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# **BOOK OF ABSTRACTS**

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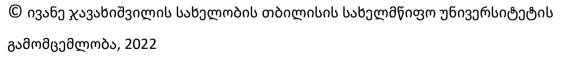


### On behalf of the Ivane Javakhishvili Tbilisi State University Thank you for participating in the International Conference

## LANDSCAPE DIMENSIONS OF SUSTAINABLE DEVELOPMENT SCIENCE – CARTOGIS - PLANNING – GOVERNANCE

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### ANTHROPOGENIC LANDSCAPES ECOSYSTEMS: PROBLEMS OF THE AGRICULTURAL LANDSCAPE OF PODILLYA

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#### Abstract

Agricultural landscapes are landscapes that have changed in the process of agricultural labor of the population (crop, livestock and other industries). Under the influence human natural vegetation in them is replaced field and meadow crops, as well as fruit gardens, apiaries, etc. All this significantly changes the natural system. Especially strongly transformed thermal and water regime of the territory.

Evaporation and effluent agricultural landscapes happening more intense than in areas covered with forest. In the fields less moisture is retained, however heat exchange is expressed brighter as the tide radiation to the surface more than in forests. This affects the activity microorganisms, by nature soil formation processes, etc.

Unprecedented plowing of land characterized by the Podillya region covering territories of three administrative regions - Ternopil (Western Podillya), Khmelnytsky (Central Podillya) and Vinnytsia (Eastern) Podillya). With an area of 6092.1 thousand hectares, his agricultural land - 4523.8 thousand hectares total plowed territory (compared to difficult terrain due to placement on Podolsk Upland) it reaches 61.7%, agricultural land - 83.1%, which exceeds similar indicators on average in Ukraine 7.9 and 5.2% respectively.

In fact, agricultural landscapes, like natural ones, are a component system. These are complexes of interdependent equivalent components, although regulated by man, but evolving in accordance with the laws of nature. Specific phytocenoses are formed in crops, the microclimate, soil condition, fauna of agricultural tracts depend on the composition of crops, agricultural techniques.

The underground part of the field landscapes is more conservative and stable. The properties of the soil and its fauna do not change immediately and significantly when one field crop changes to another.

Mechanical impact of the running gear of machine-tractor units leads to soil compaction, reduced porosity, destruction of soil structure, deterioration of water permeability, soil spraying, increased surface runoff and leaching.

Soil compaction worsens growth conditions, reduces crop yields. occurrence of destructive phenomena on agricultural lands (pasture digression, overdrying, waterlogging, soil and water pollution, compaction and disturbance of soil structure, salinization, deflation, water erosion) intensive chemicalization of agriculture mass emergence of mutations forest and meadow vegetation caused drying and pollution of springs, lowering the groundwater level, contributed to the intensive eutrophication of water bodies, weakening the water treatment effect.

There are many cases when the boundaries of the fields approach almost to the edge of the river or lake intensive development of erosion processes. Optimization of the structure of agricultural ecosystems protection of landscapes from degradation in the process of using any technology for land, water and land should always take into account both the complex relationship of natural elements in the landscapes and their relationship to avoid eutrophication, overcrowding, destruction of biodiversity of neighboring ecosystems.

**Keywords:** Agricultural landscapes, soil formation, ecosystems.