

The role of local sustainable agri-food systems in enhancing the resourcefulness and well-being of communities – experiences from the Portuguese Oeste region

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Abstract. This communication aims to present a PhD research project in its early stage. It intends therefore on discussing the main questions posed, the main goals established, and the main methodologies foreseen in order to foment a debate about its merits and in this way allow further improvements to be made while still in the designing phase of the research. The research project here presented aims to shed light on current sustainable farming practices that are established around alternative agri-food systems and to analyze how these practices (re)connect to the territory. In other words, it aims to help understand how these environmentally friendly farming practices interact with their socio-economic and cultural contexts, and how can local communities benefit from their presence. It should be pointed out that the existing literature examining the “empirical foundations for place-based agriculture” is scarce (Chapman et al., 2017). And on the other hand, sustainable farming practices’ studies are most frequently focused either on the biotechnical functioning of the systems or on the social-political movements they represent, but “they do not explicitly consider how farming systems interact with their socio-economic environment” (Therond et al., 2017). Regarding the methodology, a mixed methods research strategy is envisaged, integrating both qualitative and quantitative methods but still keeping a focus on inductive and interpretative approaches. Being the main goal of this research to expand the current understanding of the territorial integration of agroecological practices, a case-study instrument, supported by personal interviews, will be used. Later, an action-research method will be applied in order to debate and prioritize the most relevant activities that could be undertaken toward an agroecological transition. Outcomes are expected in the form of governance guides for decision-makers and practitioners, and for academia, in the form of scientific research papers providing a deeper understanding of the territorial integration of alternative sustainable farming practices.

Introduction

The purpose of this paper is to present a doctoral research project and to get feedback in order to improve possible existing flaws in the way it is conceived. The thesis will be produced in the form of separate scientific papers, and therefore these are presented in the Result’s section as a specific outcome. We already have some ideas of scientific journals for publishing this work, but we refrain from pointing any of these, since our perspective about the most adequate publishing editors may be subject to change along the way.

The research question of the project is closely linked to its title. It can be stated as “Can the rise of sustainable local food systems drive the resurgence of the bottom-up territorial approach”? Several issues are brought to light here, relating to sustainability, agri-food systems, or territorial development. For a better clarity, the situations consider here as being local and sustainable agri-food systems are those represented by farming approaches that use the ecosystem services as its main productive input, meaning they are based on the use of high knowledge (eventually

supported on ancient traditions) and also connected to local markets, recurring to short-supply chains and other non-conventional forms of value sharing.

The main purpose of the research will be to understand the existing interactions between these farming systems and the socio-economic context in which they emerge. More than the technical dimension of sustainable farming systems, it is intended here to discuss the strong link between the localization of food systems and the promotion of social justice and environmental sustainability (DuPuis & Goodman, 2005; Duru, Therond, & Fares, 2015).

Thus, the end goal here is to understand the relevance of the movement of local and sustainable agri-food systems, what results does that bring in terms of sustainability, and what role can this play in enhancing communities towards a better quality of life. When a farming entrepreneur is producing locally and sustainably, he/she is producing much more than healthy food and economic value. It is also producing ecosystem services for the common good and can be further benefiting the local community and local social

fabric. This possibility of existing alternative farmers contributing for the community wellbeing in several dimensions is precisely the main intellectual driver in this research.

Another point worthy of mention here is that the research is mainly focused on the Western realities and on European context in particular. Most specifically its empirical part that will be done in the Portuguese Oeste region.

Thus, we intend to improve the understanding of the outreach and dynamics of arising agroecological movements and their relevance for the local socio-economic context in which they are embedded, that is to understand the holistic effect of small-scale sustainable farming in their territorial contexts. The assumption here is that these movements are characterized by complex social-ecological features rendering them with potential to contribute to a more sustainable society (Guerrero Lara et al., 2019). General literature agrees the widespread adoption of agroecology would likely result in more sustainable food production and farming systems, environmental protection, local development, and social justice (González De Molina, 2020).

