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“Competition for Resources in a Changing World:
New Drive for Rural Development”

Competition for Agro-Energy Resources in Germany in a New Era of Global Trends and Strategies and its Implications for the Agricultural Sector in the Tropics and Subtropics

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Abstract

The agro-energy required to meet the demand for bioenergy in Europe and Germany is partly supposed to come from countries in the tropics and subtropics. Hence, the future development of agro-energy demand and production in Europe and Germany will influence the competition for resources in the tropics and subtropics. In Europe the agro-energy sector has benefited from support schemes aiming at increasing the contribution of agro-energy to the total energy supply. Recent developments however indicate that this endeavour is challenged by a new era of global trends and strategies. The market prices for food crops, costs for energy, agro-energy support schemes as well as technical and institutional innovations affect among others decision making in agro-energy production. Changes of these factors influence the competition for resources. Ignoring these effects can result in a misjudgement of the driving forces and the adoption of unsuitable measures to reduce competition for resources.

The impacts of different scenarios on allocation of resources, income and the environment are assessed applying multi-criteria modelling for regions in Germany. The effects on the competition for resources in the tropics and subtropics are deduced qualitatively based on the scenario results for different agro-energy production and demand levels in Germany. The scenarios are derived from the Millennium Ecosystem Assessment including among others changing costs for energy, increasing market prices for food crops, further support for agro-energy production and different technical and institutional innovations.

Resources allocation and feedstock availability for agro-energy production greatly vary depending on regional endowment and farming systems. The results highlight that the competition for resources is highly sensitive towards changes of energy costs. The analysis reinforces that support schemes are the main driver for the development of the agro-energy sector. Nevertheless, oil price increases undermine the existing support schemes and efforts to promote agro-energy production. The study indicates that the institutional setting has a great influence on the development of the agro-energy sector. The results suggest that the impact of the agro-energy sector development in Europe on the competition for resources in the tropics and subtropics is determined by the setting of global, national and regional institutions.

Keywords: Bioenergy, competition, institutions, MEA, multi-criteria modelling, resources, scenario simulation