

**Developing High Efficiency Agriculture of Soil and Water Conservation
for the Loess Plateau to Mitigate and Adapt to Climate Change**

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Aiming at frequent extreme weather events in the world's most serious erosion area of Loess Plateau in China and the shortage of cultivated land resources and the prominent problems like the food security and water security and so on in the implementation of "returning farmland to forest (grass)" for improving the ecological environment, through the exploration of prevention and control of soil erosion and the development of efficient agriculture, the theory and technical system of the efficient agriculture of soil and water conservation in base of the flow and sediment regulation theory were discussed. These main agriculture modes of soil and water conservation were the beach land and the mountainous terrace in the suburbs for greenhouse agriculture, the mountainous terrace for food agriculture, the mountainous terrace for fruit planting agriculture, and courtyard agricultural economy. The validation results in 2013 torrential rain showed that developing the high efficiency agriculture of soil and water conservation was a sustainable solution to solve the regional food security, to prevent soil and water loss, to ensure that the "returning farmland to forest (grass)" results, to mitigate the loss of extreme weather events caused by climate change.