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Adaptation measures in the process of land consolidation in the Czech Republic

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When introducing adaptation measures in a certain watershed, agro-technical soil management and organizational practices themselves are mostly unable to increase retention capacity substantially. For that reason, it is necessary to apply a complete system of soil conservation measures. In places with high slope length technical and biotechnical soil erosion control practices (primarily of linear character) are necessary. These technical measures are broad base channels, hedges, grassed infiltration belts, ridges with green growing, windbreaks, etc. These biotechnical measures together with the implementation of adjusted and grassed courses of concentrated surface runoff (grassed waterways) create an appropriate network of new hydro lines in the watershed. Biotechnical line elements of soil erosion control serve as permanent barriers or obstacles for water runoff and are designed in order to determine, by their location, the ways of land management. Biotechnical and technical soil conservation measures cannot be applied without respecting property rights. Therefore, it was found suitable to design the system of the soil and water conservation in the process of land consolidation in the Czech Republic. There is a dynamic process of land consolidation that is managed by a 'Land Settlement Board' together with the regional administration, which aims among others at facilitating easier application of landowners' property rights and more efficient land management. The Plan of Common Facilities is a part of Land Consolidation process it is one of the important tools for implementing adaptation measures especially soil and water conservation measures. Recently, the process of complex land consolidation in the Czech Republic has provided a unique opportunity for improving the quality of the environment and sustainability of crop production through better soil and water conservation.

Biography

Miroslav Dumbrovsky is a Professor and Deputy Head of Department of Landscape Water Management in Brno University of Technology and works in the field of Soil and Water Conservation and Land consolidations. He also works on research projects in field of water retention, erosion, land consolidation and soil degradation.

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