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The XX International Grassland Congress took place in Ireland and the UK in June-July 2005.

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Introduction Xinjiang is located in the hinterland of the Asian-Euro continental area and far from the ocean. It is surrounded by mountains and forms a physiognomic landscape of two basins located in three mountains. This results in an extremely droughty continental climate and a harsh environment in the Temperate Zone. However, the geographical environment is diverse in the Xinjiang Autonomous region, the three high mountains and complicated geographical structure results in changes in ecological conditions with altitude and a diverse ecological environment. Because of the drought characteristics the desert area has developed different types of vegetation, and the complexity of the system is increased and the rangeland plays a very important role in social economic development in the Xinjiang Area.

The main issues in the management of the rangeland are: 1) because of agricultural development, a large area of pasture was utilised and soil water supplies have been jeopardised: the yield of pastures have been reduced but the number of animals have increased. 2) the harsh environment and the poor management system are the major problems of rangeland management in Xinjiang. The herdsmen in Xinjiang rely on natural conditions to supply sufficient feed for their animals, so the ability to sustain production when conditions are extreme are lowered and reduce the ability to supply feed during the long winter.

Methods The large area of rangeland, abundant plant varieties and diversity of grassland which, with better management, could not only provide the foundation for improved animal husbandry but also be an important buffer for the ecological security of Xinjiang. However, because of long term over-grazing and rangeland misuse, the rangeland has degenerated seriously. The study aims to optimise the important resources of the rich soil and available water to establish renovated pasture, to enable herdsmen to employ a half year yard feeding system. We wish to improve forage resources in order to support the implementation of the 'Return Grazing Land to Pasture Project'. The aims also include the permanent closure of the desert-pasture and poor productivity desert-pasture which is not suitable for grazing; re-investigate and confirm grazing rates for degenerated grassland to reduce grazing pressure and protect grassland. Advice will be based on rates of pasture self-renovation to rebuild degenerated grassland. We will determine the pastures' environmental capacity, and convey information on ecological transfers to herdsmen to achieve a balance between pasture productivity and the number of animals.

Aims and conclusions Our studies will provide the means of determining the requirements for returning the grazed land into pasture and recovering the degenerated grasslands. By developing improved pasture, we aim to change the current pattern of a whole year's grazing system to one which will involve a yard feeding system for half of the year. The pasture area's environmental capacity will be determined and the importance of this demonstrated to the herdsmen so that they can establish a system which allows a balance between the pastures' productivity and stability and the number of livestock. This will have to be established in accordance with regulations.