Cardinal Stefan Wyszynski University in Warsaw
Institute of Philosophy
Center for Ecology and Ecophilosophy

STUDIA ECOLOGIAE ET BIOETHICAE

23/1 (2025)

STUDIA ECOLOGIAE ET BIOETHICAE

2025, 23, 1: 89-99
p-ISSN 1733-1218; e-ISSN 2719-826X
DOI: http://doi.org/10.21697/seb.5836

Agroecology in Brazil and Italy: Comparative Analysis of the Historical Formation Process of Agroecology

Agroekologia w Brazylii i we Włoszech – analiza porównawcza historii procesów formowanie się agroekologii

André Michelato[1*], Gaio Cesare Pacini[2]

[1] Federal University of Espírito Santo, Brazil

[2] University of Florence, Italy

ORCID AM https://orcid.org/0009-0008-4963-8466; GCP https://orcid.org/0000-0003-2737-5411 • andremichelato@gmail.com

Received: 25 Oct, 2024; Revised: 38 Dec, 2024; Accepted: 02 Jan, 2025

Abstract: The agroecological movement emerges as an alternative to modern agriculture and the conventionalization of organic farming. It advocates for the development of agri-food systems grounded in the principles of biodiversity, the strengthening of family farming, food sovereignty, and the reconnection between rural and urban areas. Understanding agroecological experiences worldwide is essential for evaluating their progress in building sustainable agroecosystems. This article aims to comparatively analyze the development of agroecology in Brazil and Italy, highlighting similarities and differences. In Italy, 19.68% of agricultural land is dedicated to organic production, compared to only 0.4% in Brazil–a difference of 49 times. Furthermore, 8.31% of Italian farms are organic, while in Brazil, the figure is only 1.28%. Both countries have followed different paths: in Brazil, the agroecological movement became consolidated in the 1990s, driven by the involvement of NGOs and family farmers. In contrast, in Italy, the movement gained momentum in 2015, with greater engagement from the scientific community. In Italy, agroecology developed within a context dominated by organic farming, whereas in Brazil, the agroecological movement preceded the institutionalization of organic agriculture.

Keywords: agroecology, agri-food systems, agroecosystem, organic food, food security

Streszczenie: Agroekologia wyłania się jako alternatywa dla nowoczesnego rolnictwa i konwencjonalizacji rolnictwa ekologicznego. Opowiada się za rozwojem systemów rolno-spożywczych opartych na zasadach bioróżnorodności, wzmacnianiem rolnictwa rodzinnego, suwerenności żywnościowej i ponownym połączeniem obszarów wiejskich i miejskich. Zrozumienie doświadczeń agroekologicznych na całym świecie jest niezbędne do oceny ich postępów w budowaniu zrównoważonych agroekosystemów. Niniejszy artykuł ma na celu przeprowadzenie analizy porównawczej rozwoju agroekologii w Brazylii i we Włoszech, wskazując na ich podobieństwa i różnice. We Włoszech, 19,68% gruntów rolnych jest przeznaczonych na produkcję ekologiczną, w porównaniu do zaledwie 0,4% w Brazylii – to różnica aż 49-krotna. Ponadto 8,31% włoskich gospodarstw jest ekologicznych, podczas gdy w Brazylii wskaźnik ten wynosi zaledwie 1,28%. Oba kraje podążały różnymi ścieżkami: w Brazylii ruch agroekologiczny został skonsolidowany w latach 90 XX wieku, pod wpływem zaangażowania organizacji pozarządowych oraz rolników indywidualnych. Natomiast, we Włoszech ruch ten nabrał rozpędu w 2015 r., przy większym zaangażowaniu społeczności naukowców. We Włoszech agroekologia rozwinęła się w środowisku zdominowanym przez rolnictwo ekologiczne, podczas gdy w Brazylii ruch agroekologiczny poprzedził instytucjonalizację rolnictwa ekologicznego.

Słowa kluczowe: agroekologia, systemy rolno-spożywcze, agroekosystem, żywność ekologiczna, bezpieczeństwo żywnościowe

Introduction

This article aims to characterize and comparatively analyze the historical formation process of agroecology in Brazil and Italy. It is structured into five sections: 1. the concept of agroecology; 2. official data on organic production in Brazil and Italy; 3. the historical development process of agroecology in Brazil; 4. the historical development process of agroecology in Italy; and 5. a comparative analysis of agroecology in the two countries.

It is worth noting that, both in Brazil and Italy, the legal framework regulating agroecological practices is based on the norms and rules of organic agriculture, encompassing production, commercialization, and certification. Therefore, in this article, the history of the formation and development of agroecology in Italy and Brazil is intertwined with the history of organic agriculture, which has significantly contributed to the structuring of agroecology.

