



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

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

Identifying Agricultural Knowledge Gaps Between Farmers and Scientists — A Case Study on Perceptions and Knowledge on Arabica Coffee Pests and Diseases and its Management Along the Slopes of Mount Elgon

THERESA LIEBIG¹, PETER LÄDERACH², ERIC RAHN¹, LAURENCE JASSOGNE³

¹*International Center for Tropical Agriculture (CIAT), Colombia*

²*International Center for Tropical Agriculture (CIAT), Nicaragua*

³*International Institute of Tropical Agriculture (IITA), Uganda*

Abstract

For the development of sustainable crop pest and disease management strategies the importance of integrating farmer's perceptions and knowledge has been recognised by the scientific community. However, the gap between indigenous and scientific knowledge still constitutes an obstacle for both, the problem identification related to plant health and the constraints for the adoption and implementation of management solutions, particularly in the context of smallholder farming in developing countries. In this paper we present a case study on coffee production in Uganda, a sector depending mostly on smallholder farming in the face of increasing and simultaneous socio-ecological pressures. The objectives of this study were to (i) examine farmers' perceptions, knowledge and management of Arabica coffee pests and diseases (CPD) and to relate management practices to socio-economic and topographical variables as well as the vegetation structure of the production systems; (ii) to contrast obtained results with perceptions and information from scientists, extensionists and field observations, in order to identify gaps in knowledge and information flow and to discuss potential causes for constraints facing both, farmers and scientists. Data were acquired from coffee farmers and experts of the Ugandan coffee sector by means of interviews and workshops. 150 farmer households, managing coffee either under sun, shade trees or bananas and spread across an altitudinal gradient in Mount Elgon region were semi-randomly selected. Field sampling of the most important CPD was conducted on a subset of 33 plots. The study revealed the following findings: (i) Farmers were able to visually recognise CPD but did not know the difference between insect and pathogens. Pesticide use was not related to farmers age, education level or gender, but the collaboration with extensionists. (ii) Although perceived incidences across the altitudinal range were partially consistent between farmers and experts, results indicate a crucial gap between what farmers know and what is known by scientists and extensionists in terms of CPD recognition and management, as well as the role of shade trees. (iii) Results from experts and field observations on the impact of shading on CPD revealed existing discrepancies to be considered in research and recommendations for improved coffee management.

Keywords: Arabica coffee pests and diseases, farmers perceptions, integrated pest and disease management, knowledge gaps, participatory research