



GI support for land consolidation

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Problems

- **Technology ???**
- **Legislation**
- **Organization**
- **Financial**
- **Awareness**
- **Ill-structured process**



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Contents

- **Past**
- **Present**
- **Pilots**
- **Strategy**
- **BIME**



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Land consolidation using GIS (1861)

Pusztaszék városi beépítési tervének térképe, 1861.
Pappváry Árpád - Hrenko Pál: Magyarország régi térképeinek
Gyűjtése (Változat: Néma, Budapest, 1989, 2 CD, 600k).
Országos Széchenyi Könyvtár, Budapest.

ce 2004, Jakarta.





Past

- **The socio-economic changes of the 1990s brought a significant turn to the land politics of the last 2-3 decades, in which the agricultural sector achieved internationally recognized results.**



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Changes

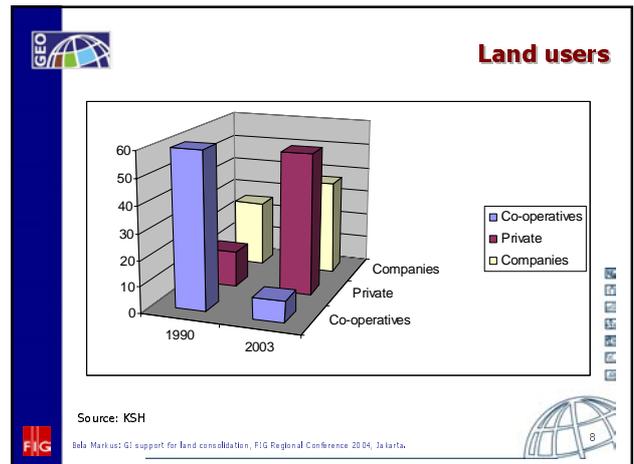
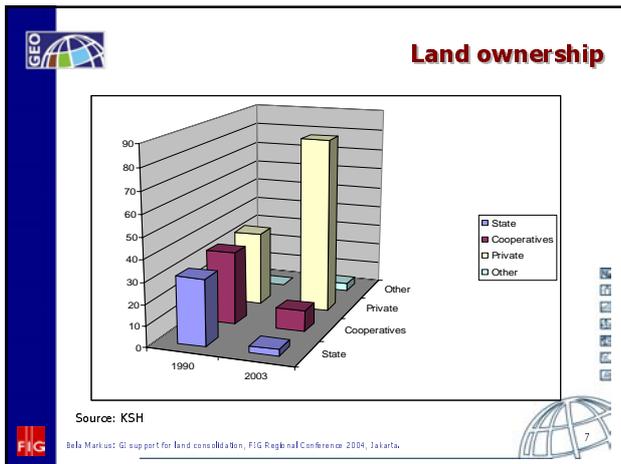
The radical reorganization in properties and land use aimed

- **to restore the leading role of private ownership,**
- **to gain ground for individual farming, and**
- **to compensate the former owners.**

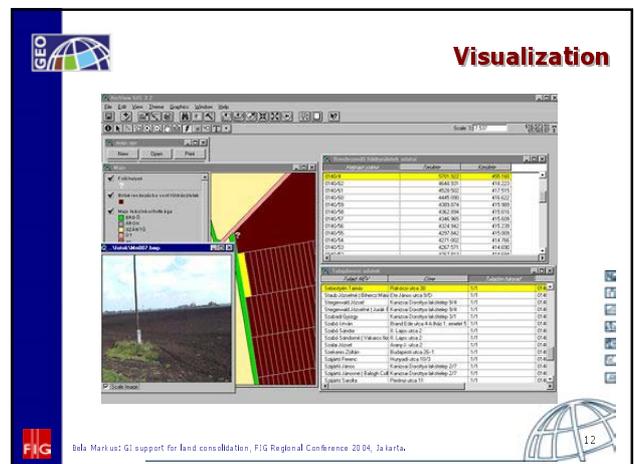
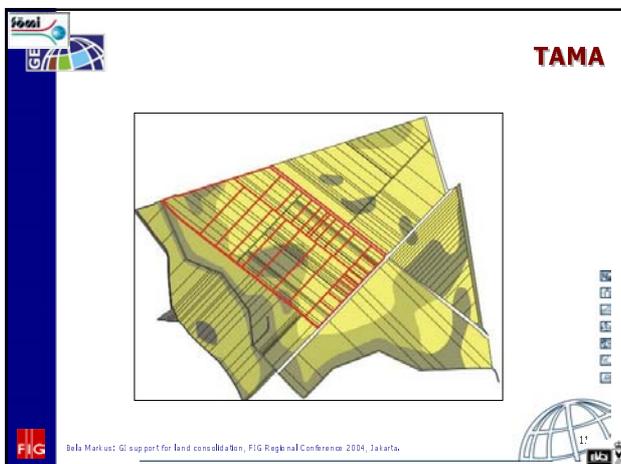
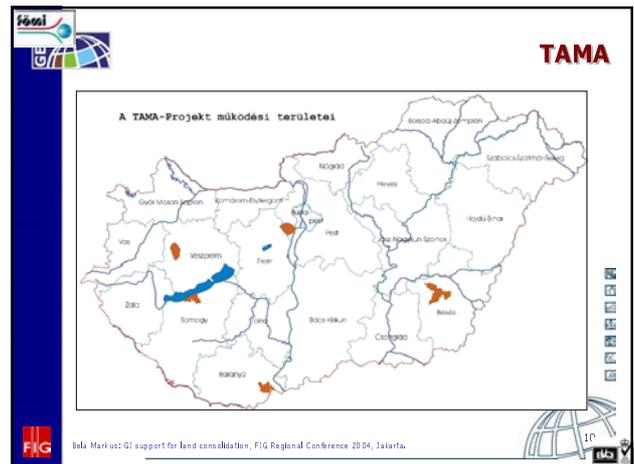


