Feasibility study of land readjustment in suburban of Khost city

Saifullah Amin
eng.saifamin@gmail.com
Waliullah Qasimi
Waliqasimi153@gmail.com
Said Wali Baran
Sayedwali.baran@gmail.com
Shaik Zayed University, Afghanistan

Abstract: Land Readjustment (LR) is one of the effective ways to avoid informality in urban areas and take more advantages from the land parcels. The private land ownership is one of the main challenges against implementation of the urban development especially using LR method. Khost city located in the southeast of Afghanistan is one of the fast growing cities in the country. In Khost city, the merits and challenges against implementing LR technic has not been yet investigated. Therefore, this study aims to find out the consent level of those who have land in the proposed area. For the data collection, paper-based survey was conducted in order to view the perception of the local people. The results show that 97% people are ready to give their land for land readjustment purpose.

Key words: Landownership, Land readjustment, regular plots, safe environment, urban informality

INTRODUCTION

Slums and informal settlements are global issues which direct relation with urbanization all over the world. Informality is one on the big issues which is arisen by so many factors but one of the main factors is the existing of agricultural private land in the urban fringe. Which limit the urban expansion.

Informal settlements are one of a key challenge for city planning and development authorities in developing countries. (Kudva, N., & Beneria, L. (2005)) It is estimated that about one billion people reside globally in informally way. So it is worldwide issues espacilly informal settlements fastest growing in sub-Saharan Africa, southeastern and Western Asia (World Bank,2016).

In Africa, from the overall urban population over half of the urban population (61.7%) lives in slums and may be by 2050, Africa urban dwellers are projected to increase from 400 million to 1.2 billion. (UN-Habitat, 2013 and Habitat –III, Issues paper -2015).

In Egypt Commonly Informal development happens, especially on the urban margins, on privately-owned agricultural land, rather than in desert areas, which would be considered squatting on state public land. Despite 30 years' Egyptian government efforts to control and limit unplanned growth on agricultural land around Cairo, but until now informal settlement is exist in most Egyptian cities. In Cairo cities around more than 7 million populations sheltered in agricultural land in 1998 (Sims, D., & Séjourné, M. (2000). ,Sejourne, 2006).

Kabul city (capital of Afghanistan), is also faced with the same problem like Egypt. In Kabul city the major factor of the growth of informal settlements are the inability of the formal sector to provide affordable housing for public residence. (UN-Habitat, 2015).

One of the suitable and sustainable way for improving of informality is land readjustment. land acquisition is very hard, especially when the land ownership is private and located near the urban area. Maybe in some countries people voluntarily consent to give their land for public development, but in a country like Afghanistan it is very hard to consent the land owners. Maybe in some cases, the government body uses power to implement public projects or maybe in some countries, the state has legal power to take private property for public use without consenting of the owners. But in some countries, such as the united State (U.S.) constitution provides that "private property [shall not] be taken for public use, without just compensation." (Yu-Hung Hong and Barriene Edham. 2007).

The process in which, the separate parcels of land assemble for one plots (unit) is called land assembling. Commonly, acquiring of land for development on the edge of the urban is problematical issue for the planning & implementing authority. (Felipe Francisco De Souza and Hideki Koizumi, 2020 at el).

Land readjustment technique is not a new approach; this technique is mostly used in so many developed and non-developed countries in the world for planning and development of cities with the conciliation of private land owners who have the relevant land properties. (Andre Â Sorensen, 2000 and Toshi Keikaku).

According to this technique, all developers, landowners and governments get the benefit of development. In fact, it is a joint developed model. Therefore, the mention three parties, by single way not able to develop the property. For example, land owners don't have enough cash money to develop their land based on governmental policies and the government, body doesn't have enough land and money in the same place for development and infrastructure, and so the developers do not have land parcels in the same location.

This technique provides a justice chance for all share parties to get benefits from the properties after developing. So the best way for all the land owners, developers and

governmental bodies are to use the land readjustment technique. (Hanayama, (1986), Higasa, (1993), (Miyazawa, (1982), et al).

