ISRAEL LAND AUTHORITY

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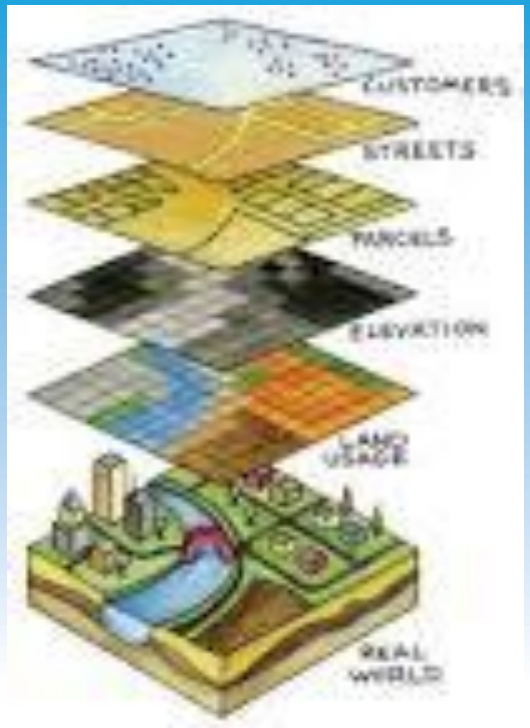
The use of GIS in the "Israel Lands Authority" - the ownership transfer project



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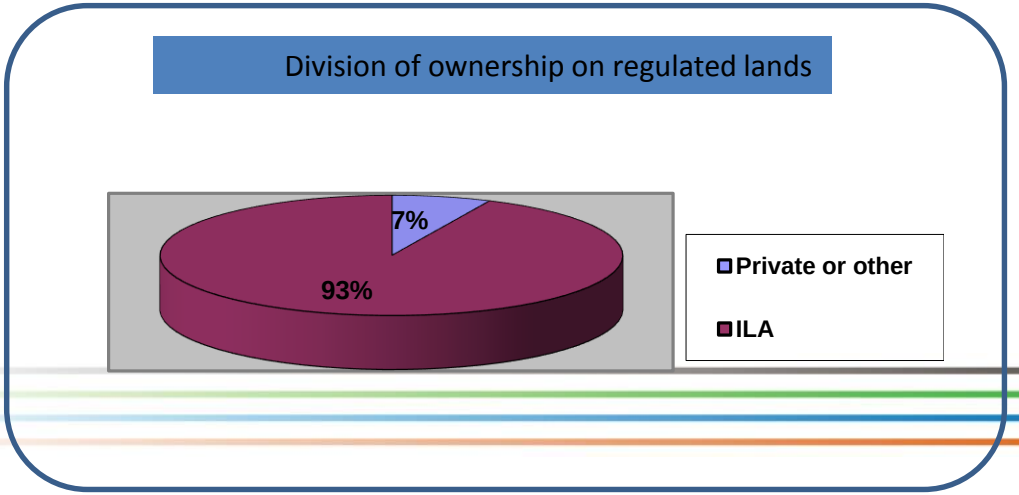
The Israel Lands Authority

The land managed by the **Israel Lands Authority** includes the properties of:

- The **state** of Israel
- The **JNF**
- The **Development Authority**.

These comprise around 22,000,000 dunams



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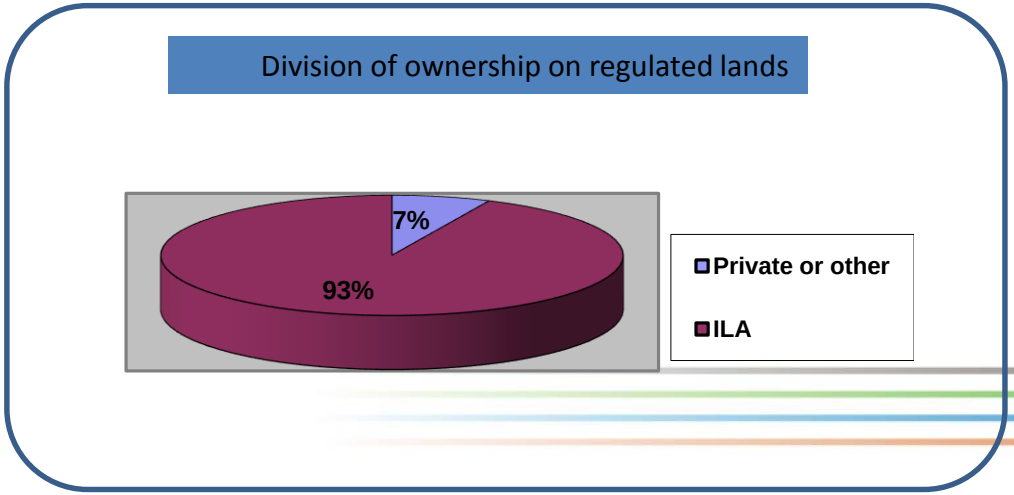
The Israel Lands Authority

