

Informational and computational approaches to Land Consolidation

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The Netherlands

Multi Purpose Land Consolidation

- Instrument for land reform
- Spatial Planning Context - Implementation
- Implications for
 - agricultural productivity,
 - environmental sustainability, and the
 - economic and social status of the rural households – improvement of lively hood
- Balance between development and conservation issues

Comprehensive land Consolidation (FAO)

- The re-allocation of parcels together with a broad range of other measures to promote rural development
- Examples of such activities include:
 - village renewal,
 - support to community based agro-processing,
 - construction of rural roads,
 - construction and rehabilitation of irrigation and drainage systems,
 - erosion control measures,
 - environmental protection and improvements including the designation of nature reserves, and the
 - creation of social infrastructure including sports grounds and other public facilities'

Process

- agreement on the to be area involved
- preparation and voting of the land-use plan in a specific area,
- inventory of the (ownership, use) rights on the land and the valuation of the land,
- drafting and confirmation of the reallocation plan and other functions to be realised,
- implementation of the reallocation plan and creation of other functions,
- financial arrangements taking into account the benefits, and
- registration

Land Consolidation can be voluntary based

- Small projects
- Design by participants

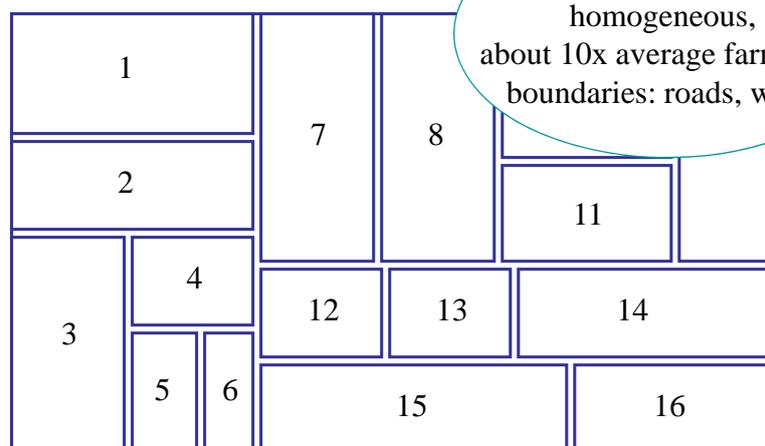
Surveyors needed

- to make a list of right holders (formal ownership, land use, informal land use)
- to organise involvement of right holders in re-allocation
- to set up a list of financial arrangements

Information Management

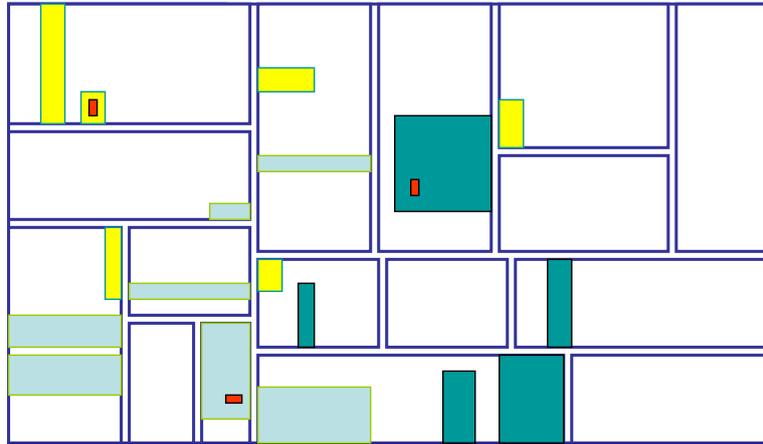
- Spatial data, multiple themes
- Preferences entitled parties
- Design of Re-allocation plan
- Surveys
- Land Administration Domain Model