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- ### Pilot projects
- **Voluntary land consolidation activities started in Hungary 90's for sustainable development.**
 - **The pilot projects formulated the technical, organisational, social and legislative problems.**
 - **The IT developments and the land administration are suitable to handle or support this procedure.**
- Source: KSH
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D-e-METER - Land valuation

Golden Crown system still used

D-e-METER is based on a land valuation system which also considers environmental aspects

- **Defines production potential quantitatively**
- **Provides possibility for evaluation by main crops**
- **Includes climatic, pedological, geological, fertility valuation and productivity risks**
- **Distinguishes production relations on different cultivation intensity levels.**



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National land consolidation strategy

2004



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Strengths

- **privatization of cropland has practically ended,**
- **large part of rural population is devoted to farming and agriculture,**
- **the concentration of land property and land use has started, there is a need from owners for spatially concentrated area,**
- **the effects of former large-scale farming and experiences of it are still visible,**
- **despite the granularity of land property, there is an improvement in land use (today about 13 000 farms utilize 75% of agricultural land),**
- **much of the infrastructure (road network, drainage and irrigation systems) of former large-scale estates can be utilized after land consolidation,**
- **not perfect, but working land lease system,**
- **accumulated expertise and eagerness for innovation among much of the farmers.**



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Weaknesses

- **parcels are scattered and spatially granulated,**
- **land use and land property are excessively separated,**
- **several former stock-breeding farms have lost their organic connection with cropland,**
- **occurrence of lands with unclear ownership, undivided joint properties,**
- **legal regulations are not well established,**
- **the expectance of higher land prices hinder land market,**
- **lack of professionally discussed and accepted land valuation methods,**
- **short term (3-5 years) land lease contracts are common,**
- **lack of common consent concepts in land policy.**



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Opportunities

- **agricultural production can become safer in the EU,**
- **new regional development support the multifunctional nature of agriculture, rural regions will become better supported,**
- **large rural development projects are started,**
- **positive foreign experiences of land consolidation stimulate practical realization,**
- **land market growth is expected on the long run,**
- **the generational change of land users have an effect on the attitude,**
- **local NGO's will become alive (self-organized regional society), and play an initiator role in land consolidation.**



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Threats

- **competitiveness of Hungarian farmers is declining,**
- **sustainability of cultural landscape is in danger in several regions,**
- **increase in speculative land purchases,**
- **farmers abide form long term investments (melioration, irrigation),**
- **the impacts of natural hazards (floods, inland waters, erosion, deflation) can not be effectively decreased,**
- **unable to form common consent on land policy.**



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Strategic objectives

- **Fostering land consolidation with improvement of legal background**
- **Effective, demand driven institutional operations**
- **Preparation of stakeholders for land consolidation**
- **Raising awareness for land consolidation, social acceptance**



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Priority 1 – Legal framework

- **Establishing the law (and executive order) on land consolidation.**
The aims are to **reduce** further divisions of parcels (Civil Code), full-time farmers and neighboring farmers should be given **preference** during land acquisition and they should have the right for pre-renting (Land Law).
- **Regulation of information access**
- **Acceptance of land valuation methods**
- **Eliminating undefined property**
- **Formulating requirements, professional expectations**
Lower level laws (decrees) should be formulated



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Priority 2 - Organization

- **Establishing coordinating organizations (central, regional and local)**
- **Improving technical (IT and office) conditions at land offices**
- **Further education and training of land office staff**
- **Creating a land tenure database**
- **Integration of databases**



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Priority 3 – Financial background

Sources for realization

- The establishment of technical and organizational conditions is taken upon the state budget.
- The transition of ownership happens with reduced procedural duties.
- The cost of actual arrangement (operating local committees, applying experts) is shouldered by the land owners and users, in proportion with their area involved.

