

Protection of agricultural land within the land consolidation in Slovakia

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Main factors affecting land consolidation in Slovakia

- Fragmentation of land ownership (small parcels, co-ownership, unaccessible parcels with unappropriate shape)
- Large scale land use (large farms, large plots, over 90% farmland rented)

Total area of the SR	49 036 km ²
Number of cadastral areas	3 559
Average size of cadastral area	1 377 ha
Number of parcels	8,82 mil.
Number of owners	4,18 mil.
Average parcel size	0,56 ha
Co-owners for one parcel	11,11

Farmland fragmentation



Act No. 330/1991 Col.

„About land consolidation, land ownership arrangement, land offices, land fund and land associations“

Content of land consolidation :

„Rational arrangement of land ownership and other related agricultural and forest real estate property in certain area carried in public interest according to the requirements and conditions of environmental protection, creation of the territorial system of ecological stability, functions of agricultural landscape, requirements of modern agriculture and forestry and support of rural development.“

Land consolidation project organization

- Project supervision:
 - district authority - Land and forest department
- Project elaboration:
 - Private contractor (public tender)
- Project financing:
 - EU - Rural development programme (100 %)

Land consolidation project stages

1. *Preparatory actions and introductory documentation:*

- decree/permission of land consolidation project
- land consolidation project perimeter documentation (area of the project, list of parcels which are not included) – land consolidation projects are realised on the whole cadastral areas (except urbanized zones)
- register of original state – list of all parcels/owners and other relevant data, including monetary value of original parcels
- general principles of functional land arrangement

Land consolidation project stages

2. Proposal of new land organization within the land consolidation area

- principles of replacement parcels location
- plan of public and common facilities (communications, anti-erosion measures, segments of ecological stability) related to local system of ecological stability
- new parcel distribution plan

Land consolidation project stages

3. *Land consolidation project performance*

- highlighting of breakpoints of new parcels in field
- elaboration of parcel distribution plan in form of geometric plan or restoration of cadastral map by new mapping
- issue of new ownership certificates, new cadastral map

Land consolidation project stages

4. *Land consolidation project realization*

- construction of public and common facilities
 - communications (field approach roads, bridges, ..)
 - environmental (water management, erosion control, streamside/roadside vegetation, segments of local territorial system of ecological stability etc...)

Agricultural land in land consolidation process

Object of land consolidation = agricultural land

1. Real estate property – land value
2. Natural resource – soil quality
 - conservation
 - sustainability
 - effective utilisation
 - ecological stability

Importance of actual and precise soil data

Source of soil data in land consolidation

- Pedo – ecological units (BPEJ) : basic soil and site characteristics in standardized digital form available for all farmland area

Structure of the BPEJ code:

1,2 – climatic region (00 – 10)

