

An Approach to Support Low Income Families' Housing Needs in Developing Countries

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SUMMARY

Urban real estate owners have extremely value increase without investing in their real estates, in general. Some of the causes of this increase are increasing parcel demand depending on population increase, technical and social infrastructure investments of public and developing rights allocated by developing plans. All city dwellers can not be benefited from this value increase homogenously and in the context of social equity. Whereas, the expenditures causing this value increase are covered by common budget of the city. The foresight that public cost and benefits should be allocated to citizens could not be realized especially in developing countries. On the other hand, today, one of the problems faced by developing countries is providing financial source for social housing to low income families. There may be different policy options for financing. The most basic method of this is to increase real estate taxes. When it is thought that real estates are fixed entities having insufficient income, however, additional tax demand from these real estate owners is not realized mostly in practice. So, there is a need for different ways to be recovered this unearned income to public. In this context, there is an important method that is not taken into consideration mostly. This method is to provide recovering of value increase of urban real estates to public. The proposed method in this paper is based on land deduction instead of real estate tax increase as a result of real estate value increase. 45 percent of the whole parcel is deducted, and while 30% of its allocated to such common areas as roads, parks etc., 15 percent of the area is allocated to reserve lands. Reserve lands are used or sold to meet housing needs of low income families. In other words, the method provides a financial system for low income families via deduction of some of real estate value increase from real estate owners. In this context, in this paper, firstly, the concept of land readjustment and urban value increase are identified, then how this value changes is used as financial source for low income families' housing needs described. It is thought that the proposed method will provide an important contribution to social equity.

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1. INTRODUCTION

Modern urban areas are burdened with many problems such as: population concentration, deterioration of living environments, necessity for preventing fires and other disasters, traffic congestion, insufficient housing and housing sites, sprawl phenomena. To increase the supply of serviced land to accommodate rapid urbanization, there must be some common objectives of all that public authorities should to achieve in developing cities. However, there is first the need to identify or select locations where growth should be accommodated. These locations should be serviced in a cost-effective, rather than a high-cost manner. The financial burden on public bodies resulting from the infrastructure provision should be reasonable. Typically this means that costs should be recovered from the ultimate beneficiaries to the maximum feasible degree. In addition, there should be means of encouraging the right type of development on the land once it is serviced. Desirable land uses may be those that increase the access of poor families to housing and jobs; or that to do not result in large increases in land values; or in general that promote any policy objective that it is felt to be worth while.

In order to regulate urbanization process, most developing countries have set up some organizations for land development. Typically they have been given three objectives (Dowall and Giles, 1991): (1) provide land for housing projects which are affordable to low- and medium-income households; (2) ensure that land value increases associated with public infrastructure provision are not appropriated by private developers; and (3) that important but risky projects avoided by the private sector are undertaken. Generally, these public land development agencies have evolved into very large and inefficient organizations incapable of reaching a scale of production which would justify their size. It has been indicated that the staff of most public land development agencies lack the necessary skills to manage the complex and risky process of land development. Successful developers are highly entrepreneurial, pragmatic and staffed by highly-skilled people willing to take risks (Dowall, 1991).

On the other hand, land developers in many countries often have a problem because plots in the urban fringe are small, irregularly shaped and lack access to public roads. Furthermore, as many of these plots are not for sale, it is often difficult to find a sufficient number of plots next to each other and, thus, building development becomes scattered. The unprecedented expansion of urban population in most of the developing world is causing an exceptionally rapid increase in the demand for urban land. Land location is specific, and existing urban plots cannot be reproduced. Thus the rising demand for urban land tends to be met primarily by converting rural land at the periphery of the existing built-up area. The subdivision of agricultural holdings and the provision of access roads is followed by the extension of other services.

In order to handle and manage these requirements, first it is necessary to make an appropriate and extensive plan. To realize this plan, it is crucial to take into consideration most important objectives to be accomplished and the conditions of the project area so that the most appropriate, concrete programme of urban development and land management may be selected. There are various urban development and land management methods and projects, which can be categorized in many ways, but *land readjustment* is one of the powerful tools in all of them. As Seele (1982) stated, land readjustment is an instrument for land organization, which means both the provision of land needed for public purposes and the suitable formation of private land according to the rules of town planning. So, based on land readjustment technique, housing needs of income families in developing countries can also be solved by practicing the technique with different approach. In this paper, a different use of land readjustment method is introduced in order to provide the new settlement areas and renewing old built-up areas within cities.

