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Research on Land Ecological Condition Investigation and Monitoring Technology

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The ecological status of land reflects the relationship between land use and environmental factors. At present, land ecological situation in China is worrying. According to the second national land survey data, there are about 149 million acres of arable land located in forests and grasslands area in Northeast and Northwest of China, Within the limits of the highest flood level, at steep slope above 25 degrees; about 50 million acres of arable land has been in heavy pollution; grassland degradation is still serious. Protected natural forests accounted for only 6% of the land area, and forest quality is low. Overall, the ecological problem has been eased, but the local ecological destruction intensified, natural ecosystem in degradation. It is urgent to find out the situation of land ecology in the whole country and key regions as soon as possible.

The government attaches great importance to ecological environment investigation and monitoring. Various industries and departments from different angles carry out related work, most of it about a single ecological problem, the lack of a comprehensive surveying and assessment of land ecological status of the region.

This paper established the monitoring index system of land ecological condition, including Land use type area and distribution, quality of cultivated land, vegetation status and ecological service, arable land potential and risk, a total of 21 indicators. Based on the second national land use survey data, annual land use change data and high resolution remote sensing data, using the methods of sample monitoring, field investigation and statistical analysis to obtain the information of each index, this paper established the land ecological condition investigation and monitoring technology and method system. It has been improved, through the application to Beijing-Tianjin-Hebei Urban Agglomeration, the northern agro-pastoral ecological fragile zone, and 6 counties (cities).