

A STUDY ON SAND INDUSTRY IN THE MU US SAND LAND

*Yue Wang¹, Xuemin Liu¹, Shushan Du¹, Ruiyin Dou¹

1. Beijing Normal University

Desert is an important part of the ecosystem, but desertification can harm the environment productivity and human health; thus, desertification control is extremely necessary. Traditional desertification control projects such as afforestation and grass square plantation can hardly cooperate with resource exploitation, economic development and prosperity growth, so they are difficult to develop sustainably. Hence, it has both practical significance and theoretical value to analyze a whole new desertification control method which can combine ecological construction, industrial development and living standard improvement together.

The Mu Us Sand Land is located in the north part of China, and which is a typical sand land formed because of unreasonable production methods and life style. Therefore, we studied the sand industry development in the Mu Us Sand Land to find a general industrialized ecological management method, which can scientifically guide sustainable desertification control in arid region. In this paper, we analyzed water resources carrying capacity, companies, industrial chains, industry classification, production value, and industrial benefits of sand industry in the Mu Us Sand Land. According to these empirical and quantitative studies, we built a basic development pattern of sand industry.

The main conclusions of this paper are as follows: Water resources shortage is the key reason as well as crucial constraint of sand industry development. It is significant to build proper industrial chains to promote sand industry development. Sand industry should combine economic benefits, ecological benefits, and social benefits together with emphasis on the social ones. The basic pattern of sand industry development is to build a complete industry system under resources constraints, and eventually maximize the benefits output. In order to solve the issues of sand industry development, governments and companies should increase R&D investment, build mixed industrial chains, internalize positive externality, establish a new type of consumer market, and develop desert tourism.

Keywords: Desertification control, Sand industry, The Mu Us sand land, industrial benefits