2. LAND MANAGEMENT TOOLS

2.1 Land readjustment

The concept of land readjustment was first introduced with the Lex Addickes in Frankfurt-am-Main, Germany, in 1902. Different forms of land readjustment exist in many countries including Germany, Japan, Turkey, Taiwan Province of China, Republic of Korea, Western Australia (land pooling), India (plot reconstitution) and Indonesia. A land readjustment scheme is typically initiated by the municipal or the national Government designating an area which is about to be converted from agricultural to urban land use for land readjustment. A subdivision plan is developed for a unified planning of the area. Provision of infrastructure and services is financed by the sale of some of the plots within the area, often for commercial activities (Doebele, 1982; Yomralioglu, 1993). The original landowners are provided plots within the reshaped area which, although smaller in size, now have access to infrastructure and services. A definition of the technique is provided by Archer (1987); “Land readjustment is a technique whereby a group of neighboring landowners in an urban-fringe area are combined in a partnership for the unified planning, servicing and subdivision of their land with the project costs and benefits being shared between the landowners”. Figure 1 provides an illustrated description of the basic principle.

Figure 1 provides an indication of the inherent and complex equity problem in the allocation of plots and the provision of financial compensation. Before the project, the plots may have a different physical shape and economic value. Some plots may be hilly and unsuitable for urban use, while others may be very suitable for agricultural production but expensive for constructing housing. Even during the period of construction the impact will differ as these typically large projects will begin in one end of the project area and it may take years before the other end is completed and all services provided. Some landowners such as farmers may lose their income opportunities earlier if they are located where the project starts. After the project, there may be differences owing to the allowed land use and the allocation of plots. Residential or commercial plots with high-density land use as well as plots located close to infrastructure hubs, commercial activities and along main roads will have high land values. The solution for this equity problem may differ among countries using the land readjustment

method although research shows that there are many similarities (Larsson, 1991). For instance, the distribution of revenues and costs is often based on either the present value (often agricultural land use) or the size of the land before land readjustment thereby, not taking into consideration how appropriate the plots are for urban use.

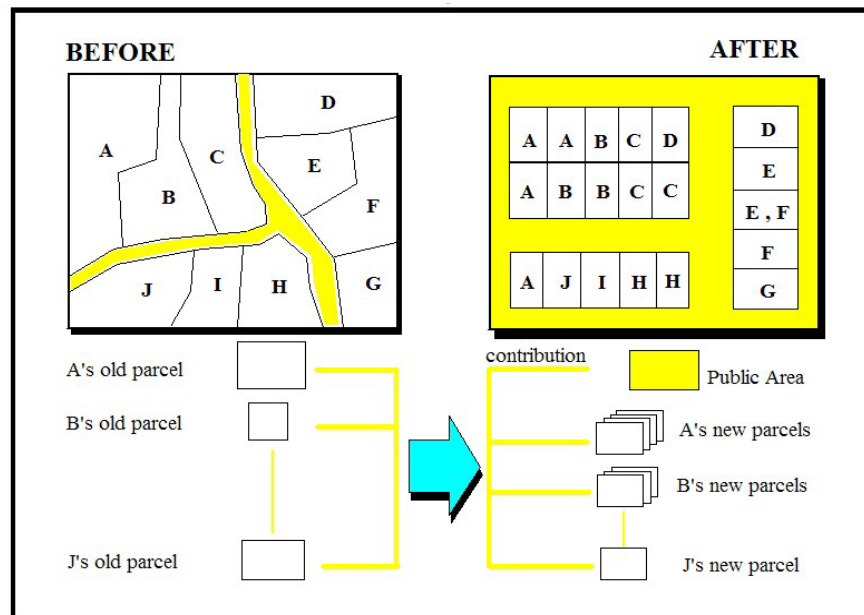


Figure.1 Mechanism of Land Readjustment (Yomralioglu, 1993)

Land readjustment is an attractive method to influence the location and timing of new urban development since it is becoming increasingly difficult to obtain public support for the use of expropriation for land development and infrastructure provision. The method is typically supported and sometimes even initiated by the landowners since they would make considerable profit on the project. Contrary to the obvious alternative methods for city development, land banking and expropriation, it also avoids the costly and unpopular government procedure of acquiring land. Unlike expropriation, land readjustment will return a major part of the land to the landowner. Ideally, a partnership for development should be formed between the public sector and the landowners. It is therefore very important that close links are established during the project.