Areas of activity :

1. Managing land Inventory & land reserves
2. Planning and marketing
3. Preservation state land
4. **handling the leaseholders**



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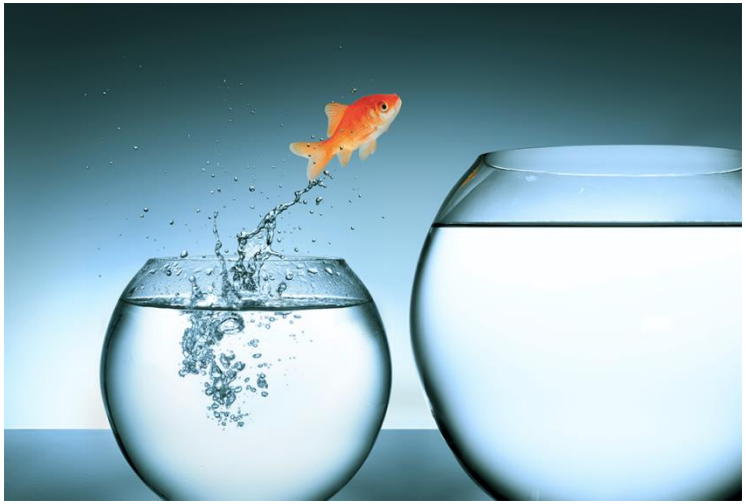
The “Land Reform” in Israel

- Transition from “lease” to “ownership”
- This Transition requires an **up-to-date appraisal**



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The principles of Ownership acquisition

- Ownership will be transferred just in properties designated for **residential and commercial purposes** & **capitaliezd lease agreements**.

- Divided in to 2 main types of constructions :
  - ✓densely populated urban areas
  - ✓low rise constructions

Densely populated urban areas? no need to pay!

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The ‘price area’ layer

- Real Estate Appraisal & Mapping and Surveying = ‘**price areas**’ layer.
- A fixed ‘**price area**’ for each neighborhood with common characteristics
- The ILA’s GIS help to derive the required payment for the transference for full ownership.

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How this is done:

land appraisals on a national scale :

- The property groups which require payment: (**281-1000 m^2**) will have a **land value table**
- For the groups between **1-16 dunams**, ownership will be transferred for 31%
- The ownership of **properties larger than 16 dunams** will not be transferred

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The work process: a combination between mapping and appraisal

- Mapping **the leasing contracts** of **low rise construction**
- '**price areas**'- The 'Price areas' will provide future reference for similar properties in the same **price area**
- The idea: to appraise as much constructed area as possible, so that even properties not directly included in the appraisal, could be matched geographically to an **appropriate price area**.

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Combining mapping and appraisal (cont.)

- A “work area” for each appraiser
- **pre-divided maps** with price areas and a land value table for those areas.
- The assignments were reviewed by the “ILA Appraiser”.
- GIS as the main platform - The preparation of the maps and the ‘price area layer’ is done by the ILA’s **mapping and surveying department**

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The engineering challenge

- 140,000 properties in **low-rise construction** were found.
- The work areas were divided to 6 : these include around 1,900 municipal regions.
- Each appraiser received a single municipal region

- The price area polygons were inserted to the ILA's GIS.
- <u>The goal</u>: a geographic layer with a land value field attached to each property

