

Characteristics of summer grazing in the Alai Valley, southern Kyrgyzstan  
(キルギス南部, アライ谷におけるヒツジ・ヤギの夏の放牧)

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This study examined the characteristics of summer grazing of sheep and goats in the villages of Taldy-Suu and Sary-Tash in the Alai Valley, southern Kyrgyzstan. The interview surveys were conducted with 224 families in the summer of 2012 and the autumn of 2013, which include pasture-use information, livestock number, locations of *jailoo* (summer pasture) and winter hay, former pasture-use information, and family structure. In addition, daily grazing routes were traced with micro-GPS for 37 head of sheep and goats in Taldy-Suu and 30 sheep and goats in Sary-Tash.

The current grazing in the two villages are characterized by: (1) co-existence of *Kezuu* (daily grazing) and transhumance; and (2) dominance of transhumance practiced by insiders (in-village residents) of Taldy-Suu, while dominance by outsiders of Sary-Tash. The total number of 35,488 head was grazed in *jailoo*, which belong to the two villages. Among them, 2,383 head (6.8%) were grazed in the form of *Kezuu*, which is defined as a cooperative daily grazing system on a rotational basis by several families with small numbers of livestock. The *Kezuu* system seems to be unique because it is practiced only in some areas of the former Soviet Union. The *Kezuu* is classified into three types: (1) three-seasonal, village-based type (Sary-Tash), (2) two-seasonal, village-based type (Taldy-Suu, Archa-Bulak, and Sary-Tash), and (3) three-seasonal, *jailoo*-based type (Kurgak *jailoo*). Most sheep and goats (33,105 head, 93.2%) were grazed in the form of transhumance. The form of transhumance in the area is classified into two types: (1) horizontal transhumance, which is practiced by insiders, and (2) ascending transhumance, which is practiced by outsiders. The insiders of Taldy-Suu grazed 10,467 head of sheep and goats among 16,714 head (62.6%) and the outsiders grazed 6,247 head. On the other hand, the insiders of Sary-Tash grazed 3,439 head among 18,774 head (18.3%) and the outsiders grazed 15,335 head (81.7%). Although previous studies that have been conducted elsewhere in the world have described horizontal transhumance with long movement distance, this study examined horizontal transhumance with short movement distance, as well as *Kezuu* system, for the first time.

There is a standardized livestock density (0.26 head/ha) in Kyrgyzstan, which is set by the government. This standard can be used as an indicator of overgrazing. Among 27 *jailoo* in the area, the *jailoo* of Kurgak, Kichi-Kashka-Suu, Kalto-Oz, Tula-Bulak, Alai, Chong-Kashka-Suu, Atjol, Kara-Dobo, Kok-Bulak, Tumanchy, Demei, Kara-Kindik, and Kurgak, where the livestock density varies from 0.32 to 1.36 head/ha, are regarded as being overgrazed. These *jailoo* are used in the form of *Kezuu* and ascending transhumance by the outsiders. On the other hand, *jailoo* that are used in the form of horizontal transhumance by the insiders are not overgrazed: their livestock density was below 0.22 head/ha. To enhance sustainability in the area, reducing the uneven (concentrated) use of pastureland by *Kezuu* and ascending transhumance is suggested.