Workshop 1.8: Knowledge systems, innovations and social learning in organic farming

Convenors: **Lisa Aigelsperger**, **Susanne Kummer**, **Rebecka Milestad**, **Christian Vogl** and **Ataharul Chowdhury**

From individual behaviour to social learning: Start of a participatory process towards sustainable agriculture

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The objective is to analyse the role of an integrated sustainability assessment model, MOTIFS, in social learning. Before they started to use MOTIFS, farmers are asked for their decision-making motivations, which were mainly attitudinal factors and external economic conditions. This information forms the reference for evaluating subsequent social learning on sustainability when the farmers will have participated in discussion groups using MOTIFS. Based on these first-round interviews and literature, a methodology is proposed to detect social learning in this process. This implies a second-round interviewing to explore whether farmers' motivations changed towards higher sustainability and whether MOTIFS triggered this.

Farmer groups for animal health and welfare planning in European organic dairy herds

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Common principles for active animal health and welfare planning in organic dairy farming were developed in seven European countries. Health planning is a farmer owned process of continuous improvement, based on a strategy where assessment of current status + risks form basis for evaluation, action and review. Besides this, it is farm-specific, involve external person(s) and external knowledge, be based on organic principles, be written, and include learning from success cases besides problem targeting. Establishing farmer groups seems to be a beneficial way of stimulating a dynamic development on the farms towards continuous improvements of animal health and welfare.

From organic farmer networking to organic knowledge system

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Drawing on the case study of Latvian organic agriculture, the paper aims at understanding the development of organic knowledge system and in particular the role of farmer networks in it. In the framework of network and social capital theories the knowledge system is analysed as a construction of new socio-technical network. The analysis show that, despite the ongoing institutionalization of organic knowledge system, farmer networks continue to perform as key agents in generating and disseminating knowledge. However, better cooperation among formal and local knowledge agents is needed in order to build resilient organic knowledge system.

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Innovation and research in organic farming: A multi-level approach to facilitate cooperation among stakeholders

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A wider range of stakeholders are awaited to be involved in organic research and development. A decision-support tool is needed to define priorities and to allocate tasks among institutions. Based on research and management experience in organic research, the authors propose a framework including a multi-level approach. Each level is defined according to the directness and impact of innovations on the organic systems. Two applications are presented: analysis of past experiments in horticulture and definition of plant breeding programmes. When combined with four development models of organic farming, this multi-level approach appears to be promising for defining research agendas.

Agroecology education: Action learning and action research

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How can we educate students to become innovative agents of change in the dynamic context of local and global problems in agriculture and food systems? This question has been guiding our work over the past 15 years to establish PhD courses and an MSc program in agroecology, where action-oriented learning is the keystone. We present experiences from our attempt to make a profound change in teaching agriculture at university level. Our goal has been to create a ´mid-field´ where stakeholders outside university meet students and teachers, to learn from each other as they collaborate on improving unique and complex situations.

How to create the initial contact between organic extentionists and conventional farmers and apprentices

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According to the results of the IAASTD-Report, a shift in agricultural production towards sustainable land use is needed more than ever. In order to raise the number of conventional farmers with a serious interest in organic farming and conversion, organic extensionists have a prominent role and are asked to provide suitable information. The investigation focuses on the initial contact and explores the required conditions of how to reach conventional farm managers and apprentices without full farm operation responsibility. Our findings show that when there are various players involved in the adoption process, different approaches for initial contact are needed.

Farmers' experiments in Cuba's urban agriculture

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Urban agriculture in Cuba proved its importance in overcoming the food crisis triggered by the collapse of the socialist countries in 1989. Experiments and innovations of novice urban farmers contributed to the development of Cuba's urban agriculture. Even today urban farmers are experimenting to solve their problems and to improve agricultural production in the cities. Farmers' approach a broad variety of topics and align their methods to achieve applicable results. Thereby they increase the efficiency and sustainability of the urban production systems and at the same time contribute to the adaptive capacity of cities.

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Farmers' experiments and innovations and their contribution to Cuba's agricultural innovation system

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An Agricultural Innovation Systems (AIS) integrates all actors involved in knowledge development, dissemination and use. Farmers are a valuable part of this system – unfortunately often underestimated. Farmers' capacity to experiment and innovate is the starting point for participatory approaches in agricultural research and development. This paper examines the role of Cuban farmers within the AIS. Furthermore, knowledge exchange encounters and strategies for knowledge dissemination are described. The results suggest that facilitating farmers' experiments and innovations within AISs constitute a promising mechanism to improve knowledge and technology development and to increase applicability of formal and informal research outcomes.

Seed information and communication networks of male and female farmers: A micro level study in Bangladesh

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Challenges in getting across the farming information equally to both men and women in many developing countries are partly due to inadequate attention to gender sensitive information and communication network. This study aimed to understand crop seed information and communication network pattern of men and women in a village in north-western Bangladesh. Data collected from male and female farmers were analysed using descriptive, chi-square statistic and social network analysis. The results indicated that men had heterogeneous network with female, while female had both homogenous and heterogeneous networks. Female-female network had more connectedness compared to male-male network. It is necessary to target men and women clients considering clique in the network and gender patterns of communication.

Building farm resilience through farmers´ experimentation

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This paper discusses how farmers' experimentation can be a building block for farm resilience. Farmers need to develop their capacity to manage for resilience of agro-ecosystems so that the ecosystem services from agriculture can be sustained and enhanced. One way to develop this capacity may be through experimentation on the farm. Farmers' experiments can be described as the activity of introducing something totally or partially new at the farm and to evaluate the feasibility of this introduction. The outcome of experiments can be management changes, new insights, or technology. These can potentially be built into institutional memory at higher scales.