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

By: Eng' Avi Haliva
A licensed surveyor & Certified Land Appraiser.
MBA - business and management in Real Estate and Valuation.
Senior Department Manager for Mapping, Surveying & GIS in the Israel Land Authority
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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**Division of ownership on regulated lands**

- **93%**: Private or other
- **7%**: ILA
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

Division of ownership on regulated lands:
- 93% Private or other
- 7% ILA
The “Land Reform” in Israel

- Transition from “lease” to “ownership”
- This Transition requires an up-to-date appraisal
The principles of Ownership acquisition

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

- Divided into 2 main types of constructions:
  - densely populated urban areas
  - low rise constructions

Densely populated urban areas? no need to pay!
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.
How this is done:

**land appraisals** on a national scale:

- The property groups which **require payment**: (281-1000 m²) 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
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.
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**
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.
- The goal: a geographic layer with a land value field attached to each property
Example: Creating appraisal areas using GIS

Digitation of price area with parcel marking by cursor.

Price Area data input.
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
Example: the Netanya area
The result: a map with a price layer
Management using GIS

The final outcome of this process is:

- A properties list with a value field
- GIS as a data collection
Finally: calculating the cost of ownership

The ILA appraisers set 3 price levels:

- A 280 m² plot
- A 640 m² plot
- A 1000 m² plot

These prices were inserted into the ‘price area’ polygon.
Finally: calculating the cost of ownership

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

![Diagram](chart.png)
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.
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!