An evaluation framework for land readjustment practices

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ARTICLE INFO

ABSTRACT

Land readjustment (LR) is an important technique used in a variety of countries to realize the development plans by converting rural land into urban land and providing city infrastructure. Although the main aim and the processes are similar around the world, each country has a different degree of success in the application of LR, which reveals the need for a comprehensive evaluation. However, the research to date has generally tended to focus on describing the main concepts such as the usage, principles, advantages, and disadvantages of the existing implementations rather than evaluating LR. A systematic approach, which provides an objective basis and removes subjectivity by identifying good practices and their indicators, is needed to assess the strengths and weaknesses of the LR process. In this article, we analyzed a wide range of ISI journal articles on LR to establish a framework and a methodology that will help evaluate and compare the national LR processes. The main contribution of this article is to build an awareness for the establishment of an internationally agreed methodology to evaluate the performance of a country's LR in a systematical way, which is currently not available in the literature.

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Introduction

The purpose of this study was to develop a methodology to measure and compare the performance of the existing LR strategies in order to learn from the successful implementations. It is also aimed to present a set of good practices and their indicators under various aspects to provide an objective basis and to provide a systematic evaluation and monitoring of LR. Therefore, this article introduces the notion of 'evaluation framework' developed in organizational sciences and a methodology for LR. Considering the good practices derived from 18 ISI journal articles on LR, the proposed evaluation framework identifies performance indicators that have been constituted to measure the extent to which they meet at different evaluation levels and for different aspects of LR.

Currently, almost 50% of the world population live in urban areas; however, it is expected to increase to 70% by the middle of this century. Developing countries currently account for more than 95% of the global urban population growth, and in the period between 2000 and 2030, the urban population is expected to double and the built-up area of these countries are expected to triple in size (UN-Habitat, 2012). The pressures of urbanization in most

countries around the world create the need for methods to assemble the development land by focusing on increasing the efficiency of the transformation from a rural to an urban economy, in terms of balancing agglomeration benefits and congestion costs from concentration (Home, 2007). Therefore, land management strategies need to deal with three main objectives, land assembly for (re)development, cost recovery for the costs of the public infrastructure works and capturing the value that occurs as a result of the change of the land use or the density (Van Der Krabben and Jacobs, 2013). It is also possible to extend these objectives to support country-related land policy objectives such as ensuring efficiency in land markets, enabling sustainable development, and achieving social goals such as the provision of social housing.

From these objectives, land assembly can be broadly defined as the key stage in development processes involving land acquisition from landowners, land preparation, planning of streets, open spaces and main services, planning the built form, division of land into building plots, and delivery of the planned form (Golland, 2003; cited in Louw, 2008, p. 70). The key feature of land assembly is that it may involve changes in land ownership through the acquisition of the necessary parcels of land for property and infrastructure development where possible (Louw, 2008). However, the process of using the common land assembly methods entails a huge upfront cost, which becomes a burden on the budget of public institutions. Moreover, such financial difficulties combined with the landowners withholding land from and disagreements over

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the distribution of the land value increment, usually translates into long time scales and complexity, which may hinder the entire process of land assembly.

Realizing the development of land and providing infrastructure usually generates prospective land values, which should be collected by the public. Otherwise, it will remain to the landowners as an "unearned increment". Therefore, to overcome the free-rider problems in land assembly, land management strategies usually involve a tool or mechanism to recover the costs of public works by using the increase in the property values. It is clear that financing the projects would be easier if the government body responsible could skim development gains, capture value increases, and recover its costs (Van Der Krabben and Needham, 2008).

For the implementation of these strategies, various development models are used, including public sector and private sector initiatives as well as public–private partnerships. These development models vary according to the main purpose of the strategy and its relation to other strategies regarding planning, land assembly, and cost recovery and value capturing (see: Van Der Krabben and Jacobs, 2013). Each model has pros and cons; however, compared with other common methods, LR has several more advantages, particularly when public funds for compulsory purchase and infrastructure provision are limited (Home, 2007).

The term land readjustment or land pooling refers to a technique for managing and financing urban land development, whereby a group of neighboring landowners on an urban fringe area are combined in a partnership or a government agency consolidates a selected group of land parcels for the unified planning, servicing and subdivision of land with the project costs being recovered by the sale of some of the plots for cost recovery and the distribution of the remaining plots back to the landowners to develop or to sell for development (Archer, 1992, 1994).

