



OWC 2020 Paper Submission - Science Forum

Topic 3 - Transition towards organic and sustainable food systems

OWC2020-SCI-381

LONG-TERM EXPERIMENTS AS A TOOL FOR GOVERNING THE TRANSITION TOWARDS NEW FOOD SYSTEMS: AN ITALIAN TRAJECTORY

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Preferred Presentation Method: Oral or poster presentation

Full Paper Publication: No

Abstract: *In order to face the challenges of Agenda 2030 and sustainability goals, there is an urgent need to promote transformative changes in food production, from field to market. Agricultural research should encompass all the dimensions of agriculture, at farm, landscape and food system scale, by multidisciplinary and participatory approaches. To accomplish this need, the activation of long-term processes of food system co-design can be a valuable strategy to achieve the ambitious goal of producing in a sustainable way. The Long-Term Experiments can be considered as the training ground to apply this approach for information and co-production and sharing. In this study, we present an on-going process activated in Italy, based on the connection of different local farmer-to-farmer/researcher networks through common objectives and methodology sharing.*

Introduction: One of the aims of agroecology is to re-design the farming systems by i) matching farm-scale production based on restoration of functional biodiversity with local economic and social dimensions throughout the increase of the decision-making power of farmers and ii) scaling up to governance and policies to a wider and collective perspective (Lacombe et al. 2018). To reach this goal, effective mechanisms of participation should be tuned, strengthening trust between researchers, farmers and stakeholders, including consumers towards a “food citizenship” concept, where citizen consumers makes choices based on ethical, social, economic and ecological considerations. In this context, field/farm Long-Term Experiments (LTEs) can play an important role, being hubs of knowledge and laboratories of participation and appropriation of the research results and innovations over a long-term (Ciaccia et al. 2019). The development of organic LTEs following the agroecological approach, should indeed encompass, in a broader view, the food system scale. The coordination of similar networking initiatives at local level might allow to connect the different research scales in the agroecological transition: from field/farm LTEs scale, where the research is usually made, to i) local scale (i.e. farm networks around LTEs), where solutions are usually developed, ii) to larger scales (i.e. coordinated

networks), where promoted changes may have impact on society and governance. In this research, we are carrying out a coordination activity of participatory research experiences in Italy. This study aims to activate a virtuous path of field/farm/food system co-design through the setup of networks of organic farmers - researchers sharing objectives and perspectives (local scale) and the proposal of solutions applicable at territorial scale, tested both in the LTEs and in the farms involved in the networks.

Material and methods: This paper presents the research and methodologies based on a previously set-up network of LTEs located in different regions (figure 1) and reflecting different production systems (i.e. fruit and vegetable systems) and objectives (Peronti et al. 2015). The research follows the pilot networking activities carried out in 2015-2019 at the MAIOR LTE (Ciaccia et al. 2019), , the re-design of the LTEs based on the local research priorities, and the set-up of parallel trials in the network farms. This study started in 2019 and is still on-going involving five LTEs/locations, namely: MOVE/Marche Region, MAIOR/Lazio Region, MITIORG/Basilicata Region, PALAP9 and BIOLEA/Sicilia Region. The implemented research process is divided into three phases: 1) identification of cultural broker and definition of network of stakeholders (stakeholder platform); 2) definition of stakeholders-researchers' common objectives for the LTEs design/re-design; 3) definition/implementation of the LTEs layout and parallel set-up of trials. The selection of cultural brokers (i.e., the person who facilitates the linkage among groups of people of different cultural background; Jezewski and Sotnik 2001) is crucial to identify the stakeholders and to define their common objectives. In phase 2, a modified 'Participation by consultation' approach (Pimbert 2011) was followed: participants were consulted by researchers catching the relevant issues, elaborating solutions that can be modified in the light of the responses of participants. Once collected opinions and defined the common goals, solutions for the LTE redesign were elaborated for being discussed within the stakeholder platform. Similarly, the implementation of parallel trials in the farms of the network the same were discussed, to maximise the impact of the activities at local/territorial scale. According to Gliessman (2016) food system redesign strategic framework, the next stage to be implemented will foresee the involvement through targeted networking activity of farmers associations, food processor local organizations, citizens, local policy makers and/or other involved stakeholders in the local governance processes.

Results: In all LTEs/locations the cultural brokers and stakeholders were identified and the first frontal meetings organized between May and December 2019. The MITIORG LTE activities started in spring 2019 and they are presented as model of the ongoing activities. The local Basilicata Region Agency for innovation in agriculture (*Agenzia Lucana per lo Sviluppo in Agricoltura* - ALSIA) was identified as cultural broker for its advisory activity and active role in researcher-farmer communication. ALSIA pre-selected a list of 40 stakeholders (i.e. farmers, technicians, advisors, farmer associations) potentially interested to collaborate with a public research institution (namely, the Council for Agricultural Research and Economics - CREA). Opinion leaders and interested stakeholders were invited to attend to a first frontal meeting, where co-research objectives were shared and the main issues (economic, technical, environmental topics) for the organic production in the region were discussed. The distribution of a questionnaire and an open discussion facilitated the collection of the main topics to be further investigated at local scale (figure 2). Results highlighted strong interest for the climate change mitigation issue, as the woody components planting in arable/vegetable systems, and water/soil management strategies (figure 2c). Moreover, participants underlined the importance to connect farmers and citizens, increase consumers' awareness on how and where products are produced, then introducing the "food citizenship" concept in the network. Based on the collected information, researchers prepared a plan to redesign the MITIORG LTE, following the newly identified needs as far as consider new stakeholders to be involved in the network. A new meeting was organized in October 2019 to discuss the plan, which could be modified in accordance to the stakeholders' comments,

and to move towards the interaction with other stakeholders (market experts, citizens). Together, the interest in setting up parallel trials to the LTEs would be a goal, as far as discussing alternative re-design solutions.