1. So, What Is Agroecology?

Agroecology is a science that develops through a dialogue between scientific knowledge and traditional farmer knowledge, grounded in ecological principles that guide food production, processing, management of the property and supply. To consolidate agroecological knowledge and practices, it is not enough to merely transform production methods to incorporate ecological principles; it is essential to rethink and reorganize the processing and structure of the food supply system. In other words, it requires a comprehensive approach to reimagining and restructuring the food agroecosystem as a whole.

The construction of agroecological knowledge, along with its set of practices, demands a systemic view of the agrifood system. This approach prioritizes people's participation and engagement in productive relationships while aiming to diminish the control exerted by large corporations over the system. Therefore, agroecology is both a science and a practice that…

> …is transdisciplinary in that it values all forms of knowledge and experience in food system change. It is participatory in that it requires the involvement of all stakeholders from the farm to the table and everyone in between. And it is action-oriented because it confronts the economic and political power structures of the current industrial food system with alternative social structures and policy action. The approach is grounded in ecological thinking where a holistic, systems-level understanding of food system sustainability is required (Gliessman 2018, 599).

Miguel Altieri, one of the founders of agroecology, defines it as a scientific, practical, and political approach that integrates ecological principles into the management of agricultural systems. This approach is rooted in biodiversity and fosters the interaction between scientific knowledge and the traditional knowledge of farmers. Altieri argues that agroecology serves as an alternative model to industrial agriculture, promoting sustainable practices that regenerate ecosystems and enhance the resilience of rural communities. Furthermore, he highlights agroecology as a social and political movement aimed at transforming the global food system by advocating for farmer autonomy and social justice (Altieri and Nicholls 2007; Altieri and Nicholls 2000).

Therefore, …

> Agroecology is simultaneously a scientific discipline, a set of ecological agricultural management practices, and the aggregation of social movements that promote actions for global sustainability, environmental conservation, human health, and food sovereignty. As a science, agroecology studies the ecological interactions between different organisms to design agricultural production systems which are self-regulating and require as few external inputs (fertilizers, plant protection products, veterinary drugs, etc.) as possible. As a practice, agroecology promotes diversified agricultural systems based on the conscious use of biodiversity and

> associated ecosystem services (e.g., biological pest control). As a movement, agroecology supports family farming, short supply chains, the use of local resources, the exchange of knowledge among operators, citizens, and scientists, fair remuneration for farmers, and the reconnection between city and farm (Bàrberi 2019, 3; translated from Portuguese).

This article does not aim to provide a detailed definition or conceptualization of agroecology. Instead, its focus is on highlighting the perspectives identified as the theoretical-epistemological foundation. Similarly, it does not seek to develop an in-depth analysis of the relationship between agroecology and organic production. For this purpose, it is recommended to consult the works of Abreu et al. (2012), Batista and Stoffel (2022), Bellon et al. (2011), and Rosset and Altieri (1997), which offer a comprehensive conceptualization and detailed comparative analysis of agroecology and organic production.

2. The Current Status of Organic Farming in Brazil and Italy: What Official Data Tell Us

The latest Agricultural Census in Brazil, conducted by the Brazilian Institute of Geography and Statistics (IBGE) in 2017, revealed that there were 64,690 agricultural establishments engaged in organic farming, accounting for 1.28% of all agricultural establishments in the country. Establishments practicing organic production occupy 1.13 million hectares, representing 0.4% of the total agricultural area in Brazil. Notably, 76.3% of these organic establishments are categorized as family farming, and within this total, 70% have an annual income of up to 7,000 Euros (Lourenço et al. 2023).

Census data also indicate that 69.3% of organic farms have a total area of up to 20 hectares, and 81.9% are owned by the grower. However, a worrisome finding is that 75.8% of these organic farms lack access to any form of rural technical assistance, whether from government, non-governmental organizations, or private sources (Lourenço et al. 2023).

According to 2023 data, the area dedicated to organic production in Italy spans 2.46 million hectares, which is more than double the area allocated to organic agriculture in Brazil. With a total Utilized Agricultural Area (UAA) of 12.5 million hectares in Italy, organic farming constitutes 19.68% of it (Masaf 2024), approximately 49 times the percentage area in Brazil.

Over the last decade in Italy, the area cultivated with organic production has increased by 77% (over 1.07 million hectares), with an average annual growth rate of 6.5%. In 2023, 78.5% of the organic farming area was certified and fully converted (1.9 million hectares) (Masaf 2024).

In Italy, out of 1.13 million agricultural establishments, 94,441 engage in organic farming, accounting for 8.31% of the total (Masaf 2024). When compared to Brazil, Italy has seven times more organic establishments.

