

# **Applicability of Land Readjustment Method in Urban Renewal: An Examination of Three Cases in Turkey**

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**Key words:** Land readjustment method, urban renewal areas, inner city areas, Turkey .

## **SUMMARY**

It holds great importance for a tool to be found that is capable of fulfilling specific functions (land assembly, self-finance, the protection of social capital, resulting in a certain time, etc.) in the renewal of urban built-up areas. LR is seen as a potential tool for providing solutions to the problems occurring in traditional urban renewal processes. However, there is limited information on the use of LR method in urban renewal areas. The paper tries to understand whether LR can be used for the renewal of built-up housing areas with different qualities. That is, land readjustment can be used for the renewal of different sorts of housing areas.

The methodology of the study bases on the detailed examination of the potential renewal areas that represent built-up housing areas with different qualities, and the comparison of each other. Therefore, three different potential renewal areas that represent built-up housing areas with different qualities were selected. The questionnaire survey was conducted with inhabitants (both land owners and tenants) in these areas. Additionally, the questionnaire survey was conducted with the municipalities in the case areas. In the questionnaire survey, first of all the features of the potential urban renewal areas, main principles in urban renewal projects, methods used of to be used, land acquisition methods, satisfaction that these methods provide or will provide, difficulties in implementing renewal projects were inquired. Both descriptive and some statistical analysis techniques (single sample t test, kruskal-wallis test, etc.) were applied to data obtained from the questionnaire survey. According to the results, the ranking of main principles in urban renewal projects in the three case areas with these different qualities are similar each other despite difficulties encountered in the renewal process. It can be said that the main principles for three cases are suitable for the logic of LR.

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## **1. INTRODUCTION**

It holds great importance for a tool to be found that is capable of fulfilling specific functions (land assembly, self-finance, the protection of social capital, resulting in a certain time, etc.) in the regeneration of urban built-up areas. The land readjustment method has substantial potential in terms of fulfilling these functions when compared to other urban regeneration methods. However, there is limited information on the use of land readjustment method in the renewal of urban built-up areas. The capacity of land readjustment method in fulfilling the functions required for the renewal of built-up housing areas in different ownership structure and different qualities (high-density, medium and low density housing areas, housing areas with historical quality and slum housing areas, etc.) has not been known certainly.

The paper tries to understand whether LR can be used for the renewal of built-up housing areas with different qualities. That is, it examines whether LR method can be best-fit tool for the renewal areas in different characteristics in terms of fulfilling these functions when compared to other urban renewal methods by focusing on the Turkish case.

The methodology of the research is based on comparison. The comparison study of land readjustment to other tools will be conducted in terms of fulfilling the functions required in urban renewal of built-up housing areas with different qualities determined as samples. Primary data obtained from surveys, discussions and field studies will be used in the research. The concluded results of the research will contribute to a better understanding of the use of land readjustment method in the renewal of urban built up areas with different qualities (high-density, medium and low-density housing areas, housing areas with historical quality, slum areas) The information obtained through the research will be useful for municipalities (or local administrations) to develop reliable programs and policies on land readjustment in the renewal of built-up urban areas at national as well as international level. In addition to this, it will also bring useful information for better understanding as well as improving the land readjustment method regarding its fulfillment of functions required by urban renewal at different contexts (Turkey and the Netherlands). This type of comparison will also bring benefit to the testing of whether or not land readjustment is a flexible tool at different contexts.

This paper is organized as follows: the second section gives the literature background. The third section gives an overview to urban renewal in Turkey. This section is divided into four parts. The first part gives analyses related to methodology of analysis. The second part includes analyses and their results. The third part gives the findings of the analysis. The last section includes a conclusion.

## **2. LITERATURE BACKGROUND**

### **2.1 Some constraints in the traditional renewal processes**

In a common manner, two fundamental tools are intensively being used as methods of urban renewal in countries. The first one is regeneration via either expropriation or compulsory purchase methods, and the latter is ways of renewal depending on the purchasing of the real estates in urban renewal areas by developers.

