

## The Climate Change and Soil Degradation in the Czech Republic

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**Abstract :** The paper deals with impacts of climate change with the main emphasis on land degradation, agriculture and forestry management in the landscape. Land degradation, due to adverse effect of farmers activities, as a result of inappropriate conventional technologies, was a major issue in the Czech Republic during the 20th century and will remain for solving in the 21st century. The importance of land degradation is very high because of its impact on crop productivity and many other adverse effects. Land degradation through soil degradation is causing losses on 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. Water erosion occurs on fields with row crops (maize, sunflower), especially during the rainfall period from April to October. Recently there is a serious problem of greatly expanded production of biofuels and bioenergy from field crops. The result is accelerated soil degradation. The damages (on and off- site) are greater than the benefits. An effective soil conservation requires an appropriate complex system of measures in the landscape. They are also important to continue to develop new sophisticated methods and technologies for decreasing land degradation. The system of soil conservation solving land degradation depend on the ability and the willingness of land users to apply them. When we talk about land degradation, it is not just a technical issue but also an economic and political issue. From a technical point of view, we have already made many positive steps, but for successful solving the problem of land degradation is necessary to develop suitable economic and political tools to increase the willingness and ability of land users to adopt conservation measures.

**Keywords :** land degradation, soil erosion, soil conservation, climate change

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