Allocation compartments

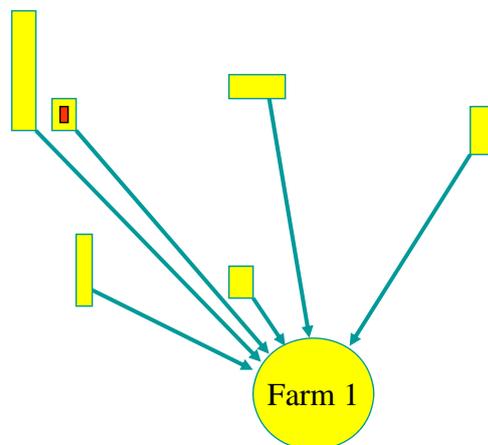


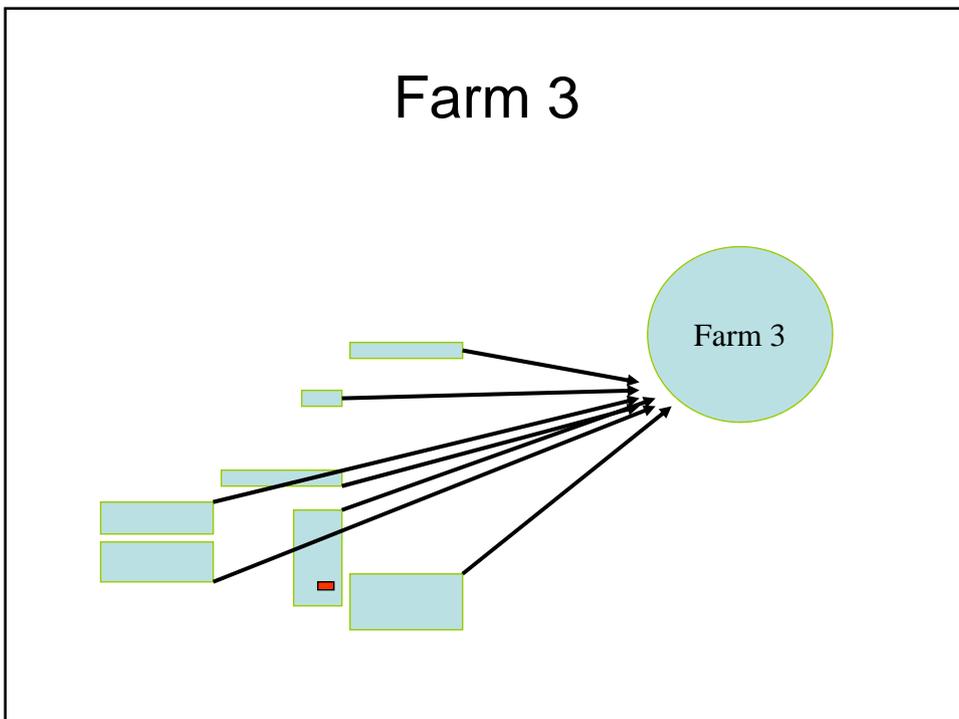
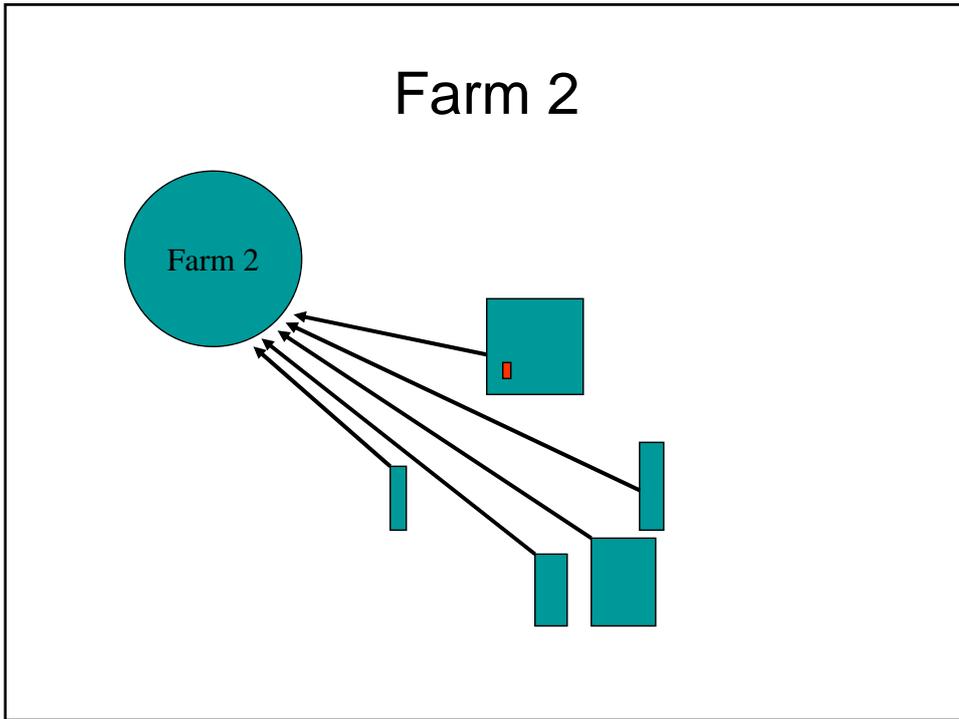
Block units:
homogeneous,
about 10x average farm area,
boundaries: roads, water.

