



Responsible Land Governance: Towards an Evidence Based Approach

ANNUAL WORLD BANK CONFERENCE ON LAND AND POVERTY
WASHINGTON DC, MARCH 20-24, 2017



Exploring the Potential of the Land Readjustment Approach in Allocating Land for Affordable Housing from the Market Legitimacy Perspective

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**Paper prepared for presentation at the
“2017 WORLD BANK CONFERENCE ON LAND AND POVERTY”
The World Bank - Washington DC, March 20-24, 2017**

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ABSTRACT

Land Readjustment (LR) is the land development tool applicable in a wide range of application. However, its application in allocating land for low-income housing seems less practiced. Therefore, this study seeks to explore the potential of LR process in accommodating the low-income groups by allocating low cost land to build low-income housing. To fulfill the objective of this study, two cases were studied. The first case is studied as an exploratory case while second case is studied as explanatory. The results of the cases indicate market legitimacy is the prime factor that drives the land allocation for low cost housing. Besides, to develop inclusive LR there is the need for a policy that takes consideration of market aspect. Furthermore, technical as well as social aspects are important to be considered in the LR process in order to accommodate low-income groups.

Key Words: Land Readjustment, Affordable Housing, Market Legitimacy



1. INTRODUCTION

Access to land for low-income housing has been an issue in both developed and developing countries. Among the various factors that hinders allocation of land for low-income housing the market value of land to be a major one (Needham and de Kam, 2004). Land allocated for low-income housing affects the value of land in the vicinity. Private developers are less attracted to low-income housing as there is less profit. Therefore, it seems important to explore the factors of market perspective in allocating land for affordable housing considering the land development tool like Land Readjustment (LR).

Conceptually, Land Readjustment (LR) is about changing the boundaries of use rights/ ownership rights of the particular parcels as well as transferring use rights and ownership rights to the other parcels with added betterment value. It is about assembling the land usually irregular cadastral parcels into a well-planned regular parcel with an increase of its value (Archer, 1992; Yau, 2012). One of the two main aims of this process is the readjustment of parcels and reallocate the developed plot to the property owner and the second aim is to provide physical spaces for public use and services.

Land Readjustment (LR) has a wide range of applications like in urban regeneration (Turk and Korthals Altes, 2010), urban development (Mittal, 2014; Uzun, 2009), post disaster situation (Mukherji, 2014) and regularizing informal settlement (Supriatna and van der Molen, 2014; Uzun et al., 2010). Despite growing popularity of (LR) as a tool for land development in both developed and developing countries, there is a tradeoff between its applications to address the land issue for high-income groups and low-income groups. The use of LR for allocating land for affordable housing seems less visible. Moreover, the study of various LR models applied in various countries reflects that the successful application of this tool is embedded in the market legitimacy. Market legitimacy refers to generalized perceptions and assumption that the action of the firm is desirable, proper and appropriate when it fulfills the market norms and market values (Suchman, 1995).

The success of LR is based upon the market legitimacy. Sorensen (2000) mentioned that LR approach is based upon the modality of cost recovery, self-financing and land value capture for the provision of infrastructure. This modality effects in accommodating the low-income groups. Similarly, linking market legitimacy with LR process, the LR practice in various countries reveal that the conditions for successful implementation of LR are in line with market norms and market value. The successful implementation relies on the extent of market legitimacy to the landowners of the project as well because the willingness of land contribution depends upon the market viability of their developed land.



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In LR projects, the land value capture is the core principle for the provision of social and physical infrastructure and incurring the administrative cost of the LR project as well. The good practices in LR approaches sufficiently show that LR is applicable to capture value for infrastructure investment. However, there is less emphasis on the land value capture for social goods like land for affordable housing. This calls for an in depth study to seek for the possible interventions to apply the LR approach to accommodate low-income people. Therefore, this paper seeks to explore the factors from market perspective in allocating land for affordable housing considering the land development tool like Land Readjustment (LR).

2. THEREOTICAL FRAMEWORK

2.1 THE CONCEPT OF LAND READJUSTMENT

The basic principle behind land readjustment is assembling the land usually irregular cadastral parcels into well-planned regular parcel with increase of its value (Archer, 1992; Ishida, 1987, Yung 2012). It reduces the transaction costs of coordinating property exchange in land assembly (Hong and Needham, 2007). It allows the transformation of the cadastral parcels describing the ownership status of land into urban land where development would otherwise become impossible (Erdem and Meshur, 2009). In land readjustment process, the cadastral parcels that are inappropriate for the construction become suitable for development in terms of the use and density brought by the local physical plans thus increasing the value of land in terms of monetary as well as use of land for residential and commercial purposes. In land readjustment process there are various stages i.e. project initiation, community support development, land re-subdivision and servicing, land reallocation. (Hong and Needham, 2007).