Expropriation or compulsory purchase is used in publicly initiated renewal projects in particular. Expropriation or compulsory purchase is transactions that are carried out based on public power. The object of the government is hereby to ensure land assembly by interfering in multiple ownership or the existing fragmented ownership structure. Thus the area can be enabled to become more compatible to the function planned for the renewal. In most countries, expropriation or compulsory purchase for regeneration areas is considered as a last resort since public power is used in this method (Louw, 2008; Turk, 2004; De Wolff, 2002; Adams et al., 2001b; Shultz and Schnidman, 1990). For instance, although municipalities in the United Kingdom had been using compulsory purchasing for the land assembly in commercial regeneration areas located in city centers in the 1950s and 60s, as from the 1980s they have been considering compulsory purchasing as a last resort by reason of a more market-oriented approach mainly in land development (Adams et al., 2001). According to the Urban Task Force (1999), there are five basic restrictions in UK for the utilization of “compulsory purchase” for the renewal of built-up areas. The first is the small amount of funds provided to local administrations related to compulsory purchase costs. The next is the bureaucratic nature of the compulsory purchasing process and the long time required for the completion of transactions. The third restriction is that the implementation of compulsory purchase law is carried out differently by the practitioners. The fourth is the weakness of local administrations in terms of capability and experience to implement compulsory purchase. The fifth restriction is the inadequate price given for the compulsory purchasing of commercial real estate. The situation causes the landowners to be prejudiced and leads them to go before the court against the transaction. The fact that landowners go to court extends the period. It is stated in various studies that the above mentioned restrictions effective in the United Kingdom are similarly effective in other countries.

The method of purchasing real estate in urban renewal areas by developers is completely carried out within the framework of private law principles and market mechanism. The behavior of landowners living in the area determines the use of this method. Especially, during using of this method, several key parcel owners required for the land assembly may request from the developer for their lands a price much higher than the land market value (Adams et al., 2001). The situation can result in delays or can require the readjustment of the project by removing the parcels causing problems. The existence and complexity of ownership problems in renewal areas make the use of this method difficult. At this point, it may be significant to carry forward the government intervention or preemption right. As a matter of fact, in some countries such as the USA, land assembly in urban renewal areas is carried out by local administrations before all else based on public power, and after the

completion of the land assembly, the area is transferred to the private developer (Shultz and Schnidman, 1990). However, the main factor in the ability to use the public power of the government is the "public interest" in the urban renewal project.

## **2.2. Applicability of land readjustment method in urban renewal**

Land readjustment (LR) is a technique which is used for both the development of new areas and the reorganization of the structured areas in urban regions (Larsson, 1997). The application of this method provides for the conversion of agricultural or semi-urban land at the urban fringe into urban land. Further, the urban plots in built-up areas may be readjusted. Essentially, LR is used for new development in peripheral areas of the city rather than urban redevelopment in urban areas.

The models of LR vary according to countries (Larsson, 1997; Doebele, 1982; Turk, 2007). While private initiative (landowner associations or cooperatives) in some countries is more efficient in the application of LR models, public initiative (municipality, governorship, etc.) may be more efficient in other countries. Although local governments generally undertake LR projects in which the public is active, transportation authorities, units such as urban planning and development units, public housing units, etc., are able to undertake LR projects within the purposes related with their own functions. It is necessary to get the approval and support of most landowners in LR projects in the countries in which landowners are active. There is no need for the approval and acceptance of landowners in projects which are implemented through public power.

However, in whatever country the method is applied, after a common share is allocated for public usage such as roads, parks, car parks, and the areas determined to be sold in order to cover project costs (in applications of some countries) from the total of all plots that fall into an LR area, the remaining areas are distributed to the landowners in proportion to either area size or value criteria.

