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Editorial

Mapping Agroecology in Europe. New Developments and Applications

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Received: 30 July 2018; Accepted: 31 July 2018; Published: 3 August 2018

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Agroecology has gradually developed in recent decades, but has only recently been more strongly promoted by different movements, organizations, institutions, farmer groups, and scholars. Its legitimacy increases both within each of the previous groups and through their interactions. Its development can also be interpreted with two other leg-based lenses: legacy and legality. Whereas the development of agroecology was very strong from the beginning in Latin America (Ref. [1] and other papers in a special issue of the journal Agroecology and Sustainable Food Systems), not enough is known so far for the case of Europe. Interestingly, several pioneer contributors in agroecology originated from Europe (G. Azzi, B. Bensin, J. Papadakis . . .); these authors also had an international perspective and trajectory. The legacy of these pioneer works is a benchmark for this special issue. There are different evolutions in agroecology considered as a science, a movement, and a practice [2], but no substantial documentation exists regarding how these three aspects combine across different regions and countries in Europe. While acknowledging that agroecology is related with place, and considering the diversity of agri-cultures and agroecosystems in Europe, it might be difficult to identify the relevant scales to describe how agroecology practically unfolds. However, agroecology also acquires a legal identity in some countries. For example, since 2012, France has had a policy for developing agroecology [3] that relates to practice, research, and education. Other countries might have elements in their national policies, but they are not yet clearly defined. To date, there has been no clear E.U. strategy for agroecological practices and sustainable agriculture, and national action plans and political will on this topic still remain both marginal and varied. Thus, there exists also a lack of knowledge about these agroecology related policies. Likewise, more comprehensive analyses and studies on major research topics in agroecology dealt with in different universities and research centres in Europe are still lacking. The same applies for education and training in agroecology.

Initiatives arise to create a European space for agroecology. Among them, the association Agroecology Europe was launched in 2016. During autumn 2016, FAO organized a "Regional Symposium on Agroecology for Sustainable Agriculture and Food Systems in Europe and Central Asia" in Budapest. Another important event was the Agroecology Europe Forum held in France [4]. Fostering synergies among science, practitioners, and social movements was a central objective. The Forum allowed gathering, sharing, and discussing among the actors who animate the agroecology movement to build a common understanding for the future of food and agriculture in Europe and in the world. Over three-hundred participants (farmers, technicians, researchers, students, policy and decision-makers, representatives of national and European institutions, non-governmental organizations, social movements, and civil society) have created a participatory and in-depth discussion of multiple topics and shared their perspectives about the development and implementation of agroecology.

This special issue intends to provide new insights, developments, applications, and policies related to agroecology in different countries and regions in Europe to provide an enlarged and improved

view about the development of sustainable agriculture and agroecology in Europe. It aims at giving a picture of the diversity and dynamics of agroecology in different countries and regions in Europe.

Two papers give a broader overview about agroecology in Europe. Gallardo-López, Hernández-Chontal, Cisneros-Saguilán, and Linares-Gabriel present a review on the development of the concept of agroecology in Europe [5]. They state that the concept of agroecology is mainly conceived as science; then as practice; and to a lesser degree, as a social movement. In a second paper, Wezel, Goette, Lagneaux, Passuello, Reisman, Rodier, and Turpin document and provide a mapping of the development of European agroecology in looking at research, education, collective action networks, and alternative food systems [6].

A further two papers provide insights about agroecology in different regions in Europe. Migliorini, Gkisakis, Gonzalvez, and Bàrberi show the genesis, state, and perspectives of agroecology in Mediterranean Europe, looking specifically at Spain, Italy, and Greece [7]. For Eastern Europe, Moudrý, Bernas, Moudrý, Konvalina, Ujj, Manolov, Stoeva, Rembialkowska, Stalenga, Toncea, Fitiu, Bucur, Lacko-Bartošová, and Macák illustrate and discuss the development of agroecology in Czech Republic, Bulgaria, Hungary, Poland, Romania, and Slovakia [8]. For both cases, agroecology is historically strongly linked to the development of organic agriculture, but new evolutions have taken place in research, education, and policy.

In two country specific papers, Belgium and France situations were analysed. Stassart, Crivits, Hermesse, Tessier, Van Damme, and Dessein present the generative tensions within Belgium agroecology [9]. Bellon and Ollivier investigate and show the development and the institutionalization of agroecology in France [10].

Three other papers that are part of this special issue deal with more specific topics regarding the development of agroecology in Europe. Weißhuhn, Reckling, Stachow, and Wiggering show the importance of the integration of perennial polycultures into crop rotations to support ecosystem services provision, but also some potential trade-offs [11]. Cayre, Michaud, Theau, and Rigolot analyze the agroecological transition in cheese mountain livestock farming, and in which ways the coexistence of multiple worldviews drive the transition [12]. Third, the paper of Cuéllar-Padilla and Ganuza-Fernandez provides new insights about reasons and implications of participatory guarantee systems, something that might become more and more important for the valuation of agroecological processes or products [13].

A final paper closes the special issue, in which Wezel, Goris, Bruil, Félix, Peeters, Bàrberi, Bellon, and Migliorini summarize the challenges and actions points to amplify agroecology in Europe, as identified by a large group of different stakeholders [14].

Funding: The Association Agroecology Europe received support from the Fondation de France for this mapping initiative.

Acknowledgments: We are very grateful to the different authors for their various contributions to this special issue on Mapping Agroecology in Europe. We warmly thank all the reviewers who dedicated time and assisted in improving the manuscripts.

Conflicts of Interest: The authors declare no conflicts of interest.

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