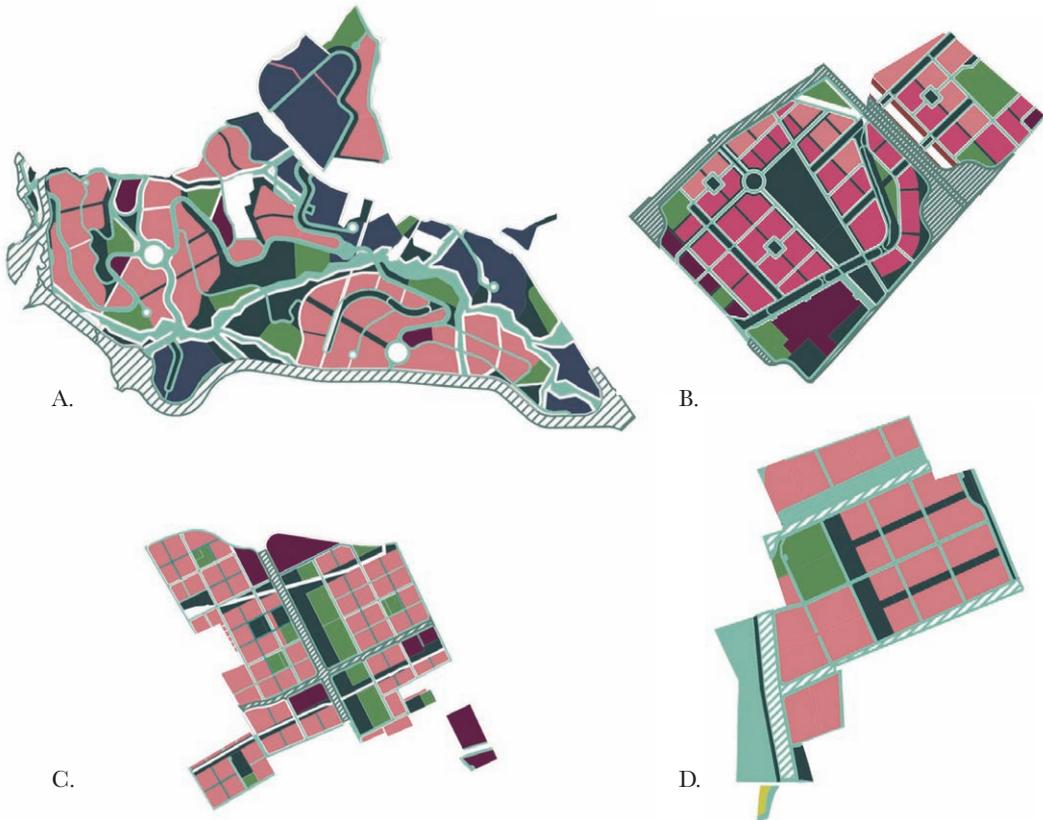
Furthermore, the “distribution of costs and benefits” is a tool that allows assigning, among participants and/or stakeholders directly involved, the proportional buildable costs and benefits delivered through the Partial Plan. Thus, it is intended to confront the economic problem known as the “free-rider” (people who benefit from a good without contributing to its financing), forcing those property-owners to share proportionally the costs and the benefits of the project. The national government has set some criteria to establish the obligations to develop land through Partial Plans: undeveloped areas larger than 10 hectares in case of land that has not been developed previously and, in the case of land for urban renovation, the decision being made under the Territorial Management Plan (POT) in consideration of *Decree Law N° 2,181* of 2006 and *Decree Law N° 4,300* of 2007, among others; using their criteria to establish the share of costs and benefits in these Partial Plans.

Since the laws establishing the general conditions of land use planning are part of the administrative decentralization guidance in the country, municipalities are responsible for spatial planning, and their councils, and in some cases directly the mayors, are responsible for the approval of municipal territorial and spatial plans. Thus, there are general rules for the formulation of Partial Plans, but some peculiarities in the adoption of this instrument and more precise regulations on the equal share of costs and benefits, contained under the Territorial Management Plan (POT) of each municipality. At the municipal level, the planning office revises the Partial Plans proposal and its consistency with the Territorial Management Plan (POT), granting approval through mayoral decree. These decrees establish the scope of the Partial Plans, norms and rules to guide uses, buildability, urban projects, obligations for the construction of social housing (*vivienda de interés prioritaria*), exactions or contributions in land, infrastructure or cash required to build water and sewerage networks, roads, adequacy of public space, and social derived costs with the community, among others. Within the procedures for Partial Plans, participatory processes with the community are contemplated and this involves several public entities during the project’s review and a demand for infrastructure and environmental conditions transparency.

Partial Plans can be formulated by the private, public or mixed entities. In most cases, when the leadership belongs to the public sector, it usually buys properties rather than offering relocation within the project itself, with few exceptions. The latter could generate moves for the prevention of citizens living in those areas. This could be due to political urgency to show results within an administrative time (four years). The private-led projects tend to provide a wider range of possibilities for negotiation, including the relocation of the original owners in the same project area, or to deliver a newly built structure resulting from the development project. It is important to clarify that, in Colombia, only a very small percentage of the land is owned by the State and there is a

lack of the required land for infrastructure, buildings for public services and for parks and plazas. In other words, urban land in Colombia is mostly privately owned.

As mentioned before, the Partial Plans are used in two land types: land to be developed or land that have not been urbanized or used for urban renewal previously. Partial Plans are primarily used in land located in areas designated for urban expansion or large areas within a city that have not been urbanized. Therefore, a large number of people do not reside or work on these types of land, generally, and a possible temporary or permanent relocation of people is not a major topic of discussion. However, since these are properties without infrastructure, the costs of construction necessary to support new urban uses become a major issue within the planning office. In general, Partial Plans must set apart between 25 and 40% of the original land for public facilities, including streets, schools, parks or environmental conservation areas (as shown in different Partial Plans in Bogotá, see Figure 3.13).



▲ Figure 3.13 (A-D). Some Partial Plans of Bogotá (Tres Quebradas, La Felicidad, Ciudad El Porvenir, Campo Verde)

Partial Plans for urban renewal are located on land identified as a potential area that maintains permanent construction; some degraded, deteriorated or abandoned central areas. Also, construction incorporating use changes that were not made for these purposes, or areas with a greater density potential and, therefore, the potential of an increase in property value. These Partial Plans must be considered carefully since it is necessary to ensure a balance between not reducing the quality of life of actual residents and the need to provide areas for more efficient and compact city growth. In urban renewal projects, the development potential is more uncertain and depends on several variables.

The location of these concession spaces, which configures the private ownership and, therefore, the project's urban design, come from the developers of the Partial Plan that must comply with the guidelines established by the planning office, such as: location for parks and roads connecting already developed zones with some others. Developers can also propose land uses after market research, without contradicting the Territorial Management Plan (POT), and so can the planning office, if necessary. Also, the definition of the maximum buildable area (FAR) is regulated in the Partial Plan, and this represents the benefits that the city allows to the property landowner and, therefore, he/she must help to cover the costs of the necessary infrastructure (the required public infrastructure to transform land, which recover and capture the increase of land value in a self-financing way).

It is worth mentioning that in the Partial Plan framework there exists a norm requiring that between 20 to 25% of the land in private ownership must be designated for social housing, and the equitable share of costs and benefits. Landowners are compelled to set aside part of the land or pay in cash for this obligation. Once adopted, the Partial Plans, the property-owners inside the Partial Plan, or the Urban Action Unit, must obtain only one license for urbanization (article 4, *Decree Law N° 1,469* of 2010), to ensure consistency of the urban project in its private and public aspects.

In the international literature, there are two considerations on land readjustment (Doebele 2002):

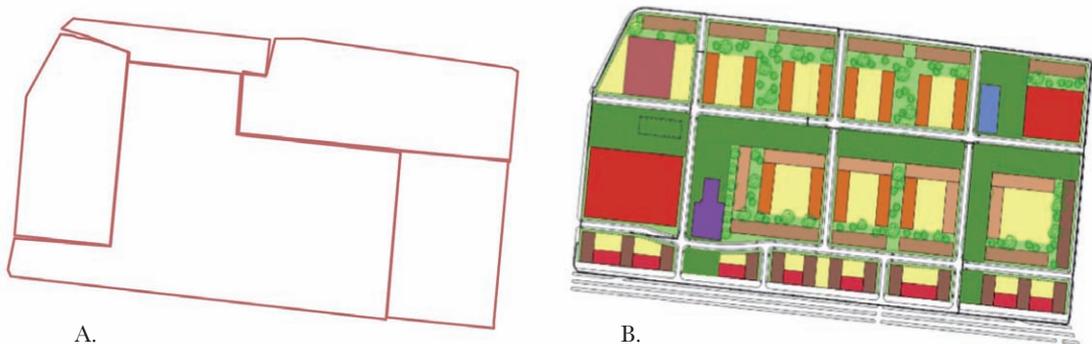
- a. Despite the attempts to standardize and define the process for land readjustment, its implementation is determined by the concepts of property, acceptability of State control in land development, and other cultural factors that are unique to each context; and
- b. That it is possible to identify two types of land readjustment: the first focuses on the primary objective of reconfiguration of property shapes for a more efficient use of land; and the second is oriented towards recovering the land values increments

generated by public investments and urban norms, such as changes on land uses and densities.

In this sense, one could say that land readjustment in Colombia has had a different approach, as follows:

- a. First generation: urban projects that consist of more than one plot and have more than one property owner, whose area has a single urban design that implies coherence between urban design, properties and management of the project implementation. In this case, although the project is only one, each property owner obtains a license for urbanization and both the design and the distribution of costs and benefits ensure equity between owners and the coherence in public and private spaces. In this generation, it is less likely that reserve land will be defined to obtain resources to leverage the infrastructure. Most Partial Plans in Colombia belong to this generation (see Figure 3.14);
- b. Second generation: urban projects that consist of more than one property and have more than one property owner, whose area has a single urban design, but whose management is entitled by a trust. The trust has a mandate to carry out the urban development managing rights ownership, funding and carrying out all the construction, sales and refunds and, in most cases, distributing the profits from the real estate business. In projects known as “second generation,” the sale of reserve land is used to obtain resources to leverage the infrastructure.

▼ Figure 3.14 (A-B). Comparison between the land structure before and after the Partial Plan of Simesa



As indicated in the conceptual part of this publication, usually the initiative of implementing land readjustment comes from a public or private entity, which is responsible for managing property rights, obtaining financing and carrying out all construction, refunds and sales floor operations. But, in the case of Colombia, it is not compulsory to implement a management entity. The legal requirements for a license for urbanization and constructions in different stages are conditional on the rules established in the approved Partial Plan. For this reason, some property owners attend to the configuration of a trust, which are commercial agreements whose property owners provide their land and participate with a percentage of their land value, resulting from the benefits of the real estate business. These agreements have shown that the fiduciary management fund is an entity that has the legal, technical and political credibility that allow land readjustment to be used in a process of “second generation,” associating all property owners, without depending on the particular conditions facing each property owner in the development of the project.

Urban Land Readjustment in Finland

Kauko Viitanen

In Finland, urban development is based on democratically approved plans. However, it is said that Finnish municipalities have a planning monopoly and have also many effective and strong methods to influence the development when needed, e.g. expropriation (compulsory purchase) and development agreements. This means that land readjustment is only one tool in a big municipal toolbox available for a plan’s implementation and the production of land for settlement (Viitanen et al. 2003).

The Finnish urban land readjustment procedure (*rakennusmaan järjesty*) is legislated by the *Real Property Formation Act* (N° 554 of 1995). It is provided for use only when the first “Detailed Local Land Use Plan” is prepared for the area, and cannot be used in a situation where a detailed plan will be changed. The procedure begins when the “National Land Surveying Office” (a State authority) receives an application from a landowner or from a municipality. The application must be made before the municipal detailed local land use plan becomes legally binding. After the detailed plan is approved, a readjustment committee comprising of a cadastral surveyor and two lay persons determines if the legal provisions are met and decides on the readjustment area. Their decision is publicly displayed and those objecting to it can appeal to the Land Court. After the decision is validated, the readjustment committee first confirms the apportionment basis in accordance with the real property values existing before the detailed

local plan was prepared and then produces the readjustment plan. Public areas are partitioned and transferred to the municipality, and the municipality is required to compensate for those areas that exceed the free transfer obligation (normally 20% of the area).

Compensation is assessed and decided by the committee. The remaining areas (sites) are shared between the participants according to the participatory shares. Any differences are compensated. The parties have the right to agree on the form of compensation. Both the municipality and landowners cover procedure costs. Appeals against the final results of the procedure may be made to the Land Court. After validation, the readjustment is registered in the real property register and compensations are paid. The procedure does not include the construction of infrastructure.

There are different ways to construct the urban land readjustment procedure and connect it to the land use planning. At its simplest, the urban land readjustment procedure only implements the existing plan without the processes themselves having any point in common. Planning and the urban land readjustment procedure can even be integrated into one process to obtain synergistic benefits, better participation, cost and time-saving, and improved plans. This will, however, produce difficulties in the organization of the functions and in the cooperation between the various processes. The Finnish urban land readjustment can mainly be classified as a readjustment for plan implementation where the profit will be shared between the landowners. The former Finnish urban land readjustment (*kaavauusjako*) was mainly a procedure for exchange of land without profit sharing.

The strengths of the Finnish urban land readjustment procedure thus lie in its well-defined structure and organization, but it also has its weaknesses. Although the aim of the procedure is to achieve better-detailed local plans, planners often do not know in practice if the readjustment procedure can be carried out, due to the extensive legal provisions. Therefore, the readjustment procedure may not, in fact, always function as a planning instrument. A further aim of the procedure is the equal treatment of landowners. However, if the readjusted area includes both built-up sites and unbuilt pieces of land (raw land), the procedure and the basis for apportionment results in the owners of the built-up properties getting the bulk of new sites. Under normal circumstances, this cannot be considered equitable. The right of minor owners to their own building sites, the apportionment of the unbuilt areas (e.g. agricultural land), the determination of certain compensations, and the procedure of cost divisions may create further problems. Indeed, there is evidence that for the first 20 years during which the *Real Property Formation Act* has been operational not one single urban land readjustment procedure has taken place. This may be due in part to the fact that the procedure has not been

incorporated into the *Land Use Planning and Building Act*, and thus planners have little experience of its potential benefits. Further, as the other means to implement a plan are working well enough from the municipal point of view, a more complicated readjustment procedure is not seen as necessary. It seems, therefore, that the existing regulations are ineffective in meeting the needs of urban land readjustment, and further improvements are urgently required.

A study (Viitanen 2000a) revealed several weaknesses in the Finnish urban land readjustment procedure and the need for further development that will require amendments to the legislation. Failure to take such measures will place in jeopardy the future use of the procedure. In addition to these general requirements, it is also essential to tackle the problems at the starting phase (pre-process), especially in connection with local planning, and also to develop the content and the structure of the proceedings themselves. By law, the urban land readjustment procedure has two goals: sharing out building rights, and adapting the boundaries of properties to the sites designated in the detailed plan. The requirements and the structure of the proceedings, however, make it impossible to attain only one of these goals. Both must be implemented although this may not always be practical or realistic. Thus, the present rules may lead to a situation where the benefits of the procedure will be outweighed by needless costs and the consequence could be that the procedure will not be used. Changing the situation is not difficult and regulations should be developed to permit the attainment of only one of these goals.

The urban land readjustment procedure, which ensures the fair treatment of landowners, is intended primarily as a planning instrument, in order that planners can produce better plans. However, many of the provisions of urban land readjustment are enshrined in law, which makes it impossible for planners to know whether the procedure can be implemented. Plans cannot normally be prepared without the planner taking into account the issue of fairness. To encourage its use, the urban land readjustment procedure should either begin by adhering to a local land use plan or the plan should be prepared conditionally, with validation only guaranteed if the procedure is carried out within a specified period. Initiating the procedure during the planning stage, especially in determining its implementation potential, may also establish a working solution, providing there is increased cooperation between the various authorities and that no substantial extra costs and delays are incurred during the development process. For example, the economic preconditions for implementing the procedure could be specified in advance: an unprofitable procedure should not actually be undertaken. The efficiency aspect should always be borne in mind. If there was better integration between the proceedings and the planning process (especially when aiming at sharing out building rights), the complicated prerequisites of the law could then be simplified. Vol-

untary agreement between parties about implementation or an alteration to the plan by the municipality before the readjustment procedure commences should be sufficient to prohibit the use of the procedure. Correspondingly, there should be better clarification and definition of the readjusted area on plan or during the planning process.

The formal proceedings, which follow the decision to carry out the readjustment, also need further development, in particular the basis used for apportionment, the transference of sites, and the determination of compensation and costs. Under the existing laws, owners of built real estate receive a considerably larger share of the partitioned area compared with those who own unbuilt land with expectation value. This is because the apportionment basis is dependent on the real properties value and built properties are also given a participatory share. Although in practice, the statutes lead to unfairness in some cases, the law will not permit the matter to be settled otherwise, even though the participants may have reached agreement. In addition, when the value of a participating property is negative, for example, due to contamination, value-based partition principles cannot be logically applied. The partition principles and/or the statutes on the inclusion of the built properties should therefore be reconsidered. An appropriate alternative would be an area-based apportionment principle with, if necessary, a grading value on development potential. Real properties, built in accordance with the detailed plan (and with granted building permits) would be included in the designation of building rights only if they brought developable land to the project (as was the case in the Swedish land readjustment proceedings). Further, the apportionment principle should not be seen as an absolute solution. It should be regarded primarily as a method for restoring fairness and should be flexibly handled to limit costs.

The owners of small land areas are in an exceptionally favorable position in Finland: it would seem that every willing landowner is entitled to a building site as the number of sites appears to equal the number of participants. Although such a situation might often favor the social structure of the area, it will lessen the willingness of professional developers and large landowners to participate in the procedure, and thus reduce its effectiveness. It would therefore seem expedient to amend the law so that an individual right to his or her share of a building site cannot be reduced by more than a specified amount (e.g. 20%) without consent, except in situations where the share is insufficient even as one building site. Such a small share should be expropriated, as it is possible to do today in some other proceeding types (about private coercive purchase see Nuuja et al. 2008). The regulations concerning buildings and facilities seem ambiguous in respect of compensation, especially when it is the public sector that is responsible for making these payments. The regulations need to be clarified, so that regardless of the way in which any area is transferred to the public sector, the compensation laws for both buildings and facilities are neutral compared to the other (optional) proceedings.

By altering the way in which compensation is allocated for areas initially transferred to the municipality, a better cash flow situation would be achieved if payments were made jointly to the participants to defray the costs they incur during implementation of the procedure. The privileged position of the municipalities as a result of the *Real Property Formation Act* should be surrendered as there can be no justification for its survival and nothing similar can be found in any of the other countries studied. Indeed, the current circumstances only tend to weaken the credibility of the municipality as a partner in the procedure.

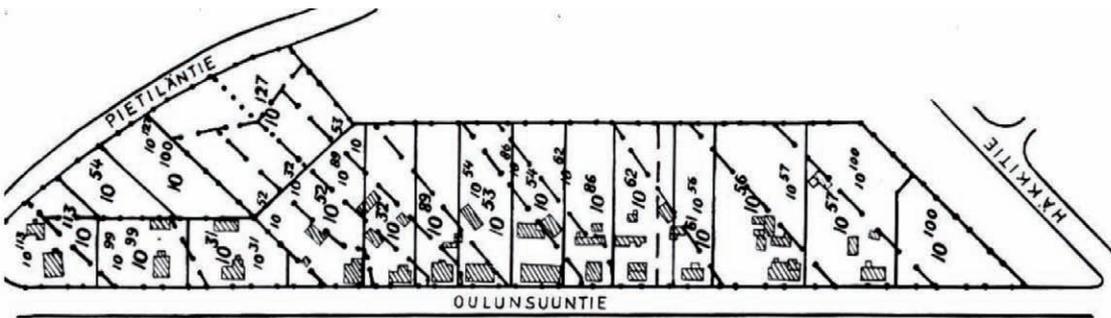
To improve the functionality and adaptability of the Finnish urban land readjustment procedure it should be composed of a number of elements, so that only the element required, or a combination of elements would be used in any particular situation. The opportunities for the participants to make agreements on, for example, the measures to be taken and the methods of implementation should obviously be increased. The most important single fact in the present legislation concerning the land readjustment is that there are no regulations and tools in the land readjustment procedure by which the landowners in the area could make a planning agreement with the municipality. Since the amendment of the *Land Use and Building Act* in 2003, the use of planning agreements has been the most important tool for municipalities with landowners and developers. With these agreements the landowners will pay the cost of the infrastructure for the development area. The maximum payment is 60% of the value increase due to the new detailed plan or change of a plan.

The Finnish urban land readjustment procedure might, for example, be composed of the following elements, and the first one would be the basis for those that followed (see Figure 3.15):

- a. The provisions and the basic characteristics of the urban land readjustment procedure;
- b. An adaptation of the real property structure to the detailed plan;
- c. Sharing out the building rights and the plan encumbrance, e.g. protection arrangements;
- d. Compensation and compulsory purchase proceedings for plan implementation;
- e. Procedure for implementing joint facilities, e.g. adaptable use of joint property units and easements;

- f. Establishment of a landowner organization for land readjustment projects; and
- g. The possibility for landowners' organizations to make binding agreements, e.g. planning agreement with the municipality.