However, this is an area of research that has not been particularly prominent and, likewise, policies are not adequately tackling these issues (Hernández et al., 2018). Sacchi, et al. (2018) recognize the social dimension of sustainability and its consequence for the adoption of adequate policies: “the social aspects related to the transition towards a sustainable model of agriculture (...) have profound implications for rural development policies in the EU.”

The scientific debate is scarce in terms of analyzing agroecosystem models producing for/with the local community. “(...) most of the literature reviewed highlights an imperfect alignment between the policies currently in place and what would be necessary to support more sustainable agriculture through a territorially integrated approach.” (Sacchi, et al., 2018). Or, as Chapman, et al. (2017) point out “Research on systems that transcend the organic/conventional divide is much needed to provide the empirical foundations for place-based agriculture.”

These are important reasons to justify the relevance of this work, which is reinforced by international and European policies relating to sustainable food systems, environmental protection, or food sovereignty (Agroecology, 2021; Rouby, 2020). Likewise, civic movements in this area have also greatly expanded in the past decades (Anderson et al., 2019).

To summarize, we can say we find this study relevant for presenting an alternative model of producing food while solving the negative impacts on the environment and also promoting the development of local communities; it is a subject not sufficiently described in the scientific literature (particularly the relation

between farming systems and their socio-economic context); it is a matter highly positioned in the political agenda and it is already very well represented by political and civic movements around the world.

Methods and sources

Since we are still presenting a structure for a research project, this paragraph is briefly characterized, but still we will try to provide a general justification for the methods and sources foreseen to be used. In the Results' section the methodology is more thoroughly discussed by relating it to the respective tasks and outcomes. We justify this option because for the time being the methodological design is still the most relevant existing result.

The questions present in this research project relates to agronomy, economy, environment, sociology, human health, and land-use management, just to name a few. It is represented in a complex set of disciplines, requiring a holistic understanding and a transdisciplinary approach. Therefore, there is a need to deploy methods which support innovation dynamics for agri-food systems which “will likely require developing social-ecological and transdisciplinary approaches” (Therond et al., 2017). The sociological fundamental importance on this research implies, *per se*, the recognition of a subjective reality, nourished by conflicting interests and expectations. For this reason alone, adequate methodological research under this context should be done focusing on qualitative methods and supported on inductive and interpretative analysis.

Thus, great care is placed in the methodological design of this research. A mixed methods research strategy (Bryman, 2012) is envisaged, centred on qualitative methods since a deeper understanding of the complex angles of reality is required. It relies in an inductive approach, with emphasis on the interpretation of the contexts analyzed. Mixed methods research is a somewhat recent approach and can be defined as the utilization in a single research project of a combination of qualitative and quantitative component, “for the broad purposes of breadth and depth of understanding and corroboration” (Schoonenboom & Johnson, 2017).

A list of five arguments for using mixed methods research can be found in the literature (Schoonenboom & Johnson, 2017), going from the need for *triangulation* (that seeks for corroboration) to *complementarity* (looking for clarification), through *development* (aiming to use one method to inform the other method), *initiation* (seeking the contradictions to promote new frameworks), and finally *expansion* (intending to extend the range).

There are several potential advantages in integrating different methodological approaches, from producing more comprehensive evidence, having the ability to answer more complex research questions, promoting

interdisciplinarity while being able to use multiple paradigms (Guest & Fleming, 2015).

A wide set of typologies for mixed methods have been defined, but for simplicity we will mention the theoretical orientation as being mostly inductive or constructivist. In this, the qualitative component assumes the core component whereas the quantitative acts as the supplemental component. Regarding the interactive dimension expected from the research, it can also be classified as an “emergent” type of design because it is being constructed throughout the research as opposing to planned design (something that would be impossible here because the detailing of the instruments’ research is dependent upon the previous findings). Attention should be taken here in order to keep the goals, conceptual framework, research question, methods and validity harmonized throughout the project (Schoonenboom & Johnson, 2017).

