Participatory action research: learning from the Zona da Mata, Minas Gerais

Pesquisa ação participativa: aprendizagem a partir da Zona da Mata, Minas Gerais

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Abstract

This article presents efforts of the international research project: “Nature’s benefits in agro-forest frontiers: linking actor strategies, functional biodiversity and ecosystem servives” (FOREFRONT) to embed research in the local cultural and ecological reality in the Zona da Mata, Minas Gerais, in Brazil. FOREFRONT does this by fostering interdisciplinary cooperation within its team of researchers and by engaging with the ongoing efforts of farmers, farmers’ organisations, other research groups and NGOs that are active in the region. Findings so far suggest that making intense connections amongst researchers of different disciplines requires extra effort but also enlarges the capacity of the research team to effectively engage with the knowledge and aspirations of farmers and farmer organisations, and make research outcomes more innovative and relevant for society. The use of participatory methodologies and a flexible research approach are crucial for the success of this process.

Keywords: Agroecology; Transition; Local knowledge; Participation.

Resumo

Esse artigo apresenta os esforços do programa de pesquisa internacional: “Benefícios da natureza nas fronteiras agro-florestais: conectando estratégias de atores, biodiversidade funcional e serviços ecosistêmicos” (FOREFRONT) para incorporar a pesquisa na cultural local e realidade ambiental da Zona da Mata mineira, Brasil. Para isso, FOREFRONT fomenta a cooperação interdisciplinar entre os membros do grupo de pesquisa e se articula com atividades sendo desenvolvidas por agricultores, organizações de agricultores, outros grupos de pesquisa e ONG`s que atuam na região. Os resultados sugerem que conexões intensas entre pesquisadores de diferentes disciplinas requer maior dedicação e trabalho, mas também aumenta a capacidade de envolvimento da pesquisa com o conhecimento de agricultores e suas necessidades, tornando os resultados científicos mais inovadores e relevantes para a sociedade. A utilização de metodologias participativas e flexibilidade na abordagem metodológica são cruciais para o sucesso do processo.

Palavras-chave: Agroecologia; Transição; Saberes locais; Participação.

Context

Agricultural modernisation, including industrial agriculture and the Green Revolution, has contributed to a crisis in agriculture. The technologies and farm prescriptions promoted by agricultural modernisation, including mono-cropping, pesticides, commercial seed varieties and the integration of farms in global value chains have led to biodiversity decline, soil and water degradation and indebtedness amongst many family farmers (UNCTAD 2013, UNEP 2009, IAASTD 2008).

Essentially, agricultural modernisation has disconnected agriculture from nature, society and the farming population (Van der Ploeg 2006). Science, education and extension have played a key role in this process of disconnection in two ways. First, the agrarian sciences have ignored the complexity and variation of ecosystem and human-ecosystem interactions, often reducing complexities and interactions to a few variables (Pimbert 2011, McMichael 2013). As a result the technologies developed and promoted by agricultural modernisation are badly suited to most local ecological contexts. Second, the agrarian sciences have reduced the value of farming to commodity production thereby ignoring other values that agriculture brings to farmers and to society at large (Wiskerke and Van der Ploeg 2004, MEA 2005, McMichael 2013). As a result, Green Revolution technologies and prescriptions often work against the interests of farmers and of society at large.

Reconnecting agriculture to nature, society and the farming population entails: making visible, building upon and co-producing knowledge that is “situated” in local ecological and cultural values and realities (Haraway 1988, Pimbert 2011). This requires close horizontal collaboration between scientists, farmers, extension officers, government, consumers and other stakeholders concerned on designing sustainable food systems.

This article reflects upon the efforts of an ongoing international research programme entitled “FOREFRONT - Nature’s benefits in agro-forest frontiers: linking actor strategies, functional biodiversity and ecosystem services”.

Description of the experience

FOREFRONT is an international research project involving sites and organisations from Brazil, Mexico and the Netherlands. It seeks to identify and explore pathways that reconcile agriculture and nature by gaining a thorough understanding of the social-ecological processes that drive landscape change and that lead to new ecological assemblages and new social arrangements. It employs a broad and inclusive unders-

tanding of landscapes through inter and transdisciplinary approaches, which accounts for local and situated knowledge about these landscapes, their value and benefits (FOREFRONT, 2014).

In Brazil, the study sites are located in the Zona da Mata, Minas Gerais, in the municipalities of Divino, Espera Feliz and Araponga. There, agroecological transition is being constructed for over 30 years through the alliance between the NGO Centre for Alternative Technologies (CTA), the Federal University of Viçosa (UFV) and several farmer's Unions, Associations, Cooperatives and other organizations (Cardoso et al., 2001; Souza et al., 2010). In this context, the FOREFRONT program is itself a result and a development of this historical social learning process. The research questions and sites are rooted in the demands and challenges identified by scientists and farmers working together in this complex socio-ecological system.

Analysis

The research team in Brazil consists of university professors, postdoc researchers, PhD candidates and master students of various disciplinary backgrounds including anthropology, soil sciences, education, agronomy, forestry and sociology. Four PhD. projects constitute the core research in Brazil, with two projects more related to social science and two more related to environmental sciences. The projects focus on the study of ecosystem services, functional biodiversity, modelling landscape scenarios, farmer autonomy, boundaries between nature and culture and learning processes that drive agroecological transition. MSc researches are also conducted around these themes and about 15 researchers participate in the program in Brazil.