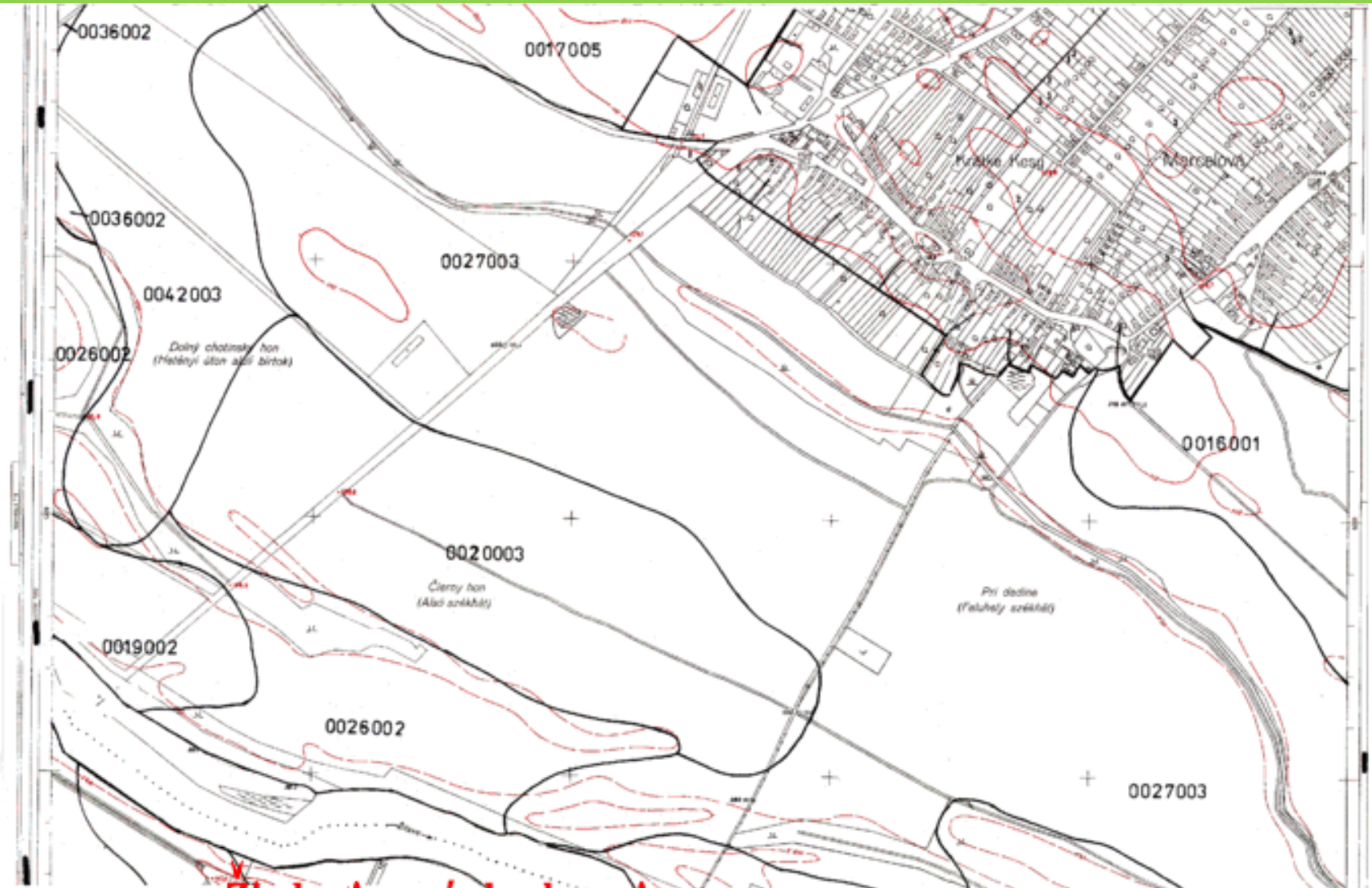
3,4 – soil type (00 – 99)

5 – slope inclination and exposition (0 – 9)

6 - soil depth and stone content (0 – 9)

7 - soil texture (1 – 5)

Example of the original 1: 5000 BPEJ map



Use of soil data in LC projects

1. For environmental purposes:

- » Erosion risk assesment
- » Surface runoff control (soil water holding capacity, infiltration rate)
- » Soil suitability for different use (arable, grassland, forest...)
- » Infrastructure planning (legal soil conservation)
- » soil irrigation/drainage planning

2. For land appraisal :

BPEJ data are used for determination of agricultural land value for land consolidation purposes according to the Notice of the MoA SR No 38/2005

Erosion risk assesment - based on soil data



Map of soil erosion risk

Legenda

- bez erózie
- stredná erózia
- silna erozia
- extrémna erózia
- Intravilán
- Les
- ostatné

Soil conservation in LC process

- Soil conservation in LC = **erosion control**
(RUSLE - slope length, soil cover - grassing)
- General principles of functional land arrangement – soil erosion risk assesment (erosion map, proposal of erosion control measures, ..)
- Plan of public and common facilities – design of erosion control measures (runoff control, infiltration strips with vegetation, water management facilities, ...) with disposable land for the realisation (public land)

Actual state of the LC process in Slovakia

- 426 LC projects in total started since 1991
- 346 LC projects finished– in the stage of project performance (new parcel distribution plan, new ownership rights registered in cadastre) – approx. 12% of the farmland area
- 132 new projects prepared for 2016

Farmland protection within the LC projects – practical experience

- Priority is given to the fragmentation issue
- Most of the common facilities designed within the LC are field roads (to provide accessibility to numerous small size parcels) – lack of land for environmental measures
- very limited realisation of designed measures
- Slow land use changes after the LC project (radical ownership changes)

Crucial issue of the LC in Slovakia
= consolidation of fragmented land ownership



Farmland protection within the LC projects – practical experience

- Soil erosion risk assessment, local system of ecological stability and principles of sustainable land use elaborated for each LC project
- Erosion control and ecological measures designed for each LC project with disposable public land ready for future realisation (ownership related problems solved)
- Involvement of land owners (re-establishing owners responsibility for their land)

THANK YOU FOR ATTENTION !