Land readjustment (LR) has been used all over for urban fringe development to join agricultural land as buildable urban plots. Land readjustment is the only appropriate method for the development and expansion of the city, especially for the government which has a poor financial situation. (UN-Habitat, (2018), UN-Habitat, (2019).

According to UN-Habitat, land readjustment is one of the proved and experimental effective and easy tool for slum upgrading and site regularities. (UN-habitat, (2016), UN-Habitat, (2018).

Land readjustment is used allover in the world, this is not a new approach. In korea's Land Readjustment Act was enacted in 1966 after that 496 sq.km area in 599 districts are implemented. (UN-Habitat, 2019 et al).

Especially, in the provinces such as Khost, where existing of private land ownership on the fringe of the city, the financial situation of government is very poor, the masterplan of the city is so old, not implement the urban development rules and lack of expert's planners in the planning Authorities make together heavy conflicts. So to find a suitable way and avoid city informality, the only better way is to invite private developers and use land readjustment technique. Until now, the above model has not been used anywhere in the city.

1.2 limitation

- Consenting the landowners are the main issue
- Finding developers (investors)
- After planning redistribution
- Finding fix amount of land

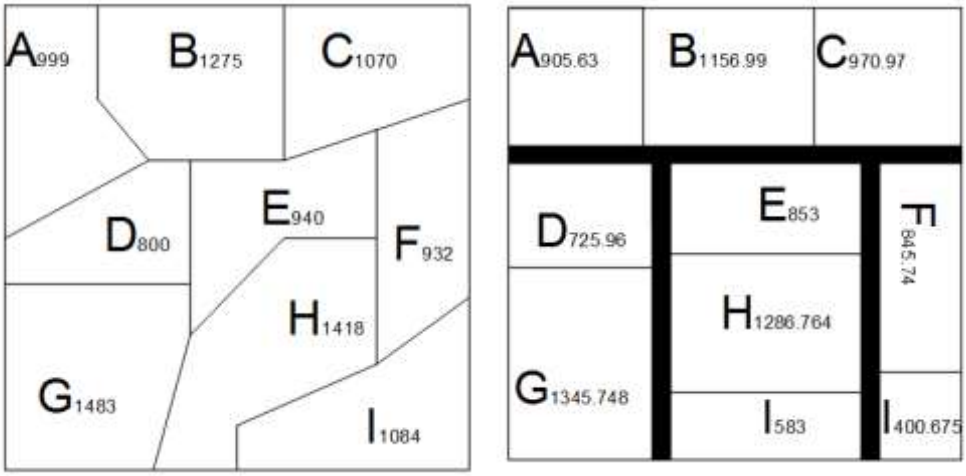
1. Land readjustment

Land Readjustment is a method whereby the ownership of scattered and irregular plots of agricultural land is pooled, roads and main infrastructure are built, and the land is then subdivided into urban plots. (Son Jeong Mok, 2003 and Andre Â Sorensen, 2000). Land readjustment is a public private partnership model. In fact, land readjustment is a process that includes:

- Assembling of irregular land parcels of various land owners
- Changing it to regular plot,
- Adding basic infrastructures and
- redistribution.

After regularity, the land area has become smaller due to providing infrastructure and other planning regulations. Maybe around 20-25 % of the land area is reduced. At first, maybe some landowners will not consent, but when they study the social and economic profits, especially the unit price of land value and other life conditions, they

will accept that, without any excuse. In the below figure (1.1) as an example, we consider the area which has 10000 sq.m (1hector), if we adding 4-meter-wide road for accessing and laying other line infrastructure. After regulations, the purpose plot area is 9074.5 sq.m., around 925.5 sq.m area is reduced, which is 9.255 % of the total site area.



1.1 figure: before and after land area.