LR has a significant attraction to landowners, public agencies (municipality, governorship, etc.) and community. The benefits of the LR method to public agencies can be expressed as planned urban development, the production of serviced urban plots, the meeting of requirements for service areas and infrastructure to be used by the public, the efficient supply of land service and subdivisions, ease in the solution of ownership problems, the ability to provide land with low cost for sheltering, and the readjustment of landownership and plot borders. The benefits of LR in terms of the community can be cited as a good standard subdivision layout, the production of plots with service in regular forms and sizes, the supply of service areas like roads, parks, etc. which are required for public use, and the achievement of price stability as a result of meeting the demand. The benefits of LR projects in terms of landowners are the considerable increase in value after the LR process despite a reduction in size, the conversion of lands into serviced urban plots in regular forms and sizes, the ease of marketability, and the continuation of ownership after the LR.

The LR which has potential benefits in terms of landowners, public agencies (municipality, governorship, etc.) and community is a technique used for purposes like land assembly, plan implementation, land acquisition, construction of the network infrastructure, financing of land development, timely land development and a supply of land for low-cost housing, as set forth by Archer (1989, p. 313). However, all the aforementioned purposes may not be covered in a land readjustment.

Potential benefits that will be provided by the use of the LR method in renewal of built-up areas have been stated in various studies. The first of those benefits is that the use of the LR method facilitates the land assembly of real estate located in urban renewal areas (Connellan, 2002a; Connellan 2002b; Hong, 2002). As LR takes place via landowners' initiative, by nature of the method, all of the real estate in the renewal area can easily be turned into a single property. It is also possible with the publicly initiated LR to turn the real estate into a single property without the will of individuals. However, this process bears the potential of being sued since the process is of an administrative transaction nature. The latter is that self-finance may be provided with the LR method (Archer 1999; Doebele, 1982). In other words, the method has the capability to finance itself. Costs are compensated with land deductions from the parcels involved in the readjustment. Landowners offer a part of their lands for social and technical infrastructure areas and a part for sale for social and technical area construction. From this point of way, usage of LR in urban renewal may facilitate the compensation of costs. The sharing of the costs and benefits by the project participants is essential in this method (Archer, 1999). Whereas in the expropriation–compulsory purchase or purchasing of real estate in urban renewal area methods, the sharing of profits and benefits between the players involved in the projects is not a subject. In the third one, landowners stay on their lands after LR. In the expropriation–compulsory purchase or purchasing of real estate in urban renewal area methods, landowners agree to be excluded from the projects against remuneration of lands. In other words, landowners shall not stay in the area after the realization of the renewal project. The results of LR are important also for ensuring social justice. This is because landowners staying in the renewal area leads to the protection of social capital (Li and Li, 2007). The fourth one is that where LR is landowner initiated, the procedure shall be finalized within a definite time period since it is based on a volunteer initiative. Indefiniteness shall not be an issue within the project process. Where LR is publicly initiated, a process within a legal framework shall again be implemented. However, the transaction may be interrupted by an administrative lawsuit, provided that ensuring the involvement of landowners in the project may decrease the risk of an administrative lawsuit.

Despite these positive sides, the LR method has also some negative sides. If the value increases after LR are insufficient, financial support is generally needed. Another problem can appear in the sharing of project costs and benefits, which must be made among the landowners, public agencies (municipality, governorship, etc.) and the community for LR. The sharing of profits among these three basic components may not always be equal. The same point is also valid for sharing of risk arising from LR. In some countries, the actor undertaking an active role during the project can be more active in the sharing of profits, even in the sharing of risk (Turk, 2008). A third problem is in the basis of valuation of plots and properties within the LR area. The method of determining the value is important in the

process. The market value or estimated value can be used in the determination of values. Sometimes, formulas are also used (Yomralioglu and Parker, 1993). In formulas, various weights can be given to the factors affecting the value. According to Archer (1989, p. 327) the most just method in LR projects is the approach that is based on the market value of the land. However, the value of the plots must be determined with well-informed and skilled land appraisers. Where this is not possible, the formula approach is the best alternative. However, looking for solutions to basic problems with the help of complex formulas and application of these formulas requires more complex study instead of a practical approach (Turk, 2008). The other negative side of LR is that the necessity of assistance and support of the public is also essential for the method to cover costs. Especially, if an LR model is established or formed by the initiative of landowners (or private initiative), public assistance is necessary at the initial phase since this phase can take a long time. The weakest point in the implementation of LR projects by private initiative is the initial phase. Significant expenses may occur in this phase. For this reason, until the LR project is approved by the higher authority, there is a risk that landowners (or private initiative) may abandon the project (Turk, 2008).

