

Fostering Sustainable Communities: Competencies and Training Needs for Social Organic Farming in Hungary, Greece, and Italy

Apolka Ujj¹, Paulina Jancsovszka², Mohammad Daud Ali³, Dimitris Voloudakis⁴, Lóránt Dénes Dávid⁵, Kinga Nagyné Pércsi⁶

Abstract

This study examines key competencies in social organic farming (SOF) as perceived by stakeholders in Hungary, Greece, and Italy, including necessary knowledge, skills, and attitudes. It also explores the educational and professional requirements for those aiming to become social organic farmers, ultimately contributing to an ideal farmer profile. Through qualitative methods, such as semi-structured interviews with stakeholders, the study identifies essential competencies and training needs for SOF. Results show that successful social organic farmers must understand organic farming principles, social work, farm economics, and possess personal skills like empathy, team-work, and effective communication. These competencies and training align with Social Capital Theory, Diffusion of Innovation Theory, and Community-Based Participatory Research, under-scoring the importance of social networks, community engagement, and innovation in advancing sustainable and inclusive agricultural practices. The study also highlights SOF's role in supporting community well-being, enhancing sustainable food systems, and promoting both physical and mental health. Findings offer valuable insights into the limited literature on SOF, providing actionable recommendations for vocational training programs that support social organic farmers' growth across Europe. This, in turn, fosters sustainable agriculture, circular economies, and public health, thereby strengthening community resilience and ecological stability.

Keywords: *Social work, Organic farming, Inclusive ecosystems, Circular and holistic approach, Training syllabi.*

Introduction

Integrating social work ethics into organic agricultural practices has gradually become significant, leading to the perception of social organic farming (SOF). Despite growing recognition of its importance, the nascent nature of SOF has led to a lack of studies addressing social organic farmers' educational and professional requirements. Consequently, there is an urgent need for research that fills this gap and provides in-sight into the competencies, training courses, and prerequisites for individuals aspiring to become social organic farmers in Europe.

The relevant professions and their vocational education and training pathways, as the term 'social farming' suggests, include professions from the agricultural sector (farmer, forester, gardener, etc., hereinafter referred to as farmer), the social and educational sector (social worker, social pedagogue, educator, teacher, special educational teacher, hereinafter referred to as social worker), and the healthcare sector (healthcare assistant, psychologists, therapists, hereinafter referred to as healthcare assistant). The farmer manages the farm and provides a space and structure for meaningful work for social service users, participants, or clients, along with a social worker. Social workers and healthcare assistants are in direct contact with the individuals they support, often providing physical assistance during their work. To establish smooth cooperation among farmers, social workers, and healthcare assistants, basic qualifications are needed from all parties

¹ Institute of Rural Development and Sustainable Economy, Hungarian University of Agriculture and Life Sciences, Hungary, email: ujj.apolka@uni-mate.hu. (correspondent author)

² Institute of Rural Development and Sustainable Economy, Hungarian University of Agriculture and Life Sciences, Hungary, email: jancsovszka.paulina@uni-mate.hu.

³ University of Haripur, Pakistan email: dr.daud@uoh.edu.pk.

⁴ Capacity Building Director, New Agriculture New Generation Non-Profit Civil Law Company NANG, Greece, email: dimitris@generationag.org.

⁵ Institute of Rural Development and Sustainable Economy, Hungarian University of Agriculture and Life Sciences, Hungary, email: david.lorant.denes@uni-mate.hu

⁶ Institute of Agricultural and Food Economics, Hungarian University of Agriculture and Life Sciences, Hungary, e-mail: nagyne.percsi.kinga@uni-mate.hu

involved. The person who wishes to participate in the social organic farming training must meet the basic entry requirements, which may vary from country to country.

The research presented in this article was carried out within the framework of Erasmus+ SOURCE project (Boosting social and organic farming for inclusive and sustainable growing economies, ERASMUS+ 2021-1-IT01-KA210-VET-000034559) which was launched in 2021. The project aimed at strengthening the relationship between social farming and organic farming by supporting the skills development processes of farmers and aspirants as well as by spreading the knowledge about these areas for sustainable and inclusive ecosystems through a small-scale European partnership.

