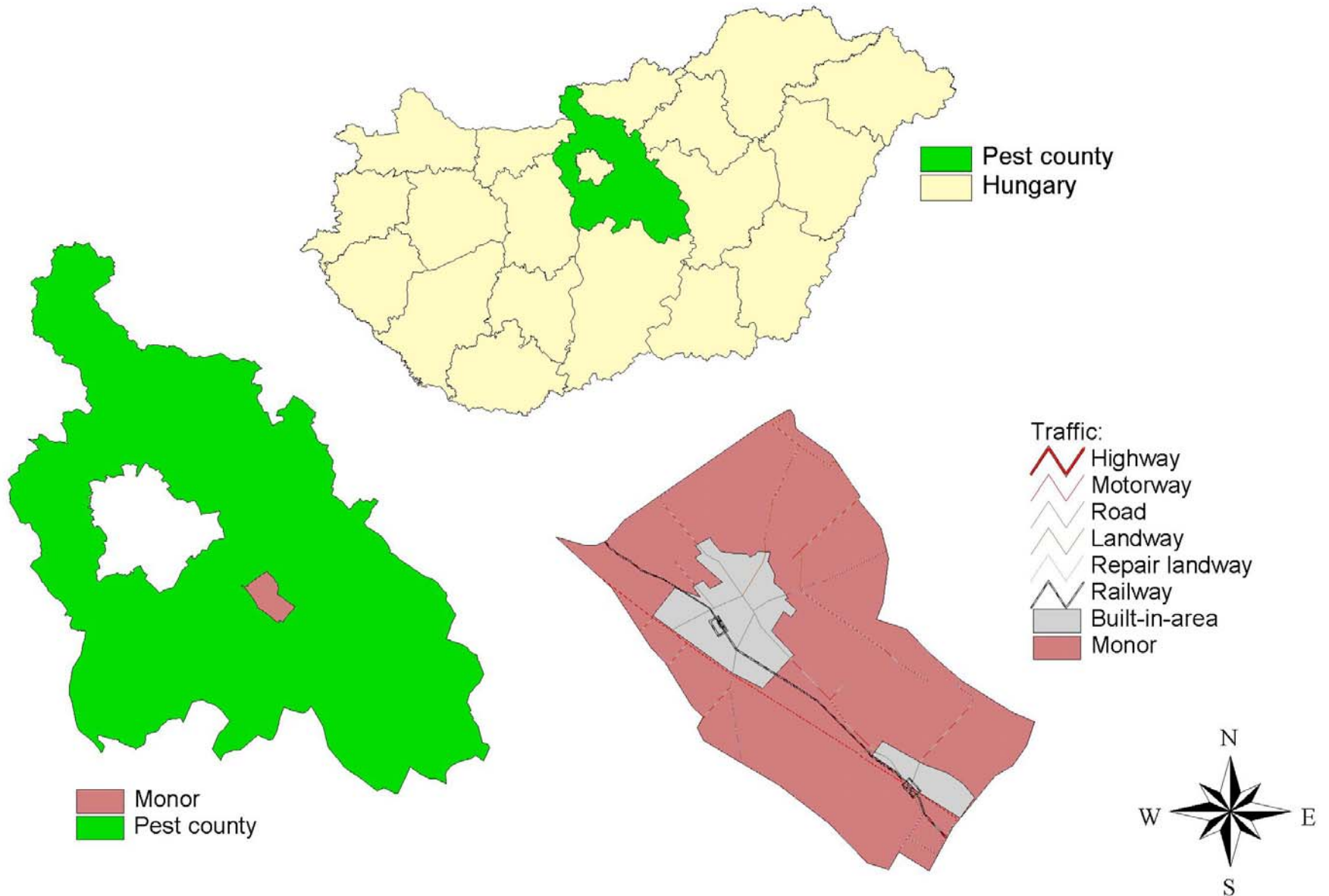


Case Study of Monor

Agricultural Land Use Plan of Monor City

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Szent István University, Gödöllő

Location of Monor



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Study's aims:

