Necessity of Mobility Strategy to Risk Aversion Livestock Husbandry: A Case from Bayantala Village of Xilingol Prefecture, Inner Mongolia, China

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Necessity of mobility strategy to risk aversion livestock husbandry : a case from Bayantala village of Xilingol prefecture , Inner Mongolia , China

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Introduction Highly temporal and spatial variability in arid grassland ecosystem adds risk and uncertainty to livestock husbandry (Behnke and Scoones , 1993) . Traditionally , Mongolian herders adapted to the fluctuation by moving herds to greener grassland (Sneath , 2000) , while the lately implemented Household Responsibility Contract System (HPRS) in pastoral Inner Mongolia encouraged a settled form of livestock raising , pen-raising , which relies primarily on stable forage input to prevent ecological stresses . However , the reality shows that the pen-raising can not fully replace the traditional mobility strategy . This paper aims to examine the reasons why herders maintain mobility strategy when coping with natural hazards , so as to justify the necessity of mobility strategy to risk aversion to livestock husbandry .

Materials and methods The study site , Bayantala Village (BV) is located in the northeast of Suniter Left Banner (SLB) . Three hundred seventy two herders of 105 households live on the 670 km^2 area of pasture in BV , breeding 26 ,951 livestock in Jun of 2006 . BV is prone to natural hazards , and HRCS based pen-raising was introduced in 2002 to stabilize livestock production during the recent multi-year drought , yet herders still cling to the mobility strategy . A field study was conducted in BV during 2006-2007 , 26 random samples out of 75 households whose sustenance rely on livestock husbandry , and 5 local government agencies were targeted to collect economic data of mobility and pen-raising by means of structured and open-ended interviews . Cost-benefit analysis was applied to compare the economic efficiency of the two strategies .

Results and discussion Pen-raising based settled livestock husbandry works at an economically inefficient level , which makes herders turn to mobility . On one hand , mobility strategy is more cost-effective than pen-raising . The comparison (Table 1) shows that total cost of mobility is 50% of pen-raising , while its benefit is greater since more livestock were sold in fall at a higher price than in summer . On the other hand , loss of mobility during drought due to required settlement has increased production costs by 275% while the benefits were merely augmented by 109% . Thus a household's net annual income was reduced by 31% between 2001 and 2006 , according to the economic data from 26 samples .

Table 1 *Cost-benefit analysis of both mobility and settled pen-raising*

Item (Unit)	Group 1 : Move Herds		Group 2 : Settled Pen-raising	
Cost Analysis (CNY/SSU/Day)	Pasture Rent	0 .31	Hay	0 .75
	Transportation Fee	0 .17	Corn	0 .32
	Livestock Loss	0 .11	Cultivated Forage	0 .05
	Well Water Fee	0 .03	A .D . Treatment	0 .08
	Total Cost	0 .62	Total Cost	1 .20
Benefit Analysis(%)	Percentage of Summer Selling	15	Percentage of Summer Selling	94
	Percentage of Fall Selling	72	Percentage of Fall Selling	6

Source : interview from July to August in 2007
CNY : China Yuan ; SSU : Standard Sheep Unit ; A .D . : Animal Disease

Conclusions Herders stick to traditional mobility strategy to avoid risk related to environmental fluctuation since it is economically ineffective to adhere to the contracted pasture and raise livestock in pens as HRCS requires .

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