

Slovakia case study

Land consolidation in Slovakia

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Abstract

Land consolidation represents complexity of management, legal, economical and technical procedures realised in order to adjust the land structure according to actual human preferences and needs. It includes changes in ownership rights to land and other real estate property, exchange of parcels among owners, changes in parcel borders, parcel size and shape, joining and dividing of parcels, changes in land use (afforestation, conversion of arable land into grasslands, ...), construction works like roads, bridges, water channels etc. The fundamental object of land consolidation in Slovakia is to achieve functionally purposeful arrangement of ownership rights to the land and other field real estate property in the area, where land management shall be driven by agroecological land potentials - factors of environmental protection and management, effective utilisation of soil resources, and development of ecological and other environmental functions of agricultural soils.

If the subject of land consolidation is agricultural soil, the quality of land consolidation depends on the quality of soil data. In such a context the significance of actual, complex and accurate information about soil characteristics appears to be crucial. One of the sources of such data in relevant scale and quality are the BPEJ (pedo-ecological units) data, containing basic information about ecological and agronomical soil properties in standardized form. The maintenance, elimination of possible errors and detailisation of Soil Information system (including BPEJ data) is one of the major tasks of the Soil Science and Conservation Research Institute. The main sources of errors in spatial soil data are: errors in soil classification, errors caused by incorrect topology of basic maps used for soil mapping, changes caused by soil cover development within last four decades and spatial incorrectness caused by original density of soil sampling and resulting scale of soil maps.

Introduction

The form and extent of land consolidation as realised recently in Slovakia was enforced by social and connected legal and economical changes after 1989. Beside the general land consolidation goal – purposeful land management oriented to the most effective utilisation of land resources with respect to natural limitations (such land consolidations were realised in wide extent during socialistic period, but ownership rights were ignored), land consolidation in Slovakia is closely connected to the actualisation and restoration of land ownership and reestablishment of proprietary rights to land – land restitutions to original owners or their legal successors, including physical availability of their land property.

Since 1991 the state authority for land consolidation started to organize land ownership by a special procedures connected with other tasks of agriculture, forestry and rural development according to the Act No. 330/1991 “About land consolidation,

land ownership organization, land offices and land associations” – with numerous amendments. The basic aim of this land consolidation law, related to §19 of Act No. 229/1991 (Land law – on land and field property restitutions), is the functional and purposeful arrangement of proprietary rights to land and other field real estate property in the area organized according to agro-ecological land potentials, requirements of environmental protection and management, effective utilisation of soil resources and sustainable development of soil and landscape. Land consolidation on forest land is carried by state forest management companies. On the farmland land consolidation works are managed by the Slovak office of geodesy, cartography and cadastre (approximately 2/3 of total area) and the Ministry of agriculture (1/3 of area – cadastral areas with heterogenous, incomplete or missing cadastral records).

The main factors affecting land consolidation in Slovakia are:

- high fragmentation of parcels and property rights (in rural farmland area of Slovakia we have approximately 9,5 million original parcels with average parcel size of 0,45 ha and 12 – 15 co-owners for one parcel)
- incomplete and not up-to-date cadastral records (proprietary rights to field property used by socialistic organizations were not recorded)

A land consolidation project (according to the land consolidation law) has the following parts (stages):

1. Preparatory actions and preliminary 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 organization
2. Proposal of new land organization within the land consolidation perimeter
 - principles of replacement parcels location
 - plan of public and common facilities (like communications, anti-erosion measures, segments of ecological stability) related to local system of ecological stability
 - new parcel distribution plan
3. Performance of land consolidation project
 - 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
4. Land consolidation project realization
 - construction of public facilities (roads, bridges, windbreaks etc.)

The original intention to carry out land consolidation in a short time for all the area of Slovakia due to the level of technical inconsistencies in the cadastre, extent of discrepancies between legal and real situation, but also surprising low interest of

owners within first few years was found as unrealistic. In the light of those experiences almost all land consolidation projects were stopped and in order to solve this unfavourable situation in land property evidence Act No. 180/1995 about some measures for organization of land property was accepted. The aim of this law is to solve all complexity of problems related to land property arrangement (including problem of unknown owners). According to this regulation registers of renewed land evidence (ROEP) are compiled and land consolidation projects are realised only after ROEP.

As evident from the above discussion, the main aim of the land consolidation as carried out in Slovakia is also:

- rational organization of agricultural land utilization respecting natural soil potentials, landscape ecological stability and human preferences in land use;
- fair arrangement of land property rights to the farmland, where each owner must get a field (parcel) of the same area and quality (value) as his original land (parcels), this is ensured through land appraisal,

From this context the importance of actual, complex and accurate information about characteristics, quality, functions and potentials of agricultural land is apparent. Information about pedo-ecological units (BPEJ) is used as a source of such information in adequate accuracy and relevant scale for all farmland in Slovakia. The BPEJ data contains basic information about ecological and agronomical soil properties (in standardized digital form), which is used to determine:

- optimal land use
- risk of land degradation
- optimal land conservation strategy
- and mainly assess value of parcels for consolidation purposes

According to some opinions the system of land evaluation based on soil BPEJ data is outdated, but it still remains the main way to incorporate soil data into land consolidation with a legal background in all relevant legislation.

The soil database is a subject of permanent update, which covers:

- errors in soil classification
- errors caused by incorrect topology of basic maps used for soil mapping
- changes caused by soil cover development within last four decades
- spatial incorrectness caused by original density of soil sampling and resulting scale of soil maps.

Use of soil data in land consolidation projects

Soil data can be used in various steps of land consolidation project:

1. In the valuation of parcels within land consolidation project – objective valuation of original parcels is a basic precondition of fair arrangement of land property and determination of substitute parcels, where each owner must receive land of the same size and quality (according to pedo-ecological unit – BPEJ) as his or her original land, which for various reasons cannot be given.

The best possible quality and accuracy of BPEJ determination is a key precondition of acceptable parcel distribution plan.

2. In the investigation of differences between real land category and land category as in the cadastre.
3. In the compilation of the general principles of functional land organization, where properties, functions and potentials of soil for different purposes must be evaluated.
4. In the elaboration of new parcel distribution plan, where the principle of equal quality (soil fertility) of original and substitute parcels must be kept.
5. In the elaboration of the Plan of public and common facilities – where also soil conservation and environmental measures are included.

Conclusions

Land consolidation in Slovakia serves as a tool for achievement of such functional land arrangement, which enables every landowner to utilize his or her field real estate property with respect to the principles of environmental protection, ecological stability and sustainability. This aim can not be fulfilled without complex, detailed and accurate information about soil quality, functions and potentials.

References

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