This article aims to provide a comprehensive investigation of the SOF vocational training syllabi in three European countries – Hungary, Greece, and Italy. By discovering the educational and professional necessities for social farmers, the study seeks to identify cohesions, variations, and possible areas for improvement at the intersection of social work and agriculture.

Accordingly, the description of the ideal social organic farmer profile identifies the skills, knowledge, and attitude (competencies) of the future farmer, which can be acquired with the help of the recommended social organic farmer training program. The expected learning outcomes of the training were compiled based on existing literature and educational programs related to social farming and organic farming. At the same time, the proposed development areas were determined through in-depth inter-views with stakeholders from the agricultural, social, and educational fields, and the involvement of experts for validation.

Research Questions

The current research tried to find answers to the following important research questions, fill the existing research gap in understanding the vocational training landscape for social organic farming in Europe, and provide insights into enhancing the integration of social work ethics into agricultural practices for sustainable and inclusive growth; the sacrosanct objectives of the current research.

RQ1. What are the essential competencies required for success in social organic farming (SOF), encompassing knowledge, skills, and attitudes, as perceived by stake-holders in Hungary, Greece, and Italy?

RQ2. What are the educational and professional prerequisites for individuals aspiring to become social organic farmers in Hungary, Greece, and Italy, and how do these requirements contribute to the development of the ideal social organic farmer profile?

RQ3. How can the identified competencies and vocational training syllabi for SOF contribute to promoting sustainable and inclusive ecosystems in Europe?

Literature Review

General description of the benefits of organic farming and social farming

Organic farming is based on values like self-sufficiency, fairness, and ecological responsibility, opposing industrial farming's exploitative nature by emphasizing the interconnectedness of natural systems (MacRae et al., 2007; Pascual et al., 2017; Washington et al., 2017). Avoiding synthetic inputs, organic farming reduces groundwater pollution, eutrophication, and fosters sustainable production (Melchior & Newig, 2021; LaSalle & Hepperly, 2008). It consumes less energy while sequestering carbon, contributing to climate change mitigation (LaSalle & Hepperly, 2008). While yield debates persist, organic products typically contain more nutrients and fewer contaminants (Seufert et al., 2012; Smith-Spangler et al., 2012; FIBL, 2015). Additionally, organic farming enhances animal welfare by reducing antimicrobials, improving overall livestock health (Sundrum, 2001; Rutherford, 2008). Organic farms attract younger generations, with 21% youth participation versus 12% in conventional farming, though gender income disparities remain

(Eurostat, 2020). The CAP 2023-2027 provides strategic support, alongside Horizon EU projects promoting research and innovation for sustainable agricultural growth (Suryani et al., 2022).

In the framework of the new Common Agriculture Policy (CAP) between 2023 and 2027 several strategic interventions are in place to fund and finance organic farmers in Europe from the European Agricultural Fund for Rural Support, following the positive sustainable agriculture outcomes between 2014-2022. Since organic farming is knowledge-intensive in contrast to input-intensive conventional agriculture, it requires research to promote knowledge and innovation. To encourage Research and Innovation (R&I) in organic farming the HORIZON EU supports projects worth 50 million euros and involves 20 EU states and around 150 partners along with other international partners and associate states.

Social farming in the agricultural context and its benefits to the society

Social farming expands the role of agriculture by not only engaging in traditional farming activities but also providing social services such as therapy, education, and social inclusion. This model uses agricultural resources to promote the well-being of vulnerable groups, including the elderly, people with disabilities, and marginalized communities. It supports not only economic productivity but also rural development and sustainable communities, linking environmental and health benefits (Suryani et al., 2022). Social farming is a multifaceted concept involving various inter-sectoral activities aimed at using agricultural resources for social and educational services like therapy, inclusion, and recreation, particularly in rural areas (Hassink & Dijk, 2006; Di Iacovo & Vadnal, 2009; Sempik et al., 2010; Kabil et al., 2024). It offers benefits to vulnerable groups, enhancing social well-being alongside environmental benefits (De Vivo et al., 2019; Nicolosi et al., 2021). Although the European Economic and Social Committee (EESC) supports this concept, definitions vary across Europe. Social farming targets diverse groups, including individuals with disabilities, the elderly, and refugees (Di Iacovo & Vadnal, 2009; Kinsella, 2014; Szimbiózis Alapítvány, 2015; Bassi et al., 2016; Nazzaro et al., 2021). Models differ based on financing and collaboration, and public-private partnerships are crucial (Tulla et al., 2018; Tulla et al., 2020). Additionally, it promotes ecological conservation and social inclusion (Courts et al., 2020; Guirado et al., 2018).

