

Evaluation of Turkish Land Readjustment

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Land Readjustment

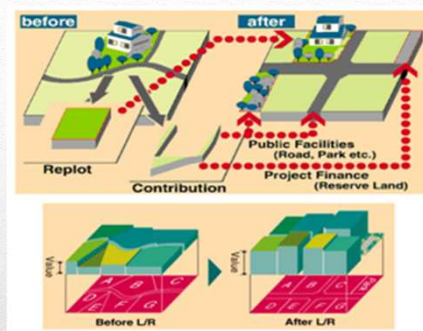
What is Land Readjustment?

LR is a land-management tool used to reorganize land for urban development by forming its location, shape and size according to the spatial plans, and provide land needed for public purposes such as roads and green areas (Seele, 1982).

How is the Land Readjustment Process?

The LR projects start with a formal decision which can either be a private or public initiative. With this decision, the project area is defined by mathematically adding or pooling the parcels, which are located within the project boundaries.

Land Readjustment Mechanism

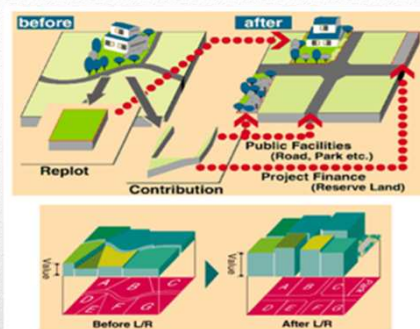


Source: Hisham El Shimy, 2012

Following the participation process, according to the spatial plans the area allocated for public purposes are extracted from the project area.

Landowners make more contributions in terms of reducing their land to recover the cost of the project. This land portion is called reserve or cost equivalent land which is sold at the end of the project to pay for costs such as planning, administration and construction.

Land Readjustment Mechanism



Source: Hisham El Shimy, 2012

Then, the remaining area is subdivided into urban parcels according to the master plan, and allocated to the landowners based on their shares in the project. The calculations in the allocation process could be area or value based.

After the allocation of the land, the value difference between the initial and allocated plots is calculated for each landowner and compensated through money payments.




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Evaluation Framework for LR

Comparing to other land assembling methods (e.g., expropriation, and voluntarily boundary exchange), LR provides a better land management theoretically. However, in practice, only a few countries succeed using the positives of LR. For the others, the usage and success levels are far behind the expectations. This diversity of the use and success requires an assessment to be made to define the cause of the performance gaps.

Consequently, the countries in which LR is unsuccessful or not accepted as the main land management and land assembly tool should be evaluated.

In this evaluation, countries should test and compare their results with the best or the expected results of an **ideal LR system** to understand what is wrong with their strategies and find out the performance gaps that needs improvements.




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Evaluation Framework for LR

Recently, researchers have shown an increased interest for the development of the evaluation frameworks, especially for assessing land administration (LA) systems.

While LA attracts that much attention on evaluation, the LR literature is mostly centered on describing the main concepts such as the usage, principles, advantages and disadvantages of the existing implementations.

As a result, the LR literature failed to establish an internationally accepted methodology, and a research cooperation for a global evaluation mechanism of LR systems.

Lack of an agreed methodology resulted in academicians using various criteria or success factors for to evaluate and compare LR systems and concentrate on different aspects of the LR without a common concept.



Evaluation Framework for LR

To establish an internationally accepted methodology, and a research cooperation for a global evaluation mechanism of LR systems; we analyze almost all ISI journal articles on LR and from these articles, the importance, the necessity and the possible outcome of an ideal LR in terms of **good practices** are defined.

Furthermore, **indicators** on the existence or the success levels of good practices are established. Then, together with the indicators, good practices are classified and clustered into evaluation levels and aspects based on their scope or institutional and technical responsibility.



Evaluation Framework for LR

As a result;
the evaluation framework for LR practices have been published.



