

"Biophysical and Socio-economic Frame Conditions for the Sustainable Management of Natural Resources"

Influence of Policy Measures and Economic Growth on Intercropping Systems in China

TIL FEIKE¹, QING CHEN², SIMONE GRÄFF-HÖNNINGER¹, WILHELM CLAUPEIN¹

¹University of Hohenheim, Department of Crop Production and Grassland Research, Germany ²China Agriculture University, College of Agricultural Resources and Environmental Sciences, China

Abstract

Highly intensive agricultural practices in North China lead to decreasing land and water resources and endanger sustainability severely. Intercropping is a traditional production system in the North China Plain. According to several studies it is a means of producing high yields with limited environmental resources, reduced leaching and erosion. A qualitative inquiry was conducted in the NCP, interviewing practitioners, researchers and decision makers on distribution and future of intercropping systems. Additionally statistical data was consulted to understand current trends and get an idea of future developments of systems and distribution of intercropping. Four main drivers were recognised to influence intercropping distribution. Economic growth leads to steadily increasing off-farm income possibilities for rural farm households. Therefore, the time invested on farmers' fields is decreasing and labour intensive systems like intercropping are practised less. Most plots of farm households are very small. Due to the effects between two neighbouring plots, which are cultivated with different crops so called "unconscious strip intercropping" is wide spread. As the government wants to increase agricultural efficiency land consolidation is promoted heavily. In the course of that "unconscious strip intercropping" is decreasing. A policy that encourages intercropping, at least in a short term is the establishment of green belts of trees along big roads inmost provinces. In between the ten to fifty metre wide strips farmers continue to crop their fields until the competition by the growing trees becomes too strong to reach a satisfying crop yield. Until then agroforestry-systems are practised all over the country. Use of agricultural machinery is rapidly finding its way into Chinese agriculture. Researchers and extensionists are required to develop and disseminate new intercropping systems that can be mechanised. If intercropping should have a future in China, government incentives should be given to farmers to adapt new and improved systems developed by researchers.

Keywords: China, intercropping, Sustainable Production

Contact Address: Til Feike, University of Hohenheim, Department of Crop Production and Grassland Research, Steckfeldstr. 5, Stuttgart, Germany, e-mail: tilfeike@uni-hohenheim.de