- To reveal conflicts between land use and agriecological relations
- To formulate the essential changes and recommendations
- To profit from the NRDP's subventions for the sake of recommended changes

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Plan's premise (1.Map):

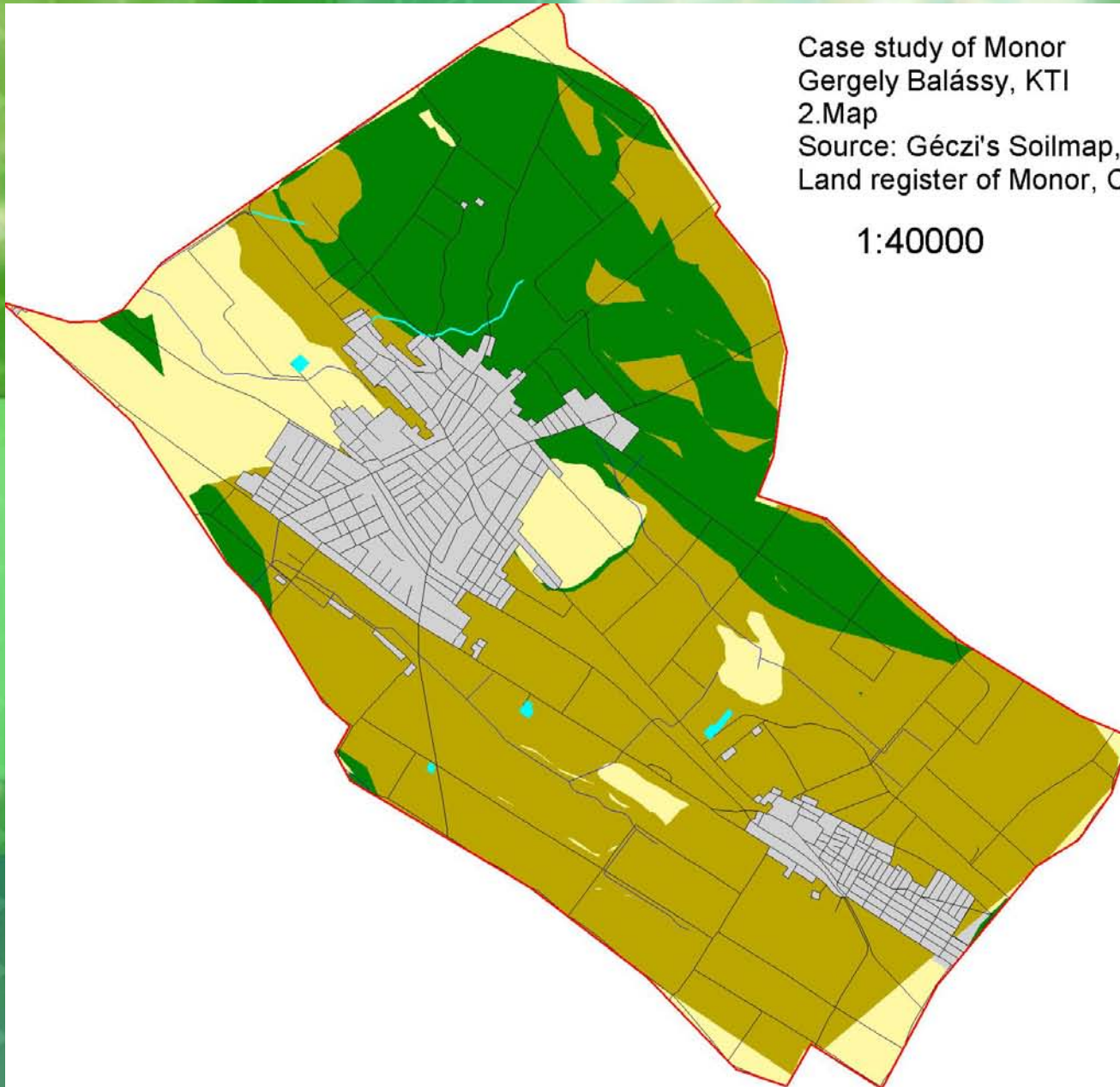
- Designates vineyards, grasslands and arablelands
- Designates two nature conservation area of local interest
- Designates the planned lane of M4 highway
- Designates a rapid-railway line
- Designates a build-in-area of 488 ha