Figure 1. The Italian LTEs network: MOVE LTE (Monsampolo Organic VEgetable Long-Term Experiment) Marche Region – Adriatic coast; MAIOR (MAIntenance of Organic oRchards) peri-urban area of Rome -Lazio region; MITIORG (MITIgation of climate changes in ORGanic arable/vegetable systems) Basilicata Region – Ionic coast; BIOLEA (solution for organic olive systems) and PALAP9 (organic management in citrus systems) Sicily.

Figure 2. Results came from from the questionnaire and the first frontal meeting with stakeholder in the MITIORG LTE context: a) participant profiling in terms of production system (only farmers); b) participant profiling in terms of previous research activities (only farmers and technicians); c) proposed topics to be addressed for the climate change mitigation/adaptation; d) perception of participants related to co-research opportunities. Results are expressed as percentage of answers on the total participants (21).

Discussion: The preliminary outcomes achieved indicate a great interest among stakeholders for co-research initiatives. The feedbacks received in Lazio (MAIOR; Ciaccia et al. 2019) and Basilicata (MITIORG) regions highlighted different research demand needs (e.g. different market opportunities, production systems, consumer awareness) but similar interest for collaboration with researchers having multidisciplinary expertise (i.e. agronomy, economy, pest management, etc...). Moreover, a common need for alternative market strategies to gross organized distribution and short chain was pointed out and in line with findings of other authors (Rosset and Altieri 2017). The LTEs-farms network has proven to be an effective platform to address research trajectories at local scale and to promote researchers-stakeholders reciprocal trust by sharing aims, methodologies, mutual expectations and rules of joint operations. The on-progress activities are planned to be organized with wider participation, encompassing new target stakeholders in accordance with participants request. The suite of experiences done and the overall results achieved represent an effective pathway for scaling up participatory initiative, bridging the gap between the different research scales, thus avoiding that impacts remain related to a local dimension as “islands of success” (Dalgaard et al. 2003).

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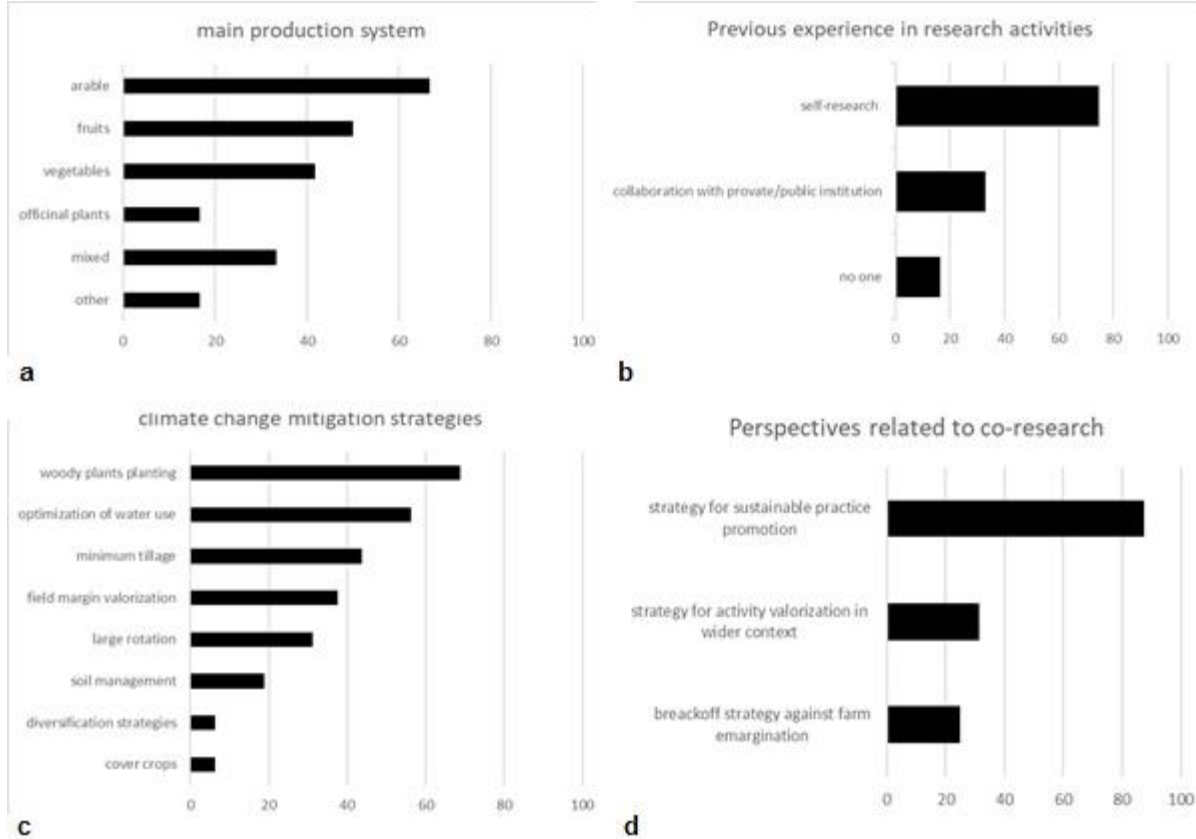
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Figure 1:



Figure 2:



Disclosure of Interest: None Declared

Keywords: co-design, food system re-design, organic farming and agroecology, Participatory research, stakeholders