1. *The Project initiation: In this stage public or private entity initiates the idea of land readjustment and proceeds for formal procedure by formulating the agency*
2. *Community support development: In this stage, after government approval the agency established the procedure for the involvement of the effected land owners*
3. *Land re-subdivision and servicing: In this stage, all the land parcels are acquired from the landowners and combined to a single parcel, the land is sub divided into the regular well-planned parcel with infrastructure like road, water supply etc.*
4. *Land Reallocation: In this stage, after parcel boundaries are readjusted and updated infrastructure is provided, the land is allocated back to the original landowners. The land reallocation aspect can be area-based approach or value base approach.*

LR is also specified as participatory as it required consensual contribution from landowners. The land contribution and land reallocation are two very important aspect of LR (Turk, 2007) which has direct link with the market legitimacy from the land owners perspective. Less land contribution for the land development is intact with success in LR projects from the perspective of market legitimacy as land owners get the developed land with increased market value without



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compromising more land (Çete, 2010). The land relocation after the completion of the project is based on area based approach or in value based approach (Turk, 2007). The Turkish LR model, which has area based approach in land reallocation, shows the difficulty in equitable reallocation of land. In this approach, if the land area is less than the minimum requirement of land area for residential use then landowner should buy from the LR project. Similarly, other issue of area based approach is the reallocation of plot should be near the original plot (Çete, 2010). Some countries have adopted value base approach in which market value is considered in the reallocation process. It reveals that value base approach is more success in equitable land reallocation.

The market norms in other sense is the rules and regulation of the market. The financial arrangements to initiate LR are market norms. The market norms are based upon the exchanges of services and goods in terms of value. In other aspect, market norms refer to demand and supply. As highlighted by Turk (2008), the success in LR depends upon the ability of LR model in cost recovery. The basic principle of LR is that by bringing the sales plot on the market, LR should be able to gain cost recovery. The value capture is another market norms associated with LR. After the land development with LR tool, the difference in land value in terms of financial aspect is applied as land value capture. The levying betterment charge and development rights are market instruments in LR process. The levying betterment charge is the way of charging betterment charge to the landowner. It is calculated based on the increase in land value due to development of infrastructure (Mittal, 2014). Similarly, development rights, which depends upon Floor Area Ratio (FAR), and Building Area Ratio (BAR) effects the economic value of land. The various literature on LR suggest that the selection of the area needs to be market viable.

The financial arrangements to initiate LR are market norms. The Ahmedabad LR model applied land bank concept to arrange necessary seed money for LR projects (Mittal, 2014). Similarly, in LR of some countries, the local government can arrange the initial funding. The concept of revolving fund is applied in LR model of various countries.

2.2 APPLICATION OF LAND READJUSTMENT FOR ALLOCATING LOW COST LAND FOR LOW-INCOME HOUSING

The application of LR approaches for allocating land for low-income housing seems less applicable. LR application is found in various sectors such as urban regeneration (Turk and Korthals Altes, 2010), urban development (Mittal, 2014; Uzun, 2009), post disaster (Mukherji, 2014) and regularizing informal settlement (Supriatna and van der Molen, 2014; Uzun *et al.*, 2010) but not highlighted explicitly in allocation of low income plots. There are various constraints in allocating low cost land. For instance, unaffordable land prices under formal market, less profit in low-income housing compare to commercial complex, low land value near low-income housing (Needham, 2004).



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The prime constraint in LR in allocating low cost land is attached with the market value of land. Sorensen (2000) has mentioned that since the LR tool is attached with market instruments like cost recovery and land value capture the low-income groups cannot afford to buy developed land in the LR project. The LR model of some countries reveals about the allocation of land for social housing. According to Sanyal and Deuskar (2012), Gujrat has legal norms to capture up to 10% of the serviced land but it is found in the case that less than 3 % has been captured. Similarly, Korean LR policy have provision to allocate certain percentage for low-income groups (Sorensen, 2000). However, the LR practices in Turkey mentioned that it is less possible to allocate low-income plot. The allocation of the plot for low income housing in LR project is associated with the risk of a decrease in the value of land in the vicinity (Needham and de Kam, 2004). Calamia and Mauach (2009) has highlighted that setting aside some parts of developed land for low income groups need strong legal and policy drive.

