

Land degradation in the Alai region, the Kyrgyz Republic, before and after the 1991 independence

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The Kyrgyz Republic has experienced the great changes of social system and economic system since 1991 when the Soviet Union collapsed. These changes also led to the transformation of a grazing style especially in the high mountain areas. The aim of this study is to verify the land degradation changes before and after 1991 in the Alai area, southern Kyrgyz Republic.

In August 2011, we conducted field survey on 43 grazing slopes (19 slopes without grazing terraces and 24 slopes with grazing terraces) to examine the degree of grazing intensity: observation of vegetation coverage, terrace measurement, and slope measurement. Further, 20 local families were interviewed.

The grazing model of Howard and Higgins (1987) was used to understand the degree of grazing intensity on the 24 slopes with terraces. The result suggested that 13 slopes were overgrazed and other 11 can accept use by more livestock in the future.

The interview survey shows that most local people account for the occurrence of the land degradation before their settlement and even before 1991.

The interview survey showed that six families live in the study area all year around. Five of them (83.3%) have moved there before 1991, and have located in the west part of the study area, which is close to the river.

Twelve families stay in the study area only in summer, and 11 of them (91.7%) are located in the east part of the study area, where rivers dried up and 2 families stay here only in winter.

From the slope measurement and the interviews, it can be concluded that both the grazing slopes with no terraces and the overgrazed slopes are located close to the families who live there all the year, which corresponds to the west part of the study area. On the other hand, the grazing slopes that can accept more livestock are located around the families, who stay there in the summer time only, which corresponds to the east part of the study area.

Keywords: land degradation, Alai area, transhumance, terrace, vegetation coverage