

FIG  
2018  
ISTANBUL



**Presented at the FIG Congress 2018,  
May 6-11, 2018 in Istanbul, Turkey**

**6-11 May 2018**  
**ISTANBUL**

# XVI FIG Congress 2018



**EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:  
ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES**

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS



FIG  
2018  
ISTANBUL

# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

## VALUE CAPTURE CAPACITY OF AREA-BASED LAND READJUSTMENT (LR) IN TURKEY

Prof.Dr. Sevkiye Sence TURK

Istanbul Technical University (ITU)  
Faculty of Architecture  
Department of Urban and Regional Planning  
34437, Taskısla, Taksim, Istanbul/TURKEY  
Tel: 90 212 293 13 00/ 2319  
Fax: 90 212 251 48 95  
e-mail: [senceturk@gmail.com](mailto:senceturk@gmail.com)  
[turkss@itu.edu.tr](mailto:turkss@itu.edu.tr)

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS



**FIG**  
2018  
ISTANBUL

# XXVI FIG Congress 2018

**6-11 May 2018 ISTANBUL**

**EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:**

**ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES**

## Context

1. Introduction
2. Value Capture Capacity of LR Models
3. Use of LR in Turkey
4. Value Capture Capacity of Turkish Area-Based LR
5. Ordu City Case
6. Concluding Remarks

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS



## INTRODUCTION

- **Value capture** can be defined as a type of public financing in which increases in land values generated by public actions are all or in some part 'captured' through some instruments to fund urban infrastructure and service provision.
- The discussions of the legitimacy of public value capture has a long history. Today, the principle of the value capture has gained acceptance in many countries.

- **Land Readjustment (LR)** is a method used for both the development of new areas and the reorganisation of built-up areas in urban regions. Although LR models differ from one country to another, the main principles are similar.
- After a common share is allocated for public use such as roads, parks, car parks, and the areas determined to be sold in order to cover project costs (in some countries) from the total of all plots that fall into an LR area, the remaining areas are distributed to the landowners in proportion to either area size or value criteria.

- **Land readjustment (LR)** has an important value capture capacity. However, the value capture capacity according to LR models in countries (**area based/ value based**) can be changed.
- **In Turkey, area-based LR has been used so far.**
- Although Turkey has been an important experience on the using of area- based LR, the area- based LR has **some limitations**, especially related to value capture capacity in urban areas.

## THE AIMS OF THE PRESENTATION

- **The first aim** is to examine the value capture capacity of Turkish area- based LR.
- **The second aim** is to seek answer to the question how the value capture capacity of **area- based LR** can be increased in urban areas as a whole.



# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

## VALUE CAPTURE

- According to the theory, value created by public infrastructure investment is an **'unearned increment'** and, therefore, should flow to the community, rather than individual landowner.
- The principle of value capture helps to enable local administrations to improve **the performance of land use management and to fund urban infrastructure and service provision.**

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS





## Alterman's division (2012)

### Macro Value Capture Instruments

Nationalization of all land  
Long-term public leasehold  
Public land banking  
**Land readjustment**

### Direct Value Capture Instruments

Betterment tax, Capital Gain Tax, Annual Property Tax

### Indirect Value Capture Instruments

Developer Obligations, Community Infrastructure Levy, Compulsory Dedication, Transfer of Development Rights, Exactions, etc.

## LR MODELS

	Positive sides	Negative Sides
Area-Based LR Models	<ul style="list-style-type: none"> <li>• Simple and easy implementation</li> <li>• Successful in using in new urban developing areas or relatively homogenous areas</li> </ul>	<ul style="list-style-type: none"> <li>• Problems of implementation in built-up areas</li> <li>• Significant inequalities in land value after LR</li> <li>• Limited value capture capacity</li> </ul>
Value-Based LR Models	<ul style="list-style-type: none"> <li>• High value capture capacity</li> <li>• Successful in using in both new urban developing areas and built -up areas.</li> </ul>	<ul style="list-style-type: none"> <li>• The determination of values(market value, estimated value, Indexs, formula, the proportional share before and after LR etc.)</li> <li>• Complex implementation</li> </ul>



# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

Value based LR Models	Area Based LR Models	Both
Spain India Colombia Nepal The Netherlands <i>(Proposed Regulation)</i> Israel Australia	<b>Turkey</b> Portugal Indonesia	Germany Japan South Korea Taiwan Finland

