

The Role of Land Consolidation to Reduce Soil Degradation in the Czech Republic

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Abstract : The paper deals with positive impacts of land consolidation on decreasing soil degradation with the main emphasis on soil and water conservation in the landscape. The importance of land degradation is very high because of its impact on crop productivity and many other adverse effects. Soil degradation through soil erosion is causing losses in crop productivity and quality of the environment, through decreasing quality of soil and water (especially water resources). Negative effects of conventional farming practices are increased water erosion, as well as crusting and compaction of the topsoil and subsoil. Soil erosion caused by water destructs the soil's structure, reduces crop productivity due to deterioration in soil physical and chemical properties such as infiltration rate, water holding capacity, loss of nutrients needed for crop production, and loss of soil carbon. Recently, a new process of complex land consolidation in the Czech Republic has provided a unique opportunity for improving the quality of the environment and sustainability of the crop production by means a better soil and water conservation. The present process of the complex land consolidation is not only a reallocation of plots, but this system consists of a new layout of plots within a certain territory, aimed at establishing the integrated land-use economic units, based on the needs of individual landowners and land users. On the other hand, the interests of the general public and the environmental protection have to be solved, too. From the general point of view, a large part of the Czech landscape shall be reconstructed in the course of complex land consolidation projects. These projects will be based on new integrated soil-economic units, spatially arranged in a designed multifunctional system of soil and water conservation measures, such as path network and a territorial system of ecological stability, according to structural changes in agriculture. This new approach will be the basis of a rational economic utilization of the region which will comply with the present ecological and aesthetic demands at present.

Keywords : soil degradation, land consolidation, soil erosion, soil conservation

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