It also provides an opportunity for the provider of infrastructure and services to recover the incurred costs as well as to get access to land for this purpose. As cost recovery is a major obstacle for municipal governments in most developing countries, this would probably be the most important component. Land readjustment requires that the land ownership situation is clarified and an accurate land registration system provided. This should also lead to increased public revenues from property taxation. It could provide increased equity in land distribution. Not only among the landowners within the area, but it could also be a means of providing access to land for low-income housing.

The above thoughts, there are a number of problems with the land readjustment technique. First, it provides an opportunity for landowners to develop their land but present systems do not force the development of land. In many countries with very high demand for land, such as

Turkey, it has become increasingly common that landowners use their land as a savings and investment instrument and this has contributed to increases in land values and land speculation. Furthermore, another major incentive for landowners to encourage high land values is that the provision of infrastructure and services is financed by the sale of land.

As there are no incentives to maintain low prices on land and no other built-in mechanism for inexpensive housing, the method has been criticized for not being effective in reducing the huge shortage of low-income housing in most cities. The problem could, however, be alleviated if the landowners' gain was somewhat reduced and a larger proportion of the land was allocated to the public sector for purposes such as low-income housing. While it is important to maintain the incentive for landowner participation, it can be argued that the profit margin is unreasonably high and that the role of the public sector as partner should be recognized in sharing the profit. The public sector should therefore aim for more than cost-recovery.

The concept of the land readjustment technique is based on private-public cooperation and negotiation; it requires large human resources both in terms of numbers and qualifications. In particular, skilled negotiators and appraisers must be available. In most developing countries, there is a shortage of skilled staff in the Government, especially at the municipal government level.

2.2 Nominal asset land valuation

The nature of land readjustment constrains the cadastral parcels to transform to new site lots. Hence, within a land readjustment project area, not only existing cadastral boundaries are changed but also the economic values of the parcels. From the economic point of view, these changes very much affect the landowners. Land value profiles for the owners can be different before and after the project. Especially, after full implementation of the new plan, the land market-values increase greatly within the project region so that landowners can obtain new and different benefits from the project.

In general, the land valuation issue appears after the project. Most of the objections come from landowners about land valuation. They claim that equitable benefits are not obtained after the project. This is due in part to the fact that, during the project the planners have difficulty to estimate and distribute the benefits which a land-use plan may bring. Land market-values are usually used to evaluate these benefits.

However, in some countries, different approaches have been practiced to deal with the land evaluation procedures. In Australia, for example, the land valuation board is established to determine the market value of the land parcels. After the project, a cash adjustment procedure is applied among the involved land owners. In Germany, annual real-market indexes are considered before and after the project. If the land values are quite homogenous in the project area then the values are ignored during the project. In the Japanese approach, land is evaluated in accordance with the site utilities. Land values are calculated using the index applying the same standard before and after the project. However, in Turkey, land evaluation is not considered during the any steps of the process.

In general, lack of information, funds, shortage of technical and administrative personnel delay implementation of the needed large scale land valuation activities. However, the determination of a land parcel value depends on a number of physical and economic characteristics which must be taken into consideration very carefully in a land valuation procedure. Some of these characteristics are intrinsic to the land, others are external or environmental factors. These factors can be determined in an objective way but there is always a certain degree of subjectivity that is difficult to measure in the valuation process.

In order to improve the benefits obtained from a land readjustment process, a new approach proposed by Yomralioglu (1993) was used. Based on this, a value-based urban land readjustment model was applied to land rights transferring process in this study. Due to the difficulty of collecting real-market value data, numerical parameters are intended to be calculated and used of for each land parcel rather than using the real-market value. The proposed model analyses each geographical unit of a land parcel with respect to some selected substantial and insubstantial land valuation factors. Each of these factors is mathematically expressed, and the *nominal asset values* for the parcels are determined with the combination of these factors. It has to be mentioned that, in this model, the term of value is used as a single unit figure which represents a land parcel's worth when compared with others. Therefore, the meaning of value is a numerical parameter of each land parcel rather than a real-market value. To determine this parameter, some land valuation factors which may affect the total perceived value of a land parcel are spatially examined. To accomplish the required analysis procedures, the spatial analysis capabilities of a GIS are used (Yomralioglu and Nisanci, 2004).

In reality, it is almost impossible to determine the exact value of a land parcel. However, a sufficient estimation can be done by analyzing a certain amount of land characteristics in an objective way. In this work, rather than dealing with the real-market prices, the qualitative and quantitative characteristics of individual land parcels have been examined. To determine the value of a land parcel, some land valuation criteria are selected and formulated so that parcel values are assigned by the numerical parameters rather than real-market values. These parameters are derived from a combination of the selected land valuation factors which can be spatially analyzed.