Primary areas are in the environment of regional projects (Vásárhelyi Plan)

- Decree No. 1107/2003 on the program serving the increase of flood prevention safety in Tisza Valley, also regional and rural development of the area.



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Priority 4 - Strengthening awareness

- **Handle the conflict of interests**
- **Informing people**
- **Propagate the program**
- **Stimulate the land market by the National Land Fund**



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Main success factors

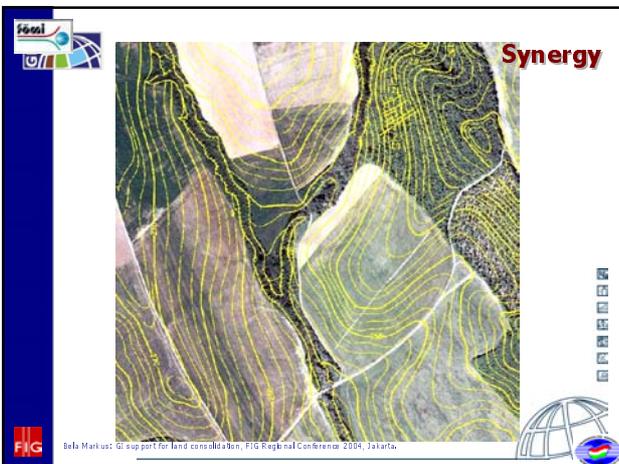
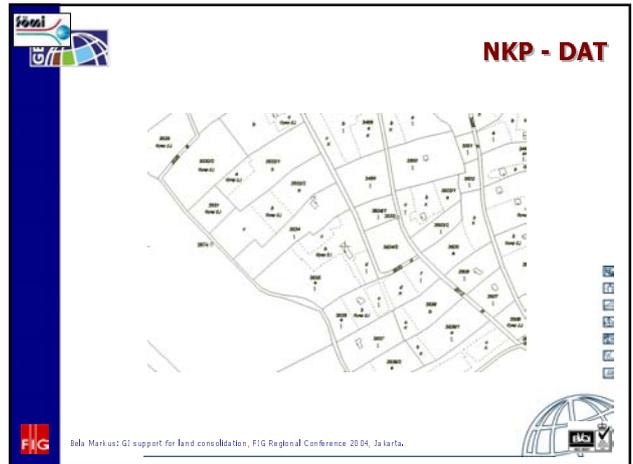
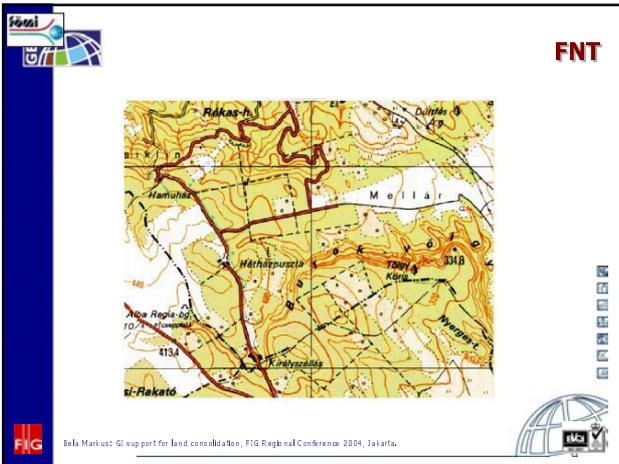
- **Number of land owners**
- **Number of land users**
- **Land use statistics**
- **Average size of parcels (by land use type)**
- **Number of parcels**
- **Average size of parcels**
- **Area involved in land consolidation**
- **Consolidated area (by cultivation type)**
- **Number of land owners involved in land consolidation**
- **Number of land users involved in land consolidation (by land use type)**
- **Settlements involved in land consolidation (by size)**
- **etc.**