The framework of the LR method in urban renewal can be considered in a broad manner, i.e., a LR process in urban renewal refers to the temporary transfer of ownership either to the developer, or to land owners partnership, or to public authorities, or to the firm structure formed by public, developer and land owners at the beginning of the project; and share distribution to the original owners as land or house units at the end of the project. Besides, cost and benefit share is provided by the project participants. In this article, the use of the term LR in urban renewal is discussed in narrow perspective. That is, a LR process in urban renewal refers to the temporary transfer of ownership to land owners partnership under public law.

### **3. URBAN RENEWAL POLICY IN TURKEY**

Turkey has no systematic urban renewal policy. There have been different approaches about renewal of urban areas. The first is the renewal approach on a single building scale. This approach is implemented directly by landowners or contractors (builder-and-seller). This is mostly done in cases in which costs of both new construction and demolition of an existing building are depending on development rights in local plans (Baharoglu, 1996). This was a common approach in urban renewal in all big cities before the beginning of the 1990s (Sayar and Suer, 2006). The second approach is intervention into the urban texture by central or local administrations. This intervention frequently includes construction of new boulevards, squares and roads. The basic point in these interventions is “to beautify the city”. For example, boulevards constructed or the formation of open spaces in Istanbul in the 1950s, construction of Tarlabasi Boulevard at the beginning of the 1990s or even making arrangement for the North Ankara entrance in the 2000s can be shown as examples.

The third approach is the renewal process within the framework of the results of the improvement development plan, which was formed as a result of the amnesty laws, i.e., laws that legalize illegal building activities, enacted at the end of the 1980s. Within this approach, improvement programs have been enacted for squatter-housing areas. Certainly the most

important legalization instrument is Law No. 2805 which came into force in 1983 and afterwards Law No. 2981 which came into force in 1984 and their amendments. The logic of Amnesty Law No. 2981/3290 was to upgrade existing illegal housing areas and prevent new informal settlements. The law brought an improvement development plan, which was a special type of plan. The improvement development plan include unification of irregular, haphazardly formed parcels and their redesign to create new parcels of maximum 400 m<sup>2</sup> and to allow construction of four-story apartment buildings (Dundar, 2001). With the development right this way, regeneration from squatter to apartment has emerged and this renewal has been realized directly by landowners (who have a title deed allocation certificate) or by contractors (builder-and-seller) at the single building scale.

At the beginning of the 1990s, the urban renewal approach based on building block or area scale urban renewal instead of single building scale emerged. The most basic examples to this approach are the Portakal Cicegi Vadisi Urban Renewal Project and the Dikmen Vadisi Urban Renewal Project. These arrangements were realized under a public-private approach with different formulas. After the 1999 earthquake, the status of the existing housing stock, obsolete urban texture, areas under high earthquake risk have been an important reason for urban renewal debates. Studies continued in Turkey for four years in order to prepare an urban renewal law that includes a standard approach to be implemented on all urban areas (Turk, 2007). Various urban renewal bills have been prepared. The last one was prepared in June 2006. The final form of the urban renewal bill has not been enacted yet. However, three laws which were enacted have brought provisions related to urban renewal. Now, these laws draw a frame for urban renewal in Turkey. The first is the North Ankara Entrance Urban Renewal Law No. 5104 which came into force in 2004. The second is “Law on Protection and Usage of Historical and Cultural Immovable Assets by Renewal” Law No. 5366 which came into force in 2005. It is executed on areas which have been declared as site by protection committees. The third is “Municipality Law No. 5393” which came into force in 2005. Article 73 of this law authorizes municipalities to declare urban renewal areas within their jurisdictions. In addition to these legal regulations, as a central government unit Mass Housing Administration’s (TOKI) authorities have been widened and so its resources have been increased. TOKI has authority to realize urban renewal projects in both illegal housing areas and areas where existing urban renewal laws (Law No. 5366 and Law No.5104) are applied.

