

The Land Desertification and Its Control on the Loess Plateau

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Abstract

China is facing the challenge of serious soil erosion and environment pressure, the Loess Plateau of China is the most critical area in terms of soil erosion and land desertification. West development in China is one important government policy with focus on soil and water conservation and environment quality improvement in the plateau. The plateau is one of areas serving China in energy resources, agricultural production, and animal husbandry. The status of land desertification on the plateau was analyzed and some recommendations for combating land desertification were made in this paper. The plateau has a land area of $62.8 \times 10^4 \text{ km}^2$ and most regions are covered by loess with thickness of 10-100m. The serious eroded area with erosion modulus greater than 1000 t per km^2 is $25.0 \times 10^4 \text{ km}^2$ with 40% of the total area of the plateau. The area with erosion modulus greater than 5000 t per km^2 is $16.6 \times 10^4 \text{ km}^2$ and occupies 26% of the total area. The serious erosion mainly distributes in north Shaanxi, Ningxia, and Inner Mongolia. Concentrated intensive rainfalls and irrational human activities are responsible for the desertification. The control measures practiced in the plateau are engineering, agricultural, and biological with emphasis on small watersheds. The practices received positive effects for combating the desertification. However, the impacts of human activities, climates, and low land coverage on the desertification bring big challenge to scientists, local government, and farmers. Conservation knowledge transfers, legal developments in resources and industries, more research and monitoring, comprehensive controls, and more invest are recommended for combating the land desertification on the Plateau.

Key words: the loess plateau, soil and water conservation, land desertification