In 2023, the average size of organic farms in Italy exceeded 29 hectares, nearly three times larger than farms owned by Italian agricultural enterprises in general, which average approximately 11 hectares, according to the latest agricultural census. In Southern Italy, the average size of organic farms is more than four times larger than the general average, whereas in the Northwest, this difference is considerably smaller (Masaf 2024).

3. Process of Historical Formation and Constitution of Agroecology in Brazil

Agroecology in Brazil first emerged from the Alternative Agriculture Movement, which began in the late 1970s. During the 1990s, this movement was restructured based on the principles of ecological agriculture and the solidarity economy, culminating in what is now recognized as the agroecological movement. This process did not unfold in a linear or causal manner; instead, it was constructed dialectically, reflecting the diversity of actors and initiatives involved (Faria, 2020; Baltazar et al. 2015).

In the 1980s, trade unions, government entities, non-governmental organizations, farmers, and researchers joined forces with the aim of strengthening collective actions to defend an alternative agriculture model against the hegemonic framework of the Green Revolution. During this period, they established a social movement—the Alternative Agriculture Movement (Brandenburg 2002)—and defined alternative agriculture as:

> A set of techniques, processes and systems that seek to harmoniously mobilize all resources available in the production unit, recycle nutrients, maximize the use of organic inputs generated within it, reduce environmental impact and pollution, control erosion, use machines that humanize work, be compatible with the reality in which they will operate, minimize external dependence on technology and raw materials, optimize the energy balance of production and produce cheap, high-quality biological food on a scale to meet internal needs and generate exportable surplus (IAPAR 1987, 373 apud Baltazar et al. 2015, 68-69; translated from Portuguese).

This movement was consolidated throughout the 1980s, particularly through the Brazilian Meetings on Alternative Agriculture (held in 1981, 1984, 1987, and 1988). These events were coordinated by the Federation of Associations of Agricultural Engineers of Brazil (FAEAB) and the Federation of Agronomy Students of Brazil (FEAB) and attracted more than 3,000 participants across their four editions (Baltazar et al. 2015; Nierdele 2019; Petersen and Almeida 2021).

During this period, alongside efforts to organize events for the alternative agriculture movement, the Alternative Technologies Project (PTA) was established in 1983. One of its main outcomes was the creation of 27 non-governmental organizations (NGOs) across 10 Brazilian states, culminating in the formation of the Alternative Technologies Projects Network (PTA Network) in 1988 (Faria 2000; Monteiro and Londres 2017; Nierdele 2019; Petersen and Almeida 2021).

> ...the teams from the PTA-Fase and other NGOs worked directly with farming communities and were clear that farmers should be the agents of social transformation and that their knowledge should be valued. However, the work developed at that time was mainly oriented towards the identification and systematization of alternative technologies, experimentation and development of technologies in Alternative Technology Centers and implementation of training activities for multiplier farmers, or farmer trainers, who had the role of disseminating these techniques in their communities (Monteiro and Londres 2017, 58-59; translated from Portuguese).

The strategy of working within a network, combined with a series of actions that included research, training, and communication, allowed the PTA Network to establish itself as fertile ground for the articulation and expansion of actions, initially in the field of alternative agriculture and later in agroecology (Brandenburg 2002; Petersen and Almeida 2021).

In 1989, the PTA Network published Miguel Altieri's book *Agroecology: The Scientific Basis of Alternative Agriculture* (1989), which had a significant impact on the strategies of the Network's organizations during the transition from alternative agriculture to agroecology (Faria 2020; Baltazar et al. 2015). In addition to Altieri, numerous Brazilian researchers contributed to this process of conceptual development and the formation of agroecological knowledge in Brazil. These include Professor Ana Maria Primavesi, who published *Manejo Ecológico do Solo* (Ecological Soil Management) in 1979; Adilson Paschoal, author of *Pragas, Praguicidas e Crise Ambiental* (Pests, Pesticides, and Environmental Crisis) in 1979; José Lutzemberger, who published *Manifesto Ecológico Brasileiro: Fim do Futuro?* (Brazilian Ecological Manifesto: End of the Future?) in

1976; and Dr Johanna Döbereiner, who led pioneering research on biological nitrogen fixation. It is equally important to highlight the work of Swiss researcher Ernst Gotsch, who, after settling on a farm in southern Bahia in 1984, developed successional agroforestry systems characterized by their high complexity and biodiversity. Also noteworthy is the contribution of Luiz Carlos Pinheiro Machado, who introduced significant adjustments to the Voisin Rational Grazing (VGR) system (Monteiro and Londres 2017).