Contributed value

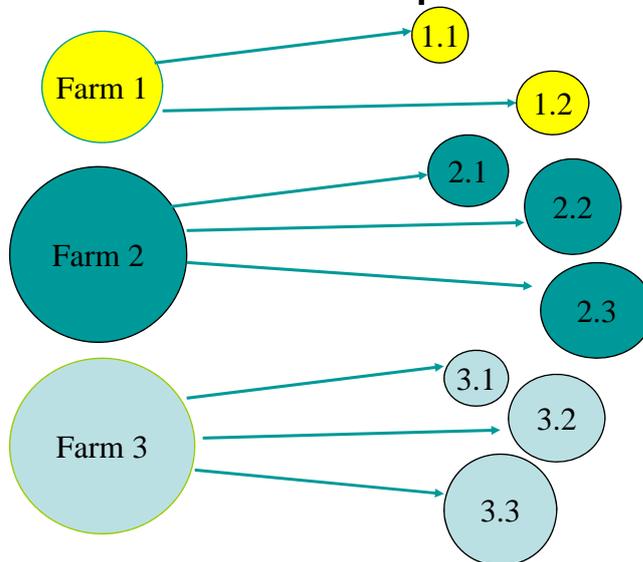


Farm 1

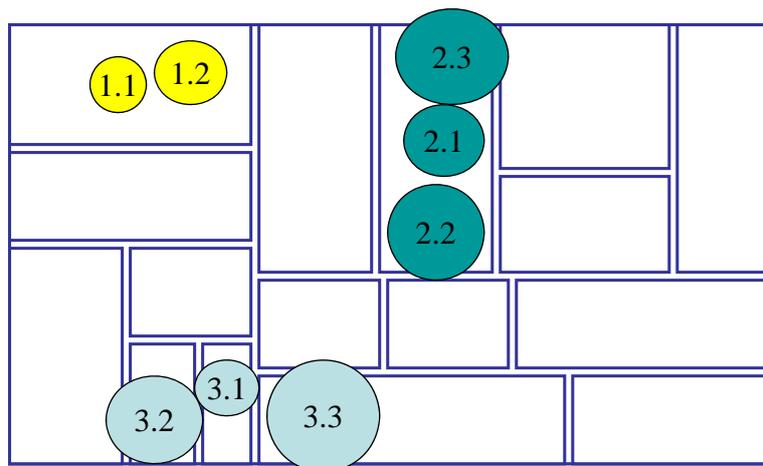




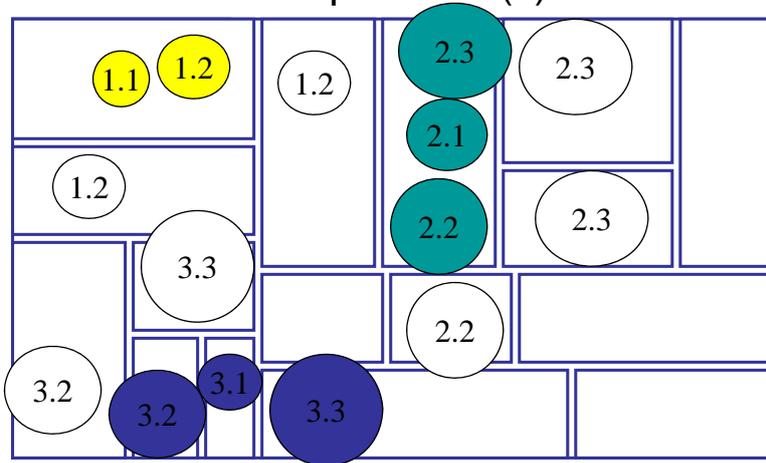
Contributed value Subdivision in part-values



