Desertification sensitivity was determined by applying a score system. Environmental sensitivity indices were calculated as the geometric average of four indicators: soil and climate properties, vegetation and land use intensity.

According to the sensitivity indices the north-western and south-eastern parts of the study area are the most sensitive to aridity. In the NW this can be explained by the drier climate and by the high density of forests, in the SE by the poor soil quality and by the high risk of forest fires and the climate is also drier than the average.

The applied method proved to be suitable to characterize desertification sensitivity. The resulting maps were validated and they are in accordance with the present situation in the study area. A sensitivity analysis will be carried out in order to identify the various degrees of sensitivity not only under the present climatic conditions, but also the conditions of the expected climate change. The aim is to follow the development of desertification processes and that of the degraded areas to answer the question what will happen to the degraded areas in the future.

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AGRICULTURAL SOIL REQUIREMENTS FOR FOOD SECURITY – MODELLING

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In Austria, the present tolerable level, with which it can be assessed how much soil is necessary to be secured the supply of the Austrian population with food, is not exactly known. It makes things worse, that the responsibility of soil law is distributed to the nine provinces. The aim of this project is to develop such a guideline, to evaluate the degree of reduction of agricultural soils for the purpose of soils protection. Another objective is to identify the most productive soils of Austria by using the two available mapping systems for agricultural land (Austrian Soil Mapping and Austrian Land Taxation). Combining both mapping systems the most productive soils will be identified.

In addition, the crop yields for farmland are modelled with STOTRASIM. The model is calibrated with real yield data for different soil and climate conditions. There exists available weather data from the past (1981-2010) and of two different future forecast scenarios (2036-2065). One of these future scenarios is moderate and the other one is extreme. With the model results shall be tried a nationwide allocation of agricultural priority zones for the current and prospective climate situation. From this should follow a national guideline with regard to protect the valuable soils.

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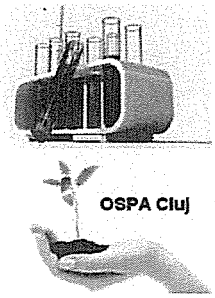

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ABSTRACTS

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