As for the techniques and sources of information, the following is projected:

- Collection of information from the Internet - *netnography observation*; this will be like a narrative review in which the findings on the Internet will allow a web of new findings to organize a general picture around the movements relating to sustainable local agri-food systems.

- Besides Internet search for studies and initiatives, participation in events and the conduction of meetings with key actors. The technique will be more of a *participant observation*; in this we should adopt a careful attention to the events and make a thorough report of our findings/conclusions.

- An *individual interview* will be conducted on the sample defined (collected from a “universe” of experiences characterized as suitable). We foresee a semi-structured guide, to organize/compare some information, but leaving ample space for discussion. The total number of subjects should be fairly small, possibly within the configuration of a *case-study*. The goal here is to extract as much as possible from each experience (almost as an ethnographic procedure). Therefore, there is a strong socio-anthropological concern here and so the individual motivations are to be mostly understood.

- Other techniques besides the interview should be used to triangulate the information. *Field observation* and the production of *critical field reports* can be two of those techniques. These are related to the participant observation, but now dealing with the analysis in the empirical study. *Documental research* could be another form which will be essential due to the amount of information, guides, policies, etc. existing in the field.

- The following stage should be an analytical understanding of all the information collected, in relation to conceptual frameworks. The goal is to provide a conceptual understanding of the local

dynamics that are taking place in the local sustainable agri-food system.

- From here, an *action-research* method will be envisaged based on the creation of a *focus group* specifically to discuss the transformative possibilities for the movement. The focus group is the technique foreseen and the idea will be to moderate that group towards some forms of action. For the research here it will be important to extract what are the potential results and obstacles coming from those group discussions. Governance structures should take part in the group implying a more active engagement of the different actors and networks involved.

Theoretical framework and operational concepts

At the present moment, we cannot say there is a specific theoretical framework to guide the research. On the contrary, there are several conceptions from which research should evolve. Of course, some are closely linked to the title and the research question, but others can build up along the process. We use this section to list some of the most obviously relevant concepts. These are concepts that should be thoroughly described in the initial stage of research, under the conceptual literature review in order to settle a common ground for debate.

The subject here, if placed backwards, can be considered the local development under the light of sustainable agriculture. The concept of **sustainability** is omnipresent in every dimension since it allows to define what can be considered a sustainable farming and food system practice, as well as a sustainable territorial development in terms of increasing the well-being of its population. So, the dimensions of sustainability function as an obligatory issue as far as concepts is concerned.

Then, there is this **local/landscape** notion that the landscape-level can be considered the most adequate to foster food systems sustainability (Therond et al., 2017) and can be classified according to its degree of embeddedness in the territory. In terms of territorial approach, Chapman, et al. (2017) also advocate the ultimate importance of place as the way for achieving sustainable food production systems. The local-scale concept can also be seen here in three different dimensions: geographical, relational, and proximity values (Sacchi et al., 2018). Nonetheless, the concept of **territorial embeddedness** (Therond et al., 2017) comes very promising for identifying relations beyond the commercial/globalised dimension. **Localization** is being perceived as an emergent concept and may well be of great importance here (Bowen & De Master, 2014; DuPuis & Goodman, 2005). Likewise, **CSA** – Community Supported Agriculture (Robert-Demontrond et al., 2017), both of these late concepts

relating to a strong socio-political bottom-up territorial movement.