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS



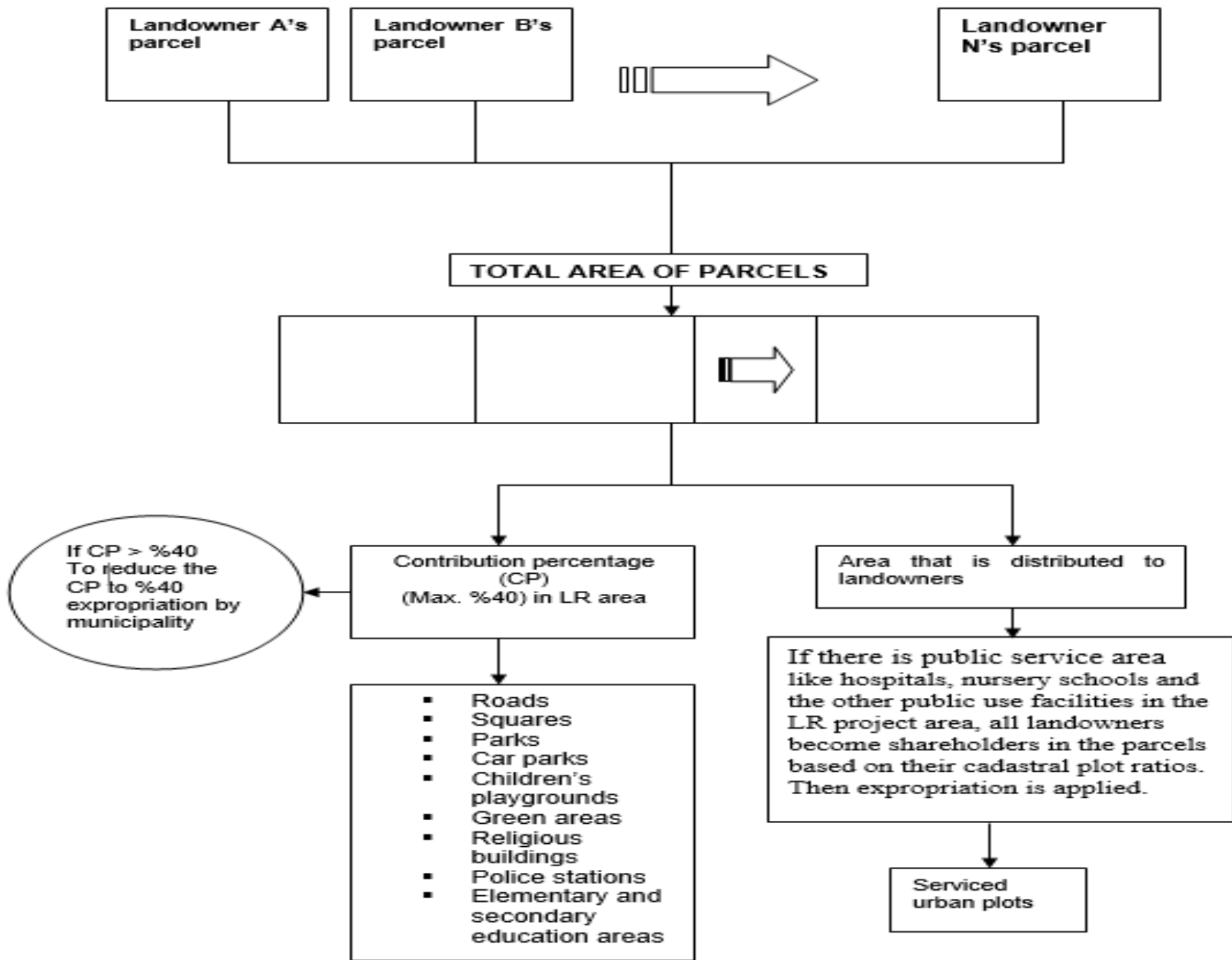


Figure Diagram to illustrate the LR model in Turkey

## Value capture of Turkish Land Based LR

- The percentage of land contribution and its usage are clearly set in legal sources in Turkey. The maximum contribution percentage is 40 percent. This ratio is applied generally to each plot in all LR projects.
- It accepted the contribution percentage as an increase in value arising from LR and prescribed the provision that this land contribution would be used to build roads, squares, parks, car parking spaces, nurseries, green areas, etc. This provision has been an important justification for the land contribution percentage.