Some approaches are practiced in various countries for the allocation of low cost land. The first approach is to sell cost equivalent land at a reasonably low price to the agencies producing low cost housing and to finance the amount returned to the landowners by cross subsidy. The second approach is to include the private sector producing low cost housing as landowner by purchasing land from the project area. The third approach is to allocate financial subsidies, the fourth is to use land owners plot to develop multi-unit housing and finally fifth is to increase land contribution rate at a certain level from landowners (Turk, 2008).

3. METHODOLOGY

This study is based upon a case study approach. We have considered the two cases of Land Readjustment (LR) in Nepal. The first case is Kamerotar LR project and the second case is Icchangu LR project. The first case is used to explore the factors that have restricted allocating land for low-income housing while the second case is used to explain how the land for low-income housing has been allocated. The unit of analysis of the both cases are at project and policy level

The mixed method of data collection was adopted. The data used in this study is a part of a PhD research. The data was collected during fieldwork in the years 2016 and 2017. The focus group discussion (FGD) with 10 landowners of Kamerotar LR was conducted. Besides, in depth interviews with three members of users committee has been conducted in both Kamerotar LR and Icchangu LR. Further, the questionnaire survey was conducted with 10 landowners residing near to low-income housing in the Icchangu LR.



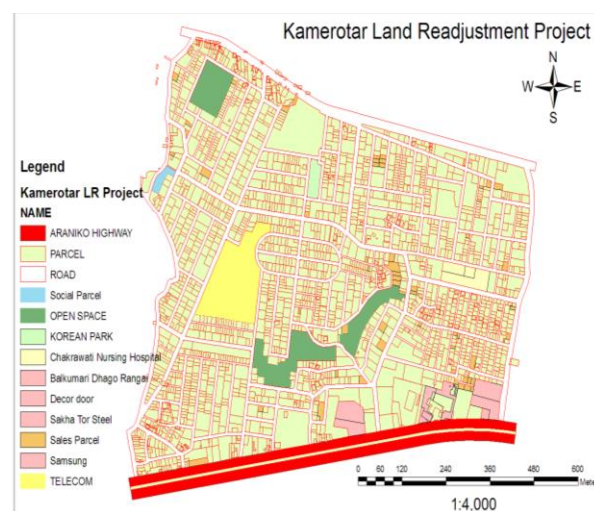
4 CASE STUDIES

4.1 EXPLORATORY CASE STUDIES: ALLOCATION OF AFFORDABLE HOUSING IN KAMEROTAR

4.1.1 Overview of Kamerotar Land Readjustment Project

The Kamerotar LR Project is located in the Bhaktapur district, Madhyapur Thimi Municipality. The project was carried out by the Thimi Municipality. The project was initiated in 2059 BS. The total area of the project is 46 hectare. The number of landowners before the project was 2750 and the number of plots developed was 2520. Table 1 shows the land use type in the project area. The government bought land for building an office of Nepal Telecommunication. The land was sold to the Nepal Telecom in the initial phase of the project in order to accumulate fund to develop land.

Table 1: Land Use of Kamerotar LR	
Land Use Type	Area allocated (Square m)
Road	159790
Open Space	34,557.54
✓ Play Ground	8884.54
✓ Nepal Korea Park	2599.43
✓ Green Space	20,213.07
✓ School, Offices, Public historical tap, well	2860.50
Private Land	5,06,655.74
Reserve plot for sale	30,010.33
Land allocated to Nepal Telecom	25,237.85



Land Use of Kamerotar LR
Source: Kamerotar LR Project



4.1.2 *What are the factors that restrict the allocation of low-income plots from a market perspective?*

Lack of policy and legal norms that enforce compulsory allocation for low cost plot:

There is the lack of policy and legal framework that enforce the compulsion allocation of low cost plot. In the land readjustment manual there is technical norms like the minimum percentage of land required for open spaces, minimum width of road. The detail technical norms of land contribution is prepared by the users committee. In this project, the consulting firm have prepared the contribution rate depending upon the width of road and depth of existing plot. The criteria of land reallocation procedure is prepared by users committee.