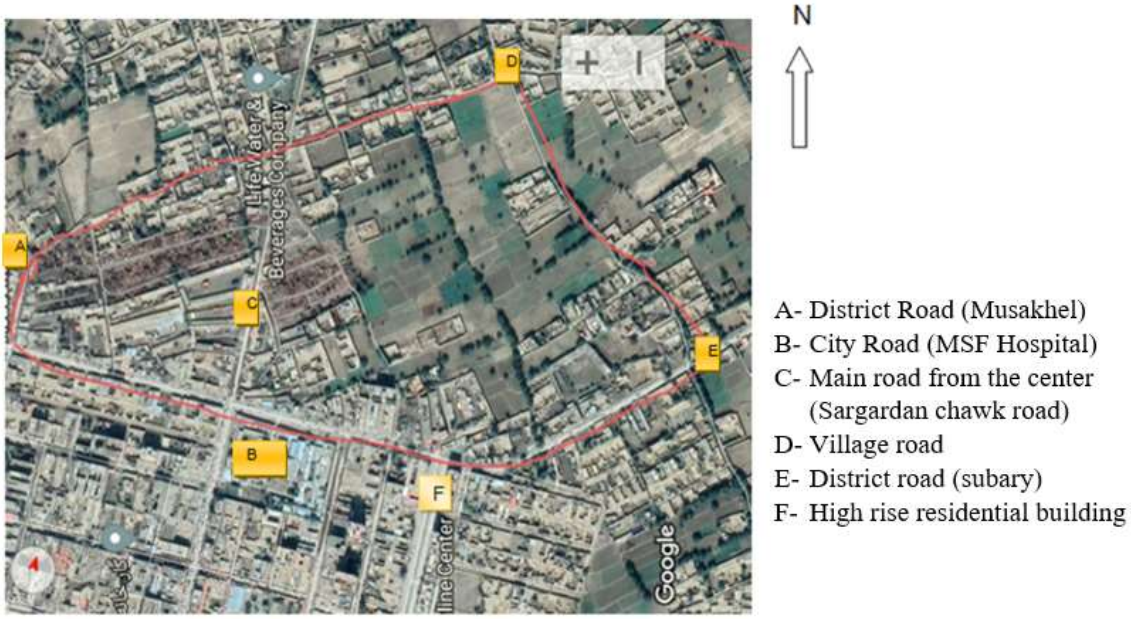
The land readjustment (LR) is not only avoiding from irregular shapes of plots, but it provides good landscape and more open recreational space too. It is also important to say that the LR method is used for both small and large site areas, and it is also used for urban, fringe of urban and rural areas too.

2. Study Area

The study area is located in the north-east of Khost city, which is called Matun. The north and east sides of the area are residential and agricultural land use and the south & west sides of the area are commercial land use. This area is so near the center of Khost and the forms of develop is informal mix land use private self-house, which is built on agriculture land. The people who live on the site have so many problems, such as irregular plots, irregular streets, lack of accessibility to some land properties, lack of physical infrastructure, old type of self-house. for more details, see the below figure of the site area.

The survey method for the area is direct observation, interview, date collection sheet and getting information from digital online source and using software and calculation program. In this process the survey sheet has (6) major questions. These question were about:

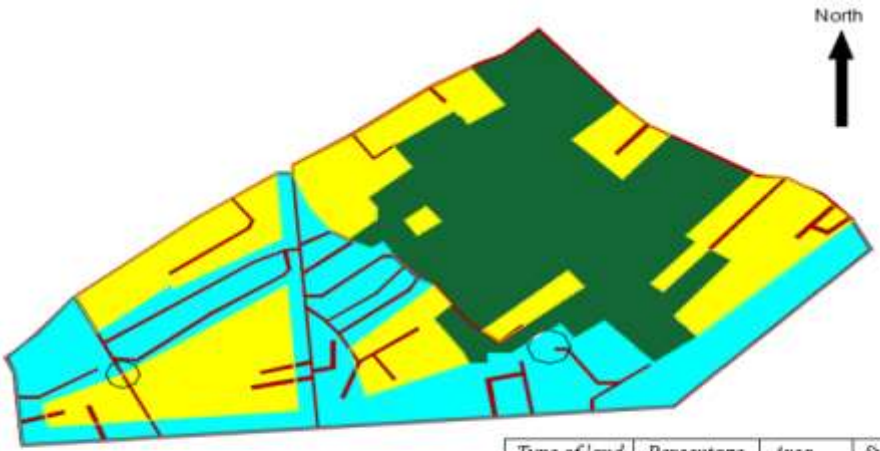
1- land ownership states, 2- plot access states, 3- Do you have addition land out of house, 4- Are you ready to give money for compensation if you get access to road, 5- Do you want take volunteers participation in the upgrading of the site area, 6- How much land do you devoting for the developed purpose of the site.