The Form of the Evaluation Framework


The Evaluation Framework For Land Readjustment Practices

Evaluation Levels	Aspects	Good practices	Indicators
Policy Level	Land Policy	...	...
	Legal	...	...
	Financial	...	...
	Social	...	...
Management and Operational Level	Project Management	...	...
	Technical Principles	...	...
	Capacity Building	...	...
External Factors Level	Research & Development	...	...
	Technology
	Data Quality
	Other
Review Process Level	Performance Assessment



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Welcome to LR.org

The aim of **LR.org** is to contribute to the understanding of LR and raise the awareness of an internationally accepted evaluation and monitoring methodology, which includes developing the awareness, a vision and strategies through institutional development, legislation and coordination of stakeholders under the different aspects of LR.

For these aims; the evaluation framework for land readjustment practices (Yilmaz, et al, 2015) is established to measure and compare the performance of the existing LR strategies and the website "LR.org" is created to provide an online platform for this evaluation.

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[What is Land Readjustment?](#)
[The Evaluation Framework for LR](#)
[Assessment of LR Practices](#)

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In the last century, LR has proven to be a successful tool in covering the loss of the wars and natural disasters and producing serviced land in countries facing a high rate of urbanization. Since the global problems regarding land are not on the decrease, LR gains even more importance.

Although LR is applied efficiently and successfully in some countries, for some others the level of use and success are far behind expectations. This diversity of the use and success requires an assessment to be made to define the cause of the performance gaps.

By using the online assessment forms below, you can make an assessment for the LR practice in your country via indicators, scorecard or rating. Each evaluation type uses the same good practices which are published in Yilmaz et al. (2015) however they vary in the level of detail.

- Assessment via indicators is the most detailed evaluation type and each good practice is adressed by the related indicators.
- Assessment via scorecard is based on the possible predefined answers which the respondents can chose. This type is less detailed than assessment via indicators.
- Assessment via scale is based on a scale of 1 – 9 which the respondent can rate the achievement of the good practice in a country by rating.

[Assessment of LR via indicators](#)
[Assessment of LR via scorecard](#)
[Assessment of LR via scale](#)

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Assessment of Land Readjustment via indicators

Information about the respondent	
Name, Surname:	
Address:	
E-mail:	
Affiliation:	
Position:	
Case Country:	

Please provide the related information in the last column (indicators value) for each indicator.

policy level \ land policy aspects

good practices	indicators	indicators value
A land policy including LR should exist.	Existence of a government policy for LR (y/n). Is there any measure to reduce or prevent plot speculation? (y/n) if yes, list of the available measure.	
Plot speculation should be prevented.	1) Initiation of the LR projects has a relation with any urbanization indicators such as the urban population, housing needs, etc. 2) Is it possible to implement the projects simply and fast? 3) What is the average time for projects?	
LR should be quick enough and simple to face the urbanization rate.	1) Is it mandatory to implement LR projects in conjunction with plans (y/n), if yes, 2) How this plan-project dependency is ensured?	
LR must be carried out in conjunction with plans.	1) LR projects are carried out systematically (y/n). 2) Is it mandatory to prepare implementation programs? (y/n) if yes, is there any sanction for the implementers who do not have implementation programs?	
LR should be implemented systematically; moreover, sanctions should be applied for the municipalities, which do not have implementation programs.	The construction process and the costs are included in LR process (y/n).	
The infrastructure constructions and costs should be included in LR process.	1) Is it possible to use LR for affordable housing? if yes, what are the possibilities? 2) What is the total number of the low-cost housing implemented via LR?	
LR should ensure the usage of the land for low-cost housing.	Existence of a development agency public, private or community-based (y/n).	
A development agency public, private or community-based should exist.	1) List of the distribution bases in LR projects. 2) What are the criteria used in the selection of the distribution base?	
The distribution base should be chosen as land area only in homogeneity areas, for the other areas, land value should be used.		

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Assessment of Land Readjustment via scorecard

Information about the respondent	
Name, Surname:	
Address:	
E-mail:	
Affiliation:	
Position:	
Case Country:	

Please choose the best matching score (either A,B,C or D) for each good practice from the last column.