The activities of the Program in the Zona da Mata started in July 2016. Meetings were organised every fortnight to plan activities, discuss papers and to foster cohesion amongst team members. Regular workshops were organized to deepen the understanding of the scope of each specific project and to seek synergies between them. The following themes were chosen by program participants: participatory research methodologies, farmer perceptions, livelihoods and ecosystem services. Two or three experts per theme were responsible to organise the workshops. Throughout the workshops differences and similarities in the worldviews, aspirations and research approaches of each researcher were identified. At times, this resulted in tensions between the researchers, particularly between the social and natural scientists. For example, in the session on perception a discussion emerged on the practical value of, often abstract, sociological concepts. In the ecosystem services workshops there was a critique on the tendency

of the approach to reduce nature to goods and services. In general these tensions proved important to find a common understanding of the research project and how it can contribute to farmer organisations and the agroecology movement.

Throughout the year focus sessions were organised on the individual research projects. Participatory methodologies were employed to identify and build cross linkages between projects. As a result, the researchers found the links among their projects and how the projects can complement each other, which includes different pathways:

Conceptual complementarity: to understand what drives farmers to farm with nature concepts from ES research were found to complement those of the boundaries research.

Methodological complementarity

detailed collection of data biophysical data on farm level (generated by the ecosystem services research) used for more accurate landscape scenario (for the future scenario research).

Complementary in data collection: sharing collected data. The same interviews, for instance, were used for the farmer autonomy and the boundaries research.

Complementarity in field work: working in the same municipalities and/or with the same farming families allowed for joint organisation of fieldwork and saving energy and money e.g. in transportation, accommodation, etc.

FOREFRONT Brazil involves farmers and their organisations in the research processes. Meetings were organized in the three municipalities where the program is carried out. At these meetings, an outline of FOREFRONT was presented and through participatory processes farmers and organizations pointed out problems and ideas that the research should deal with in order to be more meaningful for them. After the meetings, these suggestions were organized in themes and the researchers reflected on how to take them on board of the different research projects. The themes identified include: youth, types of farmers, benefits of agroecology. These themes identified were further explored with farmers in meetings using interactive methodologies throughout the year. The outcomes of these meetings were used to further refine research questions and to delineate the analytical focus and concepts of the research. Sometimes the meetings or outputs from the meeting were used as a source of data for the researchers. A more detailed description of the themes that were identified and how this shaped PhD research projects can be found in table 1. The plan is to present preliminary results to the farmer and farmer´s organisations, for reflection and to define next steps.

Table 1. Examples of how PhD research projects were shaped by farmer at participatory meetings.

Themes identified by farmers and farmers organisations	Research project
Youth: Worries were expressed about low numbers of young people participating in the collective activities organised by farmers and farmers' organisations.	The research on farmer autonomy decided to engage with this concern by exploring the possibilities that video making can offer to young farmers in terms of fostering self-expression, communication, social cohesion and agroecological innovation. The researcher had a professional filming background and used these skills to organise video-making workshops.
Types of farmers: Farmers wanted to get a better understanding of the different types of farming and farmers that exist in the region. They also wanted to know what drives certain farmers to include nature in farming, what is withholding others and what challenges/ obstacles farmers encounter when working with nature.	The research on ecosystem services and on the nature-culture boundary engaged with this demand. Different types of farms were identified together with the farmers. The benefits different farm types derive from nature were mapped together with farmers. The socio-cultural and politico-institutional context in which different farm types are embedded were explored to get a deeper understanding of the obstacles and benefits farmers face when incorporating nature in farming.
Benefits of agroecology: The farmer union wanted more "hard facts" that demonstrate the benefits of agroecology and that can be used as arguments in their dialogues with conventional farmers and policy makers.	The research on ecosystem services and landscape engaged with this question. Although researchers could not promise whether outcomes would indeed demonstrate what the farmer union wanted, the research did include looking at aspects of the farming system that are often overlooked by scientists and in which agroecology have so far shown to be promising. This including resilience to climate change and soil quality.

Preliminary findings suggest that FOREFRONT Brazil is so far successful in conducting research that is embedded in the local cultural and ecological reality. It is doing this by fostering cooperation amongst researchers and by engaging with the ongoing efforts of the agroecology movement in the region. In the end farmers not only became participants of the research process but researchers also became participants in their development process.

Key for the success is research malleable for wishes of farmers and of colleague researchers. The use of (proper) participatory methods is crucial in this regard. They enable people to share their dreams and connect each other. One important thing was to have initial broad research questions, flexible enough to be further shaped by 1) the wishes of farmers and farmer unions and 2) by other research projects to create synergies.

The effective engagement with farmers was made possible by the collaboration between the various researchers. Collaboration allowed not only for a more complex understanding of local situation, but also, and perhaps more importantly, it gave researchers the capacity to effectively organise meetings with the farmers and the capacity for the research project as a whole to engage with the wishes of farmers. The multiple connections created amongst researchers linked the individual, otherwise fragmentary, research projects into a dynamic whole with potentially more relevant outcomes for the region and for science. In this process the productivity of researchers is not limited to producing “science” but other wishes and capacities such as organising, facilitating, video-making were allowed for and employed.

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