## 4. ANALYSIS FOR TURKEY

### 4.1. Hypothesis, Data and Methodology

**H: For the renewal of built-up housing areas with different qualities LR can be used. In other words, land readjustment can be used for the renewal of different sorts of housing areas.**

Testing of hypothesis can be possible with the detailed examination of the potential renewal areas that represent built-up housing areas with different qualities, and the comparison of each other. Therefore, three different potential renewal areas that represent built-up housing areas

with different qualities were selected. The questionnaire survey was conducted with inhabitants (both land owners and tenants) in these areas. 40 questionnaires were made in each areas. Total number of questionnaires analysed is 120. Although there are differences in the number of landowners, equal sample was determined because urban renewal areas are relatively equal in size. In addition, the questionnaire survey was conducted with the municipalities in the case areas. In the questionnaire survey the following aspects were inquired. The features of the potential urban renewal areas, the main principles in urban renewal projects, the methods used or to be used, the land acquisition methods, the satisfaction that these methods provide or will provide, and the difficulties in implementing renewal projects. Both descriptive and some statistical analysis techniques (single sample t test, kruskal- wallis test, etc.) were applied to the data obtained from the questionnaire survey.

## 4.2. Analysis and Results

### 4.2.1 Characteristics of the Sample

Three case areas are situated in the central area of Istanbul (in Fatih and Zeytinburnu districts). These two districts are both historical, high-density, inner-city areas. According to the JICA report a probably hit by an earthquake will damage these areas gravely.

First case area is in municipality Zeytinburnu (that has 247.669 inhabitants) and is known as Sumer neighborhood. Sumer neighborhood is an area which transform from illegal status to the legal status after the application of the Amnesty Law No. 2981/3290 in 1980s. The renewal area of approximately 5.5 hectares consists of housing area in high density and a commercial area. The future fuction of the area is a medium-density housing area and a commercial area. The renewal project is at the concept stage. There is a fragmented ownership structure. 1038 landowners exist in the area. Landowners are inhabitants. That is, the most of landowners live in the area.

According to questionnaire survey, the family average size is 4.47 in Sumer neighborhood. When education level of inhabitants in the sample is examined, it is that 75% of inhabitants in the sample graduated from primary school. 75 % of their children graduated from secondary and high school. The average income of the inhabitants in the sample is 1148 YTL. 40 % of them have a car and 92.5 % of them have a house. Additionally, 80% of inhabitants have a social security (*bağ-kur, emekli sandığı, ssk, yeşil kart, etc*) According to the results of the questionnaire survey; the socio- economic level of the area represents both middle income group and lower middle income group. Inhabitants have lived on the area for average 22 years. According to 57.5 % of inhabitants, the neighbourhood relations are infrequent. 97.5% of inhabitants live in apartment blocks. The average age of their house is 14 and the average size of their houses is 103 m<sup>2</sup>.

Second area is inthe municipality of Fatih (that has 403,508 inhabitants) and is known Fener-Balat coast line project. The renewal area of approximately 5 hectares consists of housing areas with high density and a commercial area. The future function of the renewal area is determined as housing areas with high density and commercial area and tourism function. The



renewal area has a quite fragmented ownership structure. 257 landowners exist in the area. The most of landowners are not inhabitants.