As a result of meetings on alternative agriculture, the establishment of rural development NGOs, the training of technicians and farmers, and the involvement of researchers and research centres, the first farmer's markets for organic family farmers emerged in Brazil in the late 1980s. Notable examples include the market organized by the Association of Organic Farmers of the State of Rio de Janeiro (ABIO) in 1985, in Rio de Janeiro; the market by the Coolmeia Ecological Cooperative in 1989, in Porto Alegre; and the market organized by the Association of Organic Agriculture of Brazil (AAO) in 1991, in São Paulo. These farmer's markets enhanced the visibility of organic production in Brazil and became important benchmarks for thousands of other farmers (Baltazar et al. 2015). In 2001, the creation of the Ecovida Agroecology Network—the first participatory guarantee system in Brazil—marked a turning point for Brazilian agroecology. The emergence of participatory certification established a new system of rural-urban relations (Monteiro and Londres 2017; Niederle 2019; Brandenburg 2002). Currently, Brazil has 38 participatory certifiers, which go beyond certification by promoting farmer and consumer engagement in agroecological matters.

It is also important to note that, beginning in 2000, the Landless Workers' Movement (MST) adopted agroecology as a central strategy for rural development during its 4th National Congress. This shift significantly strengthened the agroecology movement in Brazil due to the MST's extensive network of communities, groups, organizations, and farmers, which amplified the movement's capacity to mobilize society around an agroecology-based agrifood system. Other movements within La Via Campesina, such as the Small Farmers' Movement (MPA), the Peasant Women's Movement (MMC), and the Movement of People Affected by Dams (MAB), also adopted agroecology as a central principle and strategy for action (Niederle 2019).

In 2002, the 1st National Agroecology Meeting (ENA), held in Rio de Janeiro, led to the creation of the National Agroecology Articulation (ANA), which became the primary representative organization for agroecological farmers, technicians, organizations, and consumers in Brazil. Subsequent National Agroecology Meetings were held in 2006, 2014, and 2018. The Brazilian Agroecology Association (ABA) was established after the 1st Brazilian Agroecology Congress in 2003 and officially joined the agroecology movement in 2004. Since then, twelve congresses have been held, with the most recent edition in 2023 attracting 10,000 participants in Rio de Janeiro. ABA and ANA have worked collaboratively to strengthen the agroecology movement in Brazil, broadening the network of actors and organizations involved and diversifying strategies to promote an agroecology-based agrifood system for the country (Niederle 2019; Petersen and Almeida 2021).

However, legal and institutional frameworks in Brazil do not formally recognize agroecology, with organic farming serving as the sole mechanism for regulating ecological agriculture in terms of production, marketing, and certification. This process of institutionalization began in 2003 with Law 10,831 (Lei 2003), which defined the conditions for organic food production and certification. In 2007 (Decreto Lei 2007; Instrução Normativa 2008), the Brazilian Organic Conformity Assessment System was established, introducing both third-party audit certification and participatory certification. This represented a significant achievement

in legitimizing the agroecology movement (Baltazar et al. 2015; Monteiro and Londres 2017).

In 2012, the National Policy for Agroecology and Organic Production (PNAPO) was enacted through Decree 2012, aiming to structure public policies for organic and agroecological agriculture in Brazil. PNAPO has become an essential platform for dialogue and engagement among organizations and society regarding the production and consumption of organic and agroecological food. This policy enables society's participation in preparing the National Plans for Agroecology and Organic Production (PLANAPO) every three years. It marked the first time the Brazilian government officially incorporated the term "agroecology" into institutional regulations, signalling the growing importance, legitimacy, and consolidation of the agroecology movement in the country (Niederle 2019).

4. Process of Historical Formation and Constitution of Agroecology in Italy

Agroecology in Italy has developed dynamically and non-linearly, involving a wide range of actors, including universities, NGOs, cooperatives, farmers, and public institutions. Agroecology, as a scientific discipline promoting sustainable farming practices, has been present in a few Italian universities since the early 1990s, drawing on principles derived from Altieri's work. Its emergence as a movement was driven by the consolidation of organic farming, which underwent a process of conventionalization, generating criticism and reigniting debates on a rural development model based on socio-ecological principles. This context facilitated the creation of a movement proposing agroecology as a response to challenges such as integrating the agrifood system, preserving biodiversity, ensuring social justice, and promoting political and social participation.