Good Practices	Policy Level \ Land Policy Aspects				Score
	A	B	C	D	
A land policy including LR should exist.	Government's land policy includes all the details of LR.	Government's land policy includes most of the details of LR.	LR is not included in government's land policy. However, there are some attempts or plans.	LR is not included in government's land policy. Moreover, there are no attempts or plans.	... ▼
Plot speculation should be prevented.	Plot speculation is mostly prevented.	Plot speculation is reduced by the measures.	Plot speculation is not prevented or reduced. However, there are some attempts or plans.	Plot speculation is not prevented or reduced. Moreover, there are no attempts or plans.	... ▼
LR should be quick enough and simple to face the urbanization rate.	LR is quick and simple enough to face the urbanization rate.	LR is not quick or simple enough. However, it is able to face the urbanization rate.	LR is not quick or simple enough. However, there are some attempts or plans.	LR is not quick or simple enough to face the urbanization rate and there are no attempts or plans.	... ▼
LR must be carried out in conjunction with plans.	LR projects are implemented in conjunction with plans.	LR projects are not implemented in conjunction with plans however, plan dependency is ensured.	LR projects are not implemented in conjunction with plans. However, there are some attempts or plans.	LR projects are not implemented in conjunction with plans. Moreover, there are no attempts or plans.	... ▼
LR should be implemented systematically; moreover, sanctions should be applied for the municipalities, which do not have implementation programs.	LR is implemented systematically and sanctions are defined.	LR is implemented systematically however there are no sanctions.	LR is not implemented systematically and there are no sanctions. However, there are some attempts or plans.	LR is not implemented systematically and there are no sanctions. Moreover, there are no attempts or plans.	... ▼
The infrastructure constructions and costs should be included in LR process.	The infrastructure constructions and all the costs are included in LR process.	The infrastructure constructions and most of the costs are included in LR process.	The infrastructure constructions and the costs are not included in LR process. However, there are some attempts or plans.	The infrastructure constructions and the costs are not included in LR process. Moreover, there are no attempts or plans.	... ▼
LR should ensure the usage of the land for low-cost housing.	Affordable housing could be implemented by LR and it is widely used.	Affordable housing could be implemented by LR. However, it is not used widely.	It is not possible to implement affordable housing with LR. However, there are some attempts or plans.	It is not possible to implement affordable housing with LR. However, there are no attempts or plans.	... ▼
A development agency public, private or community-based should exist.	A development agency exists for LR which works efficiently.	A development agency exists for LR. However, there are some problems.	No development agency. However, there are some attempts or plans.	No development agency. Moreover, there are no attempts or plans.	... ▼
The distribution base should be chosen as land area only in homogeneity areas, for the other areas, land value should be used.	Both land and value based is possible and selection of the distribution base has proper criteria.	Both land and value based is possible however, there are some problems in selection of the distribution base.	Only land based is available. However, there are some attempts or plans on adding the value based into the system.	Only land based is available. Moreover, there are no attempts or plans on adding the value based into the system.	... ▼

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Assessment of Land Readjustment via rating

information about the respondent

Name, Surname:	
Address:	
E-mail:	
Affiliation:	
Position:	
Case Country:	

Please chose the best rating score on a scale of 1 – 9 for each good practice from the last coloum (where "1" represents inadequate and "9" represents high achievement).

Good Practices	Policy Level / Land Policy Aspects	Description	Scale
A land policy including LR should exist.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
Plot speculation should be prevented.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
LR should be quick enough and simple to face the urbanization rate.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
LR must be carried out in conjunction with plans.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
LR should be implemented systematically; moreover, sanctions should be applied for the municipalities, which do not have implementation programs.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
The infrastructure constructions and costs should be included in LR process.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
LR should ensure the usage of the land for low-cost housing.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
A development agency public, private or community-based should exist.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9
The distribution base should be chosen as land area only in homogeny areas; for the other areas, land value should be used.		Please rate the achievement of the good practice in your country by rating on a scale of 1 – 9 where 1 represents inadequate achievement and 9 represents highly.	1 2 3 4 5 6 7 8 9



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As the first case study of the **evaluation framework**, we evaluate the Turkish LR by using the **good practices** and their **indicators** and measure the extent in which they are meeting in different **evaluation levels and aspects** and find out the **performance gaps of LR strategies** that need improvements.