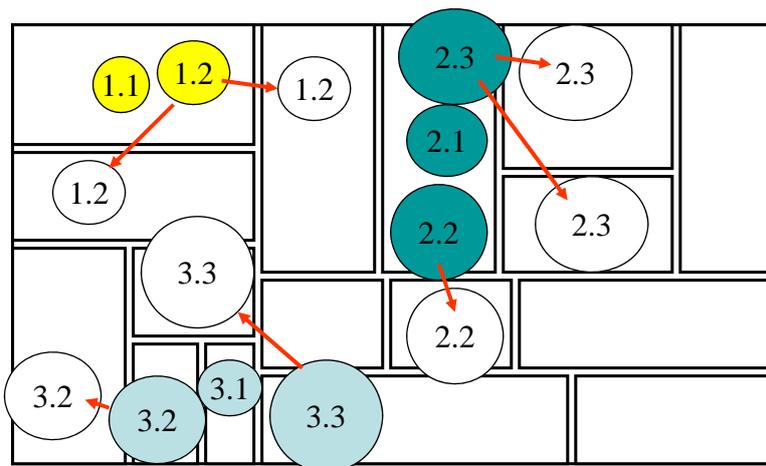
Part values get initial location in allocation compartment



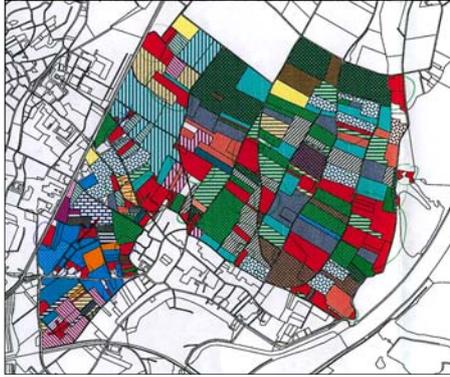
Part values get alternative allocation in one ore more other allocation compartment(s)