## Value capture of Turkish Land Based LR

- In the LR model in Turkey, construction of technical infrastructure and service areas is not included in the process. These constructions lie under the responsibility of municipalities within the municipal areas.
- Resources as per Article 80 of the Municipal Revenues Act No. 2464 are used in the construction of technical infrastructure and service areas



# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

## VALUE CAPTURE CAPACITY OF TURKISH AREA-BASED LR

### Relationship between Plan and Implementation (LR)

- Social and Technical Infrastructure Standard
- Designation of LR areas in urban area

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS





# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

## Social and Technical Infrastructure Standards

Gross Density	Area (Ha)	Social and infrastructure area (Ha)	Road (%10)	Car Park (%)	Net area	Net Density	Floor Area Ratio 1	Floor Area Ratio 2	Floor Area Ratio (Ave) (F+G)/2	Numbers of floor
A	B	C	D	E	B-(C+D+E)	(AxB) / B-(C+D+E)	F	G	(F+G)/2	H
50	100	9	10	1.45	79.6	62.8	0.15	0.31	0.23	1
100	100	18	10	2.85	69.2	145	0.36	0.72	0.54	1
<b>150</b>	<b>100</b>	<b>27</b>	<b>10</b>	<b>4.3</b>	<b>58.7</b>	<b>255</b>	<b>0.64</b>	<b>1.3</b>	<b>0.97</b>	<b>2-3</b>
200	100	36	10	5.7	48.3	415	1.03	2.07	1.55	3-4
250	100	45	10	7.1	37.9	660	1.65	3.3	2.45	5-6
300	100	54	10	8.6	27.4	1095	2.7	5.4	4.05	8-10
350	100	63	10	10	17	2060	5.1	10.3	7.7	15-18
400	100	72	10	11.5	6.5	6155	15.1	30.7	22.9	55-60



## Designation of LR areas in urban area

### Implementation programs

- The municipalities are required to prepare 5-year implementation programs within three months after the development plans go into effect in order to be able to implement these plans. The programs are implemented in stages.
- However, one third of the municipalities does not have an implementation program.
- There exists no sanction in legal sources in relation to which extent the municipalities will apply their detailed local plans within their implementation programs.

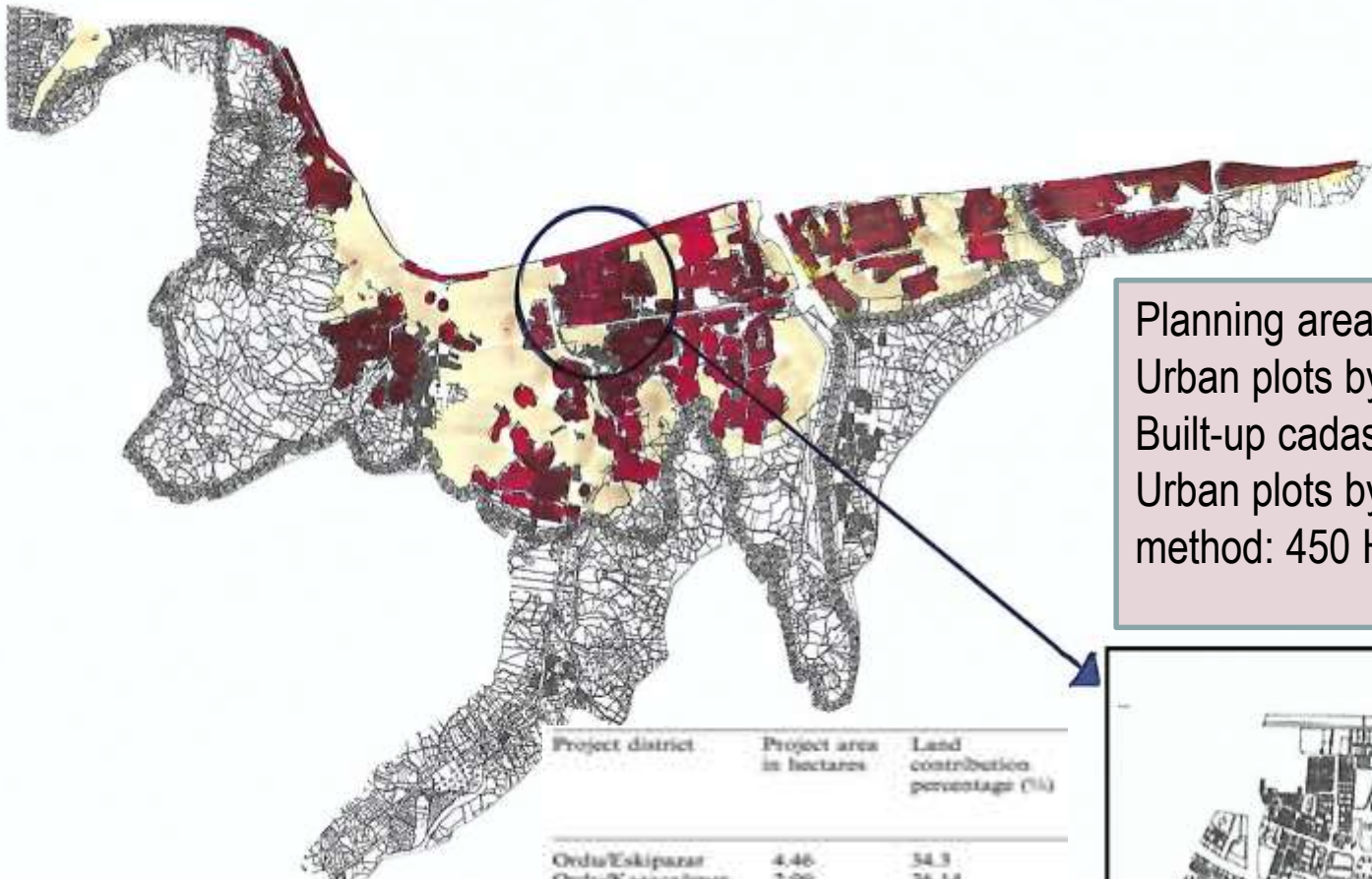
## Designation of LR areas in urban area