1.2, figure: Existing site area

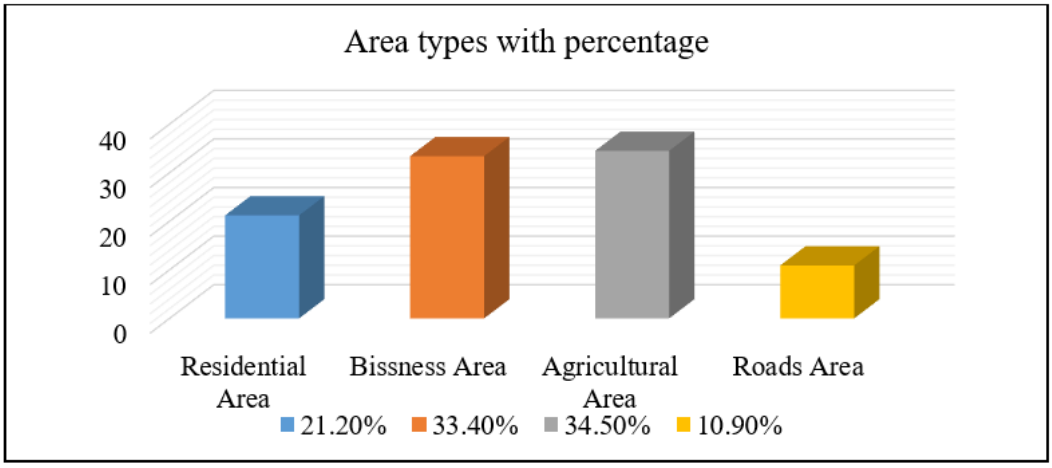
4. Analysis of existing Buildable Area

According to the site survey, the site area absolutely belongs to private land owners, so it is difficult to change it by time to a regular shape without inventory. Due to government and other agencies, inventory involvements are required for regularity of the site. From the site survey, it is seen only four types of major land use; where 21.2 % of the area is covered by self-residential houses which are built from local materials, 33.4% of the area is covered by business activities, where mostly road side shops, motor workshops and some small food industries, which bring a lots of traffics problems. 34.5 % area is covered by agricultural crops, although there is building rent opportunity for both residential and commercial activities are very high and 10.9 % area is covered by unplanned road and drainage.



Type of land use	*Percentage*	*Area (sq. m)*	*Symbol*
Residential	21.2%	60193	
Commercial	33.4%	95104	
Agricultural	34.5%	98173	
Roads	10.9%	31016	
Total	100%	284486	

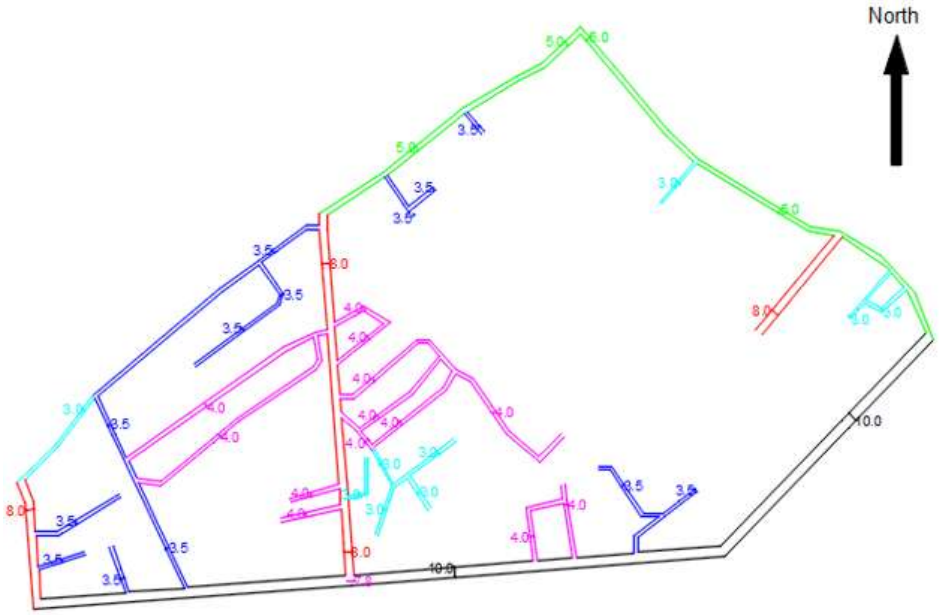
1.3, figure: Existing land use with area percentage.