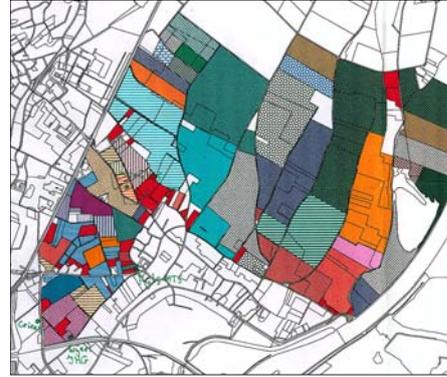
Possible transfers



The Netherlands



Before ...

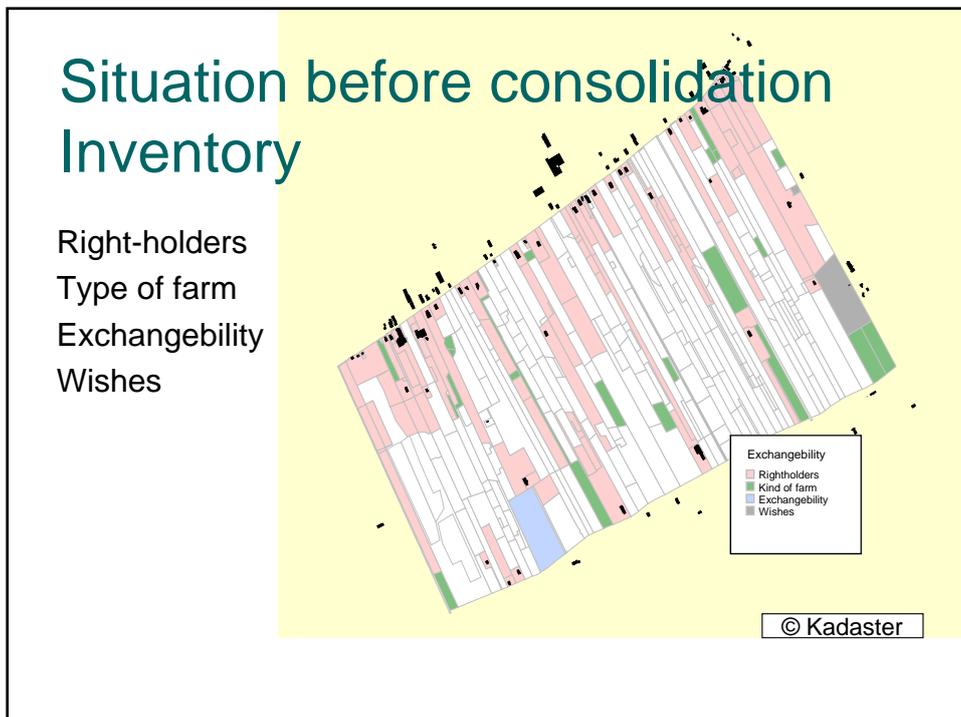
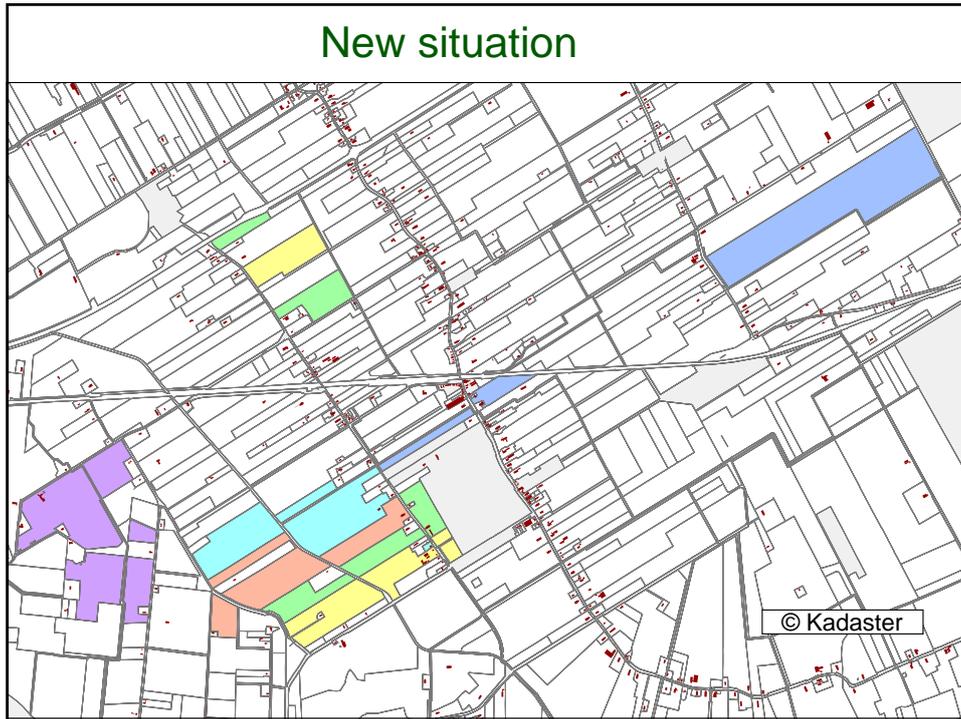