Lack of external financial support to the project

There is no external funding in this LR project. The project had sold the chunk of land to the government to develop telecommunication infrastructure. The land was sold to collect initial fund. The project had covered all the expenses of infrastructure development like road, rainwater drainage, and electricity infrastructure. The Fig 1 shows the comparative market value of sales plot. The number of plots are sold in higher value than the official declared price. The infrastructure cost is incurred from the sale of these plots.

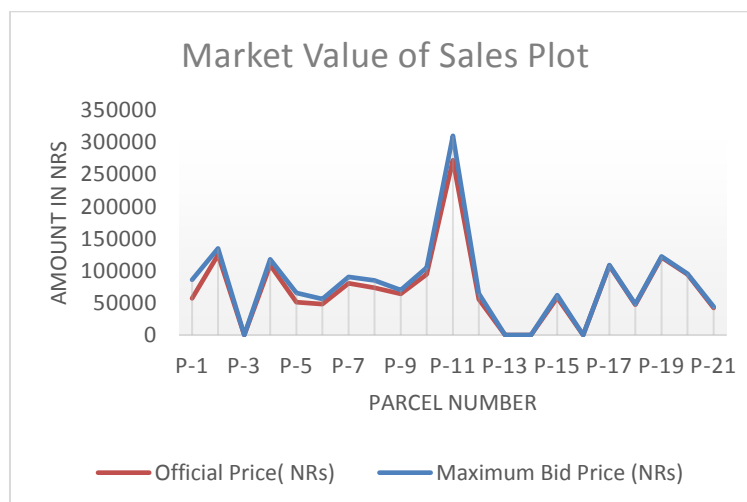


Figure 1: Market value of sales plot
Source: Kamerotar LR Project



Consensus of landowners required to initiate the project

Likewise, in any other LR project, this project was also implemented after obtaining the consensus from landowners. Seventy-five percentage of landowners are required to provide written consensus. To meet this criterion, the opposite strategy of obtaining written objection of more than 25% landowners were practiced. The case reflects that those landowners whose land have road access, less land in ownership certificate than on ground, landowners who prefer to continue agriculture profession made objection. The main objection was in land contribution percentage. According to the project officer, it was very difficult to convince landowners regarding land contribution. Therefore, to provide land to low-income groups from landowners contribution does not seems feasible.

Technical Norms provides financial burden

The technical norms of land area had created financial burden to the project. The minimum land area is 80 m². Therefore, landowners whose land is less than 80m² are allowed to buy land in subsidies rate from the LR project. This approach had given less advantage to the beneficiaries. The regulation of providing the extra land area in subsidies price to fulfill minimum required area seems to create room to maneuver for elite groups. In the project, elite groups have bought the small plot from the landowners during the project. Further, parcel division to small plot have increased the financial burden, as project has to subsidize the land value to meet technical norms of minimum plot area.

4.2 EXPLANATORY CASE STUDIES: ALLOCATION OF AFFORDABLE HOUSING IN ICCHANGU LR

4.2.1 Overview of Icchangu LR

The Iccangu Narayan LR project is located in the Kathmandu Valley. The project was carried out by the Kathmandu Valley Town Development Authority (KVTDA). As in general, for LR project, there is requirement of consensus from 75% of landowners. As shown in table 1, in 2002 there was decision to initiate the project by the government authority. In 2006, there was an approval from higher-level court decision to start the project. In 2007, the notice was given to acquire the land from landowners. However, the landowners made objection due to high land contribution (40%) and the quality of the infrastructure provision. In 2008, the court made the decision to freeze the project. Finally, in 2009 the court had given decision to continue the project after satisfying the landowners by decreasing the contribution rate to 35%. This is the first LR project in which the land for low-income housing was acquired. The Fig 1 shows the location of low-income housing.



Table 2: Land Use in Icchangu LR	
Land Use Type	Area Square feet
Road	74034.08
Open space/ Community area	71637.36
Private Land	59705.27
Reserve plot for sales	78033.33
Land allocation for low income groups	3229173