1.4, figure: Existing major land use of the site

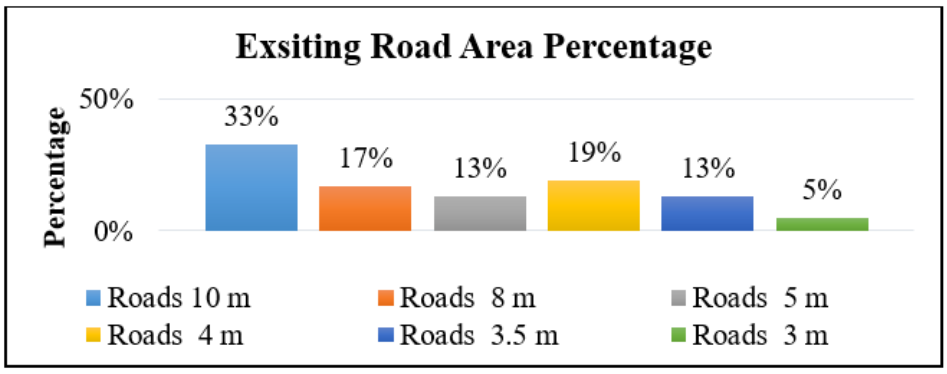
5. Exiting Road

In the Site area, there are currently seven types of roads; 10, 8,6, 5, 4, 3.5 and 3m roads are existing, which are shown in the below flow chart with area percentage. From all the above roads, only the 10 and 8-meter roads are paved. The other streets are unpaved. Only some small parts of the streets are paved by proper materials. 10-meter road is the city road, 8 meter roads are the district road which is passed from the area and the others are the local and village roads.



Type of Roads	*Percentage*	*Area (sq. m)*	*Symbol*
Road width-10 m	33.3%	9996.6	
Road width-8 m	16.3 %	4904.5	
Road width-5 m	13.2 %	3956.7	
Road width-4 m	19.2 %	5786.5	
Road width-3.5 m	12.9%	3868.8	
Road width-3 m	5.1%	1538.5	
Total	100%	30051.6	

1.6 figure: Existing roads type with area percentage.



1.5, figure: Roads types with area percentage.

6. Environmental issues

The site area is faced with so many environmental problems. There is no drainage system, no place for solid waste, no place for sidewalks etc. For more information, see some of the figures which were taken during the survey.

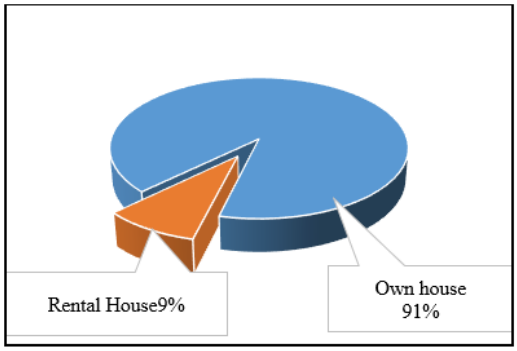
1.7, figures Irregular street and solid waste of the site area

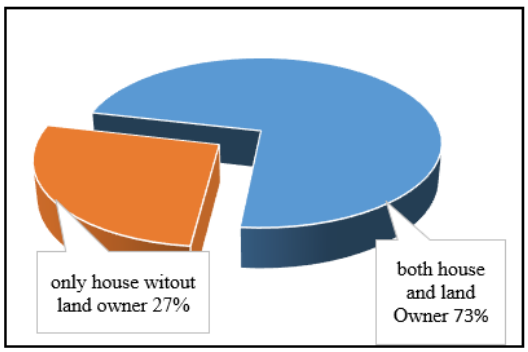
1.8, figure: Inside the street water drainage and stock for woods