According to questionnaire survey, the family average size is 4.02 in Fener- Balat coast line. While 75% of inhabitants in the sample graduated from primary school, 75 % of their children graduated from secondary and high school. The average income of the inhabitants in the sample is 843 YTL. 21.4 % of them have a car and 54.1 % of them have a house. 40% of them do not have any social security. According to the results of the questionnaire survey, the socio- economic level of the area represents low income group. Inhabitants have lived on the area for average 20 years. According to 64.3%% of inhabitants, neighborhood relations are infrequent. While 38.15% of inhabitants lives in apartment blocks, 52.4 % of them live in old detached house. The average age of these houses is 65 and their average size is 85.8 m<sup>2</sup>.

Third area is in the municipality Zeytinburnu (that has 247.669 inhabitants) and is known as Ottoman neighborhood at a culture valley project. The renewal area of approximately 7 hectares consists of housing areas with low density, commercial areas, and religious center. The future function of the regeneration area is determined as housing areas with medium density, commercial area and tourism area. The renewal area has a less fragmented ownership structure than the other areas. 58 landowners exist in the area. Landowners are inhabitants. That is, the land owners mostly live in the area.

According to questionnaire survey, the family average size is 4.60 in Ottoman neighborhood. While 70% of inhabitants in the sample graduated from primary school, 12.5 % of them graduated from secondary school, and 10% of them graduate from high school. 60.7 % of their children graduated from secondary and high school and 15.4% of them graduated from university. The average income of the inhabitants in the sample is 1200 YTL. 60 % of them have a house. 40% of inhabitants in the sample have a social security. According to the results of the questionnaire survey, the socio- economic level of the area represents middle income group. Inhabitants have lived on the area for average 29 years. According to 80% of inhabitants, neighborhood relations are quite strong. While 27.5% of inhabitants live in apartment blocks, 50 % of them live in old detached house. The average age of these houses is 54.60 and their average size is 118 m<sup>2</sup>.

#### 4.2.2 Main principles in urban renewal projects and comparison among cases

To understand ranking in main principles in Sumer neighborhood renewal project is applied one sample t test. The most important principle in Sumer neighborhood renewal project is determined as “consensus with owners and tenants or inhabitants” (t: 39.552, p: 0.000). Second principle is defined as both “sharing the financial benefits and costs generated by urban renewal among landowners, community and public” and “relocation of displaced land/property owners after urban renewal project” (t: 19.463, p: 0.000). “participation of owners and tenants or inhabitants in decision making” is determined as third principle (t: 17.694 p: 0.000). According to the results of questionnaire survey, “relocation of displaced renters after urban renewal project” is not found statistically significant (Table 1). This can appear because of the dominant structure of land owners in the sample.

The most principle in Fener –Balat coast line is determined as “consensus with,owners and tenants or inhabitants”(t: 23.087, p: 0.000). Second principle is defined as “Relocation of displaced land/property owners after urban renewal project” (t: 21.259, p: 0.000). “participation of owners and tenants or inhabitants in decision making” is defined as third principle (t: 18.636, p: 0.000). Both “recovering of infrastructure and service area costs in the renewal project” and “sharing the financial benefits and costs generated by urban renewal among landowners, community and public” are determined as fourth principle (t: 13.813, p: 0.000). As different from Sumer neighborhood renewal project, “relocation of displaced renters after urban renewal project” is determined as a principle. However, it is the least important principle among them (Table 2).

The most principle in Ottoman neighborhood is determined as “relocation of displaced land/property owners after urban renewal project” (t: 79.000, p: 0.000). Second principle is defined as “Continuation of social structure of the area after urban renewal project” (t: 39.552, p: 0.000). “Participation of owners and tenants or inhabitants in decision making” is defined as third principle (t: 26.545, p: 0.000). Fourth principle is “concensus with,owners and tenants or inhabitants” (t: 24.220, p: 0.000) (Table 3).

In this point, it can be meanninful to be determined whether there are any difference among three regeneration project areas in terms of main principles. For this, Kruskal- Wallis test was used. The results of Kruskal-Wallis test is given in Table 4.