By amending the statutes and proceedings, the use of the urban land readjustment procedure might become a familiar activity when developing the urban structure in areas with fragmented ownership in Finland.



▲ Figure 3.15. Example of an urban land readjustment area in Finland (1962)

The Land Readjustment System in Germany

Hans Joachim Linke

Municipalities in Germany are required to prepare urban land use plans for sustainable urban development as soon as, and to the extent to which, they are required. Urban land use plans are comprised of the preparatory land use plan and the legally binding land use plan. The procedure for urban land use planning is defined in the *Federal Building Code (Baugesetzbuch, BauGB)*, amended and promulgated on September 23, 2004, and last amended on November 2017. The following explanations describe part of this code (and the content of certain sections of it).

If, because of the required size and shape of plots under the new legally binding land use plan, existing plots are deemed unusable, a procedure is necessary to adapt the existing structure of the plots to the new demand. Examples include sites formerly used for agricultural or other purposes different to the new planned use (e.g. a brown-field site). In these circumstances, land ownership should be altered by the exchanging

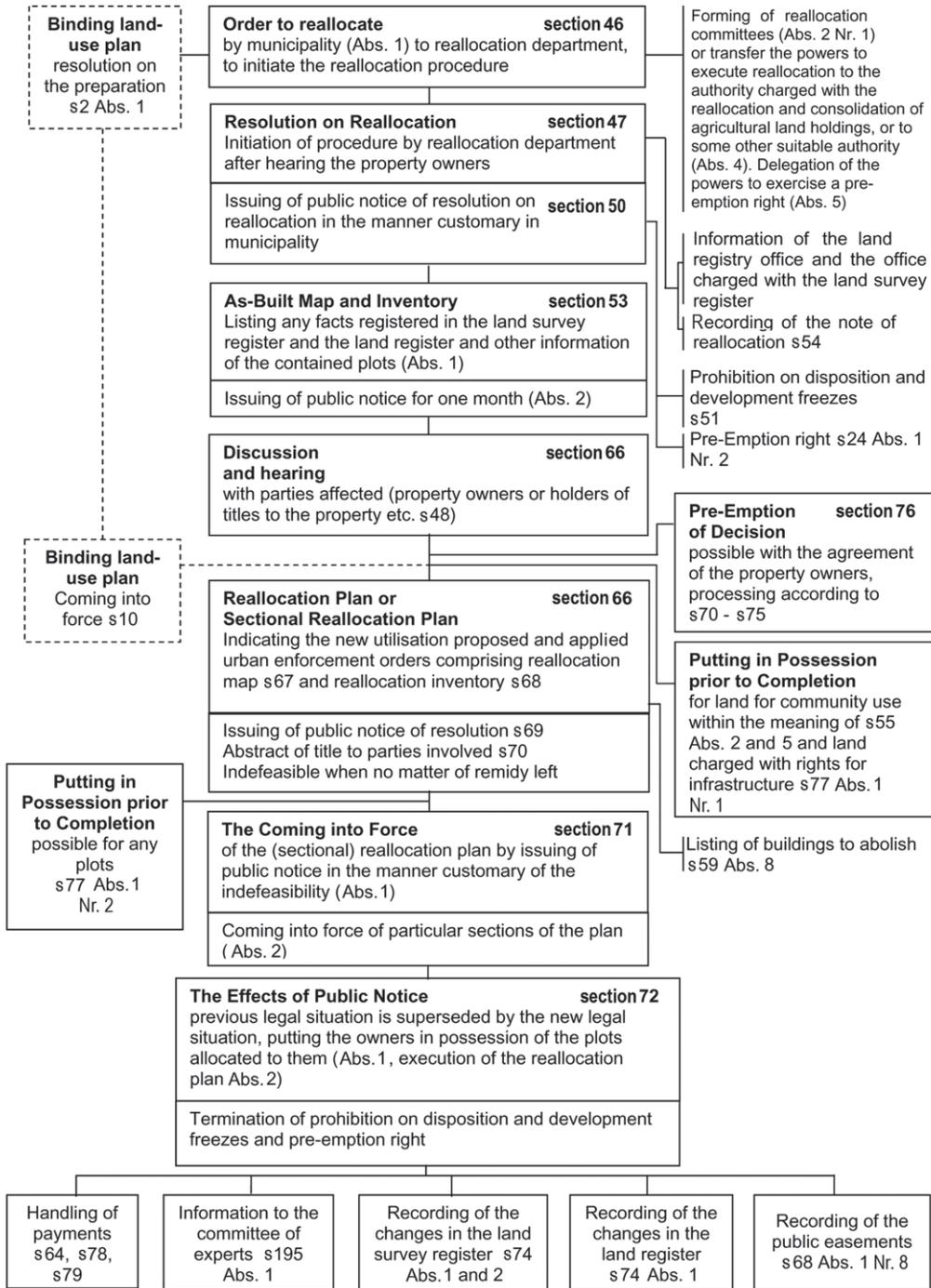
of parcels of land rather than by expropriating them. The owner can then decide whether to use or to sell the new plot. The land for public usage is given to the municipality. However, the costs of land development must be financed by the landowner as the land will have a higher value once it has been developed.

The purpose of land readjustment (also called reallocation, land pooling, plot reconstitution, or reorganization of land holdings) is to reorganize both developed and undeveloped land for the improvement of local public infrastructure, to create road access, and to open up new and specific areas for development in such a manner as to create plots suitable in terms of location, shape, or size for building development, or for other uses (BauGB s.45). Municipalities must order and execute land readjustment within their jurisdiction as soon as this is required for the implementation of the binding land use plan for reasons of intended urban development within built-up areas.

On the one hand, land readjustment can be realized in areas covered by a legally binding land use plan within the meaning of Section 30 of the BauGB. In such cases, the implementation procedure (commencing the land readjustment) can be initiated prior to the preparation of the binding land use plan (BauGB s.47). Even so, the land use plan must have come into effect prior to the decision to prepare a land readjustment project (BauGB s.66 (1)). On the other hand, land readjustment can be realized within built-up areas according to Section 34 of the BauGB if sufficient criteria for the reorganization of the plots can be deduced from the characteristic features of its immediate environment or from a non-qualified binding land use plan within the meaning of Section 30(3) of the BauGB. In the preparation of land use plans, attention must be paid to the requirements of reallocation. To an extent reconcilable with its purpose, any land use plan must allocate the charges of the land readjustment (for example, appropriation of land required for local public infrastructure) among the affected property owners (see Figure 3.16).

The municipality then orders the land readjustment (BauGB s.46), determining whether the land use plan requires the reallocation of land holdings, and the land readjustment department must adopt the reallocation before its initiation (BauGB s.47). This administrative act is a precondition for land readjustment, and is the basis for action by the land readjustment department. The costs of this administrative act are passed on to the owners of the plots within the land readjustment area. The landowners must therefore be heard before the resolution is adopted. The resolution on land readjustment must designate the land readjustment area in terms of a name and its boundary. Furthermore, any plot contained within the project area for land readjustment must be listed. The area (BauGB s.52) may consist of spaces with individual plots and any plots that impair the process of land readjustment may be excluded from reallocation either in part or in their entirety (BauGB s.52(2)). The area must consist of not less than two plots occupied by different owners.

▼ Figure 3.16. The land readjustment system procedure in Germany



Public notice of the land readjustment resolution shall include a call for registration at the land readjustment department within one month of notice being given. Attention must be paid to any rights not evident in the land register that may cause a delay to rights holders entitled to participate in the reallocation procedure and to the consequences of the terms of expiration; in particular, whether the rights holder is bound to accept the foregoing negotiations and designations as determined by the land readjustment department. Contemporaneously with the resolution on reallocation, a prohibition on the disposition of land and a development freeze both come into effect; this fact must be included in the public notice. Thus, according to Section 51(1), the making of dispositions over a plot, the subdivision of a plot, the erection of physical structures, as well as any change that represents an increase in the value of the property are subject to the provisions relating to building permission. Permission may only be refused in cases where there are grounds for the assumption that proceeding with the development project would prohibit or seriously impair the implementation of the land readjustment project (BauGB s.51(3)). Furthermore, the municipality is entitled to exercise their right of pre-emption according to Section 24(1 and 2).

The reallocation of a plot of land must be recorded in the land register. The land readjustment department, therefore, is required to inform the land registry office and the office in charge of the land survey register of the initiation of the project. For a period of one month, the municipality must publicly display the as-built map and the inventory of the plots affected by the reallocation. The map must provide a comprehensive and applicable overview of the true and legal relationships that form the basis of the rearrangement. As a minimum, the map should depict the current position and shape of the plots and the buildings that are in place, and should identify the owners. For each plot, the inventory shall at the very least, state who the registered owners are, any charges and restrictions that are registered, and the description given in the land register. Additionally, the size and use of the plots as indicated in the land survey register, with street names and house numbers, should be stated (BauGB s.53).

As per Section 48 of the BauGB, “the parties involved” in the proceedings refers to those who are the holders of a title in the land register with properties located within the land readjustment area. In particular, the term refers to the owners of properties, the municipality, public agencies, or agencies in charge of supplying local public infrastructure. If a party is not represented, the guardianship Court shall, at the request of the land readjustment department, appoint a representative who is both versed in law and technically competent to act on their behalf (BauGB s.207). To expedite the proceedings, those rights holders who are affected may, according to Section 76, empower the land readjustment department to regulate ownership and possession relationships in respect of individual plots and other rights, with the agreement of the rights holders prior to the

final adoption of the land readjustment project (BauGB ss.66 and 70).

Land within the land readjustment area adds up to a re-allocation mass. The spaces within the area set aside for local thoroughfares and roads are initially excluded from the reallocation mass and allotted to the municipality, or to any other agency in charge of providing local public infrastructure; additionally, public green spaces, spaces for protection against harmful environmental conditions and for purification, and for overflow basins for rainwater are also initially excluded where these spaces are intended primarily to serve the requirements of residents with the land readjustment area (BauGB s.55). Other spaces to be excluded from the start include those designated for impact counterbalance measures required by nature and landscape as a consequence of building up the mentioned local thoroughfares and infrastructure.

The remaining mass constitutes the redistribution mass. Calculation of the share of the redistribution mass due to each property owner involved, is based on either the relative size or the relative value of the former plots prior to land readjustment. There are two possibilities for redistribution: according to value (BauGB s.57) or according to size (BauGB s.58). The appropriate criterion to be applied to the redistribution is decided unanimously by the land readjustment department after due weighting and consideration has been given to the interests of the parties involved (BauGB s.56). Where redistribution is conducted by value, the land readjustment department must proceed on the basis of the current market value of the plots prior to reallocation. Consideration is to be given to changes in value resulting from land readjustment.

Any difference between the value of the plots contributed and allocated shall be adjusted by financial restitution. Where redistribution is based on size, an area of such dimensions as to compensate for any gains resulting from reallocation shall be deducted from each of the plots included in the redistribution mass. The area deducted shall not exceed 30% of the plot contribution, where that plot has not previously been serviced by local public infrastructure, and shall not exceed 10% if it has previously been serviced. The land readjustment department may levy an appropriate financial charge, either in part or in whole, as replacement for the deduction. If the advantages exceed the area deducted, monetary compensation must be provided.

In accordance with the purposes of land readjustment, and to the extent that it is possible, property owners are to be allocated a plot within the redistribution mass plots that is of comparable size, or is in a similar location to their original plot (BauGB s.59). Where it is not possible to allocate plots within the framework of the binding land use plan or any other building regulations, a financial settlement must be concluded. Property owners may be given money or plots located outside of the land readjustment area as settlement

in the case that it is not possible for them to be offered developable plots within the area, or where this is deemed necessary on other grounds in order to realize the aims and purposes of the binding land use plan (BauGB s.59). Any owner who refuses to accept settlement in the form of a plot located outside of the land readjustment area or the establishment of joint ownership of a plot, then granting rights similar to real property rights or any other real rights, may be offered financial settlement. Although these options would permit the avoidance of financial settlements for a larger number of the parties concerned, these settlements should be compatible with the binding land use plan.

In respect of rights attached to the old plots and the legal relationships affecting these plots, which are not withdrawn, the allocated plots supplant the old plots (BauGB s.63). In the context of the allocation, the land readjustment department may apply building orders (BauGB s.176), planting orders (BauGB s.178), or modernization and refurbishment orders (BauGB s.177). A financial settlement must be reached in respect of any physical structures, planting, and other constructions (BauGB s.60). The obligations of the owners or tenants regarding payments under a building lease are deemed contributions and encumber the plot or the lease as a public charge (BauGB s.64(3)).

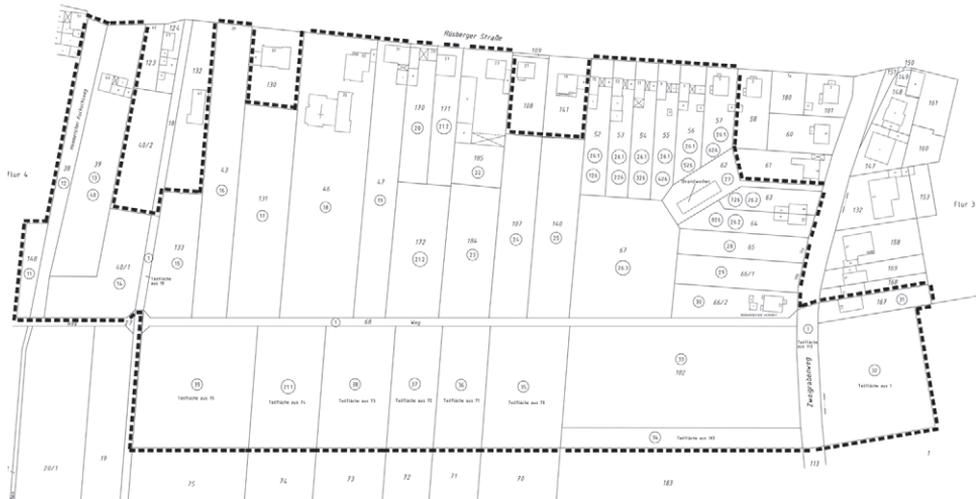
The land readjustment project must indicate the new use to which each plot will be put. The land readjustment department, following discussions with the property owners and the reaching of a resolution, must prepare the project. The land readjustment project comprises the reallocation map (that includes the new plot boundaries with designations and public spaces) and the reallocation inventory. The inventory lists textual designations as well as the list of areas and values, and is brought up for correction of the land survey register and the land register. Until such time as the registers have been corrected, the reallocation map and inventory serve as the official inventory of the plots as defined in Section 2 of the *Land Registration Code* (GBO). The new legal situation provided in the land readjustment project takes effect with the issuing of a public notice (BauGB s.72). Procedural costs and those material costs not covered by contributions are to be borne by the municipality (BauGB s.78).

Empirically speaking, preparing a built-up area may be sped up if the rights of the property owners and those of the land readjustment department are combined, i.e. the pre-emption of the decision by the department according to Section 76 of the BauGB. Land readjustment provides for the economical creation of built-up areas because the land required for roads and other spaces for community use change into the hands of the municipality through the issuing of a public notice of the land readjustment project. Therefore, the municipality does not bear any of the costs of purchase and interest. The recoupment charges for local public infrastructure shall be spread between the plots serviced by this infrastructure and the municipality, which means benefits for both

sides. For property developers and construction companies, land readjustment areas are an efficient field of activity. Acting with reasonable care they can calculate quite accurately and avoid unprofitable investments (see Table 3.4 and Figures 3.17-3.20 for Bornheim-Hemmerich project).

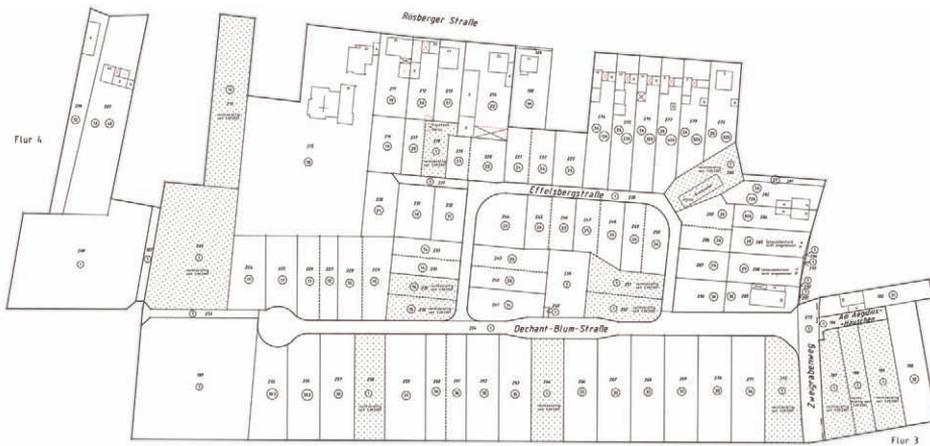
Table 3.4. Bornheim-Hemmerich Land Readjustment Project in Bornheim, Germany

Name of the project:		Umlegung Bornheim-Hemmerich Hm 01
Location of the project:		Bornheim city, North Rhine-Westphalia, Germany
Name of the implementation agency:		Municipality of Bornheim, Land Readjustment Department
Project period:		1998-2000
Implementation of the project period:		No information.
Area of the project:		6.7 hectares
Rights holders:	N ^o of landowners:	32 (39 plots before the project).
	N ^o of leaseholders:	8
Land evaluation, contribution ratio:	Decrease for public facilities:	22%
	Decrease for reserved land:	0%
	Total ratio of decrease:	22%
Implementation plan, stages:		December 1998: order to reallocate. January 1999: resolution on land readjustment. March 1999: land valuation. January 2000: discussion and hearing of the landowners. September 2000: land readjustment project.
Total built-up area of the project:		Building coverage: 40% of the plot. Floor-area ratio: maximum 80% of the plot.
Density involved before and after the project:		85 plots after the project.
Reserved land and additional built area:		-
Land evaluation:		Land price before the project: € 95 / m ² . Land price after the project: € 155 / m ² .
Real estate market evaluation:		Arable and agrarian land before the project.
Benefits to the local government:		Developed land to the amount of € 1.1 million. Enlargement of the urban area.
Benefits to the landowners (and/or leaseholders):		Developed land in comparison with undeveloped land; no fees for surveying, administration charges and changes in the land register; and exemption from land transfer tax.
Benefits to the investors:		-
Principal and eventual conflicts (site/landowners):		No information.
Finance of the project:		Not necessary.
Total cost of the project:		Procedural costs and those material costs not covered by contributions are to be borne by the municipality.
Features of the project:		Construction of local public infrastructure and streets.



▲ Figure 3.17. As-built map of original cadastral before implementation of land readjustment (1998)

▼ Figure 3.18. Bornheim-Hemmerich area after the land readjustment project (2000)



▼ Figure 3.19. Bornheim-Hemmerich area binding land use plan (2000)





▲ Figure 3.20. Aerial image after the land readjustment implementation (2007)

Land Readjustment in India

Jacob Manohar Abraham Peter and Harpal Dave

Land readjustment is known by several regional terms in India, such as land pooling, town planning schemes, and town development schemes. The concept of land readjustment itself was introduced by the British during the Colonial period. In the 1930s, British planners transferred the German idea of land readjustment to India; this scheme was then widely implemented in the State of Bombay, which was divided into the States of Maharashtra and Gujarat after India gained independence from Britain in 1947. The *Bombay Town Planning Act* was introduced by the British in 1915 and then replaced in 1954 by a “new” *Bombay Town Planning Act*. Pursuant to the 1915 act, local authorities were enabled to prepare town planning schemes to develop parts of the municipality. Accordingly, they were required to first prepare a development plan for the whole of the municipal urban area, and then town planning schemes were prepared to develop and implement the development plan.

In 1960, Bombay State was split into Maharashtra and Gujarat States. Following that, each State passed its own town planning act: the *Maharashtra Regional and Town Planning Act* of 1966, and the *Gujarat Town Planning and Urban Development Act* of 1976. The *Bombay Town Planning Act* of 1954 was transformed into the *Maharashtra Regional and Town Planning Act* of 1966. Chapter 5 of this act was exclusively devoted to town plan-

ning schemes, which were envisaged as a mechanism for implementing development plans, with provisions for “laying out” and “re-laying out” parcels of land. The act was a mechanism for undertaking the renewal of core urban areas as well as for the development of new areas in the State of Maharashtra.

In India, land is a matter for the States, and only the State government has the power to legislate on this subject. However, more than half of the Indian States are yet to initiate any practice on land pooling. The method usually applied for urban development is land acquisition by the State, but given the increasing densities and high prices of urban land, acquisition is becoming a difficult proposition across the country. Additionally, land acquisition presents a number of disadvantages due to the delays and litigation that are very much part of a democratic system. That being said, the States of Maharashtra and Gujarat were pioneers in the use of land readjustment for urban development, however, from the 1980s Maharashtra stopped regularly implementing town planning schemes because they were time consuming and contentious. Factors such as the high cost of land, the unavailability of virgin land, and the size and processes of town planning schemes, have made the system dysfunctional in the State of Maharashtra. In recent years, States like Madhya Pradesh, Chhattisgarh, Orissa, and Andhra Pradesh have been following the town planning scheme model of Gujarat and Maharashtra, and have implemented this through their own independent State town planning laws. The model has been used for urban expansion, creation of public infrastructure, and mobilizing public finance through land banking; it has been widely accepted by citizens in general.

