

IMPACTS OF UNDERGROUND COAL MINING ON LAND ECO-ENVIRONMENT UNDER THE CONTEXT OF DESERT BY MEANS OF REMOTE SENSING AND GIS

Z. Bian^{*a} H. Zhang^b S. Lei^a

^a China University of Mining and Technology, Institute of Land Resources, Jiefang Nan Rd, 221008, Xuzhou, China

^b Shanxi Surveying and Mapping Bureau, Institute of Engineering Surveying, , Xi'an, Shanxi Province, China

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ABSTRACT:

The paper discussed the influences of coal mining under the context of arid environment on vegetation coverage, land use change, land desertification, soil and water loss. A series of TM/ETM+ images acquired in July or August of different years, 1990, 1995, 2000 and 2005 were used for analyzing the change of land eco-environmental factors. The results show that mining activity disturbed local land eco-environment markedly and ecological rehabilitation during mining played a great role in improving vegetation coverage and controlling land desertification, loss of water and soil. The effect of coal mining on vegetation coverage is up to the type of soil and vegetation and the result of investigation implies that mining activity at loess site affects vegetation greater than at sandy site. Tough vegetation coverage was improved by planting in mining area, the total area of land desertification still increased in first 5 years when large-scale mine construction was introduced.

TOPIC: Remote sensing applications

ALTERNATIVE TOPIC: Remote sensing applications