According to Kruskal Wallis test, there is statistically difference among these renewal areas on “relocation of displaced renters after urban regeneration project” (Chi- square: 17.618, Sig: 0.000). When the data is examined in detail, 55% of inhabitants in Sumer neighborhood stated that “relocation of displaced renters after urban regeneration project” is not important principle for the urban renewal project. However, 78.5 % of inhabitants in Fener-Balat coast line and 85% of inhabitants in Ottoman neighborhood stated that relocation of displaced renters after urban renewal project” is important. In Fener-Balat coast line, this result is expected because most of land owners live on the area. In Ottoman neighborhood this result seems interesting. This can be explained with strong existence of social capital. Additionally, according to the results of Kruskal-Wallis test, there is difference on “relocation of displaced land/property owners after urban renewal project” and “continuation of social structure of the area after urban renewal project” and this difference is statistically significant. While 100% of inhabitants in Ottoman neighborhood believe that these two principles are most important for them, in Fener-Balat coast line and Sumer neighborhood consider that these two principle are important principles.

According to the results of Kruskal-Wallis (Table 4), the ranking of main principles in urban renewal projects in the three case areas with different qualities are similar each other. They consider only different on “relocation of displaced renters after urban regeneration project”. It can be said that the main principles for three cases are suitable for the logic of LR.

### 4.2.3 Findings related to hypothesis

Hypothesis was tested with the detailed examination of three different potential renewal areas that represent built-up housing areas with different qualities, and the comparison of each other. First case, Sumer neighborhood, is an area which transform from illegal status to the legal status after the application of the Amnesty Law No. 2981/3290 in 1980s. The renewal area consists of housing area with high density and commercial area. The renewal area has fragmented ownership structure. Landowners are inhabitants. That is, the most of land owners live in the area. The neighborhood relations are infrequent.

Second case area, Fener-Balat coast line project, consists of housing areas with high density and commercial area. The future function of the renewal area is determined as housing areas with high density and commercial area and tourism function. The renewal have quite fragmented ownership structure. The most of landowners are not inhabitants. According to the results of the questionnaire survey, the socio-economic level of the area represents low income group. The neighborhood relations are infrequent.

Third case area, Ottoman neighborhood project, consists of housing areas with low density, commercial areas, and religious center. The future function of the renewal area is determined as housing areas with medium density, commercial area and tourism area Landowners are inhabitants. That is, the land owners mostly live in the area. The neighborhood relations are quite strong.

According to the results, the ranking of main principles in urban renewal projects in the three case areas with these different qualities are similar each other. They consider only different on “relocation of displaced renters after urban regeneration project”. It can be said that the main principles for three cases are suitable for the logic of LR.

## **5 GENERAL EVALUATION**

The use of LR method in urban renewal areas against the approaches in traditional urban renewal processes reveals important differences within the framework of land assembly, cost recovery and potential beneficiaries. As a result of these differences, LR is seen as a potential tool for providing solutions to the problems occurring in traditional urban renewal processes.

This paper attempts to understand whether LR can be used for the renewal of built-up housing areas with different qualities. That is, land readjustment can be used for the renewal of different sorts of housing areas focusing on Turkey cases. According to the results, the ranking of the main principles in urban renewal projects in the three case areas with different qualities are similar to each other. The only difference is related to the “relocation of displaced renters after urban renewal project”. These principles can facilitate the applicability of LR in urban renewal areas despite different difficulties encountered in the urban renewal. It can be said that the main principles for the three cases are suitable for the logic of LR.

LR may contribute to urban renewal practice. LR can be applied to urban renewal projects in which many landowners take place in urban renewal area for cost recovery. This may aid in shortening the project process. In this sense, LR can be appropriate for the system. Additionally, use of LR is inevitable in terms of the realization of urban renewal projects. Because the ownership structure is more fragmented in Turkey. Both purchasing and expropriation method cannot be solved the problem in urban areas. With use of both methods, the elongation of the process and the cost increase can appear.