Source: Icchangu LR project

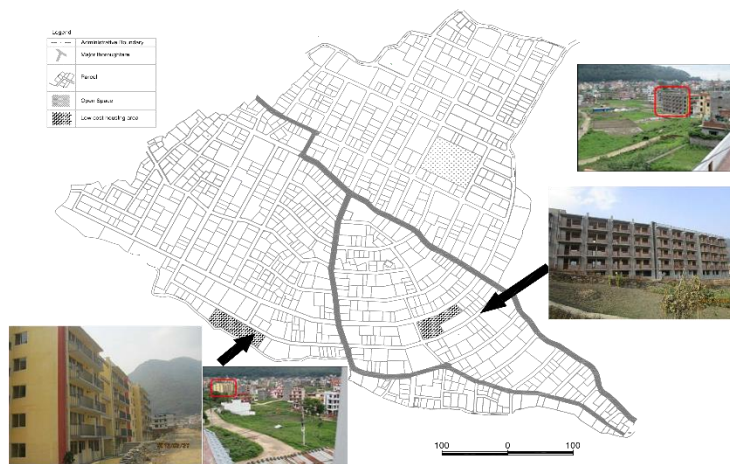


Figure 2: The location of land for low-income housing
Source: Icchangu LR Project

4.2.2 What are the factors that had pushed in the allocation of affordable housing?

Government as market actor

The interviews with government officials reveal that the rationale for constructing the low-income housing in the Icchangu was to relocate the evicted informal settlers in the year 2012. The government was not able to relocate the settlements due to difficult in access to land. The reason was the protest from the people in the vicinity (Shrestha *et al.*, 2014). Therefore, Department of Urban Development and Building Construction (DUDBC) approached the project to buy land to accommodate low-income groups. In the first phase, DUDBC bought 0.16 ha of land at the rate of 408 US\$ per m². Further in the second phase government bought 0.23 ha of land at minimum market price of sales plot quoted by the project (340 US\$ per m²).

Effects in the project due to decline in the market

In the initial phase of project, the project could not develop infrastructure due to lack of financial arrangements. There was decline in the land market viability that had affected in the sale of sales



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plot. Moreover, due to lack of infrastructure facilities, the buyers are not attracted towards the sales plot. Therefore, users committee was compelled to sell land to the DUDBC. The land was bought at 20% above the minimum market price quoted for sales plot.

“At the initial phase of the project the land market was in stagnant and there was less buyer in the market for the sales plot. When DUDBC offers to buy a big chunk of land and also agreed to pay 20% more than the quoted price, the users committee agreed” (Interview with landowners users committee)

Lack of participation of landowners

The result of questionnaire survey conducted with 20 landowners residing near the low-income housing reflects that they are not aware about the allocation of land for low-income housing.

Factors	Land owners view	Remarks
Informed about the purpose of the constructed building near the vicinity	Heard about it (No: 3 Yes: 18)	Most of the settlers have the idea that the house has been constructed targeting low income groups
Informed about the beneficiaries in the housing	Know about the beneficiaries of the housing (4: less clearly; 13 not clearly; 3 not at all)	In the rank scale of (very clearly, clearly, less clearly, not clearly, not at all)
Effects in land value due to low income housing/ people	Very much (12); Much (5); Not much (3)	In the rank scale of (very much, much, not much, not at all)

Table 5 shows the perception of landowners towards the participation in allocating land for low-income groups. The landowners have information that the housing is developed for accommodating low-income groups. However, they are in dilemma about the beneficiaries. The respondents mention that the beneficiaries are informal settlers, earthquake affected groups, low-income government officials. Moreover, they mention about how accommodating low-income people can effect in the land value in the vicinity.

The interview with users committee reveals that the decision regarding selling land to the DUDBC has been done by users committee. It was further approved from the management committee. Not all the landowners were involved.

5 ANALYSIS AND DISCUSSION

The exploratory case of Kamerotar shows there were no driving factors that compelled to allocate land for low-income housing. This case reveals that there is a lack of policy implementation of accommodating low-income groups. The provision of inclusiveness of low-income groups are mentioned in urban policy 2007, the National Shelter Policy (NSP) 2012 and Town Development Directives (TDD). The Urban Policy 2007 mentions that there is provision of affordable land and low cost dwelling units. TDD mention different inclusionary criteria while NSP mentions about



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developing internal funding mechanism to subsidized land price for affordable housing. This case also reflects that the approaches as mentioned by Turk (2008), which is allocating low cost land by increasing the land deduction rate from land, does not seem feasible. The intervention in LR such as selling cost equivalent land at a reasonably low price to the agencies producing low cost housing and financing the amount returned to the landowners by cross subsidy (Turk, 2008) seem feasible to divert self-financing LR model to cost sharing LR model. Similarly, as mentioned by Needham and de Kam (2004) the constraints in allocating low-income housing such as the effect on land value in the vicinity is also reflected in the perception of landowners. Similarly, the social stigma can restrict low-income housing to be accepted by landowners. Therefore, the market tools like subsidy, tax redemption, redemption in planning permit cost, provision of development rights need to be introduced in the LR process.

