



Habitat Variability and Ethnic Diversity in Northern Tibetan Plateau

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There are 56 officially-recognized ethnic groups in China. However, the distinct geographic patterns of various ethnic groups in relation to the physical environment in China have rarely been investigated. Based on the georeferenced physical environmental parameters of 455 Han, Tu, Hui, Salar, Mongolian, and Tibetan communities in Qinghai, we found that the communities could be statistically demarcated by temperature and aridity threshold according to their ethnic populations, implying that the geographic distribution of each ethnic group is mediated by the physical environment. We also observed that the habitat of each ethnic group is ecologically compatible with current subsistence strategies. Tibetans settle in cold high-altitude regions owing to the cultivation of highland barley and the breeding of yak, dzo, Tibetan sheep and Tibetan goat. Mongolians survive by animal husbandry in cold and humid grassland areas. The Han and Tu ethnic groups settle in the Huangshui River Valley, which offers relatively humid climate and flat land for agriculture. The Hui and Salar ethnic groups occupy the Yellow River Valley with its relatively arid environment and grassland vegetation suitable for animal breeding. Our findings offer a new perspective in explaining the geographic pattern and the variety of ethnic groups in China and elsewhere.