

# Analytical Cadastre in Israel: Restoring Land Boundaries Based on Photogrammetric Tools

Yohanan GAVISH and Prof. Yerach DOYTSHER, Israel

**Key words:** analytical cadastre; photogrammetry; restoring land boundaries; GIS/LIS.

## ABSTRACT

The modern replacement for the traditional form of cadastral information is the cadastral database. The definition and compilation of an accurate cadastral is based on analytic reconstruction of cadastral boundaries. In the mid 1990's, an analytical restoring process, which analytically imitates the traditional field-based process, was developed in Israel for urban areas, relying on precise field location of building corners. The paper presents an additional method for establishing an analytical cadastre in areas where *measured land features no longer exist*. This method suggests a "virtual journey in time" process by combining two mapping realities: the current and the previous. Four "mapping environments" are being dealt with: the current reality (in terms of field surveying); new aerial photographs (taken recently); previous aerial photographs (enabling to measure the land reality at the time when the cadastral maps were prepared and the original land features still existed); and the previous reality (as defined by the cadastral maps and the original field books). Research results showed the feasibility of using this technique for improving the graphic cadastral data in order to establish the Analytical Cadastre.

## CONTACT

Mr. Yohanan Gavish  
Survey of Israel  
1 Lincoln St., Tel Aviv 65220  
ISRAEL  
Tel. + 972 3 623 1998  
Fax + 972 3 623 1812  
E-mail: john\_g@netvision.net.il

Prof. Yerach Doytsher  
Technion – Israel Institute of Technology  
Faculty of Civil Engineering, Division of Geodetic Engineering  
Technion City, Haifa 32000,  
ISRAEL  
Tel. + 972 4 829 3183  
Fax + 972 4 823 4757  
E-mail: doytsher@geodesy.technion.ac.il

---

TS7.10 Regional Experience in the Cadastre – Near East  
Yohanan Gavish and Yerach Doytsher  
Analytical Cadastre in Israel: Restoring Land Boundaries Based on Photogrammetric Tools

FIG XXII International Congress  
Washington, D.C. USA, April 19-26 2002