

Evaluation Seminar Series

Learning from Existing Evaluation Practices on the Impacts and Effects of Intellectual Property on Development

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**BACKGROUND INFORMATION OF THE PRESENTATION
USING SYSTEMS ANALYSIS TO ASSESS THE IMPACT OF INTELLECTUAL
PROPERTY RIGHTS IN INNOVATION SYSTEMS**

prepared by the Secretariat

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Sebastian Derwisch holds both a Bachelor of Forestry and a Master of Tropical and International Forestry from the University of Göttingen/Germany. Following an internship at CAS-IP he was drawn into the field of Intellectual Property Management. The main focus of his work has been Humanitarian Use exemptions and the use of Traditional Knowledge in the CGIAR. He started working for CAS-IP as a full time consultant in 2006. His current focus is on the development of a System Dynamics model for agricultural innovation in developing countries.

One of the main research areas of the Consultative Group on International Agricultural Research (CGIAR) is crop genetic improvement. Genetic resources are hereby shared among the CGIAR centres as well as with an extensive network of private and public partners. Our aim is to assess the impact of intellectual property rights (IPR) in this network. We use dynamic modelling to account for the systemic linkages between actors of germplasm development in this innovation system and the dynamic nature of resource development. Our focus is on resources, decision processes and actors that are necessary for research and development of new seed varieties as well as for seed adoption. We see IPR as being embedded in this innovation system and identify the spots of the innovation system that are influenced by IPR. As a case study we use the commercial seed value chain in various African countries and focus specifically on the role of IPR in the process of research and development (R&D) and seed adoption. We formalize empirical data from the South African and the Malawian seed industry in simulation models to grasp the dynamics of seed sector development and assess the role of IPR in these dynamics. To assess the impact of IPR on the R&D capacity of domestic and multinational actors we test the effect of different technology transfer policies that depend on different IPR scenarios on the South African seed industry. The results of the simulation show the importance of policies that aim to enhance spillover on the development path of the domestic seed sector. Our results for the adoption part of the seed value chain show that effective adoption stimulation policies need to focus on measures that build trust in improved maize seed varieties and in this way contribute to food security. Overall, the dynamic modelling approach represents an adequate methodology to assess the impact of IPR on the evolution of an innovation system.