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Dynamic evaluation on ecosystem services of Manas County

CHONG Jie, LI Bo, HONG Rui, ZHANG Xinshi (College of Resource Science and Technology, Beijing Normal University; State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing 100875, China)

This paper dynamically evaluated the ecosystem services of Manas County from 1988 to 2003, according to the researches on the world's ecosystem services value evaluation by Costanza in 1997 and the table of 'Chinese ecosystem services value unit area of different ecosystem types' presented by Xie Gaodi in 2003. The results showed that the values of ecosystem services in Manas County respectively were 58.98×108 yuan in 1988, 49.76×108 yuan in 1997 and 50.22×108 yuan in 2003. And the decreased quantity from 1988 to 1997 was 9.22×108 yuan with the change rate of -15.6 percent; while the value increased 0.46×108 yuan from 1997 to 2003 with the change rate of 0.92 percent; And the total reduced quantity was 8.76×108 yuan from 1988 to 2003 with the change rate of -14.9 percent. At the same time, the ecosystem services in its villages and towns of Manas County were estimated,and spatial heterogeneity of the dynamic change of ecosystem services in Manas County was discussed. Manas County located on middle-north slope of Tianshan Mountain and south edge of Junggar Basin in Xinjiang Uygur Autonomous Region, while the north slope of Tianshan Mountain is an important section of the new Eurasia's continental bridge, which is not only the political, economic and cultural center, but also the most important region of West Region Development of China. However, irrational land use, lackage of water sources and other reasons have been making eco-environmental deterioration in study area. The function of ecosystem services in mountain and fan-edged regions in Manas County is very important, and in which ecosystem service value was high but had decreased heavily. While the value of south desert increased remarkably, which might be the main reason resulting in ecological crisis.MBS (mountain-basin system) is the basic pattern of natural heterogeneity and regionalization in Northwestern China, and its big extent, multi-layer and regular complex of terrestrial ecosystems in Northern Tianshan Mountains, Xinjiang, China, is the basin and frame to form this kind of pattern. The sustainable development strategy forum, namely GBS (green bridge system) for MBS in Northern Tianshan Mountains had been gotten. Therefore, by this study, it was believed that GBS was an important theoretical foundation and also had directing significance to the development in this county, as well as typical eco-economic region of MBS in the arid area of great Northwestern China, and additionally other similar areas in the world.

【Key Words】： **ecosystem services Manas county dynamic evaluation spatial heterogeneity**

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