Agrarian potencial

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2.Map

Source: Géczi's Soilmap, settlement plan of Monor 2004,
Land register of Monor, Corine, OTAB Database

1:40000



-  Lakes
-  Monor
-  Road
-  Source
-  Chanel
-  Built-in-area
- 3 categories:
-  Not good
-  Extensive
-  Intensive



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The settlement categorised according to agrarian potencial (2.Map)

- Relevant examination of the arable suitability of Monor's ploughland areas

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How can the 3 categories be calculated?

- Taking slope categories into consideration
- There is a need of agrotopographic database which contains the soilvalue numbers

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- The soil's organic material, pH, CaCO_3 concentration, type, physical assortment, water management, the height of topsoil, environmental sensibility and AK value should be indentified
- These datas gets points and add these numbers. Then have to count average by area. Have to count 80% of result.

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- We get 3 interval:
 - Under 80% (Less capable area)
 - Between 80% and average (extensive land use)
 - Above average (intensive land use)

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Recommendation of land use changes of ploughland:

- Sylviculture and grassland cultivation on less suitable areas
- Grassland cultivation and extensive arable tillage on extensive areas
- Land use change on intensive areas is not necessary, because they are already used intensively

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Land use in 2004:

Built-in area (968,35ha):

- Garden (0,13ha)
- Tillage (34,13ha)
- Meadow (1,22ha)
- Forest (7,25ha)

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Outer area (4858,67ha):

- Orchard (11,57ha)
- Tillage (3118,81ha)
- Grape (356,12ha)
- Meadow (76,63ha)
- Forest (505,68ha)
- Reed (15,45ha)

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Garden area (359,18ha):

- Orchard (4,85ha)
- Garden (59,68ha)
- Tillage (93,95ha)
- Grape (159,87ha)
- Meadow (13ha)
- Forest (0,48ha)

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Recent land use:

- Conflicts manifest in not suitable selection of cultivated plants and land use
- However conflicts are not serious yet
- Following chart confirms that the agritechnique (agricultural technology) in use is suitable:

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Average of Produce (2004)

Plant	Produce of Monor [t/ha]	Produce of Hungary [t/ha]	Produce on sloppy sandy soil in Hungary [t/ha]
Winter wheat	4,5	5,2	2,5-5,0
Winter barley	4	4,6	2,4-5,5
Maize	6	7,9	2,5-5,7
Sunflower	2,5	2,4	1,0-2,5
Rape	2,2	2,7	n.d.