Ahmedabad, in Gujarat State, has land readjustment projects throughout the city. On the outskirts, town planning schemes have been effectively used as a tool for increasing the supply of serviced urban land. In fact, since it was first used around 1915, almost all of Ahmedabad has been developed using the land readjustment instrument. Since then, the “Ahmedabad Municipal Corporation” has prepared approximately 100 projects and the “Ahmedabad Urban Development Authority” has developed 105 projects. Another 200 town planning schemes are envisaged for the future. Such a long history of implementation has made the process acceptable to the people and there have been continuous improvements in the contents of the proposals over the years.

Town planning schemes have generated a significant level of revenue for the government, however, revenue was not generated through the collection of betterment charges, as is commonly assumed, but rather through the sale of reserve land. This is why the legislative amendment that allowed land banking has been so important to the financial viability of town planning schemes. The revenue from the sale of land obtained through the amendment has become an important source of income for implementing

agencies. For example, between 2003 and 2004, and 2008 and 2009, 29% of the Ahmedabad Urban Development Authority's revenue came from land sales. In 2006, 65% of its revenue came from land sales. In April 2006, the development authority auctioned off 20 plots of land to large real estate firms for 172 crore (USD 38 million). Ahmedabad Urban Development Authority has used this money to finance large infrastructure projects, mostly roads, water, sanitation, and drainage. A recent development plan stated that as a result of implanting 24 town planning schemes, the development authority has created a land bank worth 500 crore, or more than USD 100 million. Town planning schemes have been praised for providing land for low-income housing. Between 2004 and 2009, the Ahmedabad Urban Development Authority built more than 11,000 houses for the poor on land obtained through the instrument.

Efforts such as town planning schemes are seen as examples of a new market-friendly approach. For example, town planning schemes are often portrayed as being very different from conventional city planning, which has been discredited not only in India, but also worldwide. Town planning schemes allow local governments to auction land and charge betterment fees and they do not require large subsidies. Moreover, these schemes have the appearance of being a more transparent and accountable means of land management than conventional city planning, which relies on decisions made by a nexus of bureaucrats and local politicians. The idea of open land auctions is in contrast to bureaucratically managed land acquisition and allocation. The fact that town planning schemes allow for an increase in the amount of development that can occur on a formerly open piece of land, reinforces its image as a market-friendly approach. In India, the town planning scheme is a unique feature of land development at the micro level of planning. Using a 100 hectares project as an example, town planning schemes can be explained as follows:

- a. An unplanned area is taken up for land readjustment;
- b. The entire area is considered as one single unit for the purpose of land readjustment;
- c. While planning this area, about 40% of the land will be required for road network and other public activities – like schools, hospitals, parks, playgrounds, and markets – and the remaining 60% of the land will be available in the form of developed plots;
- d. 40% of the land required for physical and social infrastructure will be made available from a proportionate deduction of land from all the landowners;
- e. The remaining 60% of the land will be reconstituted into 100 plots to be allocated to the original landowners;

- f. In this process, for example, a landowner with 10 hectares (original plot) of land will lose 4 hectares (40%) of his land for public purposes and will receive 6 hectares (60%) of his land as a reconstituted developed plot (final plot);
- g. All landowners will receive a reconstituted plot (final plot) from this process;
- h. No landowner will be deprived of his land under this system of planning;
- i. Landowners are entitled to receive compensation for the land contributed for public purpose as per market value on the date of the declaration of the intention to prepare the town planning scheme; and
- j. Landowners will benefit in terms of land value from physical and social infrastructure development; therefore, the development authority – as an incremental contribution – shall recover 50% of the appreciation of the land value.

Issues related to land pooling in India can be listed as follows:

- a. Not all Indian States are using and getting the advantage of land readjustment;
- b. The considerable diversity within the country does not allow for the implementation of a “one size fits all” model;
- c. In States that have practiced land readjustment, it has mostly been used for green-field development (in other words, for planned expansions but not for the redevelopment of existing areas, as seen in countries like Japan);
- d. Land readjustment in Gujarat, Madhya Pradesh, and Chhattisgarh has remained quite basic in its focus and approach, aiming only to organize and replot land parcels. Innovative urban planning and urban design with a focus on environmental sustainability was not attempted;
- e. In cases where land parcels have already been developed, only limited readjustment can be attempted. If these developments are unauthorized, this can sometimes lead to new problems or aggravate existing ones; and
- f. There is no final understanding on the amount of land that should be deducted as part of reserve land. This generally differs from case to case and the development authority has the final word.

Despite being an old idea that has languished for decades, land readjustment as a method for urban development has recently captured the imagination of urban planners in India. Although the land readjustment method was conceived in a very different historical era, it can be adapted for the present economic and ideological context of India in order to find suitable solutions to certain land issues. Land readjustment is regarded as an effective development method because it does not involve land purchase and has the possibility to be self-financing. As it is a new approach for most cities in India, it needs some rearrangement in order to ensure projects are implemented successfully.

The Application of Land Consolidation in Indonesia

Andri Supriatna

Also known as land pooling, land readjustment has become an important tool for urban development around the world. Like other countries such as Japan, South Korea, Taiwan, Germany, and Australia, Indonesia has chosen to employ the technique (Schnidman 1998). Known as land consolidation, the Indonesian government, under the Ministry of Agrarian and Spatial Planning (the former National Land Agency, BPN), has promoted land pooling as a spatial planning tool. Indonesia was the first Southeast Asian country to adopt land consolidation (Archer 1992), with the Renon District Project in Denpasar, Bali Province, being its first project (Yoshida 2003). Conducted from 1981, the project covered 77.3 hectares and 261 plots, and at present, the district is a complex of local government offices.

Since the introduction of the *Regulation of the Head of National Land Agency N° 4* on land consolidation (1991), the technique has been implemented in 31 provinces across Indonesia. In this regulation, land consolidation is defined as a “land policy for land tenure and land use restructuring in accordance to the spatial plan as well as on land provision for infrastructure and public facilities development with active participation of community to preserve environment and natural resources.” In sum, there are four basic elements in this definition: the first, “restructuring land tenure and land use,” means the readjustment of the existing land rights, possession, or ownership, for the purpose of land registration, so as to achieve the optimal use of the land. The second, “binding to spatial plan,” means that land consolidation as a spatial planning tool must fit the existing land use to the new designated one according to a national/regional/

detailed plan. The third, “land provision for public interest development,” means that instead of utilizing land acquisition tools, land consolidation can provide land for public infrastructure and services through land contribution by the community. Lastly, the fourth, “active participation of community in development,” means that public participation is the key element in implementing land consolidation projects, as community consent is necessary for initiatives to be successful. Indonesian land consolidation thus promotes the principle of “From community, By community, and For community.”

Land consolidation in Indonesia is mainly funded from national, regional, or local budgets, or through the self-finance mechanisms of community initiatives. The latter is paid in advance and is allocated in the annual budgeting system of the local land office. Such mechanisms mostly occur in provinces such as Bali Province, where land consolidation is known to be particularly beneficial for the community (see Table 3.5 and Figures 3.21-3.23 for Ubung Tukad Mati project). After funding has been decided, the main steps for land consolidation in Indonesia are usually:

- a. The establishment of an implementing agency: according to the *Regulation of the Head of National Land Agency N° 4* on land consolidation (1991), the executor of land consolidation is the national land agency supported by the related institutions. The implementing agency consists of: (i) the controlling team, based at the province level and established by decree of the governor. The controlling team is made up of the governor as the main controller, the head of the regional land office as the chairman, the head of the regional development planning board as the vice chairman, and other related local officers; (ii) the coordinating team, based at the regency/municipal level and established by way of a regent/mayoral decree, comprising the mayor as the chairman, the head of the municipal or regency land office as vice chairman, and other local supporting officers; and (iii) the task forces, established through a regent/mayoral decree, and consisting of local land agency officials supported by district and village heads. While the controlling team has the responsibility for providing guidance, carrying out evaluations, problem solving, and undertaking relevant activities related to the project, the coordinating team has the responsibility to provide directions related to the spatial planning design, to determine the location of land consolidation, and to regulate the use of cost-equivalent land. The task force also acts as an operational executor for the previously mentioned teams;
- b. The site selection: site selection is preceded by map analysis, the overlay of spatial attributes data, and the selection of potential sites. Both physical and non-physical aspects are taken into consideration. The physical aspects encompass conformity to the spatial plan, proximity to certain activities, land tenure status, existing public

- facilities, and the slope of the land, while the non-physical aspects include the socio-economical aspects of the society, society's interest in better living conditions, the development of regional or local infrastructure, and sectorial program plans. Site selection may also derive from the community or local government initiatives;
- c. The consent of rights holders: land consolidation in Indonesia is participatory in nature. The *Regulation of the Head of National Land Agency N° 4* on land consolidation (1991) explicitly requires agreement by at least 85% of rights holders, which covers at least 85% of the area of the project. As a first step to gaining the consent of rights holders and attracting their interest and participation, sketches of the block and the parcels plan, also covering infrastructure and facilities, must be provided;
 - d. The decision on the location, and subject and object identification: when consensus is achieved, the mayor or regent seals the decision on the location. Next, the identification of subject and object encompassing peripheral, detailed, topographic, and land use surveys is carried out, in addition to the measurement and mapping of land, and an inventory of rights holders. Surveys, measurement, and mapping are conducted to delineate the affected parcels of land, including the outer boundaries, as well as to depict the existing parcels before land consolidation. The detailed mapping is then publicized as an opportunity for any possible objections to be raised;
 - e. The block and site plan: also known as the parcel map after the land consolidation, the block and site plans include land allocated to the former rights holders, infrastructure, and cost-equivalent land. Additionally, such plans include the details of new parcels (their shape, area, and location), and the contributed land is allocated based on existing land use for socio-economic facilities. The plan is publicized as an opportunity for any possible objections to be raised;
 - f. The conversion of land rights: the waiving of land rights is defined in law as a way for the government to obtain authority for readjusting parcels and to redistribute the remaining land to former rights holders. Each land has diverse land conversion or land right grants depending on the subject or the holder of each land. For instance, for the land allocated for infrastructure, the subject or the right is given to the local authorities; but, the rights attached to cost-equivalent land are initially transferred to the community and transferred at a later stage to a third or interested party on the basis of an agreement for purchase. If the party is a private enterprise, the right to build is granted, instead of the right of ownership. With regard to State land, the right that is granted is the right of ownership, with the obligation to pay the same taxes as for new land and property ownership. In Bahasa, this tax is called "*Biaya Perolehan Hak atas Tanah dan Bangunan*" (BPHTB), and all State lands granted

to individuals and levied as the result of new titled property rights in first land registration are subject to this tax; and

- g. Delivery of land title to the holders of land rights: confirmation of the land consolidation object is considered as the follow on from a land rights waiver. The object to be consolidated is stipulated by the head of the BPN regional office and the replotting, also known as staking-out, is then carried out according to the site plan. Finally, land consolidation implementation concludes with the delivery of land title to the holder of the land rights.

By 2015, implementation of land consolidation covered 1,010 sites and almost 208,814 rights holders, and encompassed a total area of approximately 174,496 hectares and 242,507 parcels. Land consolidation also promoted the contribution of over 20,761 hectares of land for public development and, in several provinces such as Central and East Java, Bali, and South Kalimantan, it has been prominent not only as a spatial planning tool but also as a land registration program benefiting both community and local governments. However, from the time of its stipulation back in 1991, *Regulation N° 4* has been perceived as inadequate for binding local government to land consolidation projects, especially in the phase of infrastructure construction that is the responsibility of local governments. Moreover, there are several details that have not been properly regulated, like the criteria for selecting project sites.

In this sense, the implementation of land consolidation in Indonesia remains “conventional”: projects take place in unbuilt-up areas where there is an absence of housing. Over the years, a number of acts have been passed that deal with technique, for example, the *Act of Housing and Settlement N° 1* (2011), the *Act of Condominium N° 20* (2011), and the *Act of Land Acquisition for Public Development N° 2* (2012). These state that land consolidation is a way of managing land for development. Additionally, the *Act of Housing and Resettlement* (2011), for instance, explicitly states that one of the ways to acquire land for housing is through land consolidation (articles 106 to 113). Urban development in Indonesia, however, has been characterized by the conversion of agricultural land in the urban periphery (Firman 2004), and an application of the technique in densely populated areas for housing exists only in discourse (Agrawal 1999). The regulatory challenge relies on the use of land consolidation to provide land for multi-story buildings or condominiums; and, for this reason, the BPN regulation is currently under revision.

Despite the long journey that the application of land consolidation across Indonesia has taken, there are a number of unresolved obstacles that hinder its success. As stated earlier, the technique in Indonesia is, by nature, participatory; thus, community engagement in the project is crucial. The role of local government also contributes to the

delivery of basic infrastructure and services. Both community and local government underpin the success of land readjustment. One of the major issues is unconstructed infrastructure following a project. This may be the result of a lack of coordination or lack of commitment from local authorities. Infrastructure construction is not one of the steps in land consolidation, but is instead considered to be part of post-project implementation. Given such issues, revision of the regulation must be undertaken so as to bind local authorities to the implementation of a project. An additional issue is that project sites should be in line with the regional or local development plans. In this sense, the technique can replace land acquisition and the delivery of infrastructure construction can be realized. Given this issue, the construction of infrastructure during land consolidation appears to rely on local authorities, however, a discourse related to the involvement of third parties, such as investors, was presented during the review of the regulation.

Table 3.5. Ubung Tukad Mati Land Readjustment Project in Denpasar, Indonesia

Name of the project:		Ubung Tukad Mati Land Consolidation Project
Location of the project:		Desa Pemecutan Kaja, Denpasar, Indonesia
Name of the implementation agency:		National Land Agency of Indonesia (BPN-RI)
Project period:		1990-1991
Implementation of the project period:		1992-1995
Area of the project:		200 hectares
Rights holders:	N ^o of landowners:	847 (1,239 plots)
	N ^o of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	20% (40 hectares)
	Decrease for reserved land:	-
	Total ratio of decrease:	20% (40 hectares)
Implementation plan, stages:		No information.
Total built-up area of the project:		Before the project (1990): 4.64 hectares (21 buildings). After the project (2000): 71 hectares (321 buildings).
Density involved before and after the project:		No information.
Reserved land and additional built area:		-
Land evaluation:		Before the project (1990): Rp. 20,000/m ² . After the project (2000): Rp. 500,000/m ² .
Real estate market evaluation:		No information.
Benefits to the local government:		Provision of road infrastructure.
Benefits to the landowners (and/or leaseholders):		Accessible and marketable new plots.
Benefits to the investors:		-
Principal and eventual conflicts (site/landowners):		Limited budget for road construction.
Finance of the project:		Kabupaten Badung (Badung Regency)
Total cost of the project:		Rp. 118,600,000
Features of the project:		Land acquisition for the construction of a road towards the cargo terminal.

▼ Figure 3.21. Cadastral land parcel distribution before the land readjustment project (1994)



Figure 3.22. Cadastral land parcel distribution after the land readjustment project (1995) ▲

▼ Figure 3.23. Subak Ubung area after the land readjustment project (2012)



Community participation and understanding is also an issue. Among other land programs in Indonesia, some communities view land consolidation as a lengthy and tedious process. These conditions discourage community participation in project as they expect marketable serviced plots without land reduction. In other communities, land consolidation is more prominent; the ring-road developments in Bali and Riau Provinces are examples of this. Land consolidation has not yet been employed in Jakarta, Indonesia's capital city. Thus, a proposal for a potential application to upgrade "kampung" neighborhoods as well as the provision of land for development across the Jakarta region would be a challenge to the implementation of the technique (Supriatna and Van Der Molen 2014). In the future, land consolidation is expected to play a more significant role in national, regional, and local development. Considering the costs and social tension that land expropriation brings about, land consolidation is indeed an alternative approach to creating public interest in the framework of timely development and to solve urban issues in urban areas, notably, in city centers where haphazard development exists.

The Issue of Land Reparcelsation as Part of Land Readjustment in Israel

Rassem Khamaisi

Land readjustment in Israel is a sensitive issue. This is particularly the case between the State and its Arab Palestinian citizens. Conflicts over land control between the State, the owners, the renters, and the developers have a direct impact on land readjustment implementation. Today, about 93% of the land in Israel is in the public domain and is either the property of the State, the "Jewish National Fund", or the "Development Authority." The "Israel Land Administration" (ILA) is the government agency responsible for managing this land that comprises 1,950 hectares (or 19,508,000 dunams). "Ownership" of real estate in Israel usually means leasing rights from the ILA for 49 or 98 years. However, some of this land is the subject of conflict between the State and the Arab indigenes, particularly in the southern part of the country in the Negev region. Nowadays, a public committee is working on possible arrangements to settle conflicts over land issues, which includes the usage of the "reparcelization tool."

The legal framework of land management in Israel is based on six cornerstones, including the *Israel Lands Law* (1960), and the *Planning and Building Law* (1965). According to this framework, the "Israel Land Council" determines the ILA's policy and the council's chair

is formed by the Vice Prime Minister, and the Minister for the Economy (previously known as the Minister of Industry, Trade, and Labor). The council is made up of twenty two members: twelve representing government ministries and ten representing the “Jewish National Fund.” The government appoints the general director for the ILA. The functions of the “Israel Land Administration” (ILA) include: protecting and supervising State lands, to make State land available for public use, to guarantee that national land is used in accordance with Israeli laws, and to initiate planning and development (including relocation of existing occupants). The ILA has various formal and professional committees who suggest different land policies and tools, and discuss land conflicts and disputes.

Israel’s Arabs – 20% of the country or 7 million people – have been marginalized both politically and economically as a result of prevalent unemployment, underemployment, and high poverty rates. The bulk of the Arab population lives in the urban sectors along the edges of the Central Coastal Plain and Jerusalem, or in peripheral areas within small traditional villages and towns. Positioned on the periphery, Arabs usually face constraints on territorial expansion and have limited mobility. The violent Israeli Arab riots of October 2000 were a stark reminder of the neglect of an entire sector of Israeli society for the previous 52 years. The government and the Israeli public were shocked when the riots promoted awareness on the extension of inequality, disparities on income, and a breakdown of communication between Israeli Arabs and Jews. These are vulnerabilities within Israeli society that have the potential to prevent society from developing towards a strong and stable future.

During the Oslo Accords, a set of agreements between the government of Israel and the Palestine Liberation Organization (1993 and 1995) regarding the issues facing the Israeli Arab community were excluded from consideration as being internal Israeli matters. As part of the now aborted peace process, the Israeli government began to examine the underlying issues relating to the Palestinians but put the needs of the Israeli Arab community aside. Since October 2000 and the breakdown of the Oslo process, the needs of Israeli Arab citizens have moved more to the forefront of governmental discussions. However, interaction between Jewish and Arab Israeli communities has greatly decreased and the narratives of both communities have strengthened: on one side, the Jewish community feels a demographic threat and the potential for a fifth column within Israel; on the other side, the Arab community feels under siege, lacking the land and the capacity for its development they see when looking at their neighboring Jewish communities. The barriers to achieving equality within a Jewish State come from a fundamental lack of mutual trust and understanding, and a lack of dialogue. The health of the Israeli society is dependent on closing these socio-economic and ideological gaps between Arabs and Jews, and integrating the Arab population as a full and equal partner in the Israeli economy and society.

As previously mentioned, 93% of the land in Israel is classified as government or publicly owned lands; some of this land was confiscated from Arab landowners during Israel's first decade as a State. Within the jurisdiction of the Arab communities, approximately 6% of land is privately owned, while within the boundaries of the approved jurisdictions around 8% is privately owned. The land market among Arab citizens within such localities is limited, which creates barriers to the development of infrastructure and public facilities. Most of the existing private land parceling in Arab communities dates back to the period of the British Mandate, and this structure has become a major barrier for development, especially when compared to the current planning standards and paradigms which they see in neighboring Jewish communities. Other barriers are:

- a. The process of inheritance: Arab families are large and their tradition has been to divide the land informally among their children, without formal registration or parceling. Today, three to four generations have passed, with continued informal sub-divisions and confusion on where the individual parcels are actually located. Without records there are escalating disputes within families and extended families. Additionally, no portion of the original plots was allocated for public needs such as roads, schools, and open spaces.
- b. The Israeli government assumed ownership rights over abandoned lands: Arab landowners left their villages after the 1948 War, and the Israeli government assumed ownership of the land. In addition, some of the Arab landowners had their land confiscated for various reasons, or they decided to sell their land to the ILA. This led to the government sharing the rights of parcels of land within Arab communities without any formal land division between private landowners and the government. Such situations promote disputes amongst private landowners and between private landowners and the government when it comes to development. In the last decade, Arab communities have requested public facilities on the government-owned land portions, however, the ILA has insisted that lands for public use should be shared equally between private landowners and the government, leading to an impasse.