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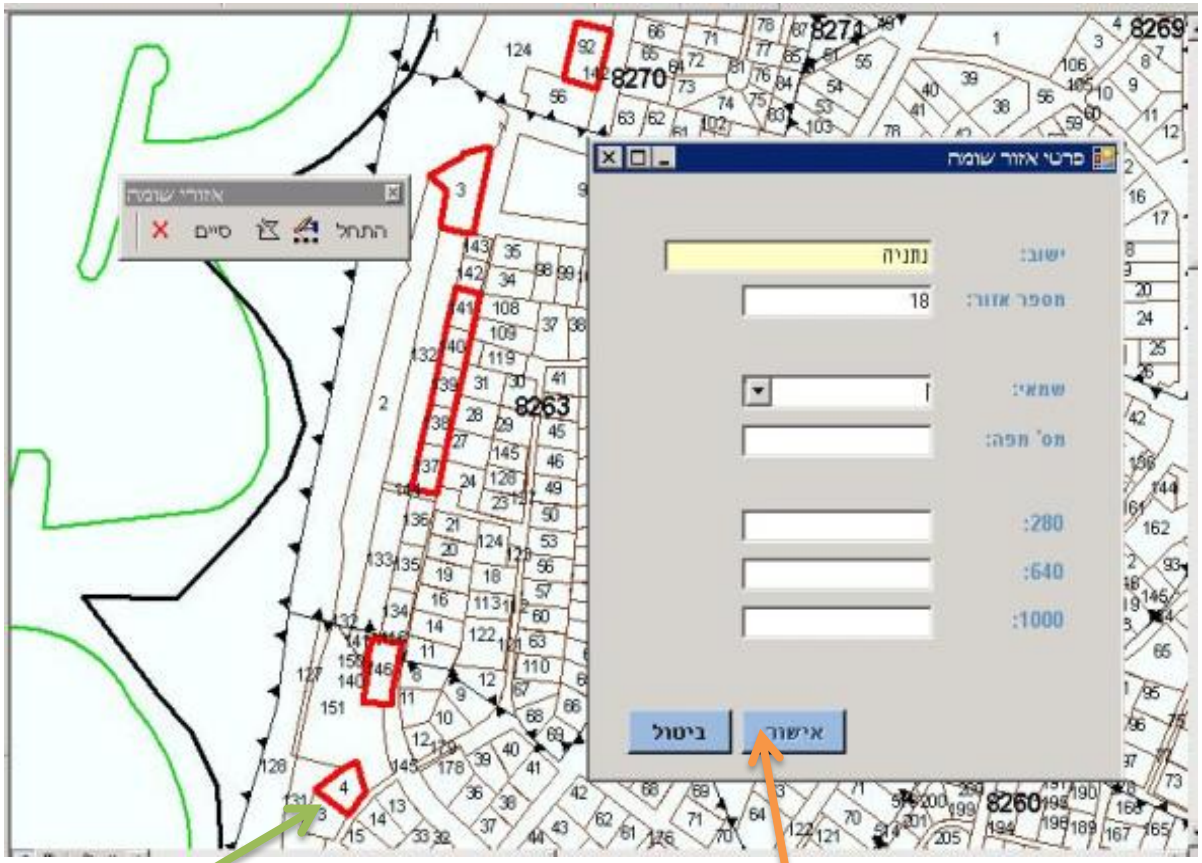
Example: Creating appraisal areas using GIS



Digitation of price area with parcel marking by cursor

Price Area data input

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To make this happen we required several background layers:

- The **property** layer of low-rise properties.
- The **national cadaster**, in which each lease is defined within its own dedicated parcel.
- The **price area** layer

Given these 3 layers + a geographic intersection =
the land value for each property

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Example: the Netanya area

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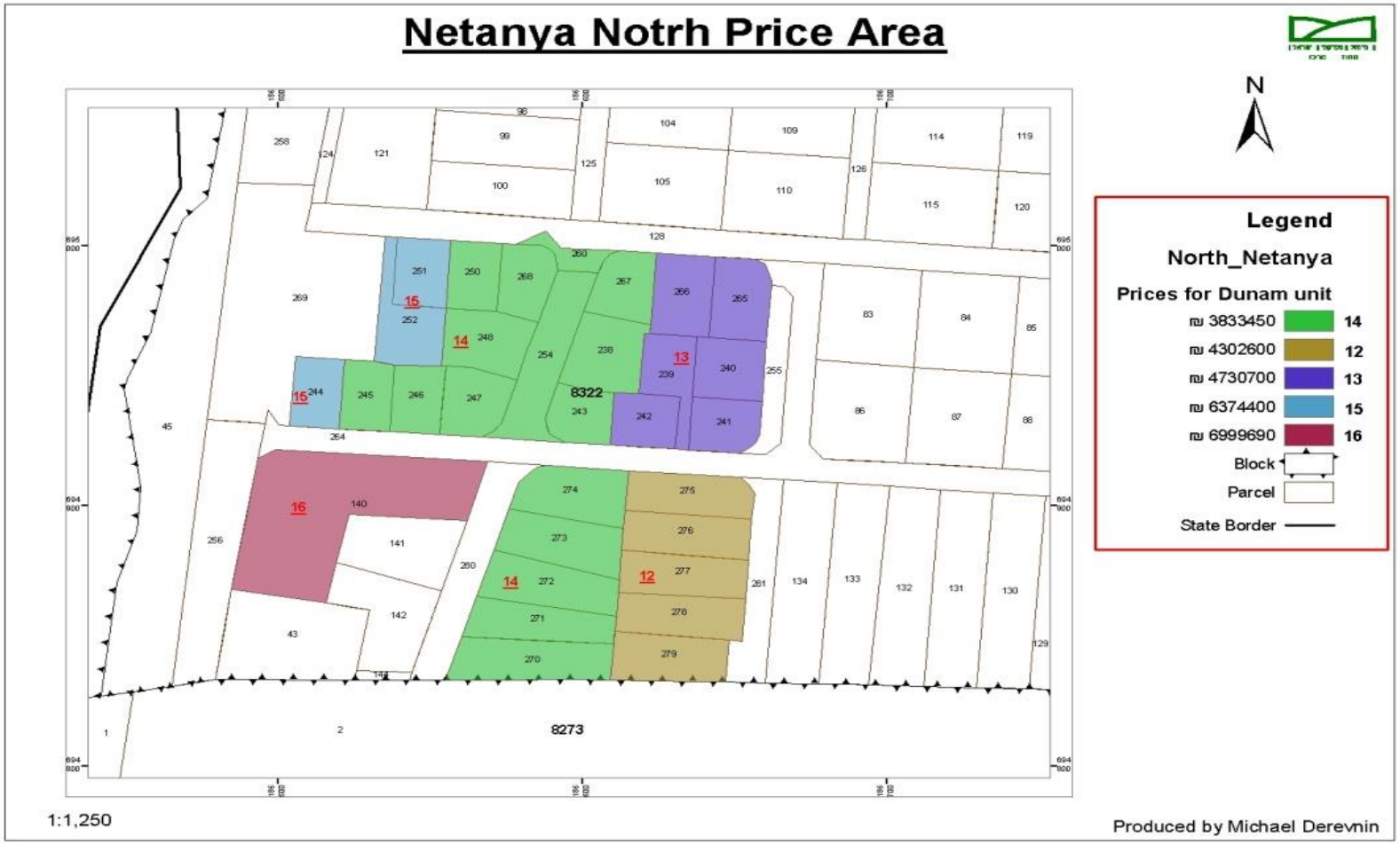
The result: a map with a price layer



