

## 长江三峡库区移民工程土地利用和景观格局变化遥感监测研究

### Monitoring land use and landscape changes caused by migrant resettlement with remote sensing in Region of Three Gorges of Yangtze River

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英文关键词: land use; landscape pattern analysis; remote sensing; image analysis; Three Gorges of Yangtze River; migrant resettlement

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中文摘要:

自1997年中国三峡大坝成功截流以来, 对库区土地利用和景观格局产生复杂影响。该文采用遥感技术和景观格局评价方法对奉节和巫山两个移民大县在1998年到2000年的土地利用变化进行监测研究。在大江截流后一年半时间内, 该区域22.9%土地利用发生了变化, 表明移民安置工作速度显著加快。新开发用地变化最为明显, 增加4800.8 hm<sup>2</sup>, 扩展626.6%。而耕地面积则减少了18567.9 hm<sup>2</sup>, 下降约27.6%。这些土地利用变化导致区域景观发生了变化。斑块密度增大了29.5%, 连通度下降了13.9%, 表明移民安置导致区域景观进一步破碎化。景观形状指数上升了17.7%, 斑块形状进一步复杂和不规则。研究结果表明土地利用变化并未按照移民安置规划有序进行, 应进一步控制新开发用地扩展速度和范围, 对不适合农业用地的新开发用地及时进行退耕还林草工作。

英文摘要:

China Three Gorges Water Conservancy Project has imposed a profound impact on the change of land use and landscape patterns after the successful dam in 1997. This paper uses remote sensing techniques to detect land use dynamics and adopts a landscape approach to quantify changes in landscape patterns for two counties which have larger amount of migrants. The results show that 22.9% total region had been changed in one and half a year. Development changed most obviously during this phase; it increased by 4800.8 hm<sup>2</sup>, about 626.6%. Arable land in this phase decreased by 18567.9 hm<sup>2</sup>, about 27.6%. All these land use changes affected landscape patterns. Patch density increased relatively about 29.5% and contiguity index decreased by 13.9% at landscape level, reflecting landscape more fragmented. The landscape shapes index increased by 17.7% at landscape level, showing the shapes of landscape are more irregular. Particularly, the most remarkable landscape pattern changes occurred on development, orchard, grassland and arable land. The land use change, is not in the good order management, but quite different from the migrant resettlement plan. It is very important to control the scope and the expanding speed of development, afforest and regrass the area where is not suitable for agriculture development in the future.

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