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The Form of the Evaluation Framework

The Evaluation Framework For Land Readjustment Practices






Evaluation Levels	Aspects	Good practices	Indicators
Policy Level	Land Policy	...	...
	Legal	...	...
	Financial	...	...
	Social	...	...
Management and Operational Level	Project Management	...	...
	Technical Principles	...	...
External Factors Level	Capacity Building	...	...
	Research & Development	...	...
	Technology	...	...
	Data Quality	...	...
	Other	...	...
Review Process Level	Performance Assessment	...	...

Land Readjustment






The Evaluation Framework For Land Readjustment Practices

Evaluation Levels	Aspects	Good practices	Indicators
Policy Level	Land Policy		
	Legal		
	Financial		
	Social		
Management and Operational Level	Project Management		
	Technical Principles		
External Factors	Capacity Building		
	Research & Development		
	Technology		
	Data Quality		
	Other		
Review Process	Performance Assessment		



Policy Level / Land Policy Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
A land policy including LR should exist.	Existence of a government policy for LR (y/n)	Yes partially defined. However, urban transformation projects are considered more important than LR after 2009.
Plot speculation should be prevented.	(1) Is there any measure to reduce or prevent plot speculation? (y/n) If yes, list of the available measures	No, however it is planned.
LR should be quick enough and simple to face the urbanization rate.	(1) Initiation of the LR projects has a relation with any urbanization indicators such as the urban population, housing needs, etc.? (2) Is it possible to implement the projects simply and fast? (3) What is the average time for projects?	(1) Initiation of the projects is associated with the urbanization and number of the building permits given in a year is associated with the urban land stock. (2) Legal transformation is rapid however, physical transformation is slow. (3) No average time for the projects, it depends on the financial of the implementer.
LR must be carried out in conjunction with plans.	(1) Is it mandatory to implement LR projects in conjunction with plans (y/n), if yes, (2) How this plan-project dependency is ensured?	LR is implemented in conjunction with the upper plan (master plan) and the lower plan (subdivision plan) is generated by the projects.
...



Policy Level / Land Policy Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
...
LR should be implemented systematically; moreover, sanctions should be applied for the municipalities, which do not have implementation programs.	(1) LR projects are carried out systematically (y/n). (2) Is it mandatory to prepare implementation programs? (y/n) If yes, is there any sanction for the implementers who do not have implementation programs?	Partially systematic as it is mandatory to prepare a 5 year program however no sanctions to implement the program.
The infrastructure constructions and costs should be included in LR process.	The construction process and the costs are included in LR process (y/n).	The construction process and the costs are not included however, it is planned to be soon.
LR should ensure the usage of the land for low-cost housing.	(1) Is it possible to use LR for affordable housing? If yes, what are the possibilities? (2) What is the total number of the low-cost housing implemented via LR?	It is impossible to use LR for affordable housing with the current legislation.





Land Readjustment			
The Evaluation Framework For Land Readjustment Practices			
Evaluation Levels	Aspects	Indicators	Good practice
Policy Level	Land Policy		
	Legal		
	Financial		
	Social		
Management and Operational Level	Project Management		
	Technical Principles		
	Capacity Building		
External Factors	Research & Development		
	Technology		
	Data Quality		
	Other		
Review Process	Performance Assessment		


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Policy Level / Legal Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
Legal recognition through enabling legislation which covers all the details and standard procedures of the processes.	(1) Existence of a legal basis (y/n), (2) list of the processes that doesn't have a legal basis.	Every process have a legal basis.
LR should be a flexible procedure in which different financial models can be implemented by various implementers in different urban areas.	List of the (1) areas (2) financial models and (3) implementers of LR.	(1) The areas that have a Development Plan, (2) One financial model (2) Municipalities, governships and the related ministry.
Uniformity in LR, integration with the related laws and the relationship between LR and the other land acquisition tools should be ensured.	(1) Uniformity in LR, (2) Integration with the related laws and (3) Uniformity is provided mostly however, there are some problems.	Uniformity is provided mostly however, there are some problems.
Original landowners should stay in the project area after the LR project.	Is there any legal measure for the landowners to remain after the project? (y/n)	No legal measure however as the process is land-based landowners usually remain title.
...