Organic farms offer ideal environments for people with special needs due to their health benefits, aiding in rehabilitation and recovery (Wistoft, 2010; Andersen & Elings, 2008; Tsegaye et al., 2017). The absence of pesticides reduces risks for service users Moudrý et al., 2020; Hassink et al., 2017), and the manual labor involved, like weeding, is accessible for those who cannot handle heavy machinery (Hassink et al., 2010). Organic farming also integrates social goals, with social entrepreneurs promoting both environmental and social values, contributing to the UN's Sustainable Development Goals (SDGs) (Tuomisto et al., 2012; European Commission, 2020; Kociszewski et al., 2020). Incorporating social institutional innovations helps enhance the resilience of farming systems (Guerra, 2003), supporting social and ecological development through continuous learning and adaptation (Padel, 2011; Gillwald, 2000).

Social farming fosters physical and mental well-being and preserves traditional farming systems (Hassink & Dijk, 2006; Hine et al., 2008; Hudcová et al., 2018; Mani et al., 2016; Kummer et al., 2010). While it aims to balance environmental, social, and economic goals, achieving this balance is often complex due to competing elements (Hine et al., 2008; Hudcová et al., 2018; Mani et al., 2016). Organic farming also supports social development, creating employment opportunities and improving working conditions (Eizenberg & Jabareen, 2017; Czyżewski et al., 2018; Torres et al., 2016; Casagrande et al., 2016; Rööös et al., 2019). This is why the study focuses on developing a syllabus that highlights the importance of social development within organic farming.

Current Italian qualification requirements relevant to social organic farming

In order to become a social farmer, an Italian citizen must first be a professional farmer, possess the appropriate professional skills and competence (as defined in Article 5 of Council Regulation (EC) No 1257/1999) and spend at least fifty per cent of his total working time on agricultural activities, either directly or as a partner in a company. Each Italian region has adopted independent but similar legislation to define the requirements for adequate vocational skills and competences. Relevant qualifications for Italian farmers

include various educational levels such as university degrees, high school diplomas, and vocational certificates, along with minimum experience requirements and options for training courses. No additional compulsory qualification is required to practise organic farming. The organic status of the farm is linked to the certification of the production by an organic inspection body.

In the social farming sector, social workers and social farmers are directly involved as operators. Professional qualifications for social workers in Italy include a bachelor's or master's degree in social work, followed by a state examination and registration, with a curriculum covering sociology, law, psychology, economics and social research. The provision of services and benefits by social farming operators is monitored by the Italian regions through the creation of special registers. In order to be registered as a social farm operator, the farmer or family helper or partner (in the case of partnerships) or an employee or partner (in the case of capital companies or cooperatives) must have attended a specific training course. The case of Emilia-Romagna is reported as an example: the course lasts at least 80 hours, about half of which is practical, with case studies, guided visits and design workshops. At the end of the course there is an examination and a certificate of attendance is issued.

Current Greek qualification requirements relevant to social organic farming

According to the Greek National Legislation, it is noted that a farmer who wishes to be classified as a professional must cumulatively meet the requirements of ownership of agricultural holdings, engagement in agricultural activity for at least 30% of total annual working time, earning at least 50% of total annual income from agricultural activity, compliance with insurance and accounting regulations, and, for professional fishermen, possession of an individual professional fishing license and engagement in fishing activities for at least 30% of total annual working time. To become a certified organic farmer in Greece, it is mandatory to adhere to the regulations set forth by the European Union (EU) regarding organic farming. These regulations are outlined in the EU Organic Farming Regulation (Regulation (EC) No 834/2007) and its implementing rules, regarding certification, land requirements, crop and livestock management, record keeping, inspection, labelling and marketing.

