

Landscapes - Analysing multiple interrelationships between environmental and societal processes in mountainous regions of Georgia –

Interdisciplinary research to foster sustainable land use, land development, and quality of life

Motivation: Since its declaration of independence in 1991, Georgia has undergone dramatic transformation processes. Processes like privatisation of land and implementation of new organisational structures for land management and product delivery have caused environmental problems such as land degradation, soil erosion, and decrease in biodiversity, and resulted in societal changes such as pauperisation followed by migration. Climate change has aggravated the environmental problems.

Given this background, our three-year (2010-2012) research aims at developing and applying an interdisciplinary and multi-scale approach to foster sustainable land use, land development, and quality of life in this part of the world, focusing on two study regions in the Greater and in the Lesser Caucasus Range of Georgia.

Study regions: The study regions (Fig. 1) are the 'Kazbegi region' in the Greater Caucasus Range near to the Russian border, a complex system of mountain massifs and deep canyons (Fig. 2), and the 'Bakuriani region', which belongs to the Lesser Caucasus Range in southwest Georgia (Fig. 3).

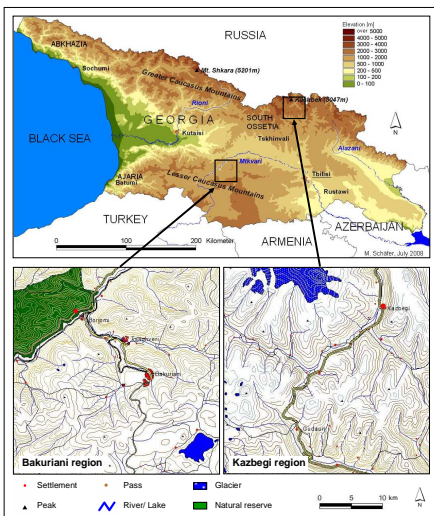


Fig. 1: Study regions in the Caucasus Mountains.

Three-step methodological concept:

The project is divided into three main steps:

- (I) the development of a consistent hierarchical classification of landscape patterns,
- (II) the analysis of interrelationships between environmental and societal processes under consideration of these patterns, and
- (III) the formulation of regionally differentiated recommendations for sustainable land use and land development.

A network of sub-projects (Fig. 4) contributes to the interdisciplinary project.

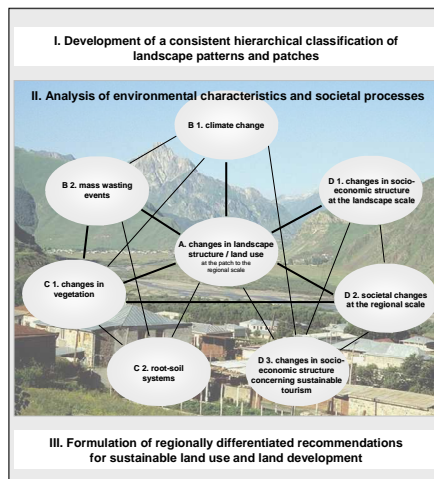


Fig. 4: Project structure and network of subprojects.

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Fig. 2: Soil erosion in the Aragvi valley (Kazbegi region).

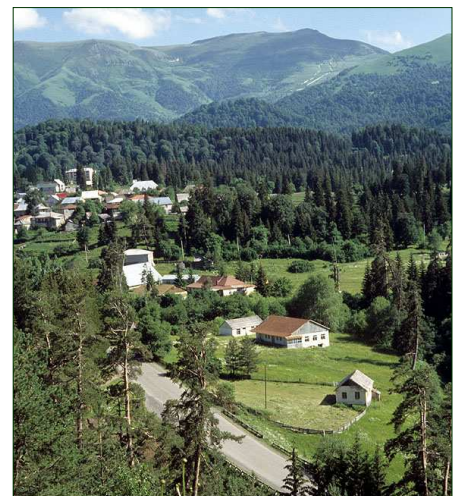


Fig. 3: Bakuriani (1.765 m a.s.l.) is situated in a caldera surrounded by mountainous and alpine forests.