Wellbeing economy is also an important concept to help us clarifying positive impacts in the community (Fioramonti et al., 2022). **Ecosystem Services** will be used in the same way of analysing existing impacts (Duru, Therond, Martin, et al., 2015; Kremen & Miles, 2012). The concept of Bio-Economy (or **KBBE** – Knowledge Based Bio-Economy) (Levidow et al., 2013) can also be added in here. This approach is very interesting because it also reaches to the conclusion that there are two rival visions for agriculture sustainable innovation: “the dominant life sciences vision combines converging technologies with decomposability, while a marginal one combines agro-ecology with integral product integrity” (Levidow et al., 2013). This conclusion is quite in line with the one taken by Horlings & Marsden (2011) while searching for an alternative and environmentally sustainable food system, by concluding that two different paths have come forward: one of “efficiency/substitution-based agriculture” also known as “ecological intensification” and the other “**bio-diversity based agriculture**” also known as “ecologically intensive agriculture” or “eco-functional intensification” (Duru, Therond, & Fares, 2015; Horlings & Marsden, 2011).

This concept of bio-diversified food systems (Kremen et al., 2012) or **bio-diversity based food systems** (Duru, Therond, Martin, et al., 2015; Therond et al., 2017) should be better emphasized, since it looks adequate for defining our scope, particularly when characterized into alternative food systems, circular economy and collectively managed multi-service landscape. The theoretical framework produced by Therond et al. (2017) provides the concepts of **Integrated Food-Energy Systems** and **Integrated landscape approaches** as being the ones more adequate for the present research. Therefore, it feels like a useful framework has already been proposed.

Agroecology presents itself as another very strong concept, but although there is so much scientific production around it (Altieri et al., 2017; Altieri & Nicholls, 2012; Brym & Reeve, 2016), we still need to mature on this to clarify if it fits the research purposes adequately. This notion of Agroecology simultaneously as a socio-political movement, as a scientific discipline, and as an agronomic practice (Wezel et al., 2009) may reveal itself as being too complex for what this research intends. On the other hand, the Agroecological concept appears has having been thoroughly captured and described in political, civic and scientific arenas, being widely used to describe this alternative environmentally friendly and socially just agri-food system.

A possible concept to be used here may be that of **neo-rural** (Orria & Luise, 2017; Verinis, 2011). Only the empirical work will be able to answer this, but we should not discard it in advance since there is an apparent strong possibility that the bulk of the

innovation in the farming local sustainable movement is being led by *immigrant* individuals. This is a movement that clearly opposes the conventional, is highly based on know-how, it may inspire itself in local traditional knowledge, but is definitely very low tech, since it depends on the ecosystem itself for providing the necessary inputs. Such rupture to the conventional may need completely new players.

And finally, **complex systems** (Chapman et al., 2017; Wahl, 2019) and **system dynamics analysis** from applied systems science (Aspinall & Staiano, 2017; Galli et al., 2019) could constitute a possible framework to organize the complexity under analysis. Particularly in the action-research stage, where it is important to try to tame the reality's global complexity. The systems thinking approach is also one that has been related to more clearly conceptualize agroecology (Brym & Reeve, 2016).

Results

A detailed description of this project is provided following a chronological sequence and combining the specific objectives/tasks with the methodologies and the expected outcomes. The foreseen duration of the project is three years.

Task 1: To develop a conceptual and operational framework.

A conceptual and operational framework will be developed through an extensive *scientific literature review*, using a bibliometric analysis and also thru an in-depth examination of the most relevant theories and approaches to localized sustainable agri-food systems, added by reports and guidelines from institutional stakeholders. Results of the literature review will be presented in specialized conferences thus conference papers are expected. The preparation for submitting the literature review for publication is also already in progress. It is the project's first important milestone, aiming to gather scholar knowledge around the theory regarding *territorial integration of local sustainable agri-food systems*.

Task 2: To identify and characterize the existence of a rising local and sustainable agri-food system movement.

This stage constitutes the first *empirical development of the project*. It has two complementary goals: a) identify global movements (from the public sector and civil society) testifying to the emergence of transition/adoption to agroecology and local change; b) identify and characterize local/regional agroecological practices in the Portuguese Oeste region. Methodologies for a) are based on Internet search in order to present a clear picture of the spectrum of organizations (public and private), networks, and institutions dealing with the key challenges identified; participation in events will be complementary and helpful as well. For b) the

methodology undergoes a sequential procedure: i) identifying already existing regional empirical research; ii) defining what can be characterized as an agroecological practice in the context of this research and identifying those initiatives; iii) define a sample of practices for the case-study in order to reflect their possible existing heterogeneity; iv) proceed with the sample's study. The methods applied here include ethnography, participant observation, and case-study research supported on individual interviews. The outcomes should come mainly in the form of conference papers, since this task deals mainly with characterization/description.