Moreover, the professional standards for social workers in Greece are meticulously regulated. Governed by Presidential Decree 50/1989, these standards necessitate graduation from accredited social work departments and subsequent acquisition of a professional license, as outlined in Presidential Decree 23/1992. Key prerequisites for this license encompass Greek citizenship or citizenship within EU member states, the absence of specified criminal convictions, and formal approval by the Minister of Health, Welfare, and Social Insurance or the designated governing body. Publication of the license in the Official Government Gazette further solidifies the professional standing within the field of social work.

Current Hungarian qualification requirements relevant to social organic farming

Relevant qualification requirements for social organic farming in Hungary emphasize the importance of agricultural expertise and professionalism, with criteria set forth in the Land Transfer Act and related government decrees. Professional qualifications for farmers (in general) in Hungary are outlined in the Land Transfer Act, requiring Hungarian or EU citizens to possess specific agricultural or forestry qualifications or demonstrate continuous agricultural activity in Hungary for at least three years. The Government Decree related to the Land-Transfer Act specifies the qualifications in Agriculture and Forestry: various qualifications accepted for land purchases, including vocational education programs, licensed national register training, and degrees obtained from higher education institutions related to agricultural production. Additionally, the regulation outlines the areas of study in agricultural engineering education, covering botany, zoology, chemistry, sustainable agriculture, and more, providing a comprehensive framework for agricultural training.

Professional qualifications for social workers in Hungary are governed by several legal regulations, including laws on social administration and provisions, ministerial decrees on professional work and operational conditions, and decrees on qualification requirements for specific social work activities. The qualifications required for social work activities include bachelor's and master's degrees obtained within the framework

of social work programs, aiming to prepare specialists capable of managing, operating, and developing social services. Focus areas in the education of social workers encompass the theory and practice of social work, sociology, economics, humanities, and medicine, ensuring a well-rounded education. Practical courses provide hands-on experience through internships and seminars, allowing students to develop essential skills and interact directly with clients, contributing to their professional development in the field of social work.

The regulations differ significantly between Italy, Greece, and Hungary, though there are common themes. In Italy, becoming a social farmer requires being a professional farmer with agricultural competence and vocational training, with region-specific requirements, especially for social farm operators. Greece follows Euro-pean Union organic farming regulations, and social workers must meet strict national standards, including licenses and professional training. Hungary emphasizes agricultural expertise through national qualifications, and social workers must undergo rigorous educational programs governed by various legal frameworks. All countries re-quire formal education in both farming and social work, but the structure and specificity vary based on national laws.

Conceptual Framework

Based on the extant literature and theoretical search, the researchers found the following theories to establish a strong foundation, and the weave an integrated conceptual framework;

Social Capital Theory

Social capital encompasses the networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit (Putnam & Bowling, 2000). In the context of social organic farming, social capital can foster collaboration among farmers, social workers, and community members, thereby enhancing resource sharing, knowledge exchange, and support systems (Putnam & Bowling, 2000).

Community-Based Participatory Research (CBPR)

CBPR is a collaborative approach to research that actively involves all stakeholders in the research process, ensuring that the research addresses community needs and that findings are applied to benefit the community (Israel, et al., 1998). Within social organic farming, CBPR engages farmers, social workers, and local communities in identifying challenges, co-developing solutions, and implementing and evaluating interventions, ensuring sustainability and relevance (Israel, et al., 1998).

Social Innovation Theory

Social innovation refers to the development and implementation of new ideas, strategies, and projects that meet social needs and create new social relationships or collaborations (Murray et al., 2010). In organic farming, social innovation includes introducing new farming practices, social work interventions, and community projects that address agricultural and social issues, such as unemployment, social inclusion, and sustainable development (Murray et al., 2010).

Integrated Theoretical Framework

The integrated framework leverages Social Capital Theory to foster networks and trust among stakeholders, promoting cooperative behaviours and resource sharing (Putnam & Bowling, 2000). CBPR emphasizes the engagement of community members in the research process to ensure that research addresses local needs and priorities (Israel, et al., 1998). Social Innovation Theory underscores the importance of developing new practices and interventions to tackle both social and agricultural challenges, resulting in new collaborations and social relationships (Murray et al., 2010).

