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Benefit evaluation of rangeland conversion program (RCP) in typical project area of Inner Mongolia

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Key words : rangeland conversion program, ecological benefit, social-economic benefit

Introduction China launched Rangeland Conversion Program (RCP) for improving grassland eco-environment and promoting economic sustainable development of the pasturing area in 2003. This paper focused on analysis of the short-term comprehensive benefit of RCP in Inner Mongolia in order to improve the long-term effects of the program.

Methods Banners of Ewenke and Alashanzuo, located in east and west Inner Mongolia respectively, are selected as study case areas. Based on the statistical data and investigation of herders there, the RCP effects are evaluated through the comparative analysis of vegetation condition and herder economic status pro and after RCP.

Results Owing to the different grassland types, different grazing systems are conducted between east and west grassland areas of Inner Mongolia, i.e. seasonal non-grazing in Ewenke meadow steppe and prohibiting grazing in Alashanzuo desert steppe. Ecological benefit were both remarkable in terms of the promotion of vegetation condition, involving plant height, coverage and biomass.

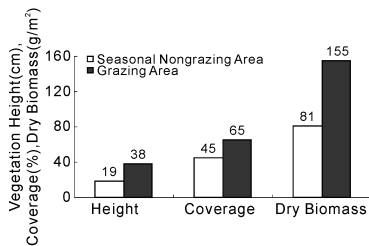


Figure 1 Comparison of vegetation quantity characteristic between seasonal nongrazing area and grazing area in Ewenke.

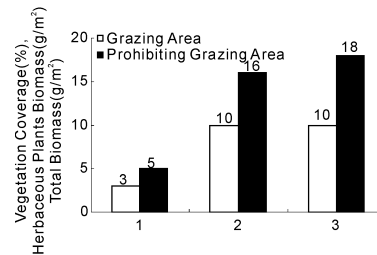


Figure 2 Comparison of vegetation quantity characteristic between prohibiting grazing area and grazing area in Alashanzuo.

The grassland utilization efficiency and animal husbandry net income of the project household have been improved after RCP. In Ewenke, the animal husbandry net income of the project household reached 193.05 yuan/hm² in 2004, increasing 43.05 yuan/hm² compared to 2003. And the animal husbandry income increased 6% and cost decreased 12% at the same time compared to 2003. Although the herders of prohibiting grazing in Alashanzuo had no animal husbandry income and cost after RCP, the grassland net income also increased 10.80 yuan/hm² compared to 63.45 yuan/hm² in 2003 owing to the project subsidies of 74.25 yuan/hm².

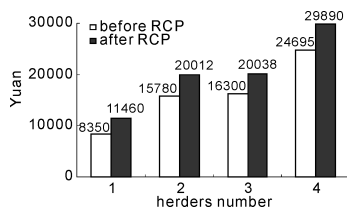


Figure 3 Net income comparison of 4 typical project herders in Ewenke pro and after RCP.

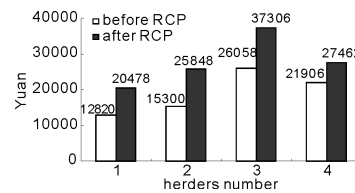


Figure 4 Net income comparison of 4 typical project herders in Alashanzuo pro and after RCP.

Most herders supported RCP, but they were also full of worries resulting in different herder behaviors in Ewenke and Alashanzuo. In Ewenke, herders mainly worried about fence supervision and forage supply in view of their short-term plan on adding livestock and improving livestock breed. The herders in Alashanzuo cared for how to resolve the employment of local idle herders. As a result of prohibiting grazing and deficiency of education and skills, 60% young herders went out for work in transportation and rest elders and women stayed behind idly at present.

Although the current RCP subsidies in Ewenke and Alashanzuo were reasonable and close to the herders expectation for short term, it should be changed dynamically in future, and many important factors should be considered.

Conclusions It is significant to develop projects in the light of local conditions. It is urgent to strengthen grassland construction and supervision, improve management level and employment skills of herders, and accelerate the transformation of production model and industry in pasturing area.