Task 3: To research and disentangle the drivers and strategies of the agroecological movement.

This stage deals more with the *entrepreneurial dimension* of the participants in the study. And also, it is much more interpretative whereas the previous task was more descriptive. The semi-structured interview and other qualitative observational methods and critical field reports should provide a collection of data relating to all the drivers and incentives (personal and/or institutional) that allowed the existence of the agroecological practice. It should also help identify the main difficulties to shift towards sustainable farming systems. This also gives room for the use of strategic management tools like SWOT analysis enriched with the previous conceptual framework. Stakeholders from local/regional administration should be included, allowing to gather different perspectives, viewpoints, and arguments. The main outcome will be the submission of a paper for publication with the complete empirical work. Conference papers are also expected.

Task 4: To characterize the impacts of local sustainable agri-food systems.

To characterize the impacts, a *holistic and transdisciplinary landscape approach* should be used considering reality's intrinsic complexity. This should be supported on existing theoretical frameworks, built in task 1. Besides our own conceptual and operational analysis, the qualitative methods of data collection should also provide an understanding of what the participants (and other stakeholders) perceive as potential sustainability impacts of their activities, both positive and negative, direct and indirect. A Triple Bottom Line approach, comprising of environmental, social, and economic impacts will be used all under the lenses of improving the community's wellbeing. Methodologies should include, besides interviews and conceptual analysis, some quantitative data in order to try to provide a sense of dimension to the situation. The outcomes for this stage should appear mainly as reports and conference papers.

Task 5: To analyze and intervene in the complex set of interconnections these practices establish with the community.

This stage entails a more analytical procedure in which all data collected this far will be assembled and

analyzed in order to provide a global conceptual understanding and questioning of the occurring local dynamics. By this moment in time, a clear picture of the characteristics, drivers, impacts, and obstacles of the local sustainable agri-food systems should have been achieved. This will lead to the implementation of an "action-research" technique based on a focus-group with the participants in previous tasks to discuss the transformative possibilities for this reality. Thus, tools, behaviors, policies, and strategies for implementing the beneficial impacts and mitigating the negative ones should be actively discussed. By other words, how to bring forward the resourcefulness drive within the community. Outcomes here are somewhat dependent on the results obtained, but it is envisaged the publication of an article concluding for all the empirical research stage. Also, the production of reports and conference papers including policy reports, and technical guidance papers is expected.

Task 6: To produce and disseminate policy recommendations and practice guidance.

This final stage acts as a general conclusion for the doctoral research project. With the previous steps finished, the project will have built a strong conceptual and empirical standpoint allowing for the development of policy and practice recommendations useful to tackle the main challenges detected about agri-food sustainability, food sovereignty and territorial integration. This task will focus on the participation in conferences, using conference papers extracted from the final article that is expected to focus on a political proposition for the promotion of agroecology and local communities in the Oeste Portuguese context. In this we will try to contribute to improve the articulation between currently active policies and the ones needed in order to support a more sustainable and landscape integrated model of agriculture. And, in this way, directly contributing to the mobilization of the local resources for the improvement of the community's wellbeing.

Conclusions

In this paper, a research doctoral project relating to local sustainable agri-food systems and their territorial integration is presented. It intends to introduce itself to the scientific community with the goal of gathering further advice and orientation. In the paper, the proposed methodologies are detailed, as well as the sources to be used for collecting information. It is also presented a synthetic conceptual brainstorm to help focusing on the core issues that the research intends to deal with. And, finally, we dedicate a longer section describing the chronological sequence of the tasks and their expected outcomes.

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