Landscape Ecology of Agricultural Ecosystem: I. The Effect of Human Disturbance on Landscape Structure and its Types

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Cultural landscape factors have influenced the original vegetation structure and the species composition. Considering socio-economic informations together with ecological information is the necessary fundamental procedure in understanding the holistically nature-man integrated landscapes such as agriculutral. The actual vegetation well reflects the roles of the present and the past land-use including floristic information in a particular area, especially in agricultural ecosystem mainly composed of semi-natural vegetation. According to the scale of landscape, therefore, the vegetation maps can serve as a scientific basis for planning the future land-use and nature conservation of the region, especially with regard to forestry, range management, and agriculture in all its forms and variations. Such spatio-ecologically based land planning permits an optimal (sustainable) land-use, managing for highest yields on a sustained basis without damaging the environment. In this sense, vegetation mapping is indispensable tool for landscape ecology, which is rapidly developing interdisciplinary study fields of natural and social sciences. Correct vegetation mapping is therefore the most preliminary and fundamental step in the study of landscape ecology.

Through correct map, landscape types and biotope such as ecological infrastructure, characterized by structure can be classified and therefore, spatial configuration suitable for sustainable land-use and conservation can be recognizable. Under this idea, I examined the relationships between the landscape structure and vegetation pattern of agricultural landscape and the effects of human activities on the landscape types and patch shape, throughout landscape analysis of vegetation map. In the present study, I explain about the preliminary survey and vegetation maps based on GIS at three different agricultural landscape systems.