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To Fence or Not to Fence—an economic study on the decision-making behavior of herders in Gannan prefecture , Gansu province

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Key words : economic study , decision-making behavior , Household Contracted Responsibility System , fencing , herders

Introduction Government has mandated the institution of the Household Contracted Responsibility System (HCRS) in China's extensive pasture areas , in part to prevent or arrest grassland degradation . Fencing is the measure taken to enforce household-based property rights and increase grassland protection . However , our research has indicated that some areas in which property rights are clearly demarcated are still experiencing grassland degradation , yet some un-fencing areas remain in good condition . This situation appears to contradict traditional economic analysis .

Materials and methods Our research takes the case of a natural village of 11 households of herders . The herders did not eliminate the ambiguities of the pastures with different property rights through fencing . However , their grasslands are well protected , without grassland degradation or over-stocking , and they have maintained economics of scale though joint operations . Using the perspective of new institutional economics , we adopted analytical methods from anthropology , sociology and institutional economics to understand the full transaction costs involved in different institutional arrangements , particularly recognizing the abilities of resources-users to engage in self-organization , community forms of operation and to apply indigenous knowledge and practices .

Results Absence of fencing did not automatically result in a "Tragedy of the Commons" situation . On the contrary , the assumed inefficiencies of collective action actually resulted in transaction cost savings under some conditions , and also remained compatible with the goal of protecting the grassland . The reason is because the herders living in the same area have strong homogeneous characteristics due to their common history and culture . Therefore they can better understand the importance of protecting the grassland and have a shared ecological knowledge of rangeland management . This can be demonstrated by two observations : firstly the social agreements between herders reduced the execution cost of certain actions ; secondly , they achieved the goal of sustainable use of the grassland .

Conclusions Pastoral fencing in pursuit of clear property rights may not be the best institutional arrangement . It can be deduced from the study that the benefits derived from the pursuit of clear property rights over pasture are overestimated ; in fact , the opportunity costs of fencing are seriously neglected . Therefore , ignoring the regional diversity and complexity , neglecting the different characteristics between the cropped land and the pasture , and mandatory implementation of the household contract responsibility system in grassland areas will possibly lead to economic and ecological inefficiency .

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