

## Analysis of land use change with its policy driving during recent sixteen years in Horchin desert-an example of Ar-Horchin Banner in Inner Mongolia, China

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The modern agricultural prescribed form of the Horchin desert was formed in the middle Qing Dynasty, and then it developed through 20 century. The increasing or decreasing of farming area, increasing or decreasing of intensity of agricultural activities, are the direct causative factors for the land use changes in this region. Consequently, these factors caused quantitative and qualitative changes of grassland and farming area, being as the most intuitive expression of the Horchin desert land use changes. In this study, we selectively analyzed farm land changes in Ar-Horchin Banner in recent 60 years using statistical data of farm land from 1946 to 2013, LANDSAT-5 TM images of 1986, 1996 and 2006, LANDSAT-8 OLI images of 2013; meanwhile, we discussed the driving relationship between the land policy changes and farm land, and we concluded as below. (1) In recent 60 years, the area of reclamation in the Ar-Horchin has been gradually northing to high latitude region, and the farm land area has been increased, the scale of farm land area has been experienced a severe process. (2) From the establishment of Inner Mongolia Autonomous Region, the principle policies for agriculture, such as “The Land Reform” (from 1947 to 1952), “The Agricultural Collectivization” (from 1953 to 1977), “The Household Contract Responsibility System” (from 1978 to 1999), “The Return the Grain Plots to Forestry and Grassland” (from 2000 to now), have been conducted in the study area. (3) Seen from the result of farm land scale change coincident with the tightness of agricultural policies in the study area, we considered the level of economic development, the consciousness of residents for ecological and environmental, agricultural technologies are also factors that cannot be ignored for land use change in the study area.

Keywords: Horchin desert, policy driven, land use, Inner Mongolia Autonomous Region, China