- Therefore, municipalities have **a discretionary power** in designation of LR areas in urban areas.
- In the Reconstruction Law (no. 3194) that LR projects **equal to a single residential block** in sense of size at minimum
- When LR projects are equal to a single residential block in sense of size, **the public contribution percentages made by landowners are limited** and may turn out to be low in comparison with the size of a particular urban area. Even though these practices are valid in a legal sense, they are obviously **partial implementations** if the whole of the urban area is considered.

## ORDU CITY CASE

- Middle size city
- Its population is 213.582 in 2017.
- The implementation tools of the plan: Voluntary method, LR and Expropriation

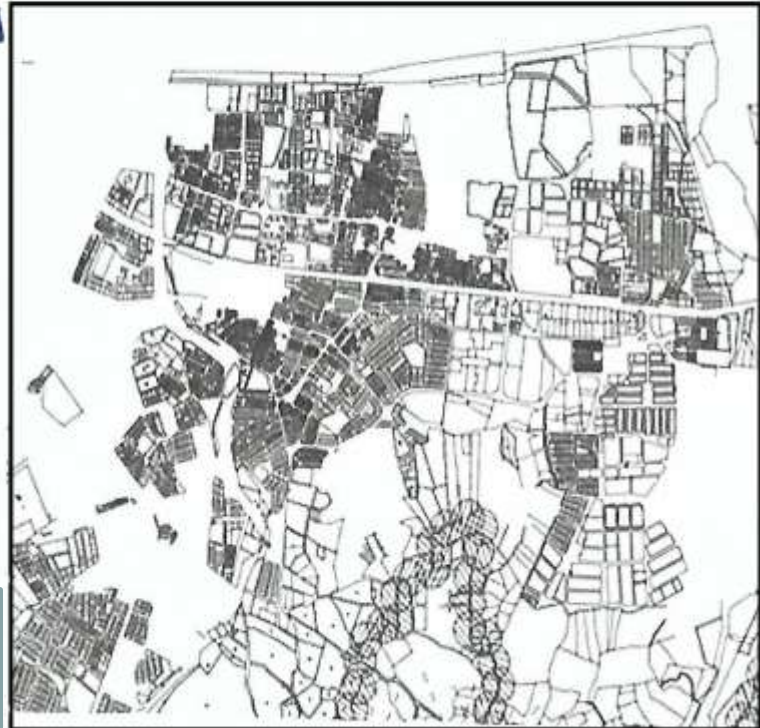




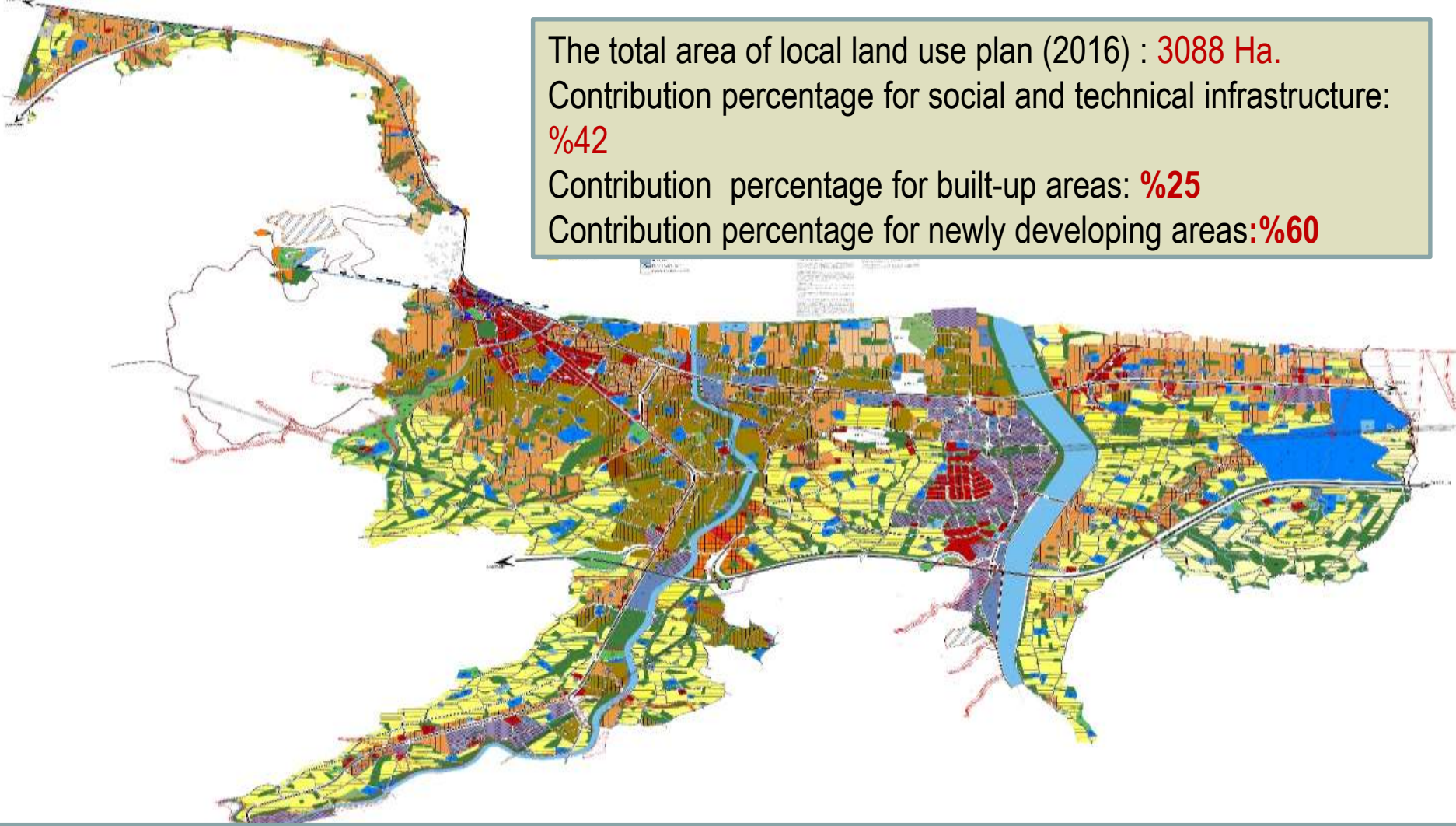
Planning area: 3088 Ha. (in 2016)  
 Urban plots by using of LR :1288Ha.  
 Built-up cadastral parcels: 600 Ha.  
 Urban plots by using of voluntary  
 method: 450 Ha.

Project district	Project area in hectares	Land contribution percentage (%)
Ordu/Eskipazar	4,46	34,3
Ordu/Katcaömer	2,99	26,14
Ordu/Akcaatepe	2,31	21
Ordu/Sahincilli	2,88	62
Ordu/Sahincilli	8,08	35
Ordu/Akcaatepe	0,6	8
Ordu/Akcaatepe	1,94	33
Ordu/Akcaatepe	0,69	9
Ordu/Akcaatepe	0,46	33
Ordu/Akcaatepe	4,18	4
Ordu/Akcaatepe	3,7	35
Ordu/Akcaatepe	1,08	35
Ordu/Akcaatepe	2,2	35
Ordu/Akcaatepe	0,2	22
Ordu/Akcaatepe	2,1	21
Ordu/Akcaatepe	17	32

Source: Ordu Municipality, 2003.

