

# **THE ANALYSIS OF AGRICULTURAL LANDSCAPE CHANGE USING GIS TECHNIQUES. CASE STUDY: PODOLENI, ROMANIA**

**Dan-Adrian CHELARU<sup>1</sup>, Adrian URSU<sup>1</sup>, Florin Constantin MIHA<sup>1</sup>**

*E-mail: chelarudanadrian@yahoo.com*

<sup>1</sup> University Alexandru Ioan Cuza of Iasi, Faculty of Geography and Geology

## **Abstract**

The increasingly tensions rising between society's need for resources and space on the one hand, and the capacity of the land to support these needs on the other hand lead to unprecedented changes in landscape configuration, and hence, to the environment. This paper analyzes changes in the agricultural landscape of Podoleni, Neamt County, Romania, in spatio-temporal terms, as a result of the modernization of the ground processing techniques, types of crops, and the degree of fragmentation of land parcels. The study was conducted using Geographical Information Systems techniques, the main materials used in the analysis are topographic maps from different representative periods, and the 2006 orthophotomaps. Application of GIS techniques at a detailed scale (1:5000) allows an efficient management of land use for local authorities. The results highlight the optimal management of agricultural land so as to maintain a balance between their basic function (food needs) and preservation of nature (landscape, environment).

**Key words:** land use change, agricultural landscape, GIS, spatio-temporal analysis, Podoleni