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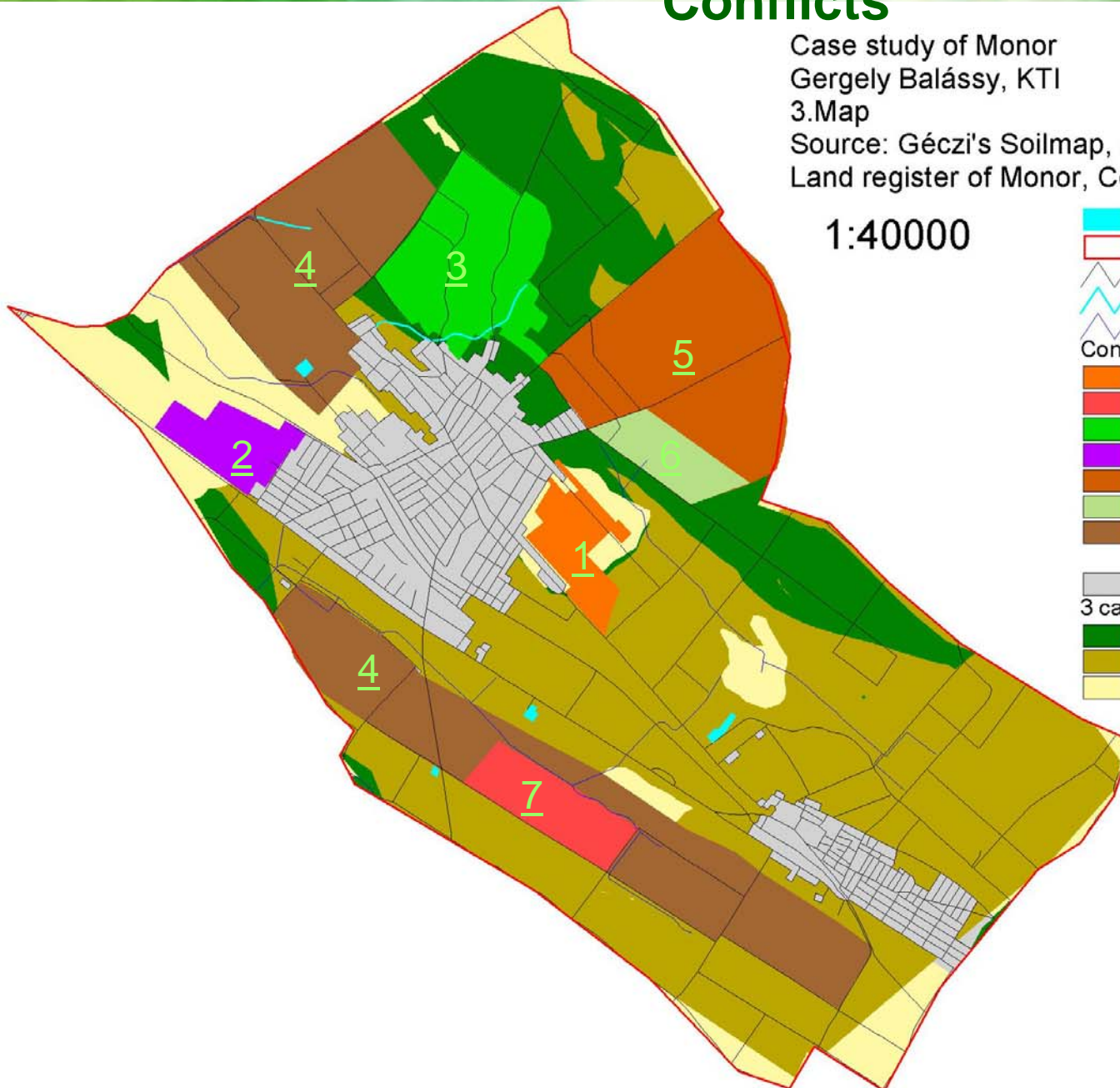
- 280 farmer submitted a landbased application for subsidy
- the SAPS I. pillar subsidy is the most preferred
- 15 large farm is characteristic of Monor due to disadvantageous landstructure
- These are managed together by bigger farms as they were continuous areas

Conflicts

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3.Map

Source: Géczi's Soilmap, settlement plan of Monor 2004,
Land register of Monor, Corine, OTAB Database

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- Lakes
- Monor
- Road
- Source
- Channels
- Conflicts:
 - Planned built-in-area (86ha)
 - M4 on nature conservation (103ha)
 - Garden with grape (251,4ha)
 - Commercial economic area (82,56ha)
 - Erosion (436ha)
 - Neglected area (73,44ha)
 - Deflation (874ha)
- Built-in-area
- 3 categories:
 - Not good
 - Extensive
 - Intensive



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- Where ploughland is shown on the construction plan but the soil suitability is less adequate, there the area should be used for silviculture or as grasslands. These are mostly found on erodative soils surfaces.
- Where ploughland is shown on the construction plan, but due to less adequate soil suitability it can only be used extensively, there the area should be used as grassland or extensive ploughlands.

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- Where ploughland is shown on the construction plan and the soil suitability is adequate for intensive plough cultivation, there shouldn't be any changes, because these areas are already used as intensive ploughlands.