2.1. Classification of land valuation factors and calculation process

In order to make adequate value estimation for a land parcel in project area, there are many tangible and intangible land valuation factors that should be taken into account during the process. The determination and classification of these valuation factors is difficult, because the characteristics of these factors can be objective and subjective, changing according to a person's desires. Therefore, the number of land valuation factors cannot be limited but at least some of the land valuation factors are considered and analyzed with respect to the land readjustment project stages as before and after. Because of the conditions is different in before and after project, different land valuation factors are consider in both stages. Based on the nominal land valuation concept, land valuation factor analysis is done and the total value of a parcel is determined. In the land readjustment process, there are two main distinction stages that must be realized while performing the land valuation analysis. These stages are;

Pre-project stage (before) which represents the current land parcels and land-use condition. The land parcels are the cadastral or old parcels which are subject to land development process. These are the only parcels that are totally affected by the project. They are also considered as the original input parcels of a land readjustment project. In this stage, all land parcels are evaluated and classified by their existing suitability without referring to the urban land scheme.

Post-project stage (after) which represents the new site lots. These lots are created according to the detailed urban land-use plan. In this phase, the zoning plans which have been designed by the town planners are used as a base data. These data basically provide the planned roads, streets, residential areas and other public and private places. It is important that these given data should be followed during the creation of new land parcels re-allocation. Therefore, in the post project stage, based on the zoning data all given site blocks are carefully subdivided into the new suitable lots. These created new lots are considered as the output parcels of the project. After the completion of the project, these new lots are demarcated in the field and legally registered. However, in the post-project stage of land readjustment, the new lots are created evaluated with respect to the planning details as if these lots were fully developed.

The land valuation process is carried out differently in both these stages. Considering the suitable land valuation factors, first, the parcel values are calculated. Then, the total value of the project area is determined for the both stages.

3. A CASE WORK

In this study, one of the slum areas of city of Trabzon in Turkey has been selected (Figure 2). The main aim in here is to transfer land rights of this selected area to new settlement places in order to renovate the existing area for a better urban use. To do this, based on a land parcel, first the total nominal asset land value of current slum area was calculated with respect to selected land valuation factors as a pre-project phase. In study area it has been determined that a land parcel ground value reflects 40% of the total value while 60% of it reflects site part of land. Therefore, total building values of slum area were extracted from the calculated ground values. As expressed in the following equation, which means an existing slum area value includes a land value and site value on it.

$$\Sigma SV = \Sigma NSV + \Sigma [(60/40) * NSV]$$

Where as;

ΣSV = Total value of current slum area

ΣNSV = Nominal value of land without building

Second step in the development procedure is to determine the new settlement areas which slums will be located in there. A new plan is prepared then a nominal land valuation process is carried out again. But in this stage different land valuation factors which reflects the new planning effects should be considered. This phase can be called as a post-project phase. It is expected that new calculated total value should be greater than the total value of slum areas was considered. In this case land readjustment concept is applied to the new area.

In the planning area, a 30% of the total land is allocated for public areas such as roads, green areas and parks etc, while 15% of the total land is allocated as reserved land that will be sold to cover project operating expenses. And rest of the land will be given back to current land holders and slum landowners too. The main point here is that in the planned area extra new buildings with more number of flats should be available to give back to land owners. In land distribution process, rather than area distribution, a nominal value based distribution is applied.



Figure.2 A View of Project Area (almost 600.000 m²)

4. CONCLUSION

One of the main problems in old cities is to renovate the areas which contain unusable houses like slum regions. Due to financial issues for both government and people, many slum areas can arise within city centers. These unplanned developments can also effect urbanization in a negative way too. However, there are needs for new public use land but current local government budgets are not enough to cover and provide these services, at least to compensate new areas for this purpose. In this case, there are some land management techniques which land readjustment is one of them. But in this study land readjustment method has been differently used. The technique applied here is to transfer current lands rights of slums into the new settlement areas that recently planned. The difficulty here is to determine unit land values within project areas. To solve this issue, rather than market value the nominal asset land value process is used, and each unit value has been calculated on a pixel based via GIS. The valuation process should apply before and after project phased with

special selected land valuation factors. These factors can be determined in accordance to existing land features with respect to land use planning development effects.

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