In terms of land assembly, although there are difficulties in project areas due to landowners withholding their land from sale (including farmers, developers, land speculators and investors), many landowners can be encouraged to participate in LR projects when there is a possibility of their land gaining a significant increase in the market value (Archer, 1992). In terms of cost recovery, LR can increase the efficiency of urbanization at a reduced cost since the project site and infrastructure rights of way do not have to be bought or compulsorily acquired. The cost of the infrastructure works and subdivisions can be financed with a short-term loan and then quickly recovered by the sale of some of the new building plots. Using LR in land assembly, infrastructure and development costs can be substantially recovered from within the project (UN-Habitat, 2013). Differently from the common land assembling methods, LR has the potential to overcome the hold-out and free-rider problems of land management strategies. Moreover, using LR it is possible not only to recover the cost of installing a complete infrastructure, but also to capture the additional socially created value that can be used to subsidize low-cost housing, or, indeed, for any public purpose (Doebele, 2002). In terms of value capturing, pre- and post-land values can be determined, and the difference can fully or partially be captured by the implementing body in LR. Moreover, as stated by Viitanen (2002) the LR procedure is justified not only based on the involved costs and the efficiency of the method but also based on its fair treatment of landowners, improvements in plan quality, savings to the community, and environmental benefits. Furthermore, it facilitates the participation of property owners in the process, ensures a fair distribution of development costs and profits created by spatial plans (Sonnenberg, 1996), and preserves the original ownership structure and social networks.

Concerning the main land management objectives, LR can, in theory, be considered the best land management strategy. However, countries have varying degrees of success and acceptance in the implementation of LR due to different institutional

arrangements (Li and Li, 2007; UN-Habitat, 2013). For instance, in Germany, LR was intensively employed in the postwar reconstruction of the damaged cities and the accommodation of the recent wave of urbanization (Doebele, 1982). Similarly, LR is the key part of the urban planning system in Japan. Since 1954 when Land Readjustment Act was put into effect in Japan, LR has been used for the development of new cities, prevention of disorderly growth, and urban renewal and reconstruction (Hayashi, 2000; Montandon and De Souza, 2007; Nishiyama, 1987). During the 1954–2003 period, approximately 30% of the urban area was developed through LR projects in Japan (Archer, 1997; Sorensen, 2000a,b). In Spain, although the practical experience of LR was unsatisfactory until the mid-1990s, after the legal reforms with the Valencia Regional Planning Law of 1994, LR (and if necessary, compulsory LR) became the standard procedure. Since then, LR has been implemented all around the Valencia Region as well as other Spanish Regions in hundreds of cases, involving thousands of hectares. In addition, almost all the major real estate developments in Spain are performed using LR (Blanc, 2008; Munoz Gielen and Korthals Altes, 2007).

Contrasting the mentioned best practices in Germany, Japan and Spain, LR is perceived as a rather unwieldy and time-consuming process in France (Sonnenberg, 1996; Viitanen, 2000). LR in France is, in quantitative terms, not more important than other development procedures, and permanently under 5% of new developments (Renard, 2003). Similarly, in Finland, the new Real Property Formation Act came into force in 1997, which redefined the former urban LR procedure that had been in force for 36 years, but had hardly ever been put into practice (Viitanen, 2000). Finally, in Turkey, while legal arrangements regarding LR have been included in numerous laws and regulations since the second half of the 19th century (Çete, 2010), compared with the other land assembling methods, LR has not been used widely in the implementation of development plans since only about one-third of all urban parcels is produced through LR projects (Turk, 2005).

Although LR theoretically provides a better land management, in reality, only a few countries achieve positive outcomes. In the remaining countries, the procedure is still not introduced or the usage and success levels are far behind expectations. Therefore, the LR models/systems that are not successful or not accepted as the main land management and land assembly tool by the countries should be evaluated to clarify the problems that need to be solved and define the performance gaps that need to be addressed. To this end, countries should test their existing LR system and compare the results with the best or expected results of an ideal system to identify the problems in their strategies and the performance gaps in their models/systems that need improvements. By understanding how LR can be efficiently implemented and maintained, it is possible to define the good practices and the success factors in terms of different aspects that should be addressed when the method is being introduced to a country for the first time or when existing LR policies are improved.

Overall, the difference between the countries regarding their level of acceptance and success in using LR highlights the need for a comprehensive evaluation. However, the existing literature is mostly centered on describing the main concepts such as the usage, principles, advantages and disadvantages of the existing LR implementations. In these studies, some comparisons have also been made (see section "A general overview of evaluations"), however; the researchers have not addressed the necessity of a systematic approach that will provide a global evaluation mechanism of an efficient LR. Thus, a systematic approach is required to assess the strengths and weaknesses of the existing LR practices of countries and their institutional and technical environments to develop the content of future reform initiatives. Systematic comparisons and evaluations are good sources to learn from the success and