



Mountain economy, snow and climate change. The case of Valtellina.

P. Giacomelli, V. Carboni, M. Brambilla, A. Rossetti

Università degli Studi di Milano, Agricultural, Agri-food and Environmental Economics and Politics Department, Milano, Italy (valentina.carboni@unimib.it / Phone: +39 02-50316497)

Tourism can be considered one of the leading forces in the economy of Valtellina. The area is located in Lombardy Alps and it is characterized by the presence of some ski resorts, which attract more than 1.000.000 Italian and foreign tourists every winter (*APT Sondrio, 2005*). Only hotels and restaurants employ 1/10 of the total work force (*ISTAT, 2001*).

This analysis is part of RICLIC project (*Regional Impact of Climatic Change in Lombardy Water Resources: Modelling and applications*), funded by Lombardy Region to develop a scientific methodology to assess climatic impacts on water resources.

Climatic change is modifying the distribution of snow in space and time and this situation can increase the importance of producing artificial snow, to maintain the tourist attractiveness of the area. The paper offers some data showing this phenomenon.

A huge demand of water and energy and specific weather conditions are required to produce artificial snow. Moreover, because of the climatic change, it is reasonable to produce and maintain artificial snow only over 1500 m of altitude. This aspect could discriminate some ski runs and some facilities.

In Valtellina the 70% of ski runs (almost 290 km) can be covered by programmed artificial snow and about 37 km of cross country ski runs.

Giving that the climatic change is affecting the amount of water resource, the project aims to assess the space and time distribution of the resource. The evaluation of water stock is performed with respect to the supply. Artificial snow is produced in a period

of the year when water resource is highly available and the production seems not to create problems between water competitors.

The production of artificial snow is relevant to assure winter tourism and it is important to evaluate which is the impact on local economy due to the lack of the resource.