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# Study of land use change on the gains and losses of ecosystem service function values of Chaohu Lake Basin

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Land use/land cover change (LUCC) has a significant impact on the eco-environment. This article studied LUCC of the Chaohu Lake Basin based on multi-year TM image data, and the theory of ecosystem services values. The economic values of ecosystem services of the Chaohu Lake Basin in 1979, 1988, 1995, 2000, 2005 and 2008 were estimated, and changes caused by LUCC in the past 30 years were analyzed. According to the spatial distribution of ecosystems and land types of the heterogeneity of the natural and economic characteristics, the ecosystem services values of different regions have great difference. Based on the geographical classification of grassland of Xie Gaodi and others, and combined with the local actual status, the article amended the ecosystem service value of unit area. As the Chaohu Lake Basin is mainly composed of paddy fields, the ecological services value is relatively high. Considering that paddy fields are featured by two crops a year in the region, the ecological services value of farmland is twice as much as the value of the national average. The ecosystem services value of grassland and forests is equal to 1.45 times of the national average value. The results showed that the ecosystem services value in the study area has decreased by  $831.68 \times 10^6$  Yuan in the past 30 years, or  $27.7 \times 10^6$  Yuan every year. The changing speed is increasing with the time. In addition, the loss of the ecosystem services value is also very uneven in space, for example, the loss of the ecosystem services value of unit area in Hefei is 5 times more than the average in the Chaohu Basin each year. This shows that the expansion of large cities in the Chaohu Lake Basin has a significant influence on the gains and losses of ecosystem service value.

【Key Words】 : **Chaohu Lake Basin land use/cover change values of ecosystem service 1979-2008**

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