Landscape-ecological analysis of Upper Svaneti for land use evaluation

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Landscape ecology is new field of study, which discusses problems emerged in "human-nature" system with holistic approach and elaborates experimental systems, which serves to sustainable development of land use and protection and conservation of environmental systems, makes models. In landscape ecology one of the key issues are research scale, because it determines the quality of scientific research results. The term "landscape" itself does not mean certain metric area, therefore is elaborated numerous classification schemes, which makes possible to study landscapes on different levels.

Research goal is landscape-ecological analysis of Upper Svaneti on different typological level (landscape genus, landscape species and landscape patches) and elaboration sustainable land use model for the region. If we consider increasing interest in the use of resource potential of the region, ecological and environmental significance of the landscapes, lack of arable lands and active geodynamic processes, it becomes evident, why such kind of research is timely and relevant.

Research topic echoes modern world challenges and is relevant to main directions in landscape ecology. In the research is used field landscape mapping, which means study of morphological and typological units of landscape, filling special blank and drawing primary map in field conditions. Besides of this for achieving research goal remote sensing and GIS plays important role.

At this stage is prepared landscape bases (GIS of landscape genus, landscape species and landscape patch). On the base of landscape genus and species is done land use zoning. On the bases of species is determined geodynamic and geomorphological processes, forest types, vegetation, anthropogenic transformation of landscapes, ecological value of landscapes, resource potential of landscapes, land fund, tourism-recreational value of landscapes and etc.

In future is planned land use zoning on the base of landscape patches, elaboration of sustainability models and analysis of entire research results (at different scale). Large-scaled study increases practical importance of the research. Analyzing results taken at each above mentioned scale has as practical as theoretical significance.