While the need for development is uppermost on the Israeli Arab agenda, due to the problems listed, about one third of the land within these localities is not available for development. New statutory plans for the localities often include new territories for expansion beyond the current locality boundaries. As a way of exploring the possibilities for addressing the conflicts around parceling issues, land readjustment projects were proposed within three of the Arab communities in Israel.

The first community, Dir Hana, is located in the middle of the Galilee. Its population

consists of 11% Christians and the rest are Muslims. In 1997, the Ministry of Interior and the ILA initiated the area's master plan and by 2000 the master plan developed into a statutory plan. The plan added about 60 hectares (or 600 dunams) for development, with the land being partially owned by the State and partially by different families. The dispute between the largest two families, Hussein and Khateb, had a direct impact on the planning content and on the land allocated for roads and public facilities, such as schools and green areas. As the head of the local council belongs to the Hussein family, several landowners, mainly from the Khateb family, were afraid to accept any approach for reparcelization. A plot was set among the rural traditional community of Dir Hana; given the background of family disputes, this plot created a situation where the community distrusted the local council and the planning system. To solve this problem, planners and the local council created a land readjustment model to convince landowners and the community to be part of the project, amplifying the dialogue, and creating transparency and equality in the planning process.

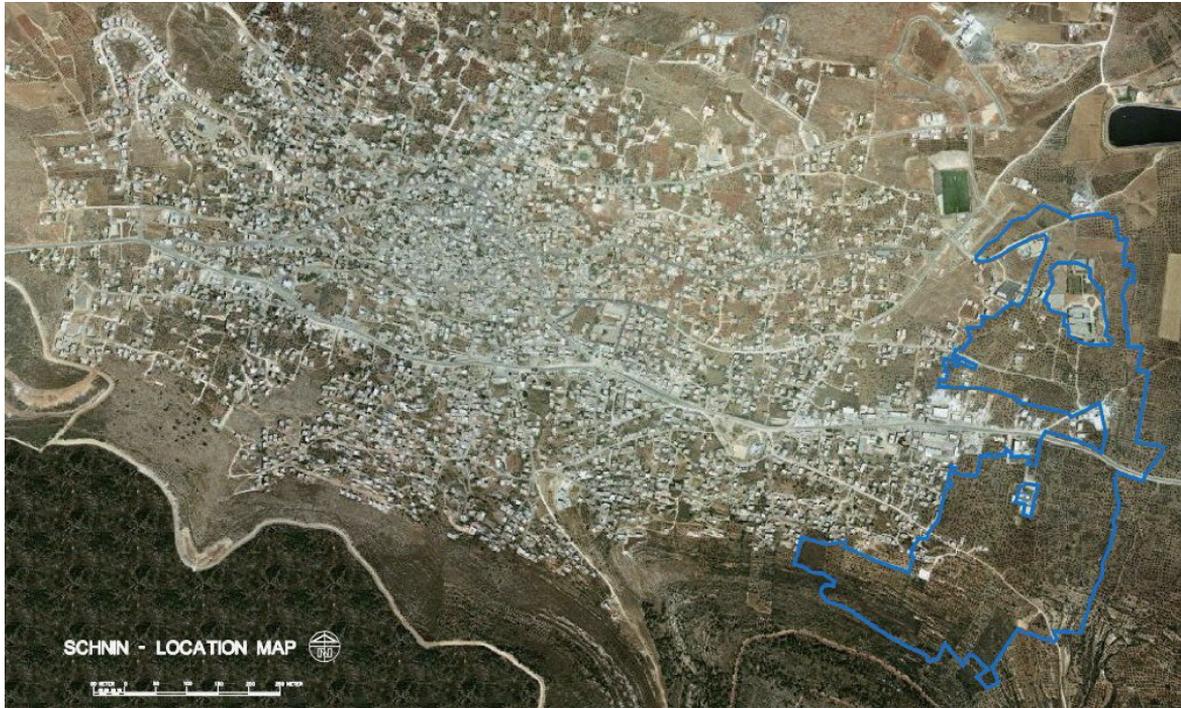
The second project, a Druze community named Haunch Jat, emerged in 1992. Also located in upper Galilee, the community is made up of two villages. The Ministry of Interior prepared a master plan for the villages between 2002 to 2006. This plan mainly proposed to allocate land for roads and public facilities. As has been shown recently, without land readjustment such a plan is not feasible. A community representative therefore tried to refuse the approach, while planners and local communities wanted to implement it. The third project is called Birel al Maksour, a Bedouin Arab community project implemented by the government with the aim of concentrating the Bedouin Arabs into one area, and confiscating some of their land. In 2006, the Ministry of the Interior initiated a detailed plan based on land readjustment to be implemented in an area of 30 hectares (or 300 dunams) that was owned by both individuals and by the State. The private owners refused to accept land allocation for public facilities coming from their lands, and requested that the allocation come from State land. The Israeli State attitude was to allocate land for public facilities shared equally between the private and the State land, and the rest of the State land was allocated for social housing.

These projects give a real picture of the issues of land reparcelization in Israel. The readjustment works with barriers and obstacles in the Jewish sector, while in the Arab sector it is affected from outside ethno-national conflicts and internal socio-cultural aspects. Conflict management techniques must include public dialogue and mediation, especially in situations where private landowners are in disputes amongst themselves. From these case studies, it is expected that the model will be developed and applied in disputes throughout the Arab localities (see Table 3.6 and Figures 3.24-3.26 for Schnin Arab Town project).

Table 3.6. Schnin Arab Town Land Readjustment in Schnin, Israel

Name of the project:		Land Readjustment Project in Schnin
Location of the project:		Schnin town, Galilee region, Israel
Name of the implementation agency:		Municipality of Schnin and the Local Planning and Building Committee, Arch. Desmond Kaplan.
Project period:		2001-2006
Implementation of the project period:		10 years
Area of the project:		546.56 hectares
Rights holders:	N° of landowners:	700
	N° of leaseholders:	700
Land evaluation, contribution ratio:	Decrease for public facilities:	33%
	Decrease for reserved land:	-
	Total ratio of decrease:	33%
Implementation plan, stages:		2001 to 2003: application of the zoning details on land, re-surveying, checking all cadastral records including land shares, announcement to rights holders, and calculation of public contributions. 2003 to 2006: reallocation of new land parcels, re-distribution of old cadastral parcels, implementation of public areas, and distribution of new land titles (final registration still ongoing).
Total built-up area of the project:		400,000 m ²
Density involved before and after the project:		Before: about 3 inhabitants/hectare. After: planned 70 inhabitants/hectare.
Reserved land and additional built area:		No reserve land approach.
Land evaluation:		Before the project: INS 20 / m ² . After the project: INS 60 / m ² . A total increase of 300% of the land price after the project. The land price increased as a result of the project beginning and the authorization of the zoning plan.
Real estate market evaluation:		Increase of 600% on the buildings price after the project.
Benefits to the local government:		Increase in public areas of 33%. New roads and streets were opened.
Benefits to the landowners (and/or leaseholders):		Land values increased very rapidly, social services were brought to the project area, the cadaster was renewed, and the conflicts were minimized.
Benefits to the investors:		Building enterprise, long-term profit, and new investments.
Principal and eventual conflicts (site/landowners):		The distribution balance of land value before the project differed from the distribution balance after the project. Problems with the standard building size after the project.
Finance of the project:		Fully financed by the government.
Total cost of the project:		USD 120,000
Features of the project:		The project resulted in new registration of new parcels according to the new re-parcelization, and implemented housing development based on self-help housing.

▼ Figure 3.24. Schnin area before the project and its location in Schnin town (2001)



▼ Figure 3.25. Schnin area before the project and the cadastral land parcel distribution (2001)

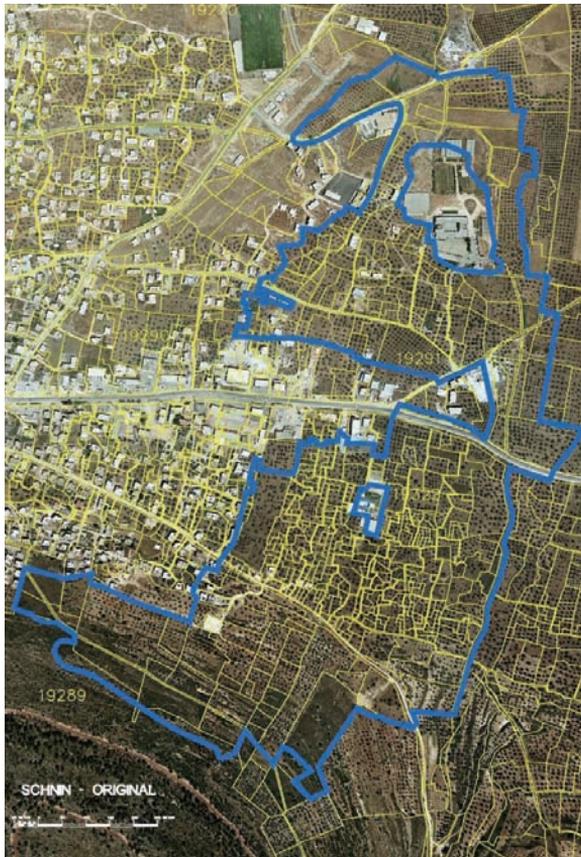


Figure 3.26. Zoning land use plan after the project in Schnin town (2006) ▼



Land Readjustment in Mongolia

Ganbat Bayartuvshin

Mongolia, located in central Asia and bordered by Russia and China, has a total area of 1,534,115 square kilometers and a population of around 3 million people (National Statistical Office of Mongolia 2015). The political situation of the country changed significantly during the late 1980s and early 1990s as Mongolia transformed from a socialist into a democratic society; this was then followed by the establishment of political parties. According to its Democratic Constitution, adopted in 1992, Mongolians enjoy the right to move freely within the country. As a result, the number of people migrating from rural areas to the capital city, Ulaanbaatar, increased significantly. The migrants began to concentrate themselves into the Ger areas, which rapidly expanded and accelerated the negative impacts and problems. “Ger” means home in Mongolian and refers to the round, felt tents that have been part of the traditional Mongolian nomadic lifestyle for centuries. Currently, the Ger area covers 21,832 hectares or 78.8% of the total of 27,680 hectares in the capital city’s urban area, and more than 68% of the total population of Ulaanbaatar city lives there.

The traditional Gers are sustainable structures very well adapted for a nomadic society, but when they are located in high-density, unplanned, informal settlements they create many issues. These informal urban areas lack sanitation, adequate vehicular access, and other basic services. The traditional use of wood and coal for heating contributes to the heavy air pollution, especially during the winter season. In sum, residents of the Ger area have suffered from health problems caused by air and soil pollution due to the lack of infrastructure and of a central heating system. According to an air pollution survey from the “Atomic Energy Commission” of the National University of Mongolia (2004-2007), “about 50% of air pollution is caused by soil dust, while 35% is caused by coal dust, respectively.” In recent years, this figure has increased by 50% and the Ulaanbaatar city council is working on improving the Ger area by providing housing for citizens in the form of modern standard apartments. The Ger area redevelopment projects have been carried out in 24 areas in Ulaanbaatar, and, in addition, land readjustment projects have been developed in mid-rise and suburban areas.

One feature of the Ger area is its plot size. The average area of a plot is 470 square meters, upon which any number of houses may exist. Approximately 80% of the Ger residents had their plots privatized; therefore, it is necessary to develop land readjustment projects suitable for the upgraded Mongolian condition. In this sense, an implementation agency named “Housing Project of Ger Area,” a State-owned enterprise, was as-

signed with the task of organizing the land readjustment projects in 2013. A “Nine Steps Procedure for the Land Readjustment Project” was developed with the aim of reflecting the opinions of landowners: (i) Landowners can make a request to be involved in the land readjustment project; (ii) A survey is conducted in an area where requests were received from more than 50% of the total landowners who want to be involved in the land readjustment project; (iii) Consultation and discussion about the boundary of the project area is conducted with the “Master Plan Agency,” who must approve the land readjustment project area; (iv) A temporary council of landowners in the land readjustment project area is established; (v) Explanatory meetings and trainings are conducted with the landowners; (vi) The draft plan and concept maps are introduced to the landowners; (vii) Consultation of the draft implementation plan is conducted with the relevant authorities, which aims to reach an agreement and build consensus; (viii) The replotting design and the financial plan are developed; and (ix) The final plan is submitted for the approval of the city council representatives of Ulaanbaatar.

The “Housing Project of Ger Area” then published a handbook on the “Nine Steps-Procedure for the Land Readjustment Project” in order to spread the knowledge among Mongolian residents. Additionally, the implementing body conducted surveys to determine the demand and willingness of landowners since 2013. According to these surveys, involving a total of 36,338 residents as of the end of 2014, about 70% expressed their willingness to build a private house on their privatized land and to connect it to the central heating and engineering lines.

Ger area land readjustment projects are thus a comparatively new activity in Mongolia. The implementation of the first project started on 9 hectares of the Songino Khaikhan district, 30th Khoroo (2013-2016). This project was the first project with 168 land rights holders, and was fully financed from the State budget to make a model project. However, the government will no longer pay all of the project costs. “Housing Project of Ger Area” is therefore planning to implement further land readjustment projects through sales of the reserve land contributed by all the landowners in 6 areas of Ulaanbaatar. To transfer the land or real estate ownership rights in these 6 project areas, 2 methods have been planned: the exchange of land for land or the exchange of land for apartment units. In a few cases, the land purchase method can be used, but the land ownership rights conversion activities have to be carried out in conformity with the *City Redevelopment Law* (2015).

According to the technical handbook “Project Implementing Method” (2013), published by the “Mongolian Urban Growth Capacity Upgrading Project” team:

“The implementing body of the project will develop the procedure for rights con-

version that reflects the right evaluation method for the project, its evaluation points, the calculation order, the special evaluation plan for plots that are too small, or specific plots, etc. The implementing body will develop the rights conversion plan according to this procedure. Land readjustment project implementing body needs to organize questionnaires and negotiation meetings with land rights holders in order to develop the land rights conversion plan.” (Mongolian Urban Growth Capacity Upgrading Project Team 2013)

According to this procedure, project managers of the “Housing Project of Ger Area” must provide questionnaires to the project area landowners to develop the plan for land rights conversion. For instance, the manager of the Khan Uul District Land Readjustment Project conducted a questionnaire with 189 landowners (out of total of 220). As a result, 67 landowners preferred to exchange land with land, while 122 preferred to exchange land with apartment units. One benefit of using questionnaires is the possibility to determine the contribution ratio of each plot with the participation of landowners. To negotiate with landowners, the implementing agency shall offer a market assessment of the land, real estate, and advanced estimation of the land through consideration of the project evaluation ratio made by the Ger area. Ulaanbaatar city does not have standards for a land estimation ratio that meets modern requirements; thus, the land contribution ratio can be created in this way.

Finally, as a result of parliamentary elections, many agencies and organizations were restructured. The Ulaanbaatar city’s “Housing Project of Ger Area” and the “Ger Area Development Department,” both of which were implementing land readjustment projects, and the Ger-to-apartment projects, merged into a new department named “the Ger Area Infrastructure Department.” Now, the “Ger Area Infrastructure Department of Ulaanbaatar City” will provide government support and the private sector will act as the implementing agency for land readjustment projects (see Table 3.7 and Figures 3.27-3.28 for Narlag Buyant Ukhaa project). Lastly, there are some challenges for the implementation of land readjustment projects in the Ulaanbaatar city Ger areas, as follows:

- a. Land readjustment projects are going to be implemented in suburban areas with low population density; therefore, measures must be taken to attract the private sector into these activities and to solve investment profitably issues; and
- b. Ulaanbaatar city does not have standards for land estimation ratios that meet modern requirements, however, many organizations such as the Japan International Cooperation Agency (JICA) and the Mongolian University of Life Sciences have been conducting research in this area. There is a significant need for technical and methodological assistance to develop standards for land evaluation in Mongolia.

Table 3.7. Narlag Buyant Ukhaa Land Readjustment in Ulaanbaatar, Mongolia

Name of the project:	Narlag Buyant Ukhaa Land Readjustment Project (Нарлаг Буянт Ухаа ГДЗБ төсөл)	
Location of the project:	9th Khoroo, Khan Uul district, Ulaanbaatar city, Mongolia	
Name of the implementation agency:	Narlag Buyant Ukhaa Co. Ltd., and the Ger Area Infrastructure Agency of Ulaanbaatar	
Project period:	2013-2019	
Implementation of the project period:	2017-2019	
Area of the project:	21 hectares	
Rights holders:	N° of landowners:	221
	N° of leaseholders:	50
Land evaluation, contribution ratio:	Decrease for public facilities:	10-15%
	Decrease for reserved land:	30-35%
	Total ratio of decrease:	40-50%
Implementation plan, stages:	Now at the project preparation stage and planning to begin implementation from March 2017.	
Total built-up area of the project:	Building coverage area: 32,900 m ² (3.29 hectares).	
Density involved before and after the project:	Before the project: 1,577 residents (75 residents/hectare). After the project: 6,320 residents (300 residents/hectare).	
Reserved land and additional built area:	10.3 hectares, including green areas.	
Land evaluation:	Land price before the project: tögrög 20,000 / m ² (10 USD / m ²). Land price after the project: tögrög 100,000 / m ² (50 USD / m ²).	
Real estate market evaluation:	Building price before the project: tögrög 50,000,000 (USD 25,000). Building price after the project: tögrög 120,000,000 (USD 60,000).	
Benefits to the local government:	Water line construction costs will be less because the project site is within proximity of the central water line. Khan Uul district density will decrease.	
Benefits to the landowners (and /or leaseholders):	A comfortable living environment with water and sewage supply, and a heating system. Land value will increase.	
Benefits to the investors:	After the implementation of this project, investors will have the chance to implement another project on 20 hectares of the Ger area beside this land readjustment project area.	
Principal and eventual conflicts (site/landowners):	No information.	
Finance of the project:	75.8% from private sectors and 24.2% from subsidies.	
Total cost of the project:	tögrög 89 billion (USD 45 million)	
Features of the project:	The west side of project area is near to the Tuul river basin, so owners can enjoy natural beauty and a good view. The project area is only 1.5 kilometers from Chingis Khaan international airport.	

▼ Figure 3.27. Narlag Buyant Ukhaa land readjustment project (2017)



▼ Figure 3.28. Narlag Buyant Ukhaa land readjustment project (2017)



Land Readjustment in Nepal

Kirti Kusum Joshi and Sunil Babu Shrestha

Nepal is one of the least urbanized but most rapidly urbanizing countries in the world. Between 2001 and 2011, the urban population of Nepal increased at an annual average rate of 3.38% to reach 4.5 million inhabitants, accounting for 17% of the national population. With new municipalities added in 2014, the adjusted level of urbanization now stands at close to 40%. With ever-increasing rural-to-urban migration and conversion of villages to towns and towns to cities, the rapid pace of urbanization in Nepal is expected to continue. Urban growth in Nepal, however, has mostly been unplanned and uncoordinated, characterized by haphazard construction of buildings and inadequate and sub-standard provision of urban services. It is a common practice to construct buildings even where basic urban infrastructures are non-existent or severely lacking. Moreover, most of the residential plots are of irregular shape, size, and orientation, making it difficult to provide infrastructural services effectively and efficiently.

Faced with the need to guide urban development so as to provide proper land for housing, to reduce haphazard land subdivision, and to provide quality urban infrastructure and services, the government of Nepal enacted the *Town Development Act* of 1988 (amended twice in 1991, and again in 1992 and 1997). This act authorized “Town Development Committees” (TDCs) to undertake three forms of land development: guided land development (GLD), site-and-services, and land pooling. The GLD projects were initiated in 1988 to improve existing infrastructure through the reorganization of road networks in and around the project areas. The site-and-services scheme was introduced in the late 1970s with a much wider scope than the GLD projects. In a site-and-services project, the government would acquire primarily cheaper vacant plots through eminent domain or would make available public land, and would then develop the acquired land by adding the necessary infrastructure services. The site-and-services schemes soon became unpopular, as original landowners would be displaced from their land. Moreover, land acquisition became increasingly difficult because of the rising prices. Against this backdrop, the concept of land pooling made headway and, beginning in late 1980s, several land pooling projects got underway. Presently, land pooling is the only form of land readjustment carried out by the central or local governments.