... After

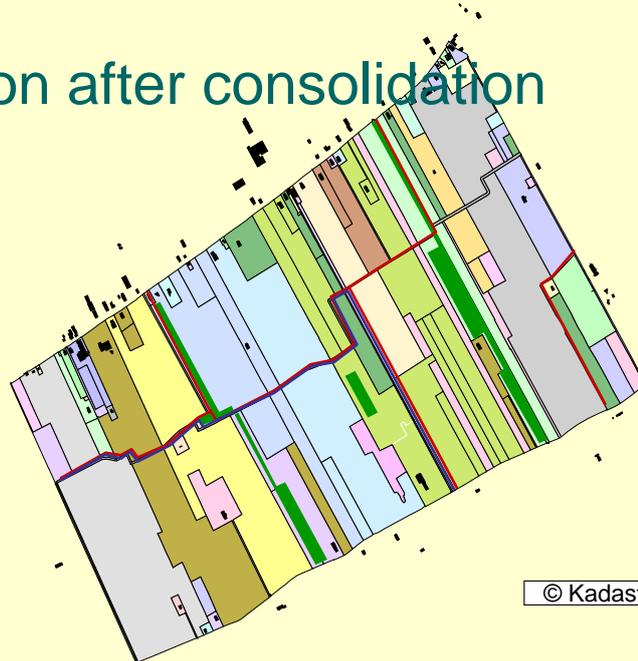
© Adri van den Brink

Old situation

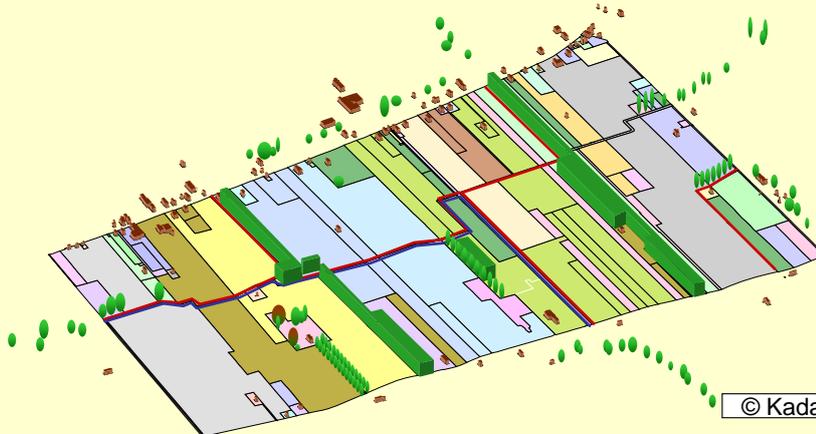


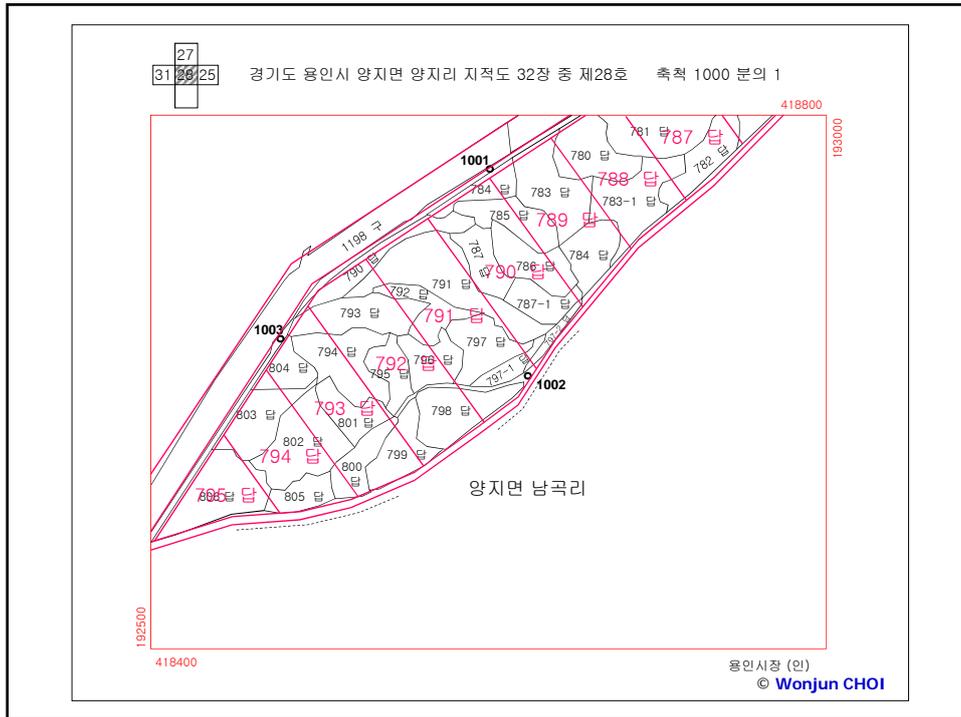


Situation after consolidation

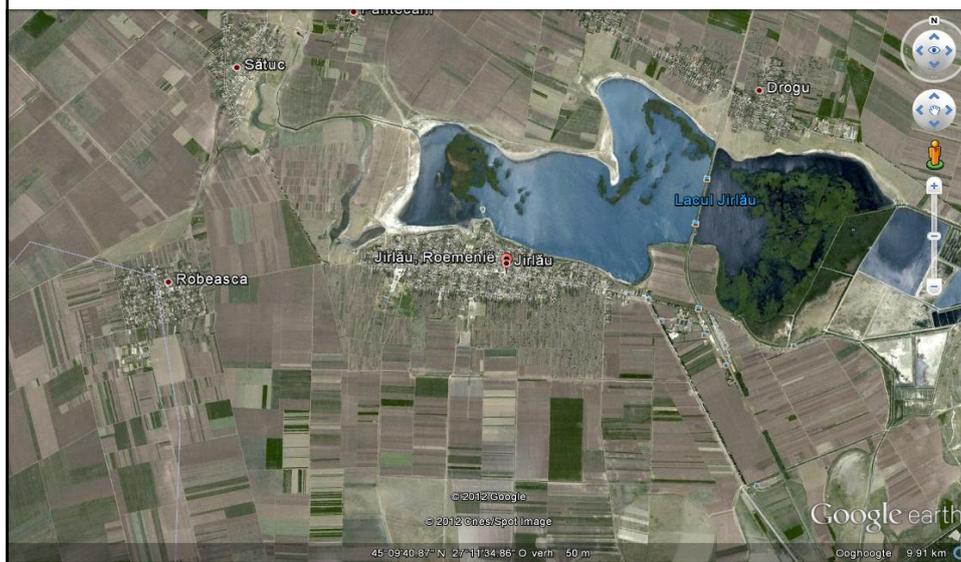


Final result



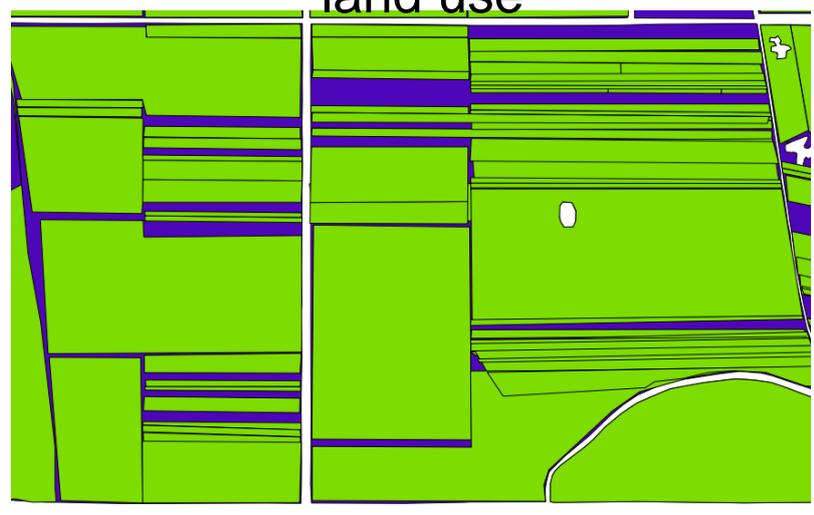


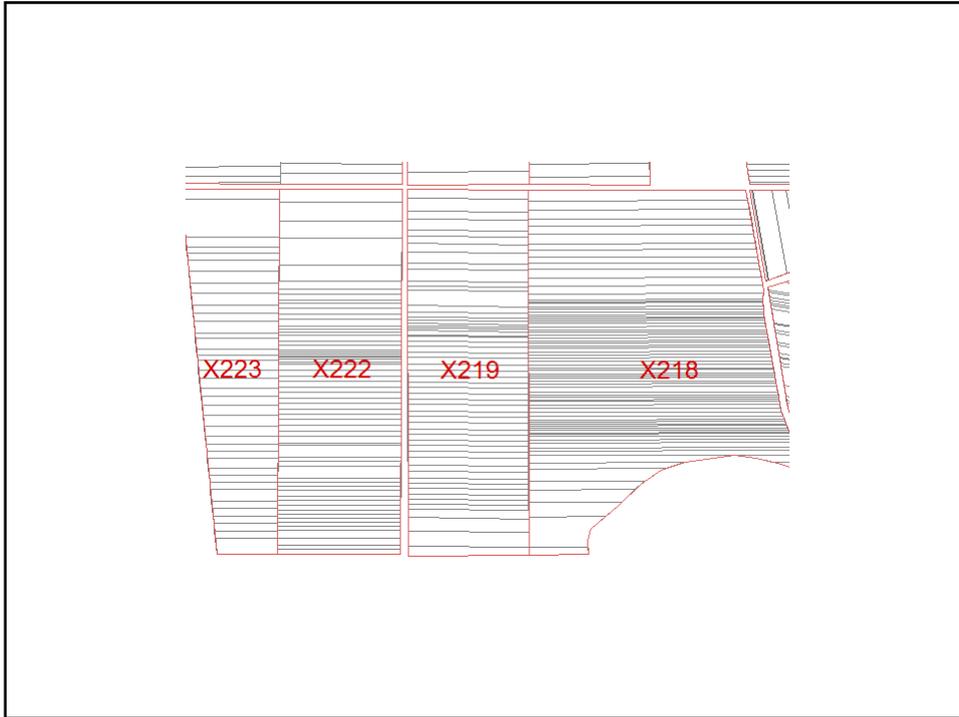
Romania



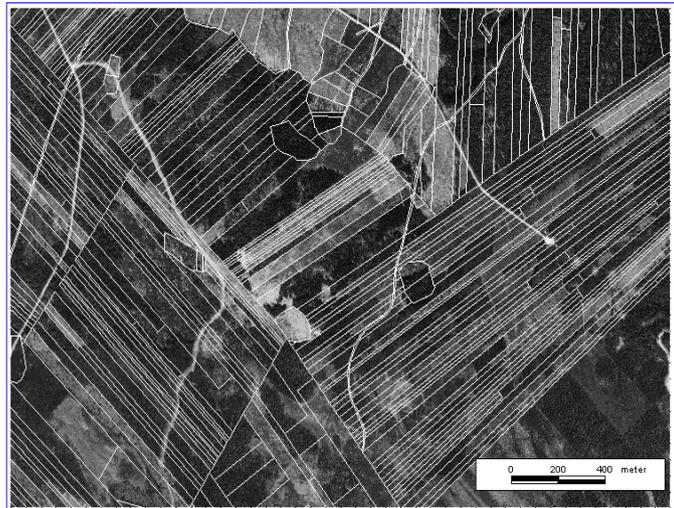
2/18 9,90 ha	A208/1/24 7,40 ha	A169/33 2,50 ha	A163/32 3,00 ha	A163/37 1,50 ha	A163/38 3,00 ha	A163/39 2,00 ha	A163/40 2,00 ha	A163/41 2,00 ha	A163/42 2,00 ha	A163/43 2,00 ha	A163/44 2,00 ha	A163/45 2,00 ha	A163/46 2,00 ha	A163/47 2,00 ha	A163/48 2,00 ha	A163/49 2,00 ha	A163/50 2,00 ha	A163/51 2,00 ha	A163/52 2,00 ha	A163/53 2,00 ha	A163/54 2,00 ha	A163/55 2,00 ha	A163/56 2,00 ha	A163/57 2,00 ha	A163/58 2,00 ha	A163/59 2,00 ha	A163/60 2,00 ha	A163/61 