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## Integration of Innovations in Smallholder Farms Based on a Systems Analysis and Collaborative Learning Communities

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### Abstract

There is evidence that innovations of research and development in smallholder farms in developing countries did not survive the initial stadium. Even more, after researchers left, innovations were far too often disappearing. But does this inform us about the quality of the innovation or its' establishment in a complex farming system and environment? Following the latter, our research team analysed the implementation of Quesungual – a type of agroforestry with undersown maize, beans or pasture – as test plots and demonstration fields in 16 smallholder farms in the Northern Region of Nicaragua. In a first phase we employed qualitative interviews with farmers to understand the broader issue of their livelihoods. This analysis already sensitized us about several factors influencing the sustainability of any farm related innovation. Followed by a series of group discussions over 4 months which we call Collaborative Learning Communities, researchers, extensionists and farmers together studied and evaluated the farms and household performances from a holistic perspective added by women and youth specific group discussions. The process was concluded with an evaluation, which ended up with a list of recommendations to continue the approach and to extend the activities. Thus, the relevance of considering the farmers point of view was emphasised by the collaborative learning process, which gave the opportunity to the farmers, women and young people to be part of the decision-makers. It was seen as essential to establish an interface discourse in order to deepen the communication and the exchange of experiences between the stakeholders, but also between the researchers and between both. Thereafter a research innovation should aim to offer more than only a technique and to provide also a “sensitivity” to identify the farmers themselves as subject experts in their own environment. This emotional and subjective characteristic will give them the strength to discuss their wishes, hopes and fears. After all the farmers and their families are the ones who must live with the technology. We conclude that the systems approach and the handing over of the initiative to the farmers, to analyse, reflect and criticise their own “cosmos”, seems promising for sustaining the farm innovation.

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