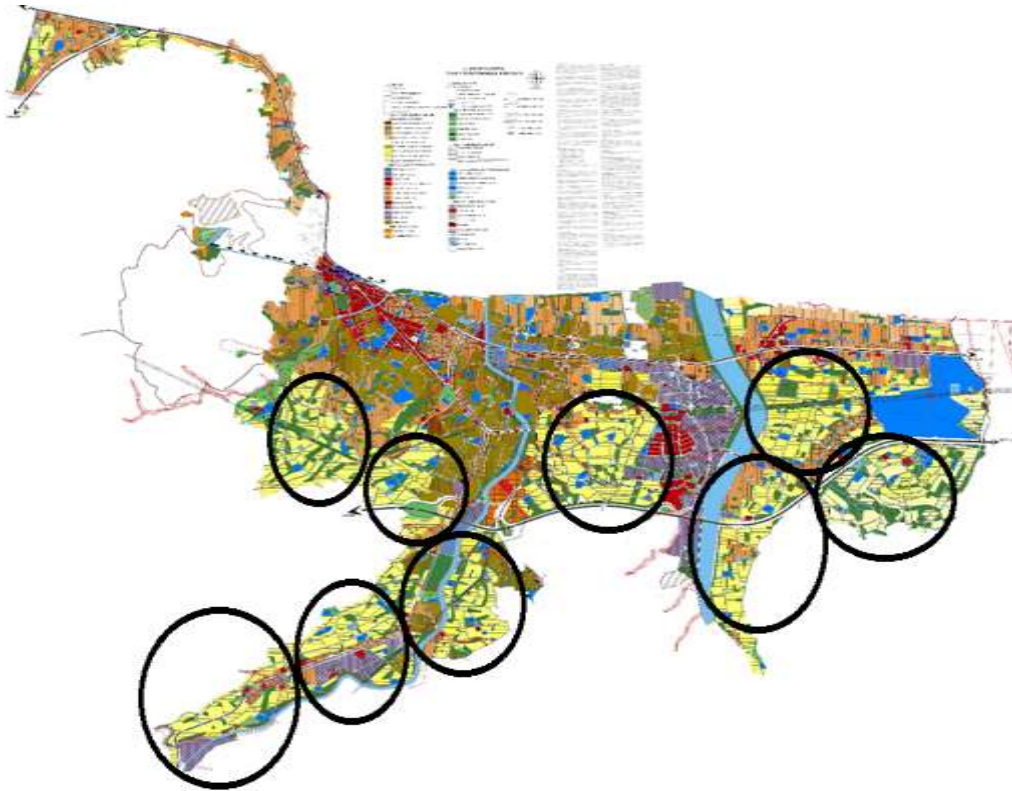


**One third of the plan was realized by using LR.  
 But these are partial implementations**



## PROBLEMS

- In new developing areas, contribution percentage is over 40%. This means that parts over 40% need to be expropriated. However, the municipality cannot use expropriation or purchasing methods due to financial constraints.
- There is an equity problem. While the landowners in built up areas give 25% for social and technical infrastructure, the landowners in newly developing areas give %60 for social and technical infrastructure.
- **Can the problems be solved under land based LR model? How?**



- In the plan, the balance in contribution percentages in both built up areas and newly developing areas should be provided.
- In this case, in newly developing areas, contribution percentage should be around 40% instead of 60%
- Therefore, in the planning stage sub- LR areas should be defined. In this areas contribution percentage should be around 40%
- In this situation, for built up areas, there are third options.
  - First the difference (20%) can be taken as payment. This needs a new legal arrangement.
  - Second is that difference is provided by expropriation.
  - A second contribution percentage can be taken. This needs a regulation arrangements.

## Concluding Remarks

- Area-based LR is simple and easy where valuation has not institutionalized. However, this type of LR has a limited value capture capacity
- But this capacity can be increased.
- To increase value capture capacity of area-based LR models like in Turkey, municipalities should take over pro-active roles in planning stage.
- The relationship between plan and implementation should be established in effective way.



# XXVI FIG Congress 2018

6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

- Thank you.....

ORGANISED BY



MAIN SUPPORTERS



PLATINUM SPONSORS