2,00 ha	A163/62 2,00 ha	A163/63 2,00 ha	A163/64 2,00 ha	A163/65 2,00 ha	A163/66 2,00 ha	A163/67 2,00 ha	A163/68 2,00 ha	A163/69 2,00 ha	A163/70 2,00 ha	A163/71 2,00 ha	A163/72 2,00 ha	A163/73 2,00 ha	A163/74 2,00 ha	A163/75 2,00 ha	A163/76 2,00 ha	A163/77 2,00 ha	A163/78 2,00 ha	A163/79 2,00 ha	A163/80 2,00 ha	A163/81 2,00 ha	A163/82 2,00 ha	A163/83 2,00 ha	A163/84 2,00 ha	A163/85 2,00 ha	A163/86 2,00 ha	A163/87 2,00 ha	A163/88 2,00 ha	A163/89 2,00 ha	A163/90 2,00 ha	A163/91 2,00 ha	A163/92 2,00 ha	A163/93 2,00 ha	A163/94 2,00 ha	A163/95 2,00 ha	A163/96 2,00 ha	A163/97 2,00 ha	A163/98 2,00 ha	A163/99 2,00 ha	A163/100 2,00 ha
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Basis for subsidies: APIA data on land use



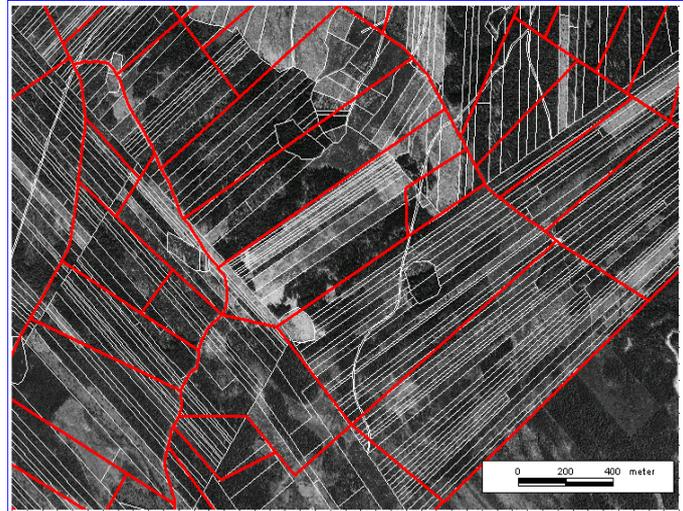


Sweden: Fragmented Forest Area



© Tommy Österberg

Consolidated forest area



© Tommy Österberg

The Netherlands

- **Example: combination of:**
 - **nature restoration**
 - **sand mining**
 - **increasement of river dynamics**
water storage, flood protection

Adri van den Brink

Nature Restoration



Old and new situation

© Adri van den Brink

Conclusions

- Multiple goals can be achieved
- Financial Resources
- Information Management
- Key role of surveyors
- LADM → LCDM

Look at this...

- <http://webbtv.compodium.se/tallberg09/ondemand/034/>
- The Tällberg Forum 2009 took place on 24-28 June 2009, under the theme "How on earth can we live together, within the planetary boundaries?". Over 400 leaders from business and politics, thinkers, scientists, artists and entrepreneurs gathered for four days to address global issues of urgency and common interest, through conversation, reflection and working sessions.
- John Liu