Ecological Changes in the Carpathian Mountains due to Sheep Transhumance after the Socialist Regime

URUSHIBARA - YOSHINO Kazuko and TAKASE Shingo

Abstract

In 1989, Romania’s social system underwent a dramatic change from a socialist regime to a free economy system. Romania became a member country of the EU in 2007. We studied changes in sheep transhumance on the north slope of the Cindrel Mountains, a massif located in the South Carpathian Mountains. During the socialist regime, all sheep were moved from base villages on the Gornovita Peneplain, through the Rau Ses Peneplain, to the top of the Cindrel Mountains, namely, the Borascu Peneplain.

We also estimated the numbers of sheep by observing changes in soil erosion conditions and vegetation. During the socialist regime, all sheep were shifted among these three peneplains, and moved to Banat Plain during winter. This shifting resulted in very serious soil erosion at the nearby base villages. Also, in the areas at the tops of the mountains, Pinus mugo (creeping pine) trees were used as timber, after being cut and dried. These conditions produced extremely broad expanses of grassland during the socialist regime.

After 1989, the areas with soil erosion did not recover continuously until around 2005. After that stress from sheep decreased in the grasslands at the tops of the mountains, namely on the highest peneplain. The numbers of sheep taken to the highest peneplain decreased drastically after 1989. Pinus mugo invaded, forming vegetation islands in the grasslands on north-facing slopes. On the slopes facing east to south, Picea abies with Rhododendron kotschi and Juniperus communis have invaded the grassland since 1989. These are evidence of weaker stress from sheep on the grasslands.

Through these ecological methods of observation, we could estimate accurate numbers of sheep in transhumance as follows: 1980-1989, over 40,000 sheep; 1990-2006, 37,000 sheep; and 2007-2009, 28,851 sheep.

Keywords: Romania, after the socialist regime, geoecology, peneplains, sheep transhumance, member country of the EU