7. Result

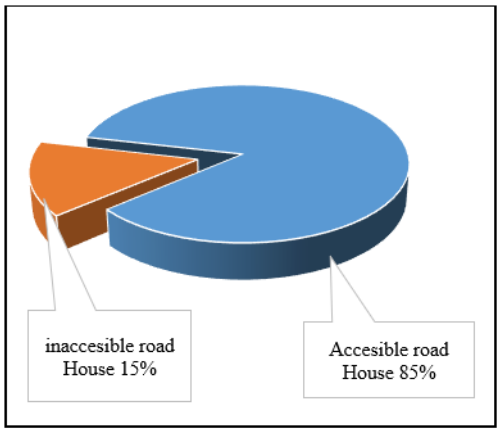
The data used in this analysis have been collected through site visits, paper-based survey and interview methods. Overall 100 persons were approached for data collection. From them, 75 persons responded to the survey whose results are shown in figures below. The results show that 91% of the inhabitants have their own houses, while the remaining 9% were resided in rental houses. 75 % of those who were living in their own houses had extra land in addition to their houses, while 25% of them have only houses. The data shows that 85% of the inhabitants have access to vehicle roadway, while the remaining 15 % have only access to walkways. Based on the survey, 97% of the respondents were consent with giving their land for implementation

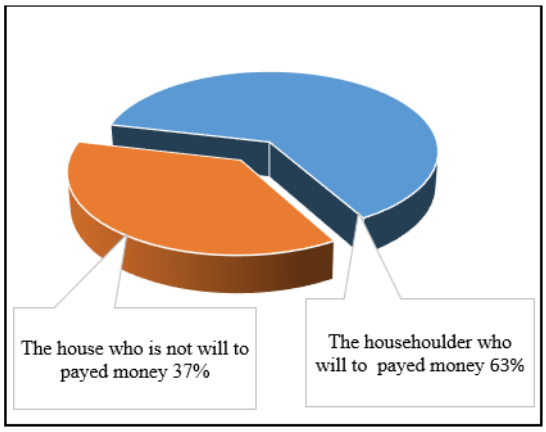
of LR method. In addition, 63% of the people consent to economically contribute for infrastructure implementation and other services. For more details, see the figures below.



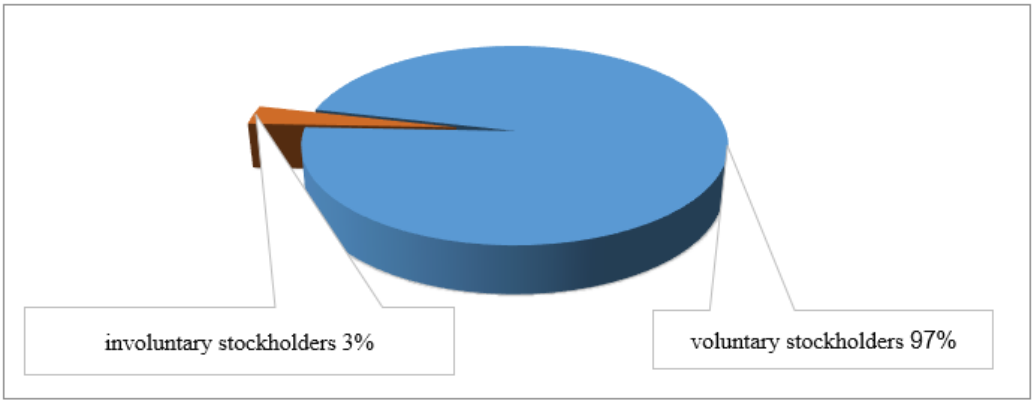


1.9, figure: own house & rental house 1.10, figure: only house & both house and land





1.11, figure: inaccessible roadway house 1.12, figure: the house who paid money & unpaid money



1.13, figure: voluntary and involuntary stockholder

8. CONCLUSION & DISCUSSION

This study investigates the feasibility of LR implementation for development in Khost, Afghanistan. The data was collected suing paper-based survey and site observations. Overall,100 inhabitants were recruited for the survey, while 75 of them have returned the questionnaire with responses to all questions. The results showed that majority of respondents (97%) of those who have land were consented to use devote their land for the city development. The small number of respondents that were not

agreed with devoting their land might be due to their limited land area. From these findings, we conjecture that implementation of the LR method can be feasible.