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## TABLES

**Table 1.** Main principles in the Sumer neighborhood renewal project according to questionnaire survey with inhabitants

<i>Items</i>	<i>Means</i>	<i>Standard deviation</i>	<i>t-statistics</i>	<i>p-value</i>
-Concensus with,owners and tenants or inhabitants	1.90	0.85	39.552	0.000
- Sharing the financial benefits and costs generated by urban renewal among landowners, community and public	1.78	0.58	19.463	0.000
-Relocation of displaced land/property owners after urban renewal project	1.78	0.58	19.463	0.000
-Participation of owners and tenants or inhabitants in decision making	1.70	0.61	17.694	0.000
-Continuation of social structure of the area after urban renewal project	1.53	0.85	11.388	0.000
- Timely completion of the project	1.63	0.93	11.110	0.000
-Recovering of infrastructure and service area costs in the renewal project	1.51	0.85	11.057	0.000
- Relocation of displaced renters after urban renewal project	0.13	1.36	0.580	0.565*

(N: 40) Source: Turk, S.S (2008)

Test Value:1

**Table 2.** Main principles in the Fener-Balat coast line urban renewal project according to questionnaire survey with inhabitants

<i>Items</i>	<i>Means</i>	<i>Standard deviation</i>	<i>t-statistics</i>	<i>p-value</i>
- Concensus with,owners and tenants or inhabitants	1.8571	0.5213	23.087	0.000
- Relocation of displaced land/property owners after urban renewal project	1.8095	0.5516	21.259	0.000
- Participation of owners and tenants or inhabitants in decision making	1.7143	0.5962	18.636	0.000
-Recovering of infrastructure and service area costs in the renewal project	1.5714	0.7373	13.813	0.000
- Sharing the financial benefits and costs generated by urban renewal among landowners, community and public	1.5714	0.7373	13.813	0.000
-Continuation of social structure of the area after urban renewal project	1.5952	0.8281	12.484	0.000
- Timely completion of the project	1.8333	1.7658	6.729	0.000
- Relocation of displaced renters after urban renewal project	1.000	1.2297	5.270	0.000

(N: 40) Source: Turk, S.S (2008)

Test Value:1

**Table 3.** Main principles in the Ottoman neighborhoods urban renewal project according to questionnaire survey with inhabitants

<i>Items</i>	<i>Means</i>	<i>Standard deviation</i>	<i>t-statistics</i>	<i>p-value</i>
- Relocation of displaced land/property owners after urban renewal project	1.98	0.16	79.000	0.000
- Continuation of social structure of the area after urban renewal project	1.90	0.30	39.552	0.000
- Participation of owners and tenants or inhabitants in decision making	1.78	0.42	26.545	0.000
- Concensus with,owners and tenants or inhabitants	1.90	0.50	24.220	0.000
- Recovering of infrastructure and service area costs in the renewal project	1.73	0.60	18.225	0.000
- Sharing the financial benefits and costs generated by urban renewal among landowners, community and public	1.73	0.60	18.225	0.000
- Timely completion of the project	1.68	0.83	12.785	0.000
- Relocation of displaced renters after urban renewal project	1.35	1.14	7.459	0.000

(N: 40) Source: Turk, S.S (2008)  
Test Value:1

**Table 4** The results of Kruskal Wallis test

<i>Items</i>	<i>Chi-Square</i>	<i>Sig.</i>
-Recovering of infrastructure and service area costs in the renewal project	3.182	0.204
- Sharing the financial benefits and costs generated by urban renewal among landowners, community and public	2.889	0.236
-Relocation of displaced land/property owners after urban renewal project	4.916	0.086*
- Relocation of displaced renters after urban renewal project	17.618	0.000***
-Continuation of social structure of the area after urban renewal project	6.686	0.035**
-Participation of owners and tenants or inhabitants in decision making	0.103	0.950
- Timely completion of the project	0.742	0.690
-Concensus with,owners and tenants or inhabitants-	1.408	0.495

(N: 120) Source: Turk, S.S (2008)

\* Do not reject null hypothesis at 90% level of significance.

\*\* Do not reject null hypothesis at 95% level of significance.

\*\*\* Do not reject null hypothesis at 99% level of significance.

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