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Available programme for necessary changes by NRDP:

Agri-environment measures on grassland:

- **B.1. Grassland stewardship scheme**
- a) maintenance of grassland habitats 58.82€
- b) conversion of arable land into species rich grassland 290.20€
- **B.2. Organic grassland management scheme 58.82€**
- **B.3. Grassland management schemes in High Nature Value Areas**
- **B.3.1. Grassland management for great bustard habitat development 125.49€**
- **B.3.2. Grassland management for corncrake habitat development 109.80€**
- **B.3.3. Grassland management for bird habitat development 98.04€**
- **B.3.4. Grassland development in HNVA 294.12€**

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Supplementary agrienvironment measures:

- **F.1. Erosion control**
- F.1.1. a) water erosion control in permanent crops (Y1) 231.37€
- F.1.1. a) water erosion control in permanent crops form (Y2) 39.22€
- F.1.1. b) water erosion control on arable land spring crop 98.04€
- F.1.1. b) water erosion control on arable land winter crop 39.22€
- F.1.2. wind erosion control on arable land 98.04€
- **F.2. Grassmargin**
(Y1) 462.75€
(from Y2) 39.22€
- **F.3 Scrub control**
(Y1) 168.63€
(from Y2) 62.75€

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Other programmes in NRDP:

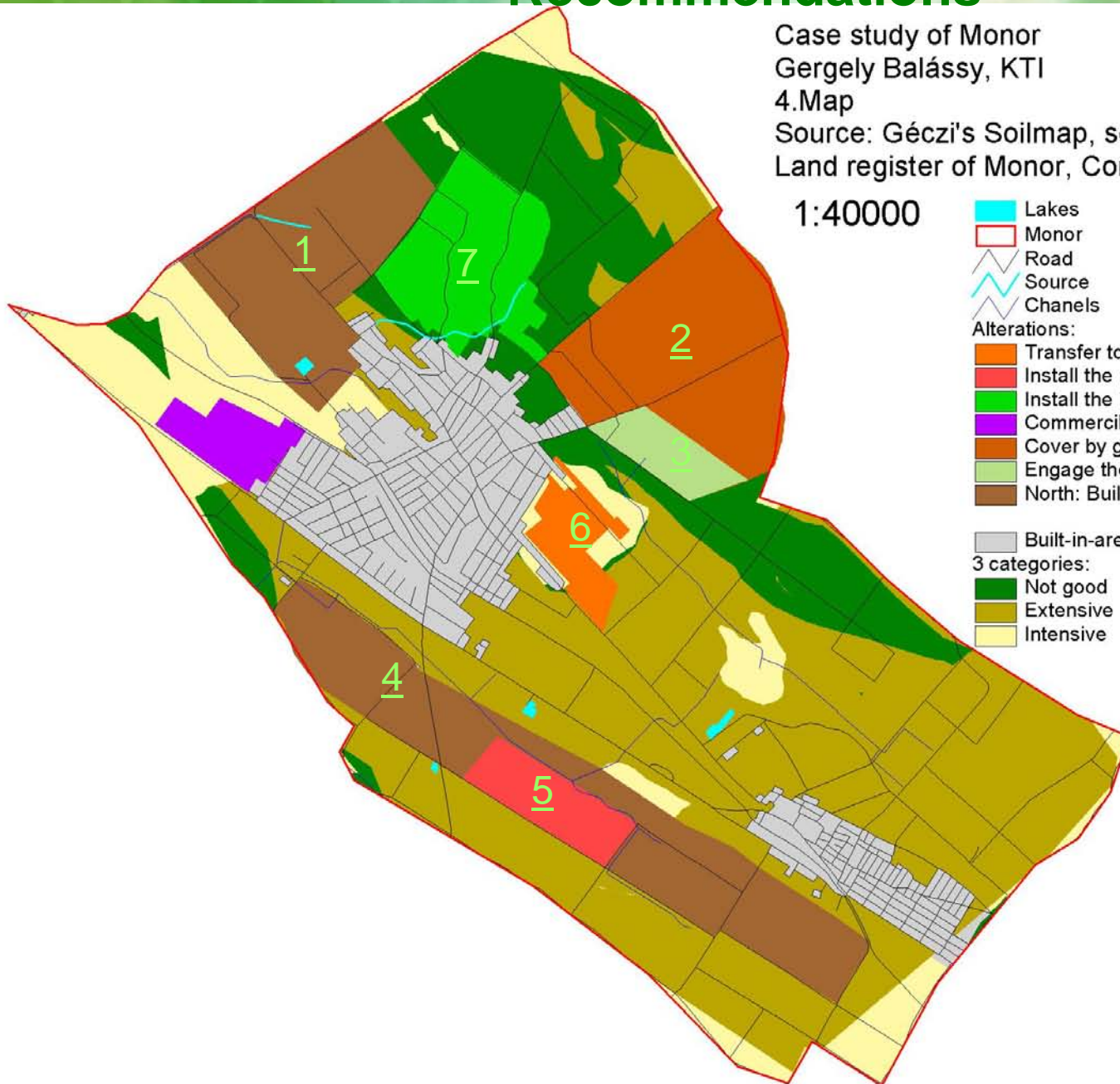
- Afforestation of Arableland (require individual and self-government)