This process did not occur quickly. It has deep historical roots, as it sought to generate knowledge and experiences that, over time, gained recognition and contributed to building a solid rural development project. The earliest initiatives date back to the second half of the 19th century, when agronomist Pietro Cuppari (1816–1870) conceptualized the agricultural property as a "living organism," composed of interactive parts to be harmoniously organized under physical, biological, technological, and economic constraints (Caporali 2015). Although Cuppari did not use the term "agroecology," he is considered a pioneer in this field (Migliorini 2018). Additionally, Girolamo Azzi (1885–1969) is widely acknowledged as the founder of agricultural ecology. Other notable contributors include Giorgio Schultze and Alfonso Draghetti, who played critical roles in advancing agroecology (Basile et al. 2016; Migliorini 2018).

During the Green Revolution, agriculture based on ecological principles was marginalized, regaining relevance only in the late 1970s due to contributions from several researchers. Among them, Concetta Vazzana (1946–2022) played a fundamental role in establishing agroecology as both an academic discipline and a practical agricultural approach. Fabio Caporali, a professor at the University of Tuscia in Viterbo, is recognized as a pioneer of agroecology in Italy. Paolo Barberi, a researcher at the School of Advanced Studies Sant'Anna, founded the Agroecology Research Group and the Doctoral Program in Agrobiodiversity (Migliorini et al. 2018). Other key contributors include Franco Migliorini, Salvatore Ceccarelli, Stefano Bocchi, and Paola Migliorini (Basile 2016).

The scientific community has been instrumental in developing agroecological knowledge in Italy, serving as a pioneer in the early stages and driving dissemination, support, and engagement in agroecology. Alongside researchers, several social organizations have played strategic roles in advancing agroecology. Notable organizations include the Italian Rural Association (founded in 1956), Mani Tese (1964), WWOOF Italy (1971), Cooperativa Alce

Nero (1977), Legambiente (1980s), Italian Association for Organic Agriculture (AIAB, 1982), Association for Biodynamic Agriculture (1982), COSPE (1983), Civiltà Contadina (1996), AgriBioMediterrraneo IFOAM (1997), Rete Semi Rurali (2007), Slow Food Italia (1987), Italian Federation for Organic and Biodynamic Agriculture (1992), Via Campesina (1993), Italian Foundation for Research in Organic and Biodynamic Agriculture (2007), Genuíno Clandestino (2010), and the Italian Network for Research in Organic Agriculture (2010), among others. These organizations have significantly contributed to disseminating and implementing agroecology in Italy (Migliorini et al. 2018; Basile et al. 2016).

In 2016, Agroecology Europe was founded as a network of individuals and institutions aimed at supporting research, training, and dissemination of agroecological knowledge (Migliorini 2017; Basile et al. 2016). The following year, in 2017, the Italian Agroecology Observatory (OPERA) was established to promote agroecological practices, foster research, connect various stakeholders (such as farmers, universities, and NGOs), influence public policies, and provide training to expand participation and knowledge about agroecology. This initiative aims to integrate environmental sustainability, social justice, and community participation (Migliorini 2018).

In 2018, the Italian Association of Agroecology (AIDA) was founded following the first National Congress of Agroecology and became the first representative body of agroecology in Italy. This marked a significant milestone in organizing agroecology as a science, practice, and social movement. Under AIDA's coordination, the National Congress of Agroecology was held in 2017, 2019, and 2023. These events have served as platforms for producing, disseminating, and connecting individuals, organizations, scientific knowledge, and practical experiences.

Parallel to these initiatives, the consolidation of agroecology in Italy has been supported by training and coordination spaces, such as congresses, seminars, and conferences. A notable example is EXPO Milano 2015, themed "Feeding the Planet, Energy for Life," which resulted in the publication of the document Food Sovereignty and Agroecology and inspired the creation of Agroecology Europe. This event also mobilized Italian organizations to host the People's Expo, with participation from 180 delegates representing 54 countries and 14 international networks, culminating in the manifesto Food Sovereignty and Agroecology (Gargano et al. 2021; Basile et al. 2016; Migliorini et al. 2018).

Advocacy initiatives have also pressured parliamentarians and political leaders to adopt legislation promoting ecological agricultural practices. Key milestones include the European Union's Regulation No. 2092/91, establishing guidelines for organic production and labelling, and Italy's alignment with this regulation through Law No. 59 and subsequent decrees. In 1999, Italy established the Fund for Research in Organic Agriculture, financed by a pesticide tax, to support research in this sector. Organic farming has since been integrated into Rural Development Programs (2014–2020), emphasizing agro-environmental practices, biodiversity preservation, and product certification. Additionally, Laws No. 194 (2015) and No. 221 (2016) promoted the green economy, biodiversity appreciation, and the establishment of the Organic Information System (SIB) (Migliorini et al. 2018).