We complete appreciation and love extends to our honorable student, who has shared and cooperate data collection of the site area. and also thanks from S.T assistance Ph.D. Quadratullah Zwak who supported every moment of our work and give us valuable advice.

References

1. Yu-Hung Hong Barriene Edham. (2007) Analyzing Land Readjustment by the Lincoln Institute of Land Policy. Cambridge, Massachusetts.

2. Andre Â. Sorensen, (2000). Land readjustment and metropolitan growth; an examination of suburban land development and urban sprawl in the Tokyo metropolitan area, Department of Urban Engineering, University of Tokyo, Tokyo, Japan.

3. United Nations Human Settlements Program, 2019. Land Readjustment in the Republic of Korea: A Case Study for Learning Lessons.

4. UN-Habitat, (2018), for A better urban future, United Nations Human Settlements Program, kenya.

5. Minoru Matsui, (2012), Case Study Land Readjustment In Japan, world bank group

6. Felipe Francisco De Souza and Hideki Koizumi, 2020, Land Readjustment in Denpasar, Indonesia: Effects On Land Management, The Spatial Distribution of Land Prices and the Sustainable Development Goals, Asian Development Bank Institute, Indonesia.

7. Shirley Ballaney,2008, Town Planning Mechanism in Gujarat, India, The International Bank for Reconstruction and Development, World Bank, 1818 H Street, N.W. Washington, D.C. 20433, U.S.A.

8. Sorensen, A. 2000. Conflict, consensus or consent: Implications of Japanese land readjustment practice for developing countries. Habitat International 24 (March):51-73.

9. Noguchi, Y. 1994. Land prices and house prices in Japan. In: Noguchi, Y., Poterba, J.M. (Eds.), Housing Markets in the United States and Japan. University of Chicago Press, Chicago and London, pp. 11-28.

10. Newman, P., Kenworthy, J., 1992. Is there a role for physical planners? Journal of the America Planning Association 58, 353-362.

11. Shimoda, Y., 1993. The land readjustment program for urban development Machizukuri no Dodai toshite no Tochi Kukaku Seiri Jigyo. City Planning Review Toshi Keikaku 42 (1), 36-39.

12. Andre Â Sorensen, (1998). Land readjustment, urban planning and urban sprawl in the Tokyo metropolitan area. Ph.D. Thesis. Planning Studies, Geography. University of London, London.

13. Doebele, W. A. (1982) Land readjustment: A different approach to finance urbanization Lexington, MA: Lexington Books.

14. Government of Republic of Korea (1966) Land Readjustment Act. Seoul: Government of Republic of Kenya.

15. Kim, E.-w. (1983) Introduction of Korea's Land Readjustment Projects and Development. Urban Problems, Volume 18 - p.183.

16. Schnidman, F. 1988. Land readjustment: An alternative to development exactions. In Private supply of public services: An evaluation of real-estate exactions, linkage and alternative land policies, Rachelle Alterman, ed., 250–265. New York: New York University Press.

17. Hong, Yu-hung. (2007) 'Assembling Land for Urban Development: Issues and Opportunities'. In Analyzing Land Readjustment: Economics, Law, and Collective Action. Lincoln Institute of Land Policy.

18. UN-Habitat, (2019), Land Readjustment in The Republic of korea: A Case Study for Learning Lessons, Policy and practice, P-68, Book.

19. Hayashi K.,1982. Land Readjustment in Nagoya. In: Doebele W. ed., "Land Readjustment: A Different Approach to Financing Urbanization", Lexington Books, USA, September 1982.

20. F. Schnidman, "Land Readjustment". Urban Land, vol. 2, pp. 2-6, 1988.

21. World Bank, R. Nitti and B. Dahiya (2004). Community Driven Development in Urban Upgrading. Social Development Notes. New York, World Bank.