By combining Social Capital Theory, CBPR, and Social Innovation Theory, this framework addresses the competencies required for social organic farming in selected regions. Building social capital encourages cooperation and trust among stakeholders (Putnam & Bowling, 2000). CBPR ensures that research is

community-driven and addresses local needs (Israel, et al., 1998). Social innovation introduces new practices and collaborations that meet both agricultural and social challenges, fostering sustainable and inclusive development in organic farming (Murray et al., 2010).

Materials and Methods

Introduction of themes

Identifying the essential competencies crucial for success in social organic farming (SOF) is vital for crafting both the job profile of the social organic farmer and the foundation of the training curriculum. These competencies encompass knowledge, skills, and attitudes necessary for personal growth and development, as defined by the European Qualifications Framework (Tuomisto et al., 2012; EQF, 2008; EUC, 2008). 'Knowledge' signifies the acquisition of information through learning, including facts, principles, theories, and practices relevant to the field of study or work. 'Skills' denote the ability to apply knowledge and know-how to tackle tasks and solve problems, categorised as cognitive or practical skills. 'Attitude' represents a predisposition or inclination to respond positively or negatively to various stimuli, such as supporting acceptance and reducing prejudiced behaviour.

Research Methods

Fig.1 describes the competence areas (topic related focus areas) necessary to the development of the social organic farming training program and the description of the ideal social organic farmer profile.

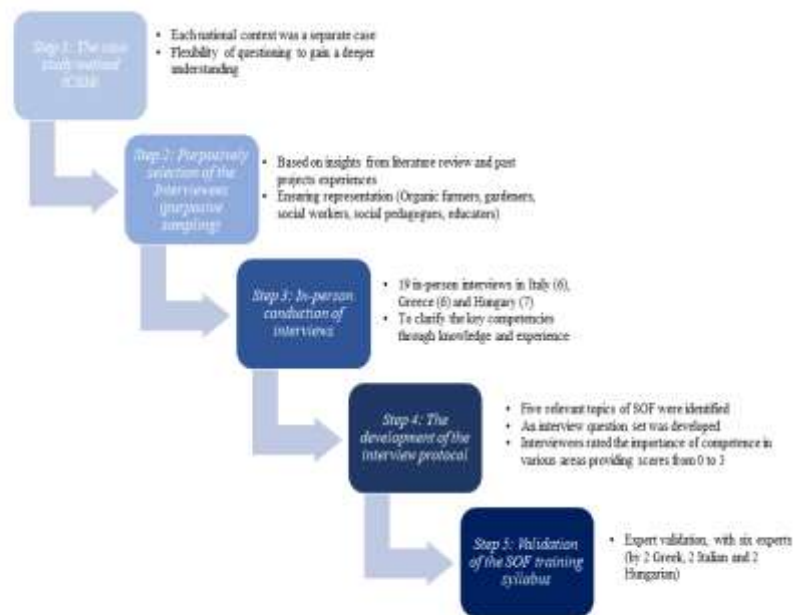


Figure 1 Interrelated steps of the research

Step 1: The case study method (CSM) was employed, treating each national context as a separate case, with a minimum of six interviews conducted per case. Semi-structured interviews were used within the framework of CSM, allowing the flexibility of questioning to gain a deeper understanding of specific issues (Creswell & Poth, 2018; Yin, 2018).

Step 2: Interviewees were purposively selected (purposive sampling) based on in-sights from literature review and past projects experiences, ensuring representation from relevant professions in SOF, including the 'green' or agricultural sector (organic farmers, gardeners), the social sector (social workers), and the educational sector (social pedagogues, educators) (Patton, 2015; Palys, 2008).

Step 3: A total of 19 in-person interviews were conducted across Italy (6), Greece (6), and Hungary (7), lasting from 40 to 90 minutes each. The purpose of the interviews was to clarify the key competencies through the knowledge and experiences of the parties interested in social and organic management. Interviewee details, including position, work experience, involvement in social farming, client demographics, and farm type, were recorded (Table 1).

In Hungary, 7 interviews were conducted with social workers (3 persons), organic social farmers (2 persons), and educators (2 persons). The profile of the Hungarian interviewees is shown in the first section of table 1.

In Italy, 6 interviews were conducted: 2 with organic farmers, 2 with educators, and 2 with social workers. The profile of the Italian interviewees is shown in the second section of Table 1. Likewise, a dedicated section reflects on the profile of the Greek interviewees. Six interviews were conducted with social workers (2 people), organic social farmers (2 people), and educators (2 people) in Greece.