In 2009, Italy introduced Bio-districts, territories dedicated to sustainable resource management, organic agriculture, biodiversity preservation, and local product promotion (Migliorini et al. 2018). Initially grassroots initiatives, Bio-districts gained formal recognition in 2017 as "food districts" and were incorporated into European Union frameworks in 2018 (Basile et al. 2016).

In 2020, the Horizon 2020 Agroecology for Europe program (AE4EU) was launched to promote agroecology across Europe. This program emphasized biodiversity-focused

production within the European Union's Common Agricultural Policy (CAP), which now includes environmental incentives, payments for ecosystem services, and subsidies for agroecological practices (Basile et al. 2016).

In 2022, the report Mapping the Development of Agroecology in Europe was published, consolidating data and analysis on agroecology across EU member states and establishing itself as a significant reference for the European community.

5. Comparative Analysis of the Historical Formation Process of Agroecology in Brazil and Italy

This section provides a brief comparative analysis of the formation of agroecology in Italy and Brazil by examining the singularities and differences in their historical processes and current scenarios.

A comparative analysis of land use for organic agriculture reveals significant differences between Italy and Brazil. In Italy, 2.46 million hectares are dedicated to organic production, which is more than double the area allocated to organic farming in Brazil. Proportionally, organic agriculture occupies 19.68% of the arable land in Italy, whereas in Brazil, this proportion is only 0.4%. This indicates that Italy dedicates 49 times more land to organic agriculture as a percentage of total arable land compared to Brazil. Furthermore, 8.31% of agricultural establishments in Italy (equivalent to 94,441 units) are engaged in organic production, compared to only 1.28% (64,690 units) in Brazil.

In both countries, the development of agroecology has not followed a linear path. Instead, it has been a collective process driven by the participation of diverse actors working together to advance agroecology both as a science and a movement.

The agroecology movements in Italy and Brazil are at different stages of development. While Brazil made significant progress in agroecology during the 1990s, agroecology in Italy has gained momentum and some degree of institutional recognition only since 2015. However, in both countries, there are no well-defined strategies or public policies specific to agroecology. The field remains subsumed under the umbrella of "organic agriculture" and is at risk of being co-opted for greenwashing conventional agricultural practices reliant on heavy synthetic-chemical inputs and costly technologies.

The initial phases of agroecology in Italy were largely driven by the scientific community, whereas in Brazil, the movement was strongly influenced by rural development NGOs, agronomy students and professionals, and leaders of family farmers.

A key difference between the two processes lies in their origins. In Brazil, the agroecology movement emerged from the alternative agriculture movement, which had already been consolidated before organic agriculture became institutionalized. In Italy, agroecology arose within a context where organic agriculture was already well established, both socially and institutionally. This distinction is significant because, in Italy, organic agriculture dominates as the primary framework for regulation and institutional standards. It also occupies a hegemonic position in market creation and the consumer imagination. In contrast, organic agriculture in Brazil has played a progressively secondary role.

The agroecology movement in Brazil has existed for over 25 years, featuring a robust organizational structure, integration spaces, and scientific and political support. These elements have made it a socially, economically, and politically consolidated movement. In Italy, the movement has shown notable determination and potential to establish itself as a cohesive, organizationally structured movement. Dialogue and participatory processes are being implemented among organizations and actors to strengthen and consolidate agroecology. These efforts demonstrate significant social mobilization, aimed at challenging the hegemony and conventionalization of organic agriculture.

In Brazil, the establishment and consolidation of agroecology as a movement resulted from several strategic initiatives, including the creation of the National Agroecology Articulation (ANA), the Brazilian Association of Agroecology (ABA), and the Participatory Guarantee System (SPG). In Italy, the foundation of the Italian Association of Agroecology (AIDA) and the promotion of network-building initiatives—such as the event Cambiare il Campo: Convergenza Agroecologica e Sociale—have played a crucial role in consolidating agroecology as a social movement.

Thus, these two realities represent distinct historical trajectories and processes, reflecting the rationalities and intersubjectivities of the social and political contexts of their territories and actors. The comparative analysis of these two realities does not aim to determine which is more or less successful in developing agroecology but rather to illustrate that each constructs its reality within the framework of social and political negotiations among the actors involved. As Wezel reflects through the words of Ploeg:

> Wezel et al. (2009) conceptualize agroecology as having three prongs: embodying a scientific discipline, a social movement and a set of practices. These three aspects have different relative weights in different contexts: in France the practice is strongly emphasized; in Germany the scientific discipline, and in Brazil the social movement.
> [...]
> In reality the development and adoption of agroecological practices follows a variety of different, often unexpected and sometimes, even, contrasting trajectories (Cayre et al. 2018). These can be inspired by different motives, values and discourses, just as the particular contextual settings will have their specific imprint. The different trajectories and practices might be known under different names and the particular histories and spatial distributions of the different experiences vary considerably (Ploeg 2019, 2).