The case study in Icchangu LR shows how the distortion in the market can be the driving factors to allocate or to sell land for low cost housing. Though the land was bought for high price, the government was able to negotiate to buy the land. The policy of inclusion does not seem to be applied in this project either. The constraints highlighted by Needham and de Kam (2004) such as unaffordable land prices under formal market, less profit in low-income housing compare to commercial complex, low land value near low-income housing were overcome when there is less buyer in the market. However, the social stigma towards low-income groups can hinder in accommodating the beneficiaries of low-income housing. The criteria to select beneficiaries is required on one hand whereas on the other hand government should bring intervention to develop social integration.

6 CONCLUSION

The cases show how market legitimacy is embedded in the allocation of plots for low-income groups. The policy to develop an inclusive LR process should focus on market norms and market value, which are acceptable to the landowners. Besides policy, there are technical norms that can be adopted to allocate low cost land. Furthermore, the social aspect also needs to be considered in the inclusive LR process.

7 REFERENCES

- Archer, R. (1992) Introducing the urban land pooling/readjustment technique into Thailand to improve urban development and land supply. *Public Administration and Development* 12. 2, 155-74.
- Calamia, N. and A. Mauach (2009) Inclusionary housing, incentives, and land value recapture. *Land Lines* 21. 1, 15-21.
- Çete, M. (2010) Turkish land readjustment: Good practice in urban development. *Journal of Urban Planning and Development* 136. 4, 373-80.



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- Erdem, R. and M.C. Meshur (2009) Problems of land readjustment process in Turkey. *Scientific Research and Essay* 4. 8, 720-7.
- Hong, Y.-h. and B. Needham (2007) *Analyzing land readjustment: Economics, law, and collective action*. Lincoln Institute of Land Policy Cambridge, MA.
- Mittal, J. (2014) Self-financing land and urban development via land readjustment and value capture. *Habitat International* 44. 314-23.
- Mukherji, A. (2014) Land Readjustment During Post-Disaster Urban Reconstruction. *Journal of the American Planning Association* 80. 4, 438-9.
- Needham, B. and G. de Kam (2004) Understanding how land is exchanged: co-ordination mechanisms and transaction costs. *Urban Studies* 41. 10, 2061-76.
- Sanyal, B. and C. Deuskar (2012) A better way to grow? Town planning schemes as a hybrid land readjustment process in Ahmedabad, India. *Value capture and land policies* 149. 182.
- Shrestha, R., A. Tuladhar, J. Zevenbergen and M. Banskota (2014) Decades of Struggle for Space: about the legitimacy of informal settlement in urban areas. *Engaging the challenges, enhancing the relevance: XXV FIG Congress Kuala Lumpur, Malaysia*.
- Sorensen, A. (2000) Conflict, consensus or consent: implications of Japanese land readjustment practice for developing countries. *Habitat International* 24. 1, 51-73.
- Suchman, M.C. (1995) Managing legitimacy: Strategic and institutional approaches. *Academy of management review* 20. 3, 571-610.
- Supriatna, A. and P. van der Molen (2014) Land readjustment for upgrading Indonesian kampung: a proposal. *South East Asia Research* 22. 3, 379-97.
- Turk, S.S. (2007) An analysis on the efficient applicability of the land readjustment (LR) method in Turkey. *Habitat International* 31. 1, 53-64.
- Turk, S.S. (2008) An examination for efficient applicability of the land readjustment method at the international context. *Journal of Planning Literature* 22. 3, 229-42.
- Turk, S.S. and W.K. Korthals Altes (2010) Potential application of land readjustment method in urban renewal: Analysis for Turkey. *Journal of Urban Planning and Development* 137. 1, 7-19.
- Uzun, B. (2009) Using land readjustment method as an effective urban land development tool in Turkey. *Survey Review* 41. 311, 57-70.
- Uzun, B., M. Çete and H.M. Palancıoğlu (2010) Legalizing and upgrading illegal settlements in Turkey. *Habitat International* 34. 2, 204-9.
- Yau, Y. (2012) Homeowner Involvement, Land Readjustment, and Sustainable Urban Regeneration in Hong Kong. *Journal of Urban Technology* 19. 1, 3-22.