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## Evaluation of a grassland co-management pilot project in Yunnan , China

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**Key words** : grassland management , co-management , evaluation , China

**Introduction** In 2006 , Diqing Prefecture Veterinary Station in Yunnan , China , began a process of collaborative management with two Tibetan communities in Xianggelila County . The approach was replicated in 2007 in another community . Herders suggested that damage to sub-alpine grasslands by pig rutting was a major problem . Plans made with community members included establishing community rules to ban grazing of pigs in winter and ban collection of cattle dung . Households were supported to build a pig sty , plant a fodder plot and install solar powered water heaters , and were trained in pen-raising of pigs . This paper reports results of evaluation surveys .

**Methods** To identify the impact of pig rutting on sub-alpine grasslands , four quadrats were studied to compare characteristics of sites with different levels of damage . Transects with quadrats every 20 m . were then applied across grasslands in a project site and a non-project site , and observed for signs of pig damage . To identify the impacts of banning collecting dung , non-damaged plots in a project site and non-project site grassland were selected and quadrats studied for productivity and composition .

**Results** (1) Grasslands rutted by pigs have 50% less biomass than those that are not rutted . Vegetation cover in affected sites is 55% compared to 90% in unaffected sites . (2) In grasslands grazed in winter by pigs , 65% of quadrats had signs of rutting , compared to 10% in grasslands where pig grazing is banned . (3) Banning collection of dung has increased aboveground yields of edible fodders from 3.9 t/ha to 8.7 t/ha .

**Conclusions** The co-management approach adopted in Xianggelila has effectively increased the productivity of sub-alpine grasslands . The approach has been shown to be replicable in the project area . The core elements of the approach are : (1) communities set their own grassland management rules ; (2) technical agencies support improvements in infrastructure and livestock raising methods . Future work should concentrate on exploring how to support implementation of the approach using government funds .

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