References

Abreu, Lucimar Santiago, Stéphane Bellon, Alfio Brandenburg, Guillame Ollivier, Claire Lamine, Moacir Roberto Darolt, e Pascal Aventurier. 2012. "Relações Entre Agricultura orgânica e Agroecologia: Desafios Atuais em torno dos princípios da Agroecologia." *Desenvolvimento E Meio Ambiente* 26 (dezembro). https://doi.org/10.5380/dma.v26i0.26865.

Altieri, Miguel, Clara Nicholls. 2000. "Agroecología: Teoría y práctica para una agricultura sustentable." Mexico: Programa de las Naciones Unidas para el Medio Ambiente Red de Formación Ambiental para América Latina y el Caribe Mexico, D.F.

Altieri, Miguel, Clara Nicholls. 2007. "Conversión agroecológica de sistemas convencionales de producción: teoría, estrategias y evaluación." *Ecosistemas* 16 (1): 3-12. Accessed October 10, 2024. https://www.revistaecosistemas.net/index.php/ecosistemas/article/view/133.

Altieri, Miguel. 1989. *Agroecologia: as bases científicas da agricultura alternativa*. Rio de Janeiro: PTA/FASE.

Baltazar, Manoel, et al. 2015. "Agroecologia no Brasil – 1970 a 2015." *Agroecología* 63-75. https://doi.org/10.6018/agroecologia.

Bàrberi, Paolo. 2019. "Agroecologia: un nuovo paradigma per la sostenibilità dei sistemi agroalimentari e la salute dell'umanità e dell'ambiente." *Il Cesalpino* 48 (Novembre). Accessed October 10, 2024. https://www.researchgate.net/publication/337260958_Agroecologia_un_nuovo_paradigma_per_la_sostenibilita_dei_sistemi_agroalimentari_e_la_salute_dell'umanita_e_dell'ambiente.

Basile, Salvatore, Domenico Nicoletti, Angelo Paladino. 2016. "Rapporto Sull'approccio All'agro-Ecologia In Italia: a cura dell' Osservatorio Europeo del Paesaggio." *Osservatorio Europeo del Paesaggio: Certosa di San Lorenzo*. Accessed October 10, 2024. https://biodistretto.net/wp-content/uploads/2018/05/Report_Agroecologia_in_Italia_IT_stampa.pdf.

Batista, Camila Lais Ramalho, Janete Stoffel. 2022. "Agroecologia e produção orgânica: características que distinguem e/ou aproximam os sistemas de produção sustentáveis." *Colóquio* 19, no. Edição Especial 1 (SOBER). https://doi.org/10.26767/coloquio.v19iesp1.2413.

Bellon, Stephane, Claire Lamine, Guillaume Ollivier e Lucimar Santiago de Abreu. 2011. "As relações entre agricultura orgânica e agroecologia." Bonn: ISOFAR, 2011, 235-238. http://www.alice.cnptia.embrapa.br/alice/handle/doc/917959.

Brandenburg, Alfio. 2002. "Movimento Agroecológico: trajetória, contradições e perspectivas." *Desenvolvimento e Meio Ambiente* 6: 11-28. https://doi.org/10.5380/dma.v6i0.22125.

Caporali, Fabio. 2015. *Pietro Cuppari precursore dell'agroecologia e del governo sustenibile del territorio*. Pisa: Edizioni ETS.

Decreto Lei. 2007. "Decreto lei nº 6.323 de 27 de dezembro de 2007 que dispõe sobre a agricultura orgânica, e dá outras providências." (Diário Oficial da União – Seção 1 – 28/12/2007, Página 2).

Decreto. 2012. "Decreto Nº 7.794, de 20 de Agosto de 2012 que institui a Política Nacional de Agroecologia e Produção Orgânica." (Diário Oficial da União de 21/08/2012, Página nº 4).

Faria, Andréa Alice da Cunha. 2020. "Agroecologia no Brasil: uma história contada em três tempos." Cadernos de Agroecologia. Anais do XI Congresso Brasileiro de Agroecologia. São Cristóvão, Sergipe. v. 15. Accessed October 10, 2024. https://cadernos.aba-agroecologia.org.br/cadernos/article/view/3352/4035.

Gargano, Giuseppe, et al. 2021. "The Agroecological Approach as a Model for Multifunctional Agriculture and Farming towards the European Green Deal 2030 – Some Evidence from the Italian Experience." *Sustainability* 13(4): 2215. https://doi.org/10.3390/su13042215.

Gliessman, Steve. 2018. "Defining Agroecology." *Agroecology and Sustainable Food Systems* 42: 599–600. https://doi.org/10.1080/21683565.2018.1432329.

