



## **The comparison of various approach to evaluation erosion risks and design control erosion measures**

Jiri Kapicka

Research Institute for Soil and Water Conversation, Prague 5, Czech Republic (kapicka.jiri@vumop.cz)

In the present is in the Czech Republic one methodology how to compute and compare erosion risks. This methodology contain also method to design erosion control measures. The base of this methodology is Universal Soil Loss Equation (USLE) and their result long-term average annual rate of erosion ( $G$ ). This methodology is used for landscape planners. Data and statistics from database of erosion events in the Czech Republic shows that many troubles and damages are from local episodes of erosion events. An extent of these events and theirs impact are conditional to local precipitation events, current plant phase and soil conditions. These erosion events can do troubles and damages on agriculture land, municipally property and hydro components and even in a location is from point of view long-term average annual rate of erosion in good conditions. Other way how to compute and compare erosion risks is episodes approach. In this paper is presented the compare of various approach to compute erosion risks. The comparison was computed to locality from database of erosion events on agricultural land in the Czech Republic where have been records two erosion events. The study area is a simple agriculture land without any barriers that can have high influence to water flow and soil sediment transport. The computation of erosion risks (for all methodology) was based on laboratory analysis of soil samples which was sampled on study area. Results of the methodology USLE, MUSLE and results from mathematical model Erosion 3D have been compared. Variances of the results in space distribution of the places with highest soil erosion where compared and discussed. Other part presents variances of design control erosion measures where their design was done on based different methodology. The results shows variance of computed erosion risks which was done by different methodology. These variances can start discussion about different approach how compute and evaluate erosion risks in areas with different importance.