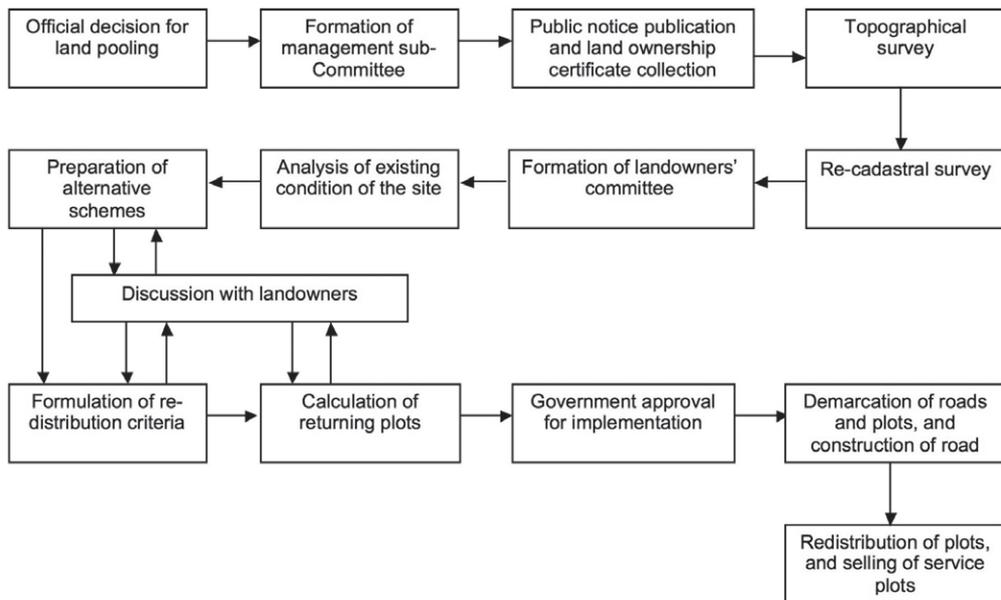
In land pooling projects, individual plots are combined into one large estate. A new road layout is planned, and the estate is subdivided rationally. Landowners contribute a certain portion of land for open spaces, roads, and reserved plots. New road layouts

– often planned in a gridiron pattern – facilitate the provision of other infrastructure such as piped drinking water, drainage, and electricity along the right-of-way and, as a result, the price of each plot increases significantly. Despite losing some portion of their plots, the original landowners are compensated by an increase in the land price. Moreover, the project costs are covered by the sale of reserved plots, thus making land pooling project self-financing. The main objective of land pooling projects is to promote planned urban development and to provide land required for the development of human settlements through environmentally sound planning processes and through partnerships between landowners, the private sector, central and local government, and community organizations for managing land resources.

Clause 12.1.2 of the *Town Development Act* (1988) states that land pooling can be carried out in any part of the town planning area with the agreement of a minimum of 75% of the landowners (KKBS 2000). The same act empowered TDCs formed in different district headquarters, urban centers, and emerging towns, to initiate land pooling projects. The land pooling projects are, in general, implemented by “Town Planning Implementation Committees” (TPICs) formed under the *Town Planning Projects Implementation Act* of 1973 (later replaced by the *Town Development Act* of 1988). The government urban planning agency – the Department of Urban Development and Building Construction – provides regular management control in the land pooling projects whereas TDCs, project management sub-committees – chaired by the mayor or by the chairperson of the “District Development Committee”(DDC) – and users committee provide regulator control. Moreover, the *Local Self-Governance Act* (1999) has empowered municipalities to undertake urban development in areas under their jurisdiction, thereby authorizing municipalities to assume the responsibilities performed by the TPICs. The Nayabazar Land Pooling Project, for instance, was implemented by Kathmandu Metropolitan City (KMC). However, municipalities in Nepal have not become institutionally strong enough to completely replace TDCs or TPICs as envisioned by the *Local Self-Governance Act* of 1999.

The land readjustment technique was introduced in Nepal in 1975 with the initiation of the Chipledhunga Land Pooling Project (13.5 hectares) in Pokhara, a popular tourist destination (Acharya 1988). However, it took more than a decade to launch the country’s first official land pooling project named the Gongabu Land Pooling Project (14.3 hectares), which was initiated in 1988 as a pilot project. Since then, several land pooling projects have been launched nationwide – mostly in the Kathmandu Valley. By 2000, a total of 12 land pooling projects had been completed in the Kathmandu Valley, covering 246.76 hectares of land (Joshi and Sangachhen 2000). The basic framework of Nepalese land pooling can be understood as follows (see Figure 3.29):

▼ Figure 3.29. Simplified flow-chart of land pooling projects in Nepal



- a. Land title holding: in Nepal, the land ownership certificate ensures the absolute holding of a land title. Although the government can acquire land through eminent domain, such a move has turned out to be difficult and unpopular. In the case of land pooling projects, the landowners surrender their land titles temporarily to the project, but they later regain the absolute holding of the land title although the size and location of the returned plots differs from the original plots. Verification of the location and size of the plots is done through cadastral maps and on-site surveys;
- b. Land value evaluation: it is difficult to pre-determine the land price of each and every plot in a land pooling project. Moreover, once the news of the proposed project is spread, price speculation begins, providing a false picture of land prices. In a land pooling project, access to the existing road, along with the width and type of such road, is generally taken as an indicator of land value. After the project closure, the reserved plots are sold by tender after a minimum price has been set. In general, plots that have wider road access sell at a higher price. The minimum price of the reserved plots is fixed on the basis of project costs and the prevailing land prices;
- c. Facility development: facilities provided through land pooling projects include roads, drinking water, sewerage systems, and electricity. Provision of other amen-

ities, such as open spaces, or community or religious centers, varies according to the project. The users committee looks after the management and maintenance of such public facilities;

- d. Financial resources: although land pooling projects are self-financing, financial resources are required to initiate the project and to cover administrative and construction costs until the reserved plots are sold. In general, the TDC (or the municipality) concerned provides a revolving fund from which the land pooling project takes a loan that is paid back through the sale of the reserved plots; and
- e. Contribution ratio: there is no specific rule regarding the contribution ratio that applies to all land pooling projects. In general, the contribution ratio for open spaces and reserved plots is generally uniform for all plots whereas the contribution ratio for roads depends on the existing access and width of the planned roads adjacent to the plots. While plots without road access are required to contribute more, plots that cannot contribute land because of existing houses or the land size being smaller than the minimum required, must contribute the cash equivalent.

After the official decision to launch a land pooling project, a management sub-committee, headed by the mayor or a DDC chairperson, is constituted with representatives from the landowners and the central government. A public notice is issued and land ownership certificates are collected. Consultants are hired to prepare the topographical map of the project area, while re-cadastral surveying is generally carried out by the Department of Survey under the government of Nepal. Existing site conditions are analyzed with the involvement of the landowners committee. Alternate land pooling schemes are then discussed, and the final scheme is prepared. After the landowners committee has approved the re-plotted map of the project area, the land contribution ratio is determined and approved through collection of signatures from all landowners.

Following this, fieldwork including the demarcation of roads and plots begins. Re-checking and re-corrections through surveys are carried out in parallel prior to the transfer of the re-plotted land. Any dispute and confusion that arises with the landowners, is solved on-site through mutual discussion in the presence of all parties concerned. Upon approval from the government through the TDC (or the municipality), the project is implemented beginning with the demarcation of roads, then followed by redistribution of plots and the selling of reserved plots. In the process of land pooling, landowners surrender their original land in exchange for another plot after subdivision. The plots returned to the original landowners are located as near to their original plots as possible.

As mentioned earlier, the country's first official land pooling project was the Gongabu

Project. During a meeting held in December 1988 at the “Kathmandu Valley Town Development Committee” (KVTDC) (now restructured as the “Kathmandu Valley Development Authority”), it was decided that a project should be run in the vicinity of the central bus terminal in Gongabu, Kathmandu Metropolitan City (KMC) where building construction was taking place rapidly and haphazardly. An area of 14.3 hectares was chosen for the project; after excluding the already built-up area and a hillock, the project area was bordered by the Kathmandu Ring Road in the north, other urban roads in the east and west, and a river in the south. The project, completed in 1995, supplied a total of approximately 11 hectares of residential plots in addition to 0.7 hectares of public open space, 5.9 kilometers of road networks, and 10.3 kilometers of sewerage networks at an estimated cost of NRs. 69.8 million (approximately USD 1.24 million at the November 1995 price).

The project implementing agency, the “Kathmandu Valley Town Development Planning Implementation Committee” (KVTDPIC), was responsible for the preparation of all necessary planning and design activities, and it received policy guidelines from KVTDC and the land management sub-committee as well as from the users committee. The land management sub-committee, chaired by the mayor of KMC and comprised of representatives from all stakeholders, was responsible for the formulation of the relevant project policies. Likewise, the landowners committee, chaired by the chairperson of KMC Ward 29, was comprised of the representatives of landowners and tenants. The erstwhile Ministry of Housing and Physical Planning and the erstwhile Department of Housing and Urban Development under the Ministry, provided regular management control to the project. It should be noted that several agencies have undergone institutional restructuring and are now known by different names.

During the initiation of the Gongabu Land Pooling Project, the *Town Development Act* of 1988 required only a simple majority among the landowners to initiate a land pooling project. The minimum criterion would later be changed to three fourths for newer land pooling projects. On the basis of the cadastral map of the project area, which was updated by the Department of Survey under the government of Nepal, the standard plot size of 9 meters x 14 meters and a minimum plot area of 128 square meters were adopted for the readjustment of plots. The hierarchy of roads in the project area comprised of a network of 4, 6 and 8 meter roads. The 8 meter wide trunk road linked the project area with the existing roads in the north and the west. Roads with a width of 6 meters were laid to the left and right of the 8 meter road and linked the trunk road with the existing road in the east. Finally, 4 meter wide roads branched off from the 6 meter wide roads.

A constant contribution ratio of 5% was adopted for the deduction of land from each plot for public open spaces and amenities, and another 5% was set aside for reserved

or service plots. Central land lying under the high-tension line was used for public parks as it was not suitable to be used for permanent constructions. Similarly, separate plots were allocated for public use, including community buildings, car parking, and playgrounds. However, because of the emphasis given to minimizing the shifting of plots, large open spaces could not be provided. Deduction of plots for road networks varied from 4 to 36% depending on the type and width of the existing road adjacent to the plots and the width of the planned road. Water was supplied to the project area through a deep boring well and municipal supply lines, with some financial assistance provided by the government agency concerned. Likewise, electricity was provided by the electricity line agency although it had no earlier plan to do so. A portion of the land under the high-tension lines was used as the site of a sub-station.

There were a number of legal problems relating to the redistribution of plots. The existing law on land administration and land registration prohibited transfer of ownership from one person to another after the re-plotting of land. To solve this, the government was requested to acquire all lands for the purpose of providing compensation to the owners by distributing the developed plots. For landowners who would receive less than the minimum standard plot area of 128 square meters, additional land was provided from the reserved plots after payment of a cash equivalent. All landowners were given permanent landownership certificates and all the reserved plots were sold.

As mentioned previously, to ensure the total investment cost of the project was recovered, 5% of the land was deducted from each plot for the reserved or service plots which were sold through auction; the revenue from the sale of these plots was used to pay back the loan taken from the revolving fund of the KVTDC. The minimum price of a plot was decided on the basis of recommendations from the ward office and the office of land registration, field surveys, and the project costs. The minimum price of a plot of land ranged from NRs. 4,519 to 6,483 per square meter, depending on the width of the adjacent road. The reserved plots were sold for an average price of NRs. 6,916 per square meter. Approximately 11 hectares of land in the project area was allocated for residential purposes. Taking an average household size of 5.3 people and a standard plot size of 128 square meters, and assuming that 1.5 families live in one house (as houses are partially used for renting), the total population capacity of the project area was estimated to be about 6,800 people.

In conclusion, land pooling schemes have successfully replaced the unpopular method of land acquisition through eminent domain. As the first official land pooling project, the Gongabu Land Pooling Project was a milestone in the history of land readjustment in Nepal (see Table 3.8 and Figures 3.30-3.32 for Gongabu project). Most importantly, the project was successful at spreading the concept of land pooling amongst the public. De-

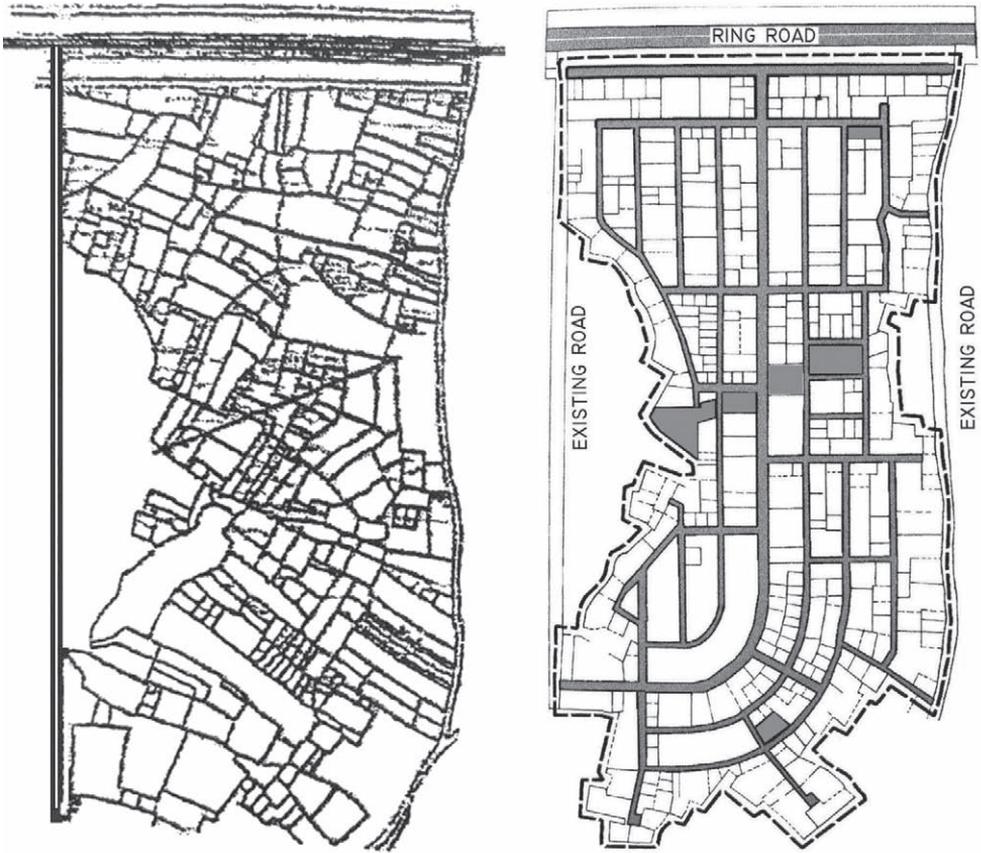
spite its small size (14.3 hectares), the project paved the way for other large-scale land pooling projects such as the Bagmati Corridor Land Pooling Project (110 hectares). The project also provided valuable experience and lessons to urban planners and policymakers, but it also exposed several legal flaws and impediments to planned urbanization. In particular, the Gongabu experience showed that there were not sufficient provisions in the *Local Self-Governance Act* of 1999 to enable local governments (municipalities) to replace TDCs and undertake urban development projects by themselves as envisioned in the act. One of the most important influences of the Gongabu Land Pooling Project is the popularization of land pooling as a powerful urban planning tool. The concept of land pooling is now being explored for road construction or widening projects (e.g. “Kathmandu Ring Road Improvement Project” and the proposed “Outer Ring Road Project”). Moreover, in addition to the government or local governments, the private sector is also coming forward to develop land following the principle of land pooling.

Production of service plots and public open spaces without hurting the welfare of the original landowners has also given rise to some innovative ideas, such as providing land to the landless urban poor. Likewise, looking at the present need for inclusive society and mixed settlement, the conventional approach that uses the land readjustment method can be redesigned using a holistic approach (Shrestha and Taniguchi 2003). For instance, provision of agricultural land could be made for productive greening, creating a Food Green City (Shrestha 2004) that provides affordable food to the city dwellers and creates a green and healthy environment in the city. On the one hand, small-scale land pooling projects cannot make a significant contribution towards planned urbanization and housing affordability. On the other hand, because of the emerging roles of local government the central government cannot manage large-scale land pooling projects alone. Therefore, priority should be given to the institutional strengthening of local governments with necessary amendments to the related laws to avoid confusion between the central and local governments over their responsibilities.

The massive destruction caused by the April/May 2015 earthquakes in Nepal has highlighted the need for disaster-resilient planning of human settlements. The earthquakes caused a huge loss of life and property in the country, with 9,000 casualties, 22,300 injuries, and the destruction of over half a million buildings. Within the Kathmandu Valley, Gongabu was one of the worst hit areas where many newly constructed buildings collapsed because of poor construction technology and design coupled with weak soil conditions. Although buildings within the land pooling area survived major damage, the experience has shown that land availability and public acceptance alone is not enough for a land pooling project; risk-resilience should also be seriously considered in the formulation of any such project.

Table 3.8. Gongabu Land Readjustment in Kathmandu, Nepal

Name of the project:		Gongabu Land Pooling Project
Location of the project:		Gongabu, Ward 29, Kathmandu Metropolitan City, Nepal
Name of the implementation agency:		Government of Nepal: Kathmandu Valley Town Development Committee (now restructured as the Kathmandu Valley Development Authority).
Project period:		1989-1995
Implementation of the project period:		1991-1995
Area of the project:		14.3 hectares
Rights holders:	N° of landowners:	376 (406 plots)
	N° of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	9 to 41% (including uniform contribution of 5% for roads).
	Decrease for reserved land:	5%
	Total ratio of decrease:	14 to 46%
Implementation plan, stages:		No information.
Total built-up area of the project:		11 hectares
Density involved before and after the project:		Before the project: uninhabited. After the project: 476 people per hectare.
Reserved land and additional built area:		Reserved land: 8.5 hectares. Loss of total residential area: 3 hectares.
Land evaluation:		Increase of 30% in average.
Real estate market evaluation:		No information.
Benefits to the local government:		0.7 hectare of open public space. Planned residential development. Successful implementation of the first official land pooling project.
Benefits to the landowners (and/or leaseholders):		Fair distribution of benefits. Planned neighborhood with road and sewerage network.
Benefits to the investors:		-
Principal and eventual conflicts (site/landowners):		Lack of prior experience in land pooling. Legal hassles regarding transfer of land ownership. Landowners with less than 79.50 square meters of land did not have to contribute but had to pay some money to the implementation agency as a project counterpart.
Finance of the project:		Kathmandu Valley Town Development Committee
Total cost of the project:		NRs. 69.8 million
Features of the project:		(Infrastructure Services) Road network: 5.9 kilometers. Sewerage network: 10.3 kilometers. (Land Use Distribution) Residential plots: 78.35%. Roads: 16.74%. Public spaces: 4.90%.



▲ Figure 3.30. Plot division before and after the project (1989-1995)

Figure 3.31. Residential development in Gongabu land pooling project area (2008) ▼



▼ Figure 3.32. Aerial image after the implementation of the Gongabu Project (2004)



From Land Consolidation to Land Readjustment in the Netherlands

Adri Van Den Brink

Statutory land consolidation was introduced in the Netherlands in 1924, as a tool to improve the structure of agriculture and the related reallocation of land use rights and ownership. The instrument was gradually extended in order to improve water management and infrastructure and to make space available for the development of non-agricultural uses. Today, the implementation of policy objectives for nature, recreation, landscape, cultural history, water, and the environment is more dominant. Over the years, land consolidation plans involving nearly 1.4 million hectares and divided among approximately 480 projects have been completed. This surface represents about three quarters of the total area of cultivated land. At present, an area of 800,000 hectares is being consolidated and 360,000 hectares are in the preparation phase.

The growing interest in non-agricultural uses is reflected in the rapidly changing physical appearance of the country. The landscape of towns and cities surrounded by meadows and fields is taking on a number of increasingly metropolitan traits, in particular the integration of highly urbanized, densely built-up centers and open, rural areas of divergent shapes and dimensions. The use and appreciation of these rural areas is inextricably linked to the needs of the urban centres. Urban and rural areas have become more integrated, and together they form the aptly termed “metropolitan landscape.” However, with its roots in agricultural structural improvement, traditional land consolidation is not well suited to dealing with the dynamics of the metropolitan landscape. Moreover, private parties, such as developers, have gained greater importance in the implementation of development policies. As a result, more emphasis is placed on the so-called “area development,” which is a way of spatial planning at the regional level. The core elements of area development are based on integrated planning by all actors involved. The plan itself is focused on implementation, which usually takes a long time from start (idea) to finish (realization) and involves a combination of urban (“red”) and rural (“green”) functions.

Due to these characteristics, area development makes use of urban-rural relations instead of focusing on rural and urban areas separately. The concept focuses on public-private partnerships, creating alignments between land use functions, interests, disciplines, and financial arrangements. In other words, it is a co-production between public and private actors, interest organizations, advisors, designers, and users. There is a “readiness for battle” and, by leveling administrative and sectorial borders, a focus on speed and results. Permanent communication, debate, and dialogue form a very important part of the process. An example of this new approach to spatial planning and the implementation of spatial policies, can be seen in the “Groningen Lake City Project.”

The “Groningen Lake City Project,” or “Meerstad Groningen,” is a project on the eastern side of the city of Groningen in the northern part of the Netherlands (see Figures 3.33-3.36). The project incorporates the construction of a new housing estate in a single integrated plan, with open space development and the improvement of water management. It involves 10,000 dwellings for 22,000 inhabitants, approximately 140 hectares of commercial premises, and a lake covering 650 hectares to be used for recreational purposes and for coping with excess rainwater. Additionally, the project will incorporate landscape and nature development over an area covering a total of 4,000 hectares, 1,700 hectares of which will remain available for agricultural use. The remaining 2,300 hectares is designated for houses, commercial premises, water, and nature and is almost as large as the city of Groningen. In this area, seventeen different “living landscapes” will be created, each one with its own character. They will consist of single-family houses, apartment buildings, social housing, and houses located at the waterfront, amongst

other things. The average plot size will be 450 square meters, which is almost twice as large as in other housing projects in and around the city of Groningen.