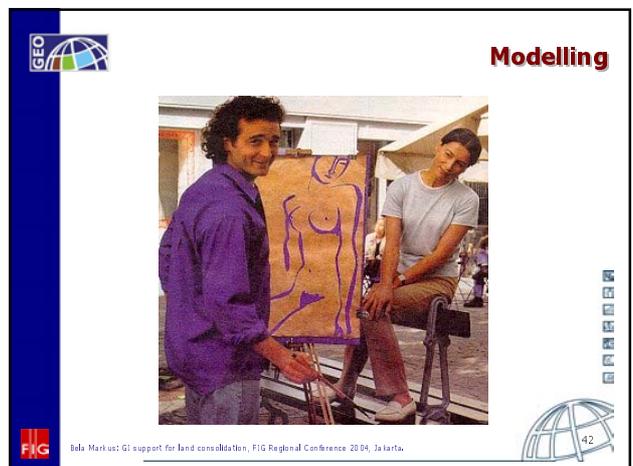
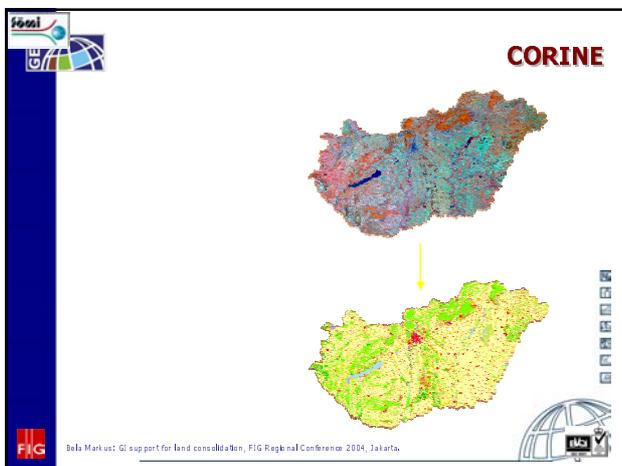
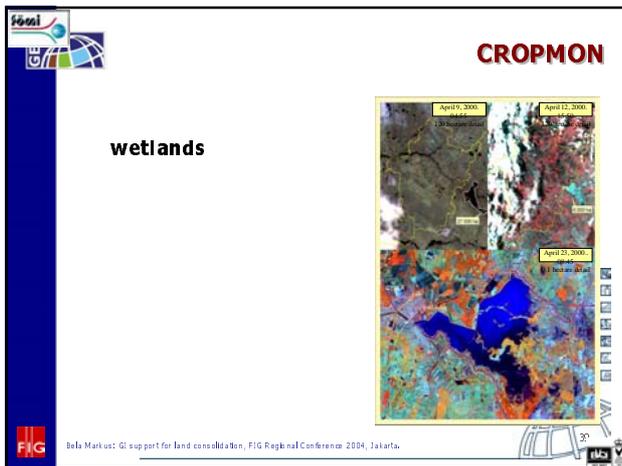
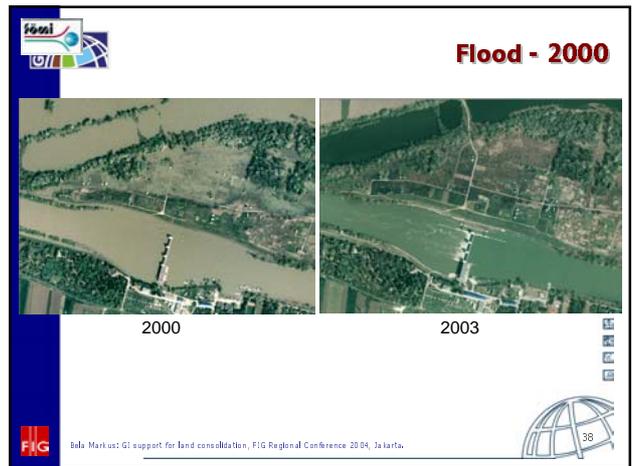
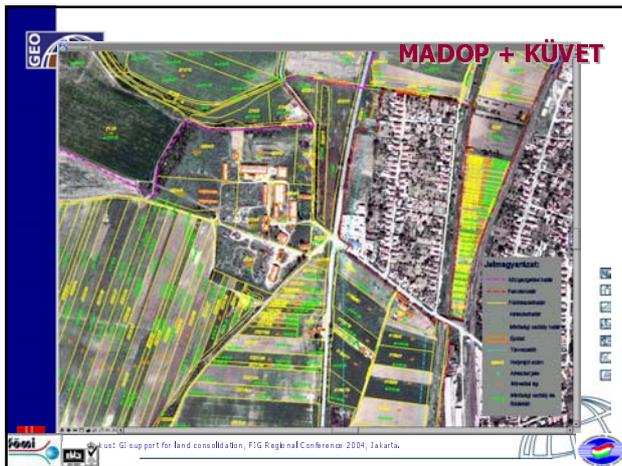


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Metadata



A cartoon illustration of a fisherman wearing a yellow hat and a white shirt, sitting on a large purple fish. The fisherman is holding a fishing rod with a red lure. The background is a simple blue sky and light blue water.

FIG

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TAKARNET



A map of Indonesia showing a network of green lines connecting various points across the country. The map is color-coded by region, with green for most areas and brown for mountainous regions. A legend on the right side of the map lists various categories and their corresponding colors.

FIG

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3D



A 3D perspective view of a terrain model, showing a landscape with hills, valleys, and a winding road. The terrain is rendered in shades of brown, green, and blue, representing different elevations and vegetation.

FIG

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