Recommendations

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4.Map

Source: Géczi's Soilmap, settlement plan of Monor 2004,
Land register of Monor, Corine, OTAB Database

1:40000



- Lakes
- Monor
- Road
- Source
- Channels

Alterations:

- Transfer to less quality area (86ha)
- Install the railway to landscape (103ha)
- Install the M4 into garden land (251,4ha)
- Commercial economic area (82,56ha)
- Cover by grassland (436ha)
- Engage the land use again (grassland) (73,44ha)
- North: Build in, South: grassland installation (874ha)

Built-in-area

3 categories:

- Not good
- Extensive
- Intensive



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Change of profitability according to subventios

1€=247,9Ft

Plant	Produce [t/ha]	Sale Price [Ft/t]	Production Value [Ft./ha]	Production Cost [Ft/ha]	PV – PC [Ft/ha]	Landbase prg., Tillage Baseprg. [Ft/ha]	All Income [Ft/ha]
Winter wheat	5	24000	108000	116000	-8000	25000	17000
Maize	6	26000	156000	154000	2000	25000	27000
Winter barley	4	21000	84000	103000	-19000	25000	6000
Sun-flower	3	57000	142500	125000	17500	25000	42500

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The farmer can require others programme together with previous programme:

- SAPS I. pillar = 18.000Ft/ha
- TOP UP (national complement) = 11.000Ft/ha

And in the aggregate = 54.000Ft/ha

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Summary:

(Goals of the changes discussed in this study):

- Long-term sustainable land use of the relevant areas
- The most suitable nature friendly land use for landscape-ecological and natural conditions

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- Alleviation of land use conflicts
- Interruption of the loss in grassland areas, and growing of the area of meadow
- To lend the farmers a helping hand for competitive production

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Thank you very much!

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Land use conflicts (3.Map):

(This map is showing the conflicts between the soil use and settlement structural plan, and other conflicts too.)

- 3/1. Weekend house area by structural plan, although this area is good for intensive land use

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- 3/2. Commercial economic area by plan, but this would be a good place for arable

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- 3/3. Garden-agrocultural area (Strázsa-mount) is less good for crop culture

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Other conflicts:

- 3/4. Deflation (about 956ha)

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- 3/5. Erosion (about 509ha)

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- 3/6. Neglected area (about 66ha)

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- 3/7. This local important nature conservation area is cut in two by planned M4 highway (about 104ha)

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Alterations (4.Map):

- 4/1. Transfer here the a part of the planned weekend house area. Or if the aim is the further land use, then have to create protection against the deflation with forest belt or constant plant covered.

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- 4/2. Intensive land use changeover to grassland. Important: constant covered by plant

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- 4/3. To engage the land use again

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- 4/4. If the aim is the further land use, then have to create protection against the deflation with forest belt or constant plant covered.

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- 4/5. Local important nature conservation area with highway and railway is crossing the protection aims. If the highway is built, the nature conservation will be over.

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- 4/6. Transfer the planned-to-build area to more less quality land

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- 4/7. Damage of the M4 highway on the most less possible area