Until recently, urban and rural developments in metropolitan areas were planned “back to back” by both the “red” and the “green” planning domains, each with separate flows of money. Profits from urban development ended up in the pockets of private investors and the government was trying to guide this development in the landscape with the little money available. In addition, agricultural land prices around cities are booming. Only a small part of the price is determined by the agricultural value of the land. The driving force in these areas is land as a speculative investment. For this reason, farmers are no longer willing to sell land at low prices for green purposes as they are now in a position to sit and wait until a major buyer comes along.

In Groningen, public actors have realized that combining their strengths with the private sector may pay off and solve the problem of speculation. Making the assumption that green surroundings result in a surplus value of houses leads to the question: why not use this surplus value for promoting the surroundings? Public bodies, therefore, started negotiations to create public-private partnerships. It took two years to investigate the financial and legal feasibility of joint exploitation, including extensive public consultations. The result was a joint venture and a master plan created in 2005. The joint venture is a public-private land and property company that was established by a consortium consisting of the municipalities of Groningen and Slochteren, the province of Groningen, the Ministry of Agriculture, Nature and Food Quality, and four real estate developers.

The company took over the land that was still in the hands of the consortium partners. This was effectuated at one fixed unit price to create a neutral playing field for the partners in their joint search for the best project plan. A “neutral playing field” means that the land is sold to the company independent of its future function, and price differences between the “red” and the “green” functions are not taken into account. The company is responsible for preparing the land for construction, including the excavation of the lake and the development of green spaces. The cost of this operation will be covered by land grants made to project developers who will then finance the construction of houses in the area at their own risk. Any profit made by the company will be ploughed back into the area. Total investments for converting the land into building plots were estimated at € 800 million at current prices (approximately USD 1,200 million). This amount does not include the investment needed for the construction of houses, which was estimated to be € 2 billion at present prices (approximately USD 3.5 billion). The project is expected to take 25 years, and the first phase of the project started in 2008. In 2010, the first houses were delivered.

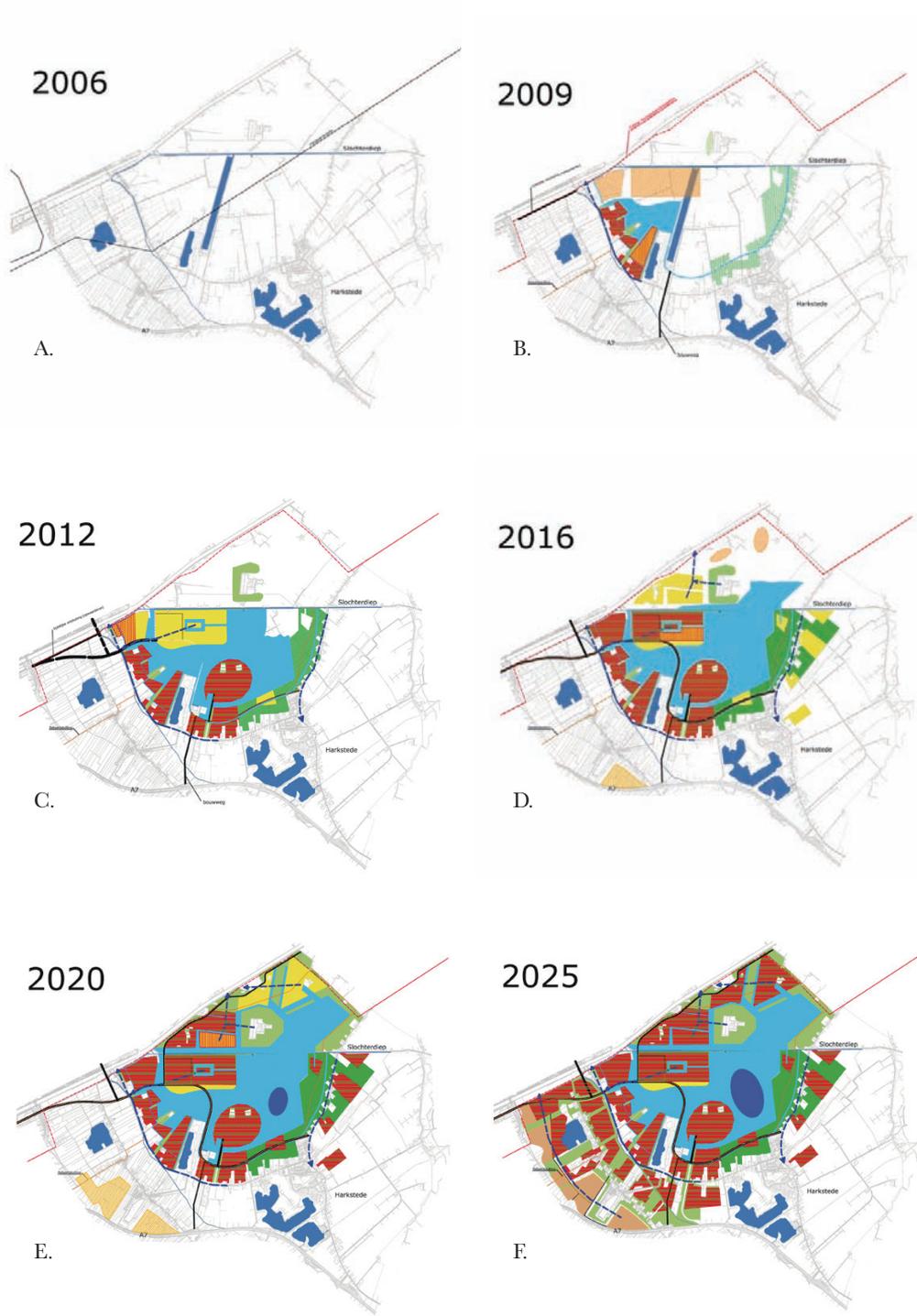
The advantage of the construction that has been chosen for the implementation of the project is that it provides a better integration of spatial functions because the plans were developed detached from the initial property boundaries. One of the disadvantages is the financial risk of investing at an early stage in the realization of “green” or “blue” (water) functions that can only be compensated at a later stage through the surplus value of the houses. There is no guarantee that developers will be able to achieve such a surplus value. This is important as the agreement made states that “for each hectare of ‘red’, one hectare of ‘green’ and ‘blue’ should be developed.” Nevertheless, it goes without saying that participation in a project of this scope entails major risks for all parties involved. These risks relate to the financial severity of the intended land development, the realization of the integrated objects, the effects of the market, and the way co-operation is organized. A risk analysis and agreements on hedging obvious risks are, therefore, an essential aspect of this form of planning and policy realization.

In conclusion, it can be stated that the “Groningen Lake City Project” involves a totally new approach as residential areas and the countryside will be developed in mutual cohesion. This will improve the quality of the plan and also enable a financial balance for both components. Nature and water will give the houses additional value that will be used to finance the development of green spaces. This approach has been called “green through red.”

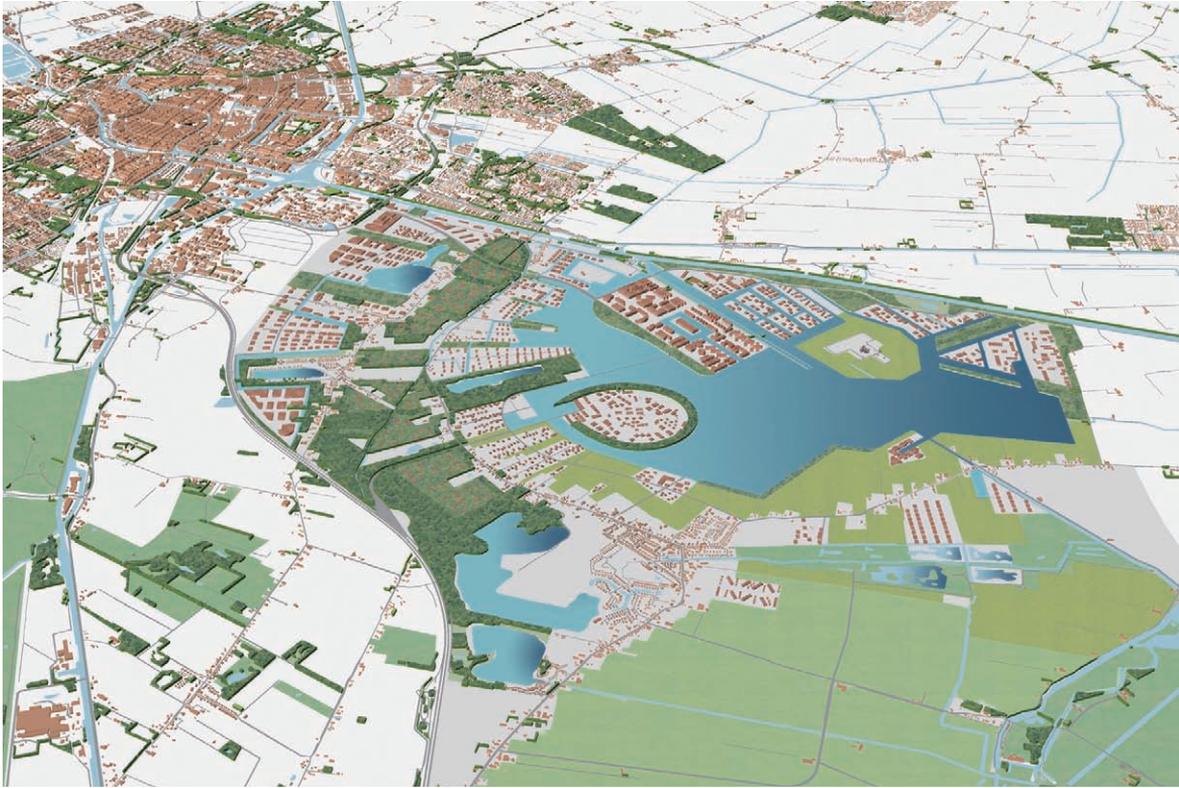
▼ Figure 3.33. Aerial image before the implementation of the Groningen Lake City Project (2004)



▼ Figure 3.34 (A-F). Schematic representation of the project implementation (2006-2025)



▼ Figure 3.35. A 3D geo-visualization of the future situation (2025)



The Failure of Land Readjustment in Sweden

Tommy Österberg

The legal origin of urban land readjustment in Sweden began when the *Joint Land Development Act* came into force in 1987 (*Lag 1987:11 om exploateringssamverkan*). The principles and procedures introduced had a legislative history greatly influenced by the rural land consolidation processes successfully carried out over the past 250 years (in Sweden this activity started around 1750). However, the new procedures for urban land readjustment were not really accepted by land developers and municipalities. Very few projects were undertaken, and the Swedish Parliament finally cancelled the legislation in 2012. The reason for this was mainly that it never really came into use. In the following discussion, a short description of the cancelled legislation is presented, followed by comments on why the legislation never came to play a role in urban development in Sweden.

The Swedish land readjustment provided to landowners a tool for planning and implementing urban development projects together in an area, and to divide the costs and the benefits of this development according to agreed shares basically determined by the area of land that everyone contributed to the common development. The legislation was established in a period when there was a very little demand for new urban housing compared to the previous period from 1965 to 1980. During that period a considerable amount of new housing construction in urban areas had occurred, which in principle was built on virgin land at the urban periphery. The land for this housing program was made available through municipal land banking. The law on urban land readjustment was intended to be used as a complement to new housing projects, and by private landowners at the urban fringe, who own older small houses, or houses for recreation purposes, and who might be interested in developing more modern houses. It was also believed that another group of landowners with properties in densely built areas and at the city centers, who owned houses in need of improvement of both the existing housing and the physical environment between the buildings, would benefit from such readjustments. A third category of landowners expected to be interested were rural landowners who might want to develop areas for recreational or seasonal living. This group would contribute to the generation of income opportunities in the rural community and allow existing inhabitants to continue to have a living in rural areas in despite of the decline of traditional rural income opportunities in agriculture and forestry.

According to the *Joint Land Development Act*, the formal initiative for development would come from those interested landowners who needed to obtain permission in advance from the municipalities, which would approve the joint development to take place, and define a joint land development area for this purpose. The landowners, therefore, were to form a joint venture to undertake physical planning and the implementation of the area development approvals. The legal system made it possible to develop the physical plan independent of existing boundaries. Profit was to be shared, and each landowner would receive an area for development and construction according to their agreed share, through mutations and subdivisions, and the cadastral division would be adjusted to the new plan after this process was concluded. If the profit could not be shared fully this way, there might be exchange of money between the landowners. Landowners divided the costs – including planning, cadastral fees, construction and/or contribution to joint facilities (private or public) – according to the individual shares. The development area included land for housing, for joint facility construction (like playgrounds and parking spaces), and for public facility construction (streets, water and sewerage systems). Questions on joint development projects had to be addressed and examined, through a cadastral procedure, by the “Cadastral Authority,” which is a State, or sometimes a municipal, organization. The “Building Development Plan” approval was made by a municipal assembly, and the establishment of the joint land develop-

ment, of the shares, of the change of land boundaries, and of the share of costs and compensation – included those incurred at the lay-out plan stage – were made by the “Cadastral Authority.” The transfer of land titles to new owners was made through sale contracts between the original landowners (sellers) and the new inhabitants of the area (buyers).

The experience with these land readjustment projects in Sweden included about 10 to 15 projects implemented at the beginning of the 1990s (see Table 3.9 and Figures 3.36-3.37 for the Uddaberg project), but since then very little has happened. There are several reasons for that, as follows:

- a. The decrease in demand for new housing caused by the surplus production from previous periods. This situation lasted until around 2010;
- b. Low interest in promoting private-led housing development in municipalities. This resulted in rather complicated procedures for achieving permission from municipalities for projects under the 1987 *Joint Land Development Act*. The procedures were then considered too complicated by many developers;
- c. Low interest in land development among existing landowners in possible areas for land readjustment. In rural zones, where land readjustment was expected to give additional possibilities for income, most people had already moved out by the time the legislation came into effect;
- d. Municipalities still owned considerable portions of land, which could be developed, and thus more complicated areas, with many landowners who would have to be involved in development projects, were avoided; and
- e. The existing tradition of municipal-led urban development on land owned by municipalities and then distributed among public and private developers, combined with a strong policy to avoid direct development on private land, which was believed to lead to higher final costs for new housing and to the creation of unearned land values for private landowners. An increase in land value was deemed to be unearned when it was created by investments in infrastructure by the State, or the municipalities, and not by present landowners.

Despite the failure of the urban land readjustment legislation, rural land readjustment following similar procedures has a long tradition in Sweden, and is still going on, mainly in forest areas, where the land is divided on many small owners, with uneconomic shapes like plots that are very long (kilometers) and very narrow (few meters), and that need to be consolidated into more economic parcels.

Table 3.9. Uddaberg Land Readjustment Project in Skövde, Sweden

Name of the project:		Uddaberg Land Readjustment Project
Location of the project:		Skövde, Sweden
Name of the implementation agency:		Private Implementation Agency
Project period:		1990-1992
Implementation of the project period:		1992-1996
Area of the project:		4 hectares
Rights holders:	N° of landowners:	20
	N° of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	Landowners will pay to municipality a fixed amount per new plot for access to public utilities.
	Decrease for reserved land:	-
	Total ratio of decrease:	Land for public use allocated to the municipality without compensation.
Implementation plan, stages:		November 1990: area regulation developed. May 1991: area regulation approved. June 1991: application for the joint development. September 1991: first decision on the joint development. March 1992: second decision on the joint development. September 1992: detailed plan approved by municipality. November 1992: decision on compensation.
Total built-up area of the project:		40 new plots for family housing.
Density involved before and after the project:		No information.
Reserved land and additional built area:		-
Land evaluation:		Rural before and areas for family housing after.
Real estate market evaluation:		No information.
Benefits to the local government:		For the municipality the process resulted in new housing with small input of resources since the project was handled mainly by the private landowners.
Benefits to the landowners (and/or leaseholders):		Housing development, and new roads, water and sewerage system connected to the municipal system.
Benefits to the investors:		-
Principal and eventual conflicts (site/landowners):		Conflict with two landowners who did not want to participate (solved through sale of these properties).
Finance of the project:		Each landowner organized his own financing (with the possibility to use mortgage loans).
Total cost of the project:		No information.
Features of the project:		The project resulted in a better plan through the cooperation. The process went well and the involved landowners were positive to the joint development. The project resulted in a positive result for the participating landowners. For the municipality the process resulted in new housing from a small input of resources, since it was mainly the private landowners who handled the project. The speed in the process was very much upheld through a construction company, which was eager to construct houses on the new sites.

▼ Figure 3.36. The Uddaberg area before the project implementation (1992)

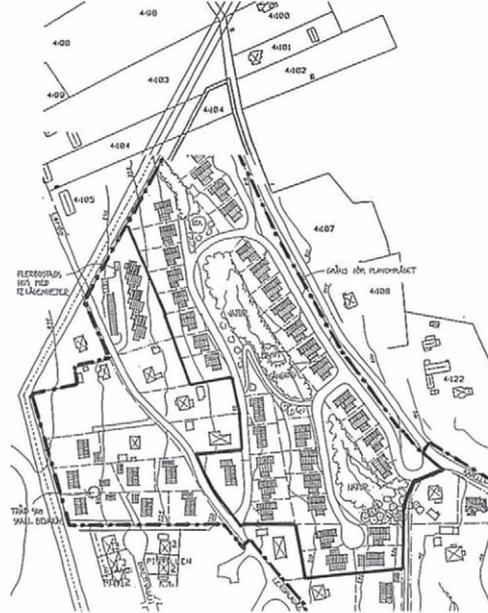
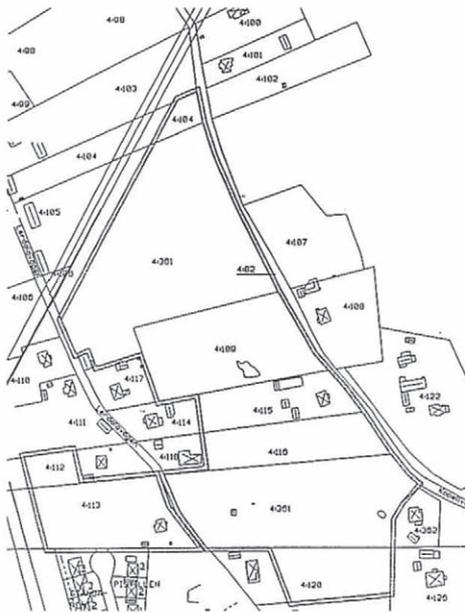


Figure 3.37. The Uddaberg area after the project implementation (1996) ▲

Urban Land Readjustment in Taiwan

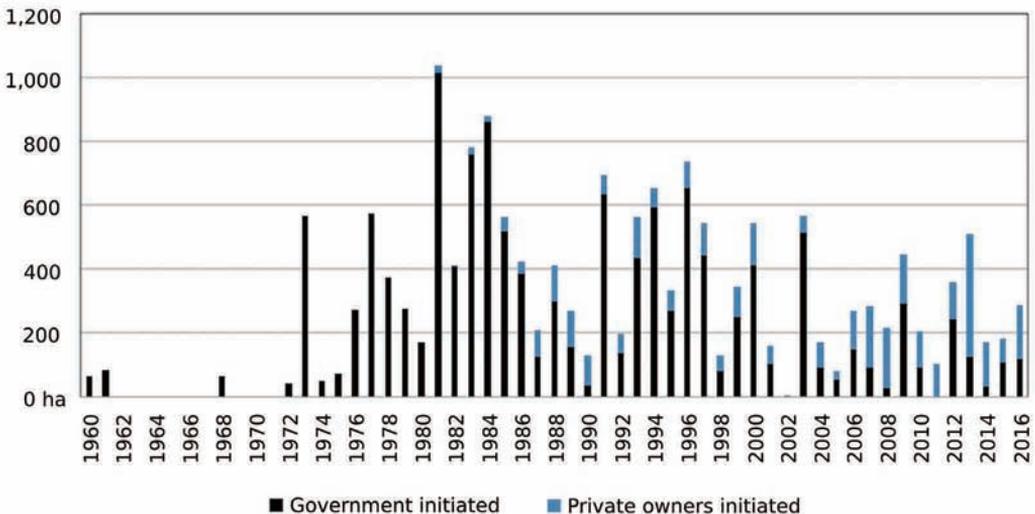
Tzu-Chin Lin and Hsiu-Yin Ding

Urban land readjustment is a measure of land development through which the location and configuration of land parcels are readjusted to solve the problems of fragmented ownership and irregular shape, and to supply well-shaped parcels of land equipped with essential public facilities for immediate urban development. This philosophy applies to urban land readjustment in Taiwan as well. Even though only 3% of the urban areas of Taiwan have been developed through land readjustment – a total of 16,500 hectares of land between 1960 and 2016 – the history of urban land readjustment in Taiwan dates back, at least, to the Japanese colonization period. In 2016, the population in urban areas accounted for approximately 80% of the total population of Taiwan, and 77% resides in the six major cities alone (Taipei, New Taipei, Taoyuan, Taichung, Tainan and Kaohsiung). Nevertheless, 82% of all areas developed through land readjustment are located inside these six major cities. That is, the majority of land readjustment projects have been implemented in the densely populated urban areas to accommodate a growing number of inhabitants.