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Policy Level / Legal Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
LR should have a solution for the landowners whom are compelled to participate or may lose out.	Is there any solution for landowners who want to leave the project? (y/n) If yes, list them.	No leaving possibility.
Land ownership disputes should not hold up the process.	It is possible for land ownership disputes to cause delays in projects? (y/n)	Land ownership disputes do not cause delays in projects.
Conversion of co-ownership into sole ownership under certain conditions should be ensured.	(1) Is it possible to convert the co-ownership into individual ownership (y/n), if yes; (2) What are the criteria?	No possibility for converting co-ownership into individual ownership.
Standards should be ensured for all LR activities and procedures such as planning, subdivision, valuation and etc.	The technical processes of LR have adequate standards (y/n).	Details of the technical processes are provided with the law, regulations, case laws and circulars of the related ministries.



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The Evaluation Framework For Land Readjustment Practices			
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Policy Level	Land Policy		
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Economical and Financial Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
LR procedure should be self-financial and should ensure cost recovery.	(1) List of the cost recovery tools and their efficiency. (2) What is the max, average and minimum cost recovery in the projects (%)?	The LR authority undertakes almost all the costs. Only max 40 % of the LR area could be taken for the infrastructure areas.
The government body should be responsible for creaming off the development gains and capture value increases.	(1) List of the value capture tools, (2) What is the max, average and minimum value capture in the projects (%) ?	The landowners take all the value increase.
The sharing of project costs and benefits must be made among the actors.	(1)List of the cost payers. (2) What is the max, average and min percentage of the costs paid by each actor?	Except for the land deduction, the LR authority undertakes all the costs.
Low-interest credit should be obtained from banks or private institutions for the self-financing of the projects.	Is it possible to obtain low-interest credits?	It is not accommodated.
A variety of other sources of subsidy should be available.	List of the subsidies that can be used in LR.	Generally, no subsidies.


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The Evaluation Framework For Land Readjustment Practices			
Evaluation Levels	Aspects	Indicators	Good practice
Policy Level	Land Policy		
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Management and Operational Level	Project Management		
	Technical Principles		
	Capacity Building		
External Factors	Research & Development		
	Technology		
	Data Quality		
	Other		
Review Process	Performance Assessment		


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Social Aspects		
Good Practices	Indicators	Evaluation of Turkish LR
Participation should be ensured.	(1) Does participation ensured in the projects (y/n), (2) if yes, what is the participation type (direct or indirect)?	No direct participation possibility, all the stages of the projects are undertaken by the LR authority regardless of the landowners consent and the landowners are only informed of the project by the public announcement.
In LR process, transparency should be obtained.	(1) Every step is transparent in LR (y/n), (2) list of the nontransparent processes.	Project details are transparent for every landowner however, the decisions related to the projects are taken in isolation.
LR should provide equity and equality among landowners in terms of the estimation and the sharing project costs and profits.	(1) Is there any assessment process for equality of landowners, (2) how is the sharing of the costs and the profits?	Equality among the landowners can not be provided. It is assumed that for every landowner equality is established by taking equal land deduction rate. The costs are not shared with landowners and the profits are not calculated or collected by the government.
Assistance and support from the public is necessary.	List of public supports for the projects.	The municipalities undertakes almost all the costs.
Landowners' understanding and confidence should be promoted.	The LR projects are explained in details to the landowners. (y/n)	Landowners are only informed of the project by the public announcement and they have the right to examine the details of the projects.

