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Restoration of Kyrgyz traditional knowledge for sustainable pasture management and use

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Pastures are a major resource for Kyrgyzstan and a source of livelihood for a large part of its predominantly rural population . Pastures make up nearly 87% of all agricultural land in the country . The Kyrgyz people historically have been engaged in pastoral transhumance , taking advantage of the features of the country's extremely mountainous terrain . This terrain is marked by three types of pastures that are suitable for grazing at different times of the year and hence naturally support pastoral herding . This age-old method of pasture changed during the Soviet Union when nomadic Kyrgyz were forced to settle and livestock herding was organized into collective and state farm structures . The Soviets launched an aggressive intensification of the numbers of flocks through very heavy usage of all available pastures as well as addressing the risks that had kept flock numbers down , most notably through the regular provision of reliable fodder for winter and early spring and more advanced transportation systems . The Soviets particularly focused on sheep production , turning the Kyrgyz SSR into the Soviet Union's wool factory while decreasing the number of breeds suitable for mobile pastor lifestyle . This led to overgrazing and degradation of pastures . At the same time , some pre-Soviet elements remained , particularly the retention of tribal and communal linkages for regulation of social and economic affairs , but old practices of unaided transhumance and understanding of sustainable pasture use were lost .

The objective of this research was to restore livestock keepers' traditional knowledge which would help to encourage sustainable use of its resources and their maintenance and improvement . This knowledge was lost to majority of Kyrgyz in the Soviet era . The paper examines the importance of rangeland for Kyrgyz livelihood , for maintaining traditional social fabric and relations in community , and for cultural life . It reviews traditional knowledge on management of this resource and how it can be restored for use by current and future generations of Kyrgyz pastoralists .

A team of RDF experts initially conducted a desk study of historical and scientific materials , books and publications available on traditional patterns and techniques of pasture management and use by Kyrgyz people in 19th and 20th centuries . Field work to gather oral history was conducted in parallel by experts as well as community researchers who are specially trained and equipped for collecting indigenous knowledge and understanding of customary law on management and control of use of pasture resources . This approach ensured proper understanding of traditional rangeland resource use patterns , their key elements and principles , as well as the needs and expectations of various stakeholders concerning the development or restoration of some traditional patterns of rangeland use . At the end of the field work all results were presented to a group of elders identified by villagers as custodians of traditional knowledge . This Board of Custodians in three focus communities were to provide feedback . Final results were presented to all community members . This research was focused in three Kyrgyz mountainous communities in the North and the South of the country and funded by the Christensen Fund (USA) and the World Bank .

Kyrgyz people traditionally used various approaches to pasture preservation and improvements . In the past Kyrgyz tribes would spend winters in encampments in lower areas with no snow cover , then move with their herds to spring/fall pastures at medium altitudes , and then further move to summer pastures , only to return via spring/fall pastures to their encampment . In some areas even winter encampments were changed every year . By doing so , there was a de facto ad hoc system of use of different pastures that ensured against overgrazing . Even when grazing on seasonal pastures , they used "portional" or so called "fan" method of pasture use when they moved animals every 5-7 days from one place to another in order to avoid the same spots and routes for a long period of time . Natural objects such as rivers , mountain ridges , forest lines were used as border lines for marking these routes . Kyrgyz had used traditional knowledge on monitoring and evaluation of pasture conditions based on weather , characteristics of plant growth , and animal behavior . When they saw first signs of degradation they changed routes and let pastures rest for at least three years . Animals and their breeds were in accordance with the need for transhumance .

The Kyrgyz traditionally used pasture in sustainable manner which was aimed at preservation of their environment and a livestock economy that served their material needs . Many techniques and approaches are lost for the majority of herders and pasture users but can be restored and scaled up to be used to benefit farmers , particularly through improved protection of their environment .