

Abstract for presentation at ITES (D-USYS), ETH Zurich, 21st of June, 2012

What is the contribution of organic agriculture to sustainable development? Long-term systems comparison trials of FiBL in the tropics (India, Kenya, Bolivia) (10min)

The green revolution contributed to an increase in global food availability and brought about a profound change in world agricultural production output. However, these developments have often been achieved at the cost of deteriorating natural resources and were based on fossil energy sources. Future developments have to be guided by a more holistic and systems-oriented approach, which better address the problems of local production systems. Organic agriculture uses locally available resources and adapted technologies, and in industrialized countries has scientifically been proved to be a viable alternative to conventional farming. However, solid data on the benefits and drawbacks of organic agriculture in the tropics is still missing. Therefore, long-term systems comparison trials have been established by FiBL and its partners in three different countries in the tropics (Kenya, India, Bolivia). Each trial consists of two main project components: long-term experiment (LTE) and participatory technology development (PTD). LTE are expected to provide a scientific basis for discussions among various stakeholders about risks and benefits of different farming systems in developing tropical countries while the PTD component addresses specific problems of organic farmers, and aims at developing innovative and adapted solutions in a participatory approach.

Bolivia: cocoa production between high-input monoculture and low-input agroforestry (10min)

The LTE in Bolivia investigates the performance of cocoa (*Theobroma cacao*) in production systems differing in the level of their species-diversity (monoculture, low-diversity agroforestry, high-diversity successional agroforestry) and in their management (conventional/organic). Furthermore, the behavior of 12 different varieties of three variety types is assessed, and data about various taxonomic groups are obtained to monitor biodiversity development in the different systems. The land for the trial was provided by the cocoa producer cooperative "El Ceibo" which was the first organization to certify organic cocoa worldwide. In light of the potential cocoa has to contribute to biodiversity conservation and given the current wide range in shade management and biodiversity level of cocoa production systems, it is very important that a knowledge base about the benefits and drawbacks of different cocoa production systems is established.

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