Land Readjustment			
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	Data Quality		
	Other		
Review Process	Performance Assessment		

Project Management Aspects

Good Practices	Indicators	Evaluation of Turkish LR
The administration of LR needs to be equipped with a sufficient number of technical personnel in terms of quality, quantity and resources.	What is the percentage of the implementers within the total that are equipped with adequate technical personnel in terms of quality, quantity and resources?	Generally, only some of the municipalities that are located in the big cities have adequate technical personnel in terms of quality, quantity and resources. No information is available in %.
Recruitment of technical personnel to in-service training is required.	Existence of a sustainable training activity (y/n) if yes what is the %?	No training activity.
Inter-project cooperation, coordination and sharing of experience and information should be ensured.	Existence of a platform for inter-project cooperation, coordination and sharing of experience and information? (y/n)	No such platform.

Land Readjustment

The Evaluation Framework For Land Readjustment Practices

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Review Process	Performance Assessment		

Technical Principles		
Good Practices	Indicators	Evaluation of Turkish LR
Feasibility about the suitability of the land for LR should be determined before the project.	(1) Does the feasibility of the project areas are investigated before the implementations? (2) If yes what are the criteria?	Yes, however only, the legal and physical feasibility is analyzed.
Timing of the projects should be arranged with respect to the suitability of the land for LR.	Existence of a criterion for the timing of the project. (y/n) If yes, what are the criteria?	No criterion for the timing of the projects.
Decisions about the size of the project area should be done with respect to the success possibility.	(1) What is the general LR size which can be accepted as a successful project area? (2) What is the average LR size in the projects?	No general LR size that could be accepted as a successful project area. It depends on the financial of the municipalities.
The parcels produced with the LR project should have optimum shapes for development to provide economic sites for development projects.	After LR, the parcels have the optimum shapes for development (y/n).	Yes, the parcels usually have the optimum shapes for development.
Either land or value base, the allocation criteria should be well-modelled.	List of the existing criteria for the allocation. How is the allocation process?	The calculations of the allocation process is only based on the land area and details are given in the paragraph.
In LR implementations high-level real estate appraisal expertise is required.	(1) List of the methods. (2) Assessment of the accuracy (y/n)	No valuation.

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Land Readjustment			
Aspects	Good Practices	Indicators	Evaluation of Turkish LR
Capacity Building	The ongoing education about LR should be ensured.	Number of workshops and seminars, etc.	No systematic workshops and seminars, etc.
Research & Development	The researchers should be included for the optimization of the system.	Number of research projects and institutes related with LR.	No research projects however, there are 19 departments in different universities.
Technology	GIS usage is essential.	LR databases are integrated with other databases through a GIS (y/n?)	There are some databases which could provide information about the projects however, they are not integrated.
Data Quality	Data used in the LR implementations should have adequate quality.	The data which are used in the LR projects such as planning and valuation has adequate quality.	The data that are used in the LR projects are sufficient in terms of capture method, quality and accuracy.
	Adequate cadastral records.	What are the properties of the cadastral data? (capture method, quality and accuracy)	The data that is required in the projects have adequate quality.
Others	Political concerns shouldn't affect LR projects.	(1) Is it possible for political issues to effect LR decisions? (2) Is there any measure concerning the elimination of the political effects? (y/n)	It is possible for political issues to effect LR decisions and no measure is taken so far.

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Land Readjustment

Aspects	Good Practices	Indicators	Evaluation of Turkish LR
Performance Assessment Aspect	A systematic mechanism to improve and develop LR system should be available.	Existence of a regular review process (y/n).	Projects are legally controlled by the related authority however no regular review process for the land readjustment system.

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Turkish LR Evaluation Summary

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Conclusion

Although LR is applied efficiently and successfully in some countries, for some others, the level of use and success are far behind expectations. This diversity of the use and success requires an assessment to be made to define the cause of the performance gaps.

The literature provides an adequate background to the main characteristics and the use of LR in different countries. However, no study that adequately established a framework providing the systematic evaluation of LR.

Furthermore, most of the research on evaluation frameworks focuses on different aspects of land management and land administration, yet LR seems to be the common missing component.

The evaluation framework presented in this study, therefore, gains importance by being the **first evaluation framework in the LR domain**.

Moreover, the evaluation of Turkish LR is the first case study of this framework.



References

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