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Management using GIS

The final outcome of this process is:

- A properties list with a value field
- GIS as a data collection

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Finally: calculating the cost of ownership

The ILA appraisers set **3 price levels** :

- a 280 m^2 plot
- a 640 m^2 plot
- a 1000 m^2 plot

These prices were inserted into the 'price area' polygon

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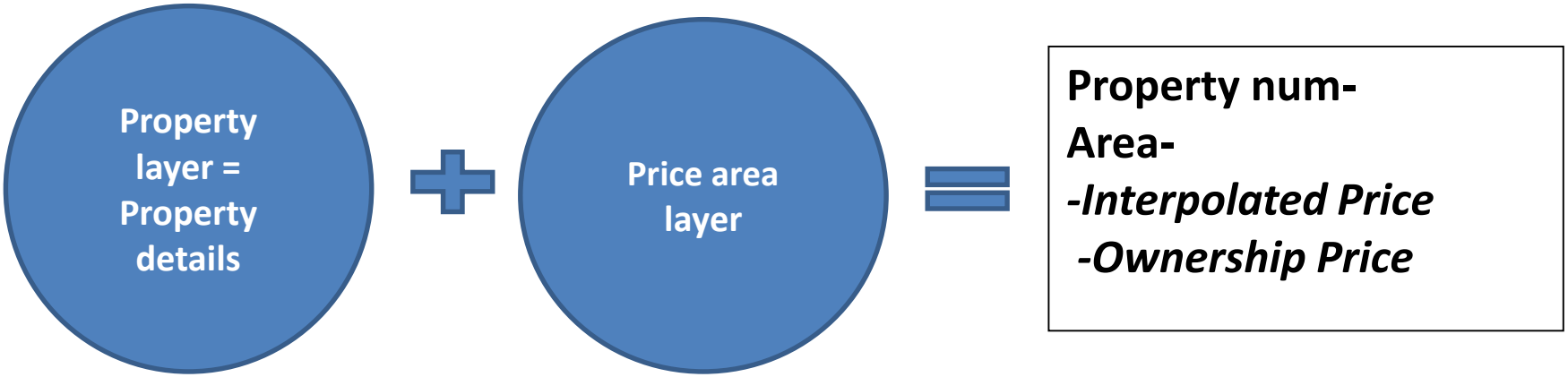
Finally: calculating the cost of ownership

- **linear interpolation -** performed for the 3 prices



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Summery and conclusions

- **GIS** layer - a breakthrough in the field of real estate management.
- Constructing + maintaining : requires numerous resources (appraisers, cartographers, draftsmen, computer and GIS specialists, financiers and managers).
- The management of this project is done by GIS

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Summery and conclusions

- Like any other GIS layer, it must be updated yearly (the appraisal is valid for 1 year).
- An updated price area GIS layer, could function as a B.I system for other government bodies

Thank you!