

The causes and processes of sandy desertification of typical region in north China

*Duan Zhenghu^{**} Xiao Honglang^{*} Wang Gang^{**}*

^{} Shapotou Desert Experimental Research Station, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; 260 Donggang West Road, Lanzhou, 730000, P.R. of China; and ^{**} State Key Laboratory of Arid Agroecology, Lanzhou University, 298 Tianshui Road, Lanzhou, 730000, P.R. of China*

Abstract

Improper farming practices, overgrazing, the conversion of rangeland to croplands in marginal areas and uncontrolled expansion of urban and rural settlement at the cost of cultivable land are among the major causes of land degradation in northern China. The purpose of this study was to discuss the major causes of land degradation in the area. Six sites receiving different amounts of annual precipitation, annual evapotranspiration, and annual temperatures and with different vegetation types were selected to represent the major agricultural areas in northern China. The major soil properties that can be linked to land degradation were studied.

Desertification in northern China is taking place through loss of soil fertility and productivity, overgrazing and water and wind erosion. Erosion by wind and water is considered the major cause of land degradation in the area. The soils contain little organic matter and their alkaline reaction reduce the availability of phosphorous and macronutrients and consequently lead to very low crop yields.