The government implemented all projects prior to the 1980s, and land readjustment has significantly facilitated the process of urbanization through the provision of land for urban development. In 1979, the *Act of Promotion of Private-Owners Initiated Land Readjustment* was enacted in response to the shortage of budget and personnel in local municipalities. In contrast to the government-initiated land readjustment process, incentives such as tax deduction and low interest loans were offered under this act to encourage private owners to form a collective unity to undertake land readjustment by themselves. After the 1980s the era of fast growth of cities island-wide started, and the transformation of industries and massive inflow of population into cities led to demands for a larger quantity of urban land. Land readjustment was at that time employed to respond to rapid urban expansion through the more efficient use of land. In the meantime, land readjustment was also used to provide sites for public facilities at no – or little – expense to the public purse, and land-owners benefited from the rise of land values and the improved built environment.

Figure 3.38 shows that the areas of urban land supplied through land readjustment initiated by private owners has been on the rise since 1979. Among the various reasons for the increasing popularity of private owners initiated land readjustment, the most significant were the shrinking availability of urban land and the rise in housing prices. The significant increase in land values after land readjustment incentivized private landowners to participate in privately initiated projects, and government initiated projects have been gradually replaced by private landowner initiated projects. Before this, the accumulated areas of land readjustment projects initiated by the government had reached 80% but, especially due to the activities from the past 10 years, the figure for private owners initiated projects is now about 60%.

▼ Figure 3.38. Areas of urban land readjustment in Taiwan (1960-2016)



Through land readjustment, land previously used for non-urban purposes and without appropriate public facilities is converted into sites suitable for immediate urban development. Parcels of land involved in urban land readjustment normally go through the process of rezoning to become buildable urban sites. Based on the “beneficiary should pay” principle, individual landowners pay the amount of establishment costs in proportion to the benefits they receive, so it is not possible to leave unearned income with them. There are two types of costs landowners are required to bear: (1) costs associated with incurred expenses, and (2) the costs associated with sites for public facilities. Engineering works, planning and management costs, and loan interest compose the costs associated with incurred expenses. These costs are paid by the contribution of part of the owners’ land to the government. The contributed land is called “cost-equivalent land.” Another part of the owners’ land is contributed to the government to pay for the costs associated with sites for essential public facilities. Essential public facilities refer to roads, sewages, children’s playgrounds, neighborhood parks, plazas, green fields, elementary schools, junior high schools, parking spaces and retailing markets. Because part of the land is contributed to the government to pay for the costs, the land returned to landowners after readjustment will become smaller in size. The returned parcels are in principle assured to be 55% or more of their size before readjustment. The value of the returned smaller parcels is often higher than before land readjustment because the parcels become buildable and the environment is enhanced. The returned land parcels after readjustment will be located as close to their original location before readjustment as possible. In short, through urban land readjustment, participating landowners jointly endeavor to develop project areas and share the costs and benefits thus involved.

Urban land readjustment over the years have produced a variety of benefits, such as supplying urban building sites, alleviating the government’s financial burden in providing public facilities, and accelerating urban growth, among others (see Table 3.10 and Figures 3.39-3.40 for the Taipei Songshan project). However, recent years have seen the increasing opposition of some landowners and interest groups, such as tenants, to land readjustment. The opposition has led to land readjustment becoming more difficult and time-consuming to implement. To initiate an urban land readjustment project, agreement needs to be secured from half the landowners, or less than half if the landowners own more than 50% of the readjustment areas. This half and half majority rule is often criticized as being too easy to meet, and runs the risk of infringing on the will of the rest of landowners. In addition, the insufficient protection of people with interests in land other than owners, such as tenants, through compensation or relocation also attracts criticism.

In addition to the possible defects of land readjustment itself, land readjustment might also lead to various adverse effects to urban development. Spatially, urban land read-

justment is more feasible to be undertaken in the outskirts of a city. Agricultural lands at the outskirts are transformed into urban buildable sites through readjustment. The expected drastic rise in land values is naturally tempting to landowners. Given the limited government resources, less attention and investment will be placed on the inner city. The imbalanced efforts might result in over-investment at urban outskirts and under-investment in the inner city. As a result, some land development may be drawn away from the inner city towards the urban outskirts. In view of their private interests, developers therefore will tend not to engage in urban renewal projects, and instead pursue development through land readjustment at the urban outskirts. Thus, lopsided and inefficient land use is likely to be evidenced by urban sprawl and inner city deterioration at the same time. Nevertheless, because of the well-equipped public facilities, enhanced environment and reconfigured land parcels, project areas often attract investment from developers, particularly when the property market is prosperous. The land and property prices tend to be high in readjustment areas and the high prices often spill over into neighboring areas. Besides, in some land readjustment areas, the high prices are accompanied by a high vacancy rate in buildings, and speculation on land and properties is an island-wide phenomenon in many readjustment areas. In conclusion, the problems identified above either come from the process of land readjustment itself, or the disjunction between land readjustment and urban planning. The former problem often involves the issue of protecting property rights when people with interests do not wish to participate in readjustment or not agree to its outcomes. The latter problem results from the disharmony between authorities in charge of urban planning and land administration. The two authorities do not always work together.

▼ Figure 3.39. Configuration of land parcels before the land readjustment project (1981)

Figure 3.40. Configuration of land parcels after the land readjustment project (2007) ▼

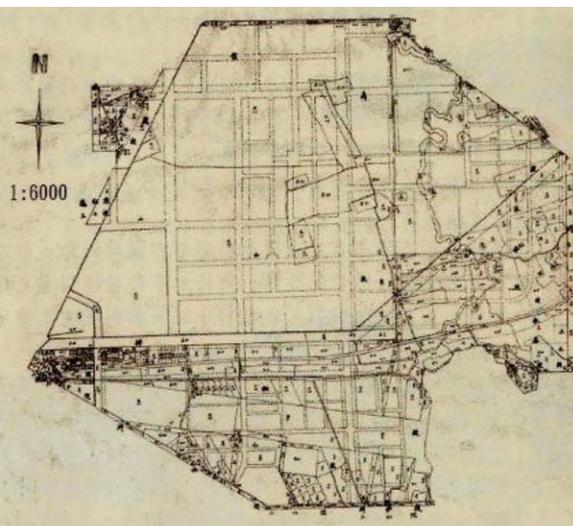


Table 3.10. Taipei Songshan Land Readjustment Project in Taipei, Taiwan

Name of the project:		Taipei Songshan Urban Land Readjustment
Location of the project:		Songshan district, Taipei city
Name of the implementation agency:		Department of Land Administration of Taipei
Project period:		1981-1983
Implementation of the project period:		1981-2007
Area of the project:		151.69 hectares (buildable area: 69.88 hectares, sites for public facilities: 81.81 hectares).
Rights holders:	N° of landowners:	793
	N° of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	30.08%
	Decrease for reserved land:	8.53%
	Total ratio of decrease:	38.61%
Implementation plan, stages:		-
Total built-up area of the project:		Buildable area: 69.88 hectares (Floor-area ratio ranges from 200 to 630%).
Density involved before and after the project:		Before: 11,000 inhabitants (partly was military uses). After: 60,000 inhabitants (dominated by commercial uses).
Reserved land and additional built area:		12.21 hectares
Land evaluation:		Increase of land value: 203%.
Real estate market evaluation:		No information.
Benefits to the local government:		Financial surplus: USD 1.43 billion. Saving of public budget: USD 0.76 billion (USD 0.62 billion for acquiring sites for public facilities and USD 0.14 billion for the construction of public facilities). Assessed property tax base rose by 23 times.
Benefits to the landowners (and/or leaseholders):		The area after the land readjustment project became the financial center of Taipei city with high-end housing neighborhoods and high-quality public facilities, living environment and open spaces (this is the first area in Taipei where urban design control was introduced).
Benefits to the investors:		The business-related facilities were equipped with bus transit stations, world exhibition centers, superior quality hotels, and the Taipei 101 (this area became very appealing for premium office spaces and international hotel chains).
Principal and eventual conflicts (site/landowners):		There were military bases and villages in this area prior to the land readjustment project and resistance of residents came from their attachment to their homes.
Finance of the project:		Reserved land was sold by public auction to pay for the project, and its total amount was USD 1.43 billion.
Total cost of the project:		Engineering works and loan interests: USD 0.14 billion.
Features of the project:		To achieve Taipei's urban development, the project employed a steering committee of urban design aiming large-scale building blocks and a mixed land use with high-end offices, malls and residential areas.

Land Readjustment in Thailand

Ittipong Tanmanee

The enactment of the law on land readjustment in 2004, the *Land Readjustment Act*, B.E. 2547, is considered one of the most important changes in urban development practices in Thailand. Since then, this efficient instrument enables the development of areas following a city planning framework. In the past, Thailand had only a limited number of instruments for urban development such as, for example, land expropriation by the State to open up areas for road construction. Also, land subdivision by the private sector was considered to be another way of development, but individual developers carried it out without concerted efforts in operations. Landowners usually want to open routes to their lands, but these accesses are often hampered by the adjacent property boundaries, resulting in roads installed without proper planning. Changes in socio and economic conditions today make this kind of road construction, a procedure known as development at random, less popular and more infrequent, though.

Almost 10 years after the enactment of the *Land Readjustment Act*, Thai society has learned some lessons about development through the collaboration between the government and the private sector. The private sector no longer needs to wait for the development initiated by the government. Instead, it can collaborate with the government to eliminate limitations on urban development, focusing on three land plot characteristics: (i) the shape, (ii) the location, and (iii) the size of the plot. When land was used for agricultural purposes, it usually had a narrow frontage and a shape like a strip running deep towards the rear; like a flat noodle. When surrounding areas become urbanized, the shape of agricultural land is a problem because it has only a limited access and this, and other obstacles like size, become barriers to the appropriate conversion of land use in a most efficient manner.

Land readjustment in Thailand is also useful to solve urban problems, and can be applied in many ways, as follows:

- a. The development of vacant land: vacant land inside urbanized areas without complete infrastructure or facilities can be developed using land readjustment according to ministerial regulations on comprehensive city planning. An example is the project in Lampang Province (see Table 3.11 and Figures 3.41-3.42 for Lampang project);
- b. The development for urban expansion: urban development and expansion can be properly directed in a systematic way using land readjustment to avoid direction-

less sprawl. An example is the project in Yala Province;

- c. The development of old central areas: dilapidated downtown areas, and in need of renovation, can be targets of land readjustment projects aiming proper land use and density restructure. An example would be a possible project in an old market in downtown Bangkok;
- d. The development of new towns: essentially land readjustment can be used for large projects like the development of new towns. These developments include bus terminals or railway stations in order to promote land development properly. An example is the project under development for a possible high-speed train in Thailand; and
- e. The development of disaster affected areas: land readjustment is the perfect instrument for prevention or renovation of cities damaged by natural events such as, for example, earthquakes, tsunamis, floods, and other related events like fire and land and mud slides.

In Thailand, since the proclamation of the *Land Readjustment Act*, many areas have been developed through this method, providing newly arranged plots and new title deeds to landowners. Projects have been implemented in the following provinces: Nan, Yala, Suphan Buri, Samut Prakan, Phitsanulok, and Narathiwat. In Bangkok, land readjustment can be found in the King Rama IX Royal Park Project. In the fiscal year of 2014, a budget was allocated for land readjustment projects according to the *Comprehensive City Planning Law* in 10 areas: Cha-am district, Phetchaburi Province and in Chanthaburi, Surin, Phayao, Nakhon-Phanom, Sukhothai, Phetchabun, Samut Songkhram and Kanchanaburi Provinces. This budget was for major road construction in land readjustment project areas designated in comprehensive city plans. Also, Trang Province is preparing a request for the construction of roads according to the comprehensive city planning through land readjustment process. In the fiscal year of 2015 and 2016, a budget was allocated for several areas in the following provinces: Amnat Charoen, Nan, Chai Nat, Ranong, Maha Sarakham, Mukdahan, Yasothon, Phetchabun, Phitsanulok, Loei, Chaiyaphum, Rayong, Phrae, Samut Sakhon, Nakhon Nayok and Nakhon Ratchasima.

The government of Thailand has a program to spread knowledge to every province of the country, through the policy to encourage them to implement land readjustment projects. We believe this is an efficient instrument to ensure development in a systematic way in accordance to our city planning standards. Therefore, development shall come in different forms, from downtown to suburbs, as context seems limitless for achieving sustainable development. Our ultimate goal is to utilize land readjustment to develop high-speed trains in Thailand, for its future stations and to connect people all over the country.

Table 3.11. Lampang Land Readjustment Project in Lampang, Thailand

Name of the project:		Lampang Land Readjustment Pilot Project
Location of the project:		Lampang Province, Thailand
Name of the implementation agency:		Municipality of Lampang, with the Department of Public Work and Town & Country Planning and the Department of Rural Roads.
Project period:		2006-2007
Implementation of the project period:		2008-2011
Area of the project:		12.5 hectares
Rights holders:	N ^o of landowners:	No information.
	N ^o of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	17,000 m ² (13.5%)
	Decrease for reserved land:	8,000 m ² (6.5%)
	Total ratio of decrease:	The average contribution was 20%.
Implementation plan, stages:		2006-2007: survey of the geographic condition; making of the project master plan; replotting plan; financial plan and expenses for project implementation; landowner's meeting; consensus building and agreement. 2008-2010: construction works and relocation. 2011: issuance of ownership rights, and project ending.
Total built-up area of the project:		-
Density involved before and after the project:		No information.
Reserved land and additional built area:		Reserve land: 8,000 m ²
Land evaluation:		Land value before the project: Thai baht 313,000,150 (USD 7,825,000 or USD 62.50 / m ²). Land value after the project: Thai baht 540,232,560 (USD 13,505,800, increased 1.73 times).
Real estate market evaluation:		-
Benefits to the local government:		Implement the "Lampang Comprehensive Plan."
Benefits to the landowners (and/or leaseholders):		Income increase.
Benefits to the investors:		-
Principal and eventual conflicts (site/landowners):		Landowners consensus building and on reserve land.
Finance of the project:		National subsidy, municipal budget and resource from reserve land.
Total cost of the project:		National subsidy (20-meter road): USD 750,000. Municipal budget (14-meter road): USD 650,000. Reserve land (electricity and water): USD 130,000. Total construction costs: USD 1,530,000.
Features of the project:		The area was unused in central Lampang city. The land use plan for the project site in the "Lampang Comprehensive Plan" is mid-rise residential.

▼ Figure 3.41. Lampang area before the project implementation (2005)

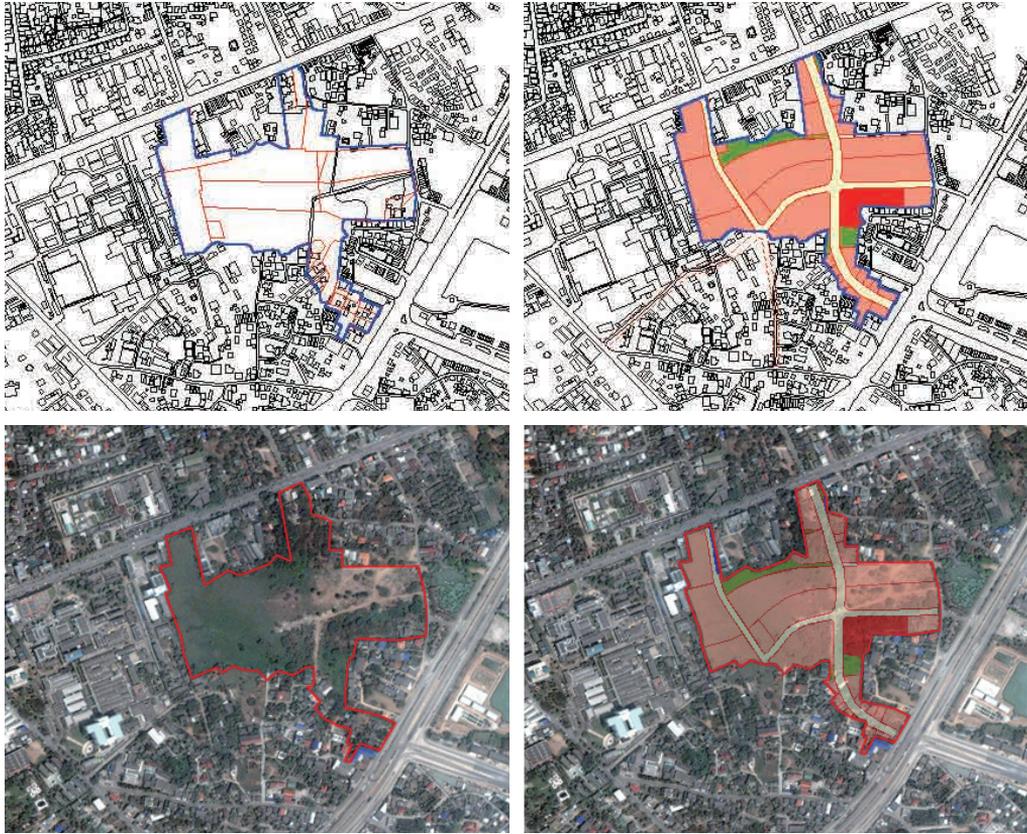


Figure 3.42. Lampang area after the project implementation (2010) ▲

The Shortcomings of Land Readjustment Application in Turkey

Tahsin Yomralioglu, Bayram Uzun and Recep Nisanci

The first Turkish land readjustment applications were based on the *Regulation of Roads and Buildings* (1864). Initially, this method was used for the rapid development of areas where fire, earthquakes and floods had occurred. Since 1930, this method has been applied in areas where development plans exist. While the contribution ratio percentage was 25% at that time, today this figure is 40%. This percentage depends on the size of the public area required within the project. Nowadays, a 45% ratio is under discussion. The reason behind the constant increase in contribution ratio arise on the fact that

the State needs more and more land to meet the ever-increasing demand for public spaces, and there is no alternative cost effective mechanism available.

Introduced legally with more specific procedures through Article 18 of the *Turkish Zoning Law*, the technique has been actively used since 1985. The *Zoning Law* N° 3,194 states that two groups of local public bodies, namely governorships and municipalities, are legally allowed to execute land readjustment projects. While municipalities are responsible for making decisions within urban areas, governorships are responsible for the remaining areas. The municipal council makes all the necessary decisions about when, where and on which parcels the project will be implemented. After the council's decision, responsible institutions must carry on all the technical and non-technical tasks.

In order to start a project, first, the municipality prepares a development and a zoning plan. All legal records, such as the cadastral and the topographical maps, must be updated. After updating these documents, it is ensured that they reflect the final base map of the project area. Using this base map, boundaries are demarcated on the field, block corners are re-surveyed, and coordinates are all re-calculated. Then, the area is subdivided with appropriate patterns of streets, parks, schools, and sites for other public uses. Within site blocks formed by the streets, new plots are allocated for private development. In the meanwhile, densification is redesigned. In principle, after the project, private landowners must receive new plots which are as near as possible to the location of their original land.

After the land redistribution, a tentative subdivision plan is announced to the public. For a month, landowners can object to the layout plan by stating the reasons to the municipality. Usually, these objections are about the new location and the redistribution process. Landowners' objections must be submitted to the planning committee for a final decision; amendments can be made and approved by the municipal council in regard to the committee's recommendations. If landowners still do not accept the decision, they can apply to the Court. According to the decision by the Court, necessary changes can be made. After the consultation and possible process changes, the new plots' coordinates are calculated and submitted to the cadastral office for checking and approval. The cadastral office then issues new legal records. After these procedures have been completed, the land registry office registers the new plots, and new land titles are directly distributed to the original landowners (see Table 3.12 and Figures 3.43-3.46 for Toklu-Besirli project).