Instrução Normativa. 2008. "Instrução Normativa n. 64 de 18 de dezembro de 2008 que aprova o regulamento técnico para os sistemas orgânicos de produção animal e vegetal e as listas de substâncias permitidas para uso nos Sistemas Orgânicos de Produção animal e vegetal." (Diário Oficial da União, Brasília, DF, 2003. 19 dez. 2008. Seção 1, 21-26).

Legge. 2015. "Legge n. 194 di dicembre 2015. Disposizioni per la tutela e la valorizzazione della biodiversità di interesse agricolo e alimentare." (GU n. 288 del 11-12-2015).

Legge. 2016. "Legge n. 221 di 28 dicembre 2015. Disposizioni in materia ambientale per promuovere misure di green economy e per il contenimento dell'uso eccessivo di risorse naturali." (GU Serie Generale n.13 del 18-01-2016).

Lei. 2003. "Lei no 10.831, de 23 de dezembro de 2003 que dispõe sobre a agricultura orgânica e dá outras providências." (Publicado no Diário Oficial da União de 24/12/2003, Seção 1, Página 8).

Lourenço, Gazolla, et al. 2023. "Perfil da agricultura e dos mercados de orgânicos no Brasil." *Curitiba. Revista Desenvolvimento e Meio Ambiente* 62: 1051-1074. https://doi.org/10.5380/dma.v62i0.85418.

Lutzenberger, José Antonio. 1980. *Manifesto ecológico brasileiro: fim do futuro?* Porto Alegre: Movimento.

Migliorini, Paola, Alexander Wezelr. 2017. "Converging and diverging principles and practices of organic agriculture regulations and agroecology." *Agronomy for Sustainable Development* 37 (63). https://doi.org/10.1007/s13593-017-0472-4.

Migliorini, Paola, et al. 2018. "Agroecology in Mediterranean Europe: Genesis, State and Perspectives." *Sustainability* 10 (8): 2724. https://doi.org/10.3390/su10082724.

Mipaaf (Ministero delle Politiche Agricole Alimentari e Forestali). 2016. "Piano strategico nazionale per lo sviluppo del sistema biologico." Accessed October 10, 2024. https://veg.biodiversitapuglia.it/wp-content/uploads/PSN_Agricoltura_biologica.pdf.

Mipaaf (Ministero delle Politiche Agricole Alimentari e Forestali). 2024. "Bio in Cifre 2024." Sistema d'Informazione Nazionale sull'Agricoltura Biologica (SINAB). (Luglio). Accesed October 10, 2024. https://www.sinab.it/sites/default/files/BIo%20in%20cifre%202024_0.pdf.

Monteiro, Denis, Flavia Londres. 2017. "Pra Que a Vida nos dê Flor e Frutos: notas sobre a trajetória do movimento agroecológico no Brasil." In *A Política Nacional de Agroecologia e Produção Orgânica no Brasil: uma trajetória de luta pelo desenvolvimento rural sustentável*, edited by Regina Helena Rosa Sambuichi, 53-83. Brasília: IPEA.

Niederle, Paulo André. 2019. "A trajetória brasileira de construção de políticas públicas para a agroecologia." *Redes* 24(1): 270-291. https://doi.org/10.17058/redes.v24i1.13035.

Paschoal, Adilson. 1979. *Pragas, praguicidas e a crise ambiental: problemas e soluções*. Rio de Janeiro: Fundação Getúlio Vargas.

Petersen, Paulo, Silvio Gomes Almeida. 2021. "Articulação Nacional de Agroecologia." In *Dicionário de Agroecologia e Educação*, editeded by Alexandre Pessoa Dias, 131-140. São Paulo: Expressão Popular.

Ploeg, Jan Douwe van der, et al. 2019. "The economic potential of agroecology: Empirical evidence from Europe." *Journal of Rural Studies* 71: 46-61. https://doi.org/10.1016/j.jrurstud.2019.09.003.

Primavesi, Ana Maria. 2016. *Manual do solo vivo*. São Paulo: Expressão Popular.

Regulamento. 1991. "Regulamento (Cee) No 2092/91 do Conselho de 24 de Junho de 1991 relativo ao modo de produção biológico de produtos agrícolas e à sua indicação nos produtos agrícolas e nos géneros alimentícios." (JO L 198 de 22.7.1991, p. 1).

Rosset, Peter M. and Miguel A. Altieri. 1997. "Agroecologia versus substituição de insumos: Uma contradição fundamental da agricultura sustentável." *Society & Natural Resources* 10(3): 283–295. https://doi.org/10.1080/08941929709381027.