Table 1 Profile of the interviewees in Hungary, Italy and Greece

Country	Profession	Actual Work	SOF Experience (Years)	Clients	Clients/Farm	Type of Farm
HU1	Pedagogical Assistant	Volunteer at social farm/institute	2	People with mental disabilities (PWD)	4+7	Organic garden, institute
HU2	Organic Farmer	Farm Manager	2	Disadvantaged women	4	Organic farm
HU3	Social Assistant	Project Coordinator	2	PWD	10	Organic/social garden
HU4	Forest Engineer	Social Farmer	2.5	Limited capacity, addicts	3	Organic/social garden
HU5	Educator	University Educator		Students, farmers	—	—
HU6	Educator	Teaching SOF	5	Students, farmers	—	—
HU7	Social Worker	Charity Association Employee	15	Roma minorities, women, PWD	Varies	Arable land
IT1	Organic Farmer	HR & Tech Manager	10	Consumers, disadvantaged people	10	Veg & arable organic farm
IT2	Organic Farmer	Farm & Social Farm Manager	10	Consumers, disadvantaged people	4 employees, 10 guests	Veg & arable organic farm
IT3	Educator	Educator Assistant at social farm	10	Disadvantaged people	—	—
IT4	Educator	Educator Assistant at social farm	5	Disadvantaged people	—	—

IT5	Social Worker	Coordinator for social inclusion	4	Disadvantaged people	Varies	Social home, social farm
IT6	Social Worker	Social Assistant	2	Disadvantaged people	Varies	Social home, social farm
GR1	Agronomist, Trainer	Coordinator for organic farming	20	Inmates	~100	Organic farm
GR2	Organic Farmer, Agronomist	Organic Farming Operations	10	Inmates	~100	Organic farm
GR3	Social Worker	Worker at Agricultural Detention Office	20	Inmates	~100	Therapy farm
GR4	Trainer	Coordinator for organic farming	4	Disadvantaged women, unemployed	6	Organic farm
GR5	Social Worker	Social Assistant, Farmer	4	Disadvantaged women, unemployed	6	Organic farm
GR6	Unemployed	Farmer	4	Disadvantaged women, unemployed	6	Organic farm

Step 4: The development of the interview protocol was based on a comprehensive understanding of SOF principles derived from in-depth exploration and analysis within the field. Accordingly, five relevant topics for SOF have been identified: farming, social work, farm economics, social farming, and personal competences (Posner & Rudnitsky, 2006; Tyler, 2013; Steininger et al., 2019; Jarábková et al., 2022). Within each topic, the focus areas were meticulously defined and organised based on competence criteria – knowledge, skills and attitudes – as defined in the European Qualifications Framework (EQF, 2008; EUC, 2008). An interview question set was developed, organised by focus areas, to guide the interview process (E.g., Management methods (practice) (S): ‘How important do you consider the organisation, scheduling and advanced planning of social activities during farming?’ Openness (A): ‘In your opinion, how important is openness to new things such as involving new target groups in the work, applying a new therapeutic method in your activities?’ (Table 2). It should be noted that, because of the qualitative nature of the research, the number of focus areas and related questions may vary.

Table 2 Key SOF curriculum topics and focus areas identified by K: Knowledge; S: Skills; A: Attitude

Topic and focus areas	Topic and focus areas
<i>Farming</i>	<i>Social Work</i>
Basic concept and terms (K) Basics of organic farming (requirement, legislation, techniques, etc.) (K) Philosophy of organic farming (e.g., 4 IFOAM organic farming principles) (A) Soil and plant science (including relevant technology) (K) Animal husbandry (including relevant technology) (K) EU agricultural policy (Including system of funding) (K) Commitment for sustainability (A)	Basic concept and terms (K) Clients (different kinds of clients; disease patterns, needs, requirements) (K) Legal basis (K) Social policy (K) Pedagogy, didactics and methods (K) Communication (theories; internal and external communication - clients, colleagues, customers, neighbours, business partners; people skills - conflict resolution, negotiation, communication; work instruction) (S)
<i>Farm Economics</i>	<i>Social Farming</i>

Marketing (theory) (K)	Basic concept and terms (principles, background, diversity of social farming in Europe) (K)
Marketing methods in practice (S)	Philosophy of social farming (A)
Business start-up (concept, business plan, regulations) (K)	Networks (S)
Financial calculation (general knowledge and skills needed in farming) (K)	Care and therapeutic activities on a SF (theory) (K)
	Care and therapeutic activities on a SF (practice) (S)
	National regulations on SF (health care, safety, qualification standards) (S)
	Financial system, funding opportunities (S)
	Management methods (theory) (organisational structures and processes, time management) (K)
	Management methods (practice) (S)

Personal competences

Understanding of human nature (S)
Empathy (S)
Openness (A)
Life experience (S)
Creativity (S)
Patience (A)
Willingness to personal self-development (A)
Willingness to professional self-development (A)

Interviewees rated the importance of competencies in various areas, providing scores ranging from 0 to 3 (0: the topic was not even mentioned or denied in reply to a direct question; 1: the topic mentioned but with weak demand; 2: the topic preferably demanded, that is, strong demand; 3: the topic demanded as essential). A pilot inter-view was made to see those parts, which should be improved. Additionally, comments were collected to gather additional insights and recommendations for the curriculum. This methodology facilitated the exploration and formulation of general requirements from the perspective of interviewees, laying the groundwork for both the specific SOF curriculum development and the delineation of the social organic farmer job profile.

Step 5.: Finally, the SOF training syllabus underwent expert validation, with six experts (by 2 Greek, 2 Italian and 2 Hungarian) providing comments and suggestions to enhance the curriculum (Kvale & Brinkmann, 2009).

Results

Analyses of the competence areas based on the interviews

In Hungary, the highest-rated competency was skills in social farming (99), while Greece emphasized knowledge in social work (77), and Italy prioritized knowledge in farming (77) (Fig. 2). The second-highest scores were for farming knowledge (94 in Hungary), social farming skills (75 in Greece), and social work knowledge (72 in Italy). In Hungary, attitude scored higher than skills, while in Italy, both were equally valued. Across the three countries, skills in social management ranked significantly higher than knowledge or attitude, especially in social farming (Fig. 3).

Figure 2 displays the most important training fields per country, showing Hungary's higher scores due to a larger respondent pool.

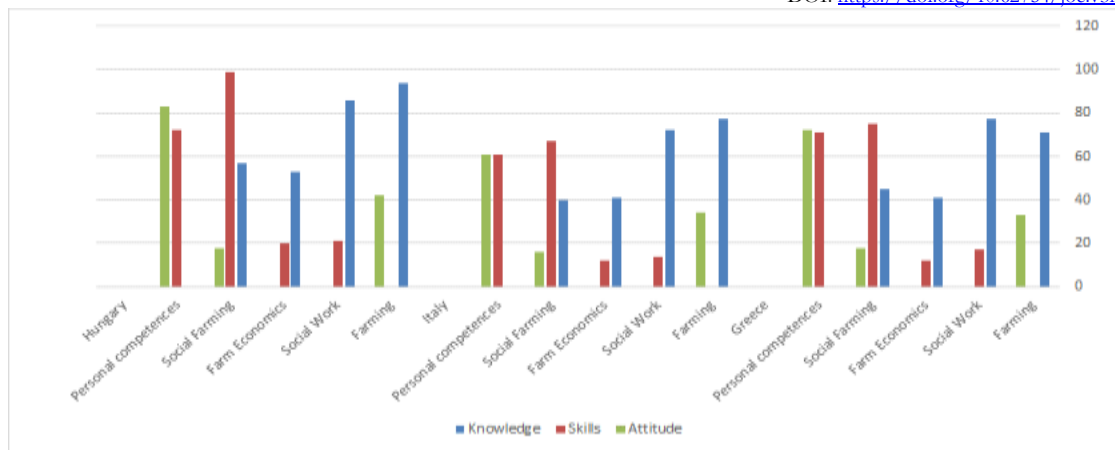


Fig. 2 The most important topics (field of needed training) in the different countries

Figure 3 demonstrates that knowledge is critical for farming, while skills are essential in social farming, and attitude is key in personal competencies.