There is broad agreement on the advantages of land readjustment for urban development in Turkey. The first is its potential to develop public infrastructure, as landowners must contribute a part of their land for roads and other public facilities. Furthermore,

land readjustment is certainly cheaper than gathering all the required project land into a single ownership, whether by purchasing through the market or by expropriation. The second advantage is the reform of the patterns of old property divisions. This feature is particularly important in locations where rural property divisions were irregular and fragmented into many small parcels with little or no road spaces. Thirdly, the original landowners retain the ownership of great part of their land. This result in less landowner opposition to projects than in the case of large-scale land expropriation, and development is less disruptive to the existing community. But, although land readjustment has these advantages in solving land use problems in urban areas, there are still some problems (Yomralioglu 1993). Since the *Zoning Law* was enacted, some projects were found to be unsatisfactory or were not completed on schedule. The limitations of budget, poor land information management, and lack of public support have prevented some projects from achieving their objectives. The current issues with land readjustment in Turkey can be summarized as follows:

- a. Landowners: in many cases, landowners do not support land readjustment. They are aware of the fact that some part of their land will be forfeited for public use without any compensation. In the re-allocation process, landowners usually object, claiming that equitable benefits will not be obtained after the project because of several factors, such as the number of floors allowed by the re-zoning, or on the land uses proposed, their views after the project, the project's proximity to commercial areas, and/or the lack of access to some public facilities. Commonly, landowners are not consulted when decisions are made about public requirements and their lands. In other words, landowners are not informed before projects commence, and there is no necessity for landowners' consent at the beginning of it;
- b. Municipalities: municipalities have the greatest responsibilities in a land readjustment project. They must provide all the necessary documents for the project implementation, however, due to the power of the municipal council to allow land readjustment application some projects can be delayed or cancelled for political reasons. As people living in project areas can affect the local election results, the members of the elected council may not be positive about their implementation. For this reason, land development objectives may fail, especially in small and non-powerful municipalities. Apart from the political reasons, the municipalities also have some technical issues. In most cases, available municipal resources, such as technical personnel, budget, and equipment are not sufficient to carry out a land readjustment project properly;
- c. Land valuation: in Turkey, land value does not play a role in the calculation of the percentages to be contributed by each landowner for public spaces. The only crite-

tion is the parcel size, and the contribution factor to public land is calculated and applied to all landowners in the project. And there is no parcel appraisal, before or after the project. The area method, in contrast to valuation, does not provide an equitable approach for the landowners, and there is a common agreement that land readjustment projects should be based on a more equitable unit land value;

- d. Decision-making: surveyors often have difficulties in deciding about a new parcel's location. Therefore, landowners are at risk because different approaches provide different land locations and benefits. Re-allocation is a complex task that requires highly specialized expertise because there are so many questions to be answered, like who will receive the new parcels? How the land will be evaluated? What criteria and land characteristics should be considered? How land holdings will be redistributed or consolidated according to the landowners' satisfaction?
- e. Process standardization and cadastral data: there is no single standardized procedure for land readjustment implementation. In particular, the land re-allocation method is not standardized. Some other related technical processes have problems. Although both cadaster and land titling works have been carried out in digital format since 1998, manual processing is still used. Searching for required records and analyzing the existing cadastral information are carried out with conventional manual methods that are time-consuming and error-prone;
- f. Land speculation and low-income families: before the beginning of the project, parcel purchases are made in a speculative manner. Generally these parcels have low prices prior to the project and the value increases by about 400 to 600% after the project. In addition, because there are no regulations to force landowners to construct buildings after the project, parcels are left vacant awaiting the ceiling in market value. Because of the high value of land prices, low-income families have no opportunity to buy parcels created from readjustment projects in Turkey; and
- g. Reserve land approach: another basic issue in the Turkish land readjustment process is the lack of reserve land production to be used to recover project expenses, as achieved by land readjustment in many different countries. The main reason for this is the difficulty of explaining to landowners about additional reductions of their private property, beyond 40%, to produce reserve land. Landowners have expectations for infrastructure services in return to their 40% contribution, but, as the public authority provides all the infrastructure services, such as roads, sewage and water systems, gradually as the area is developed, it can take decades until all services are completed.

Table 3.12. Toklu-Besirli Land Readjustment Project in Trabzon, Turkey

Name of the project:		Land Readjustment Project in Toklu-Besirli
Location of the project:		Toklu-Besirli district, Trabzon city, Turkey
Name of the implementation agency:		Municipality of Trabzon Zoning Affairs Bureau
Project period:		1985-1987
Implementation of the project period:		2 years (after the preparation of the zoning plan).
Area of the project:		17.8 hectares (178,000 m ²)
Rights holders:	N° of landowners:	500 (200 plots before the project).
	N° of leaseholders:	-
Land evaluation, contribution ratio:	Decrease for public facilities:	32%
	Decrease for reserved land:	-
	Total ratio of decrease:	32%
Implementation plan, stages:		1985 to 1986: application of the zoning detailed plan, re-surveying, check of all cadastral records including land shares, announcement to land holders, calculation of public contributions. 1986 to 1987: reallocation of new land parcels, re-distribution of old cadastral parcels, application of new public areas (roads, streets, park, etc.), new land registration and distribution of new land titles.
Total built-up area of the project:		121,040 m ²
Density involved before and after the project:		Before: 56 inhabitants/hectare (Total population 1,000 people). After: 390 inhabitants/hectare (Total population 6,930 people).
Reserved land and additional built area:		No reserve land approach.
Land evaluation:		Before the project: TL 14.7 /m ² . After the project: TL 78.1 /m ² . Now (2015) land unit value is TL 1000 /m ² .
Real estate market evaluation:		Increase of 1,000% of the buildings price after the project.
Benefits to the local government:		Increase of 32% in public areas, new roads and streets opened.
Benefits to the landowners (and/or leaseholders):		Land value increased very rapidly, new social services were brought to the project area, the cadaster was renewed, and the boundary conflicts were minimized.
Benefits to the investors:		Building enterprise, long-term profit and new investments.
Principal and eventual conflicts (site/landowners):		Disagreement on the land value distribution balance, before and after the project implementation. Disagreement on the standard building size allowed by zoning.
Finance of the project:		Fully municipal financed.
Total cost of the project:		About USD 0.5/m ² , and project area cost was USD 85,000.
Features of the project:		Project development was made through partnership of the municipality of Trabzon, and the Karadeniz Technical University, Department of Surveying.

▼ Figure 3.43. District of Toklu-Besirli before the project and cadastral land parcel distribution (1985)



▼ Figure 3.44. District of Toklu-Besirli and the proposed replotted new land parcels (1987)



▼ Figure 3.45. District of Toklu-Besirli after the project implementation (2002)



Why Land Readjustment in the British Former Colonies, but not in the United Kingdom?

Robert Home

Land readjustment, a technique for land assembly, combines several elements: the physical re-ordering of land parcels, funding of infrastructure, pooling of property rights through some public agency, and distribution of the financial benefits of development (sometimes known as betterment) between landowners and the development agency. It evolved from rural land consolidation as a legal instrument to assist in urban growth situations, and its first application is usually attributed to the *Lex Adickes* in Frankfurt. While the technique is widely used across the world, it is virtually unknown in the United Kingdom. This may seem curious when one considers the international importance of British town planning since the garden cities movement of the early 20th century, and the new towns programme that followed (Ward 2000). We will explore why land readjustment did not find its way into the “tool-box” of British planning, and why it was nevertheless successfully adopted in some British colonies during the first half of the 20th century.

Britain’s first town planning legislation was passed in 1909, and the “Town Planning Institute” meetings at that time actively discussed various planning techniques, among them the *Lex Adickes*, but land readjustment was not incorporated into the British legislation either then or later. A member of the Institute commented at one of its early meetings, during a discussion of the innovative *Bombay Town Planning Act* of 1915 that, “as the object of the town planning scheme was to benefit the community, private ownership of land should be plastic in the hands of the town planner.” He went on to regret “the rigidity of ownership in this country, a rigidity which there was no provision in the law to overcome” (Mirams 1919-20). In Britain, with its tradition of large, often aristocratic, estate development (Olsen 1982), the private developer was less concerned with fragmented land ownership, took the profits and assumed the costs of infrastructure within a strong regulatory framework, so there seemed little need for land readjustment.

Schemes by local authorities under the British planning acts were regulated by the so-called “Model Clauses” (with origins in 19th century compulsory purchase regulations). Clause 42 empowered them to bring about an exchange of land or boundary adjustments, agreed between the parties with a deed of exchange on an equal “give

and take” basis, but the clause was rarely invoked. As for the provision of infrastructure, the construction of roads and drainage could be undertaken by the local authority or the developer: under the *Public Health Act* of 1875 and *Private Street Works Act* of 1892 the local authority could undertake the work and recover the costs.

The sharing of betterment between the landowner and the public authority was a more sensitive matter. The 1909 and subsequent legislation included provisions for the local authority to recover part of the betterment value conferred by a planning scheme, but the power was hedged with many restrictions, and plagued by disputed values (a problem which the “Lands Tribunal” was later created to arbitrate), with the result that only three cases of betterment were collected in the period of 1909 to 1939. A 1920’s text-book for private estate developers closed with a warning about taxation:

“So long as those engaged in development schemes are allowed to continue their exertions with the normal market risks the housing demands of the people will be met. But a threat of confiscation, special taxation or other factors leading to a feeling of insecurity will inevitably bring development by private enterprise to a standstill. This would not arise through a lack of buyers nor through a lack of enterprise on the part of the builders, but because those to whom they look for financial assistance would be unwilling to risk their money on what would then become a gambler’s chance.” (Howkins 1926)

In the crucial period (1905-20) when British town planning legislation was new and changing, land readjustment’s German associations made it suspect, for the two countries were at war between 1914 and 1918. Interest in German planning approaches diminished with the rising hostility between the two countries, and the German model of strong municipal power over land was associated in Britain with autocracy and “bureaucratic Germanism” (Harrison 1991). In Britain, where private land holdings were larger, developers were expected to pay for infrastructure, and land values were depressed in the years during and after the World War I, land readjustment seemed to offer little advantage, and compulsory purchase was the preferred method of land assembly. For example, when the large suburban housing development at Becontree was being planned after 1919, landowners in a stagnant land market were satisfied with the compensation paid on compulsory acquisition by the London county council, and issues of boundary adjustment and fragmented land holdings did not arise (Home 1997b).

Later, when the nationalization of development rights was being considered during World War II, the Uthwatt report on betterment returned briefly to land readjustment, referred to as the possibility of “unification by private pooling schemes” (Uthwatt 1942, 24-26), but dismissed it with the lofty words:

“The logical answer to the proposals for pooling ownerships is thus that they are theoretically sound in endeavoring by means of unification to eliminate the compensation requirements arising from shifts of value, but that as shifts are on a national scale so the pooling of ownership must result in a single pool comprising the whole of the land of the country. In a word, the only feasible system of pooling is nationalization, which is the very result pooling is designed to avoid.” (Uthwatt 1942)

The subsequent 1947 *Town and Country Planning Act*, following Uthwatt’s recommendation, nationalized development rights through the requirement for planning permission, compensated landowners for loss of established development rights, and introduced a development charge on betterment and change of use – which was set at 100% and proved, unsurprisingly, to be short-lived (Hall 1965). Some 60 years later the government of England and Wales returned to the matter of land acquisition processes in the *Planning and Compulsory Purchase Act* of 2014. That act was preceded by a review that claimed to be “fundamental,” but which made little investigation of other possible methods for land assembly, notwithstanding some attempts at the time to promote “assisted land pooling.” So the absence of land readjustment from British planning laws is apparently reconfirmed.

Although British planning legislation has thus never had land readjustment provisions, it is a different story in some of Britain’s overseas colonies, where early town planners were actively experimenting with their new “tool-box” of techniques in the first half of the 20th century (Home 1997a; 2007). Town planning, promoted with evangelistic fervor by Patrick Geddes in India between 1914 and 1920, offered colonial administrators a modern tool of social management, which might help preserve the British Empire in the testing time of World War I and growing local nationalism. The 1915 *Bombay Town Planning Act* introduced land readjustment to British India. The Presidencies of Bombay, Calcutta and Madras were the cornerstones of British imperial power in India, with a strong paternalist style of government, and following British-derived land law and municipal administration. Bombay, with a tradition of interventionist government, only a few years after the British 1909 *Housing and Town Planning Act* was trying to go one better with its 1915 *Town Planning Act*. Improvement trusts had previously been created in Bombay and Calcutta, with sweeping powers to acquire property compulsorily and undertake infrastructure improvements and urban developments, but they were unpopular with landowners, who were paid little or no compensation for loss of property and were denied the financial returns from urban development. The trusts followed a practice of acquiring more land than needed for roads, so that they (not the former landowners) benefited from the betterment value and property development that followed new road construction.

The new *Bombay Act* was the subject of a paper presented in 1920 by A. E. Mirams (consulting surveyor to the government of Bombay) to the “British Town Planning Institute” in London (Mirams 1919-20). He called the act “a sincere attempt to embody in one measure all that was best from every other town planning act extant,” and its provisions drew mainly upon the 1909 *British Act*, but also, significantly, upon the *Lex Adickes*. The *Bombay Act* empowered local authorities to declare a town planning scheme, and Section 12 allowed plots to be combined and reconstituted (with the consent of the landowners, in “the spirit of true co-operation”): “two or more original plots each of which is held in ownership in severalty or in joint ownership shall hereafter, with or without alteration of boundaries, be held in ownership in common as a reconstituted plot.”

Miramams found the financial provisions (sections 16 to 28 of the *Bombay Act*) “of considerable interest, as they treat the problem of paying for the execution of improvement schemes on what is to this country an entirely novel basis.” The Bombay Presidency already operated an infrastructure charge system, whereby new roads and railways were paid for by a special rate levied on the districts to be served. Indian municipalities were also exploring how they could benefit from increased property values, realizing that in “many European cities, notably in Germany, urban increments in values are most jealously regarded by the municipalities, and as a matter of course they are considered to be entitled to a share in these increases” (Shah and Bahadurji 1925). The *Bombay Act* approach to the “increment” (or betterment value) of development land was that the final value of the land needed for a scheme was calculated, the costs of implementation and the value of the land area taken for roads and other infrastructure were deducted, and the balance taxed at 50%, or, in other words, shared 50:50 between the landowners and the local authority. The various values were to be determined by an arbitrator appointed by the government. Mirams stated that the act:

“Aims at distributing the cost of development schemes over the lands improved thereby, and yet at the same time allows a fair margin of profit to the owners of the land, who as a rule have done absolutely nothing to improve the value of their property. At the same time, the act brings into the market large areas of land, which without co-operative action would for untold years remain agricultural land. In this way the community at large is able to obtain land at a reasonable price.” (Mirams 1919-20)

Within a few years of the 1915 *Bombay Act*, land readjustment was being applied to some sixty schemes in the Bombay Presidency. The “Town Planning Institute” (TPI) President (G. L. Pepler) commented on Mirams’ paper that the *Bombay Act* “seemed more vigorous and direct” than the 1909 *British Act*, and the TPI member (Joshua

Scholefield) proposing a vote of thanks to Mirams considered that:

“It would be a great benefit to the local authorities of this country if they had such a power of re-distribution of properties for the purposes of a scheme.” (Mirams 1919-20)

Later Mirams was to claim that the *Bombay Act* “conferred more benefit on the community than the English *Town Planning Act*,” and that the *Lex Adickes* system of land pooling and distribution was “a magnificent thing, and the owners were intensely pleased with the provisions” (Mirams 1923-24).

Meanwhile a leading town planner, W. R. Davidge, was consultant to the Bombay and Madras Presidencies. He found land readjustment in Bombay’s suburban housing development contributing to the quadrupling of land values in 10 years:

“So popular have the suburban town planning schemes become as a means of quickly earning profits that it has been necessary for the government to take over and acquire practically the whole of the remaining area of building land within the suburban area.” (Davidge 1923-24)

The Madras Presidency followed the Bombay example in its *Town Planning Act* of 1920, on which Davidge wrote that land readjustment provisions in Bombay “based upon the well-known *Lex Addickes* (*sic*), has been found of very great value, and its extension to the whole of the Presidency of Madras will be watched with interest” (Davidge 1921).

Land readjustment was also tried with varying success in other British colonies, notably in Mandated Palestine, which incorporated provisions in its planning ordinances, and they have survived in the post-1948 State of Israel. In sub-Saharan Africa land was in plentiful supply, and the colonial administrations could take what land they needed by negotiation with tribal communities, with little or no compensation paid. When town planning legislation was, following colonial office policy, rolled out to the British colonies in the 1930s (Home 1993), land readjustment was not included as a component in the planner’s “tool-box,” and the advisors who drafted the legislation were probably unaware of its possibilities, or even its existence.

Finally, the story may not be over. As the United Kingdom government seeks to increase house-building rates, and shortages of development land are being encountered, the potential of land readjustment may yet be re-assessed. It is being promoted as an approach to Africa’s problems of urban development (Fourie 2004), and the Global Land Tools Network created by UN-Habitat is providing a vehicle through which the concept may be revived and transferred to new jurisdictions.

Land Readjustment Possibilities in Vietnam

Nguyen Ngoc Hieu

Over the past three decades, Vietnam has gone through a fast urbanization period. The average urban population growth exceeds 3% per year, and the growth for residential space was even faster exceeding 8% annually during the same period (Dong 2013). Long and hasty urbanization supported leap frog projects that left many underdeveloped gaps in suburban areas (Hieu 2014), and cities grew by the fuel of converting cheap agricultural lands to satisfy investors and speculators. With the support of State's land ownership and one-party system, developers were even more ambitious.

The growth pace, however, slowed down from 2011 due to the economic recession, and the property market triggered a new turn to change the "jump far" pattern to "jump up" by consolidating existing built up areas. Things also changed when land prices plunged and further urban land use and arable land protection policies were introduced (*Decree 69 on Land Use Planning* of 2009, and the *Law on Environmental Protection* of 2014). The economic recession hampered municipality financial ability to extend urban infrastructure networks and, as consequence, outward development was frozen. The market confirmed this trend with the majority of new green field projects left abandoned, in contrast to the restart or speeding up of brownfield ones (CBRE 2014).

It seems difficult to adjust the development pattern, and some barriers seem to come from professional developers, as their nature is to avoid community redevelopment projects. Old industrial or insolvent projects bring more profit than arduous resettlement with resistance, unless developers receive some special support from the State, which is limited during periods of recession. Further, without institutional changes and in periods of weak law enforcement, redevelopment is a hard choice for both State and developers. The lessons learnt from the earlier condominium redevelopment in Vietnam showed how things become stagnant in such situations.

Land readjustment is not a new concept for both rural and urban development projects in Vietnam. In the rural area, land pooling schemes have been implemented to correct the side effects of the arable land per head policy (ensuring equity) at the beginning of the "Renovation Process" during the 1990s (*Vietnamese Law on Land* of 1993). Over a decade of immense efforts, rural readjustment policy attempted to reduce the number of inefficient land plots using the political system and its administrative power. Many locations successfully applied this tool to significantly reduce the number of land parcels. This policy, however, was not legalized at the central level, and only some proce-

cedure and guidelines were available at the local level. In reality, a case-by-case approach was widely used to address the calculation and distribution of costs, and consensus building among the parties.

For urban areas, the essence of land readjustment is to implement housing development projects. From 2010 to 2014, the “Cities Association of Vietnam” (ACVN) led four projects in Hai Duong city (Hai Duong Province), one project in Tam Ky city (Quang Nam Province), and one project in Tan An city (Long An Province). The project’s scales were small, less than 2-dozen households were involved, and they consisted of readjusting land plots using the consensus building approach. Compared to the Japanese procedure for a land readjustment project, they were simpler and lacked professional valuation services (see Table 3.13).

Table 3.13. Comparison of the Vietnamese Case with the Japanese Procedure

	The Japanese Land Readjustment Procedure	Vietnamese Community Housing Development
1	Initiate a replotting plan to be approved or utilize an approved one with a land readjustment approach.	No replotting plan available, a non-governmental organization initiated a community development plan with the negotiation process.
2	Professional valuation of property before and after the project’s implementation, agreeing upon the exchange rules, financing and implementation plan.	Community valuation, negotiation, and arrangement of exchange and readjustment combined with a fund for the project implementation and a loan to develop housing.
3	Parties contribute to implement together with an external fund (government or private authority).	External funding and community funding for development.

(Source: Cities Association of Vietnam (ACVN), cases report from 2014).

The success of these projects relied on strong cooperation amongst donors and other stakeholders, like ACVN, local authorities, and the communities. Local authorities are committed to remove most of the administrative hindrances caused by existing land administrative requirements. A small loan from the Cities Alliance (Cities without Slums) motivated and facilitated poor households to participate in the infrastructure upgrading and the housing redevelopment program. Volunteer architects productively facilitated the negotiation process. And finally, community sense was resonated with good neighborhood leadership that overcame many disputes over the fairness of the property exchange and costs for development.

The call for legalizing land readjustment has been acknowledged. The World Bank regarded its wide potential applicability (Rajack et al. 2015) and the Japan International Cooperation Agency stated that possible application in the urban fringe has a great potential (Ochi 2012). The Vietnamese Ministry of Construction (MOC) has expressed commitment to legalize the tool in the near future and, recently, two cities in south of

Vietnam submitted their willingness to apply land readjustment under the urban upgrading program financed by the World Bank in the Mekong Delta region (Tran and Du 2014).

Although the authority's commitments have been confirmed, until 2014 however the current legislation in Vietnam was unprepared to implement this tool. The term land readjustment is not found in either the *Urban Planning Law* (2009), or the newly enacted *Law on Land* (2013). There is no outspoken support to community initiatives development in these laws. There are also no guidelines to support the negotiation processes in the community base, and according to recent analyses, there are many legal and technical gaps to be fulfilled. The necessary changes are not only limited to legal but also administrative matters. For example, it is necessary to provide support for community development initiatives, and to provide technical assistance to enable market values to be exchanged. There are other conditions to consider, such as the pre-mature nature of the market for professional valuation services, and the nature of the culture of exchange in Vietnam. Transparent, professional, and fair property valuation should be a must for any project as inequality is the source of disputes and resistance. Without good exercise of power then, this might become a deadlock during the negotiation processes. That is why a flexible and adaptive strategy continues to be the best way to implement land readjustment outside of a formalized legal framework.

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