



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:
conflicts, controversies and resolutions”

Reduction of Animal-Product Consumption to Counter Environmental Degradation and Food Insecurity in the Tropics

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Abstract

The scarcity of natural resources in light of the world's rising population has been the subject of many studies about the world's food supply. The extension of agricultural land use and the intensification of agriculture are discussed as a necessity to be able to produce enough food worldwide. These, however, conflict with the principles that underlie the conservation of resources like soil, water or biodiversity as well as climate stability. Based on scientific literature we contend that food security and the conservation of natural resources are not contradictory *per se*. This putative competition would not exist if more crops were produced for direct human consumption rather than for feeding livestock. Our view is that the alleged necessity to intensify agriculture is a result of the enormous energy losses during the production process of animal-based human food. To achieve the urgent need to balance agriculture and environmental assets, human consumption of animal products needs to be restricted to certain limits. We offer this suggestion against the background of the current high level of meat and dairy consumption in industrialised countries and its growth worldwide. In this conference contribution, socio-economic reasons for and ecological consequences of the high consumption level of animal products in the tropics are presented. The findings are based on examinations including a review of scientific literature and a systematic meta-analysis. Results show that animal production and thereby intensive agriculture is linked to resource depletion and food insecurity by several causal connections. Contributory factors include e.g. deforestation and greenhouse gas emissions. Biodiversity loss as a result may lead to, *inter alia*, an increased vulnerability to climate influences, and thus to food insecurity. Moreover, food security is threatened by the above mentioned competition for land. Additionally, it can be shown, that among others, the deep cultural integration of animal products is retarding the process of transformation to a sustainable, predominantly plant based diet. Efficient instruments to accelerate this process seem to include the improvement of school education, the use of role models to appeal for a plant-based diet, as well as certain politico-economic measures. These results invite further empirical examination.

Keywords: Animal-product consumption, behaviour change, biodiversity loss, climate change, environmental degradation, food insecurity, meat consumption