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The degeneration evaluation of Xilamuren grassland

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Key words : Xilamuren grassland , situation evaluation , degeneration mechanism , overgrazing , enclosure

Introduce At present , about 90 percent grassland has degenerated , Xilamuren grassland is a typical dry grassland of Inner Mongolia plateau , which is a good grass production base . However , with the development of local tourism , the grassland is further degenerating . In order to seek a effective way , the nature and characteristics of local community need to be fully understood (Valle 1998) . The object of this paper is to analyze the degradation mechanism and establish a reasonable evaluation system , to reverse the bad trend and provide a scientific basis for rational use and management of grassland .

Materials and methods the site is on a hilly grassland in Xilamuren (41°20' E ,111°10' N) ,mean rainfall is 281mm/year . In the process of experiment , three different treatments including tourist area , rotational grazing area and enclosure are studied respectively , using " nesting quadrat" (Ames 2003) of French ecologists to select 23 quadrats with each area of 25×25m (located by GPS) in different types of units randomly ,the investigation indicators are floristics , height , coverage , biomass and dominant species coverage , the experiment has last 4 years . This study make an initial draft of three programs to evaluate the grassland : (1) evaluate no enclosure areas(The State Forestry Bureau 1998) .(2) evaluate less degenerative areas .(Gao Shang Wu 1998) . (3) classify the degeneration standard(Wang Ji 2003) .

Results Xilamuren grassland is already in a state of overall degeneration . most of it is in a state of moderate degeneration , slight degradation exists in enclosure , severe degradation is seen only in tourist areas .

Table 1 Evaluation of xilamuren grassland degeneration .

treatments	biomass(g/m ²)	coverage(%)	height(cm)	clay content(%)	grades
tourist area	40 .33	21 .79	5 .23	9 .79	severe
rotational grazing area	89 .83	39	7 .94	14 .28	moderate
enclosure	139 .17	55 .2	12 .01	23 .65	slight

Conclusions Xilamuren grassland is already in a state of overall degradation , degradation degrees can be divided into three grades , slight , moderate and severe , overgrazing and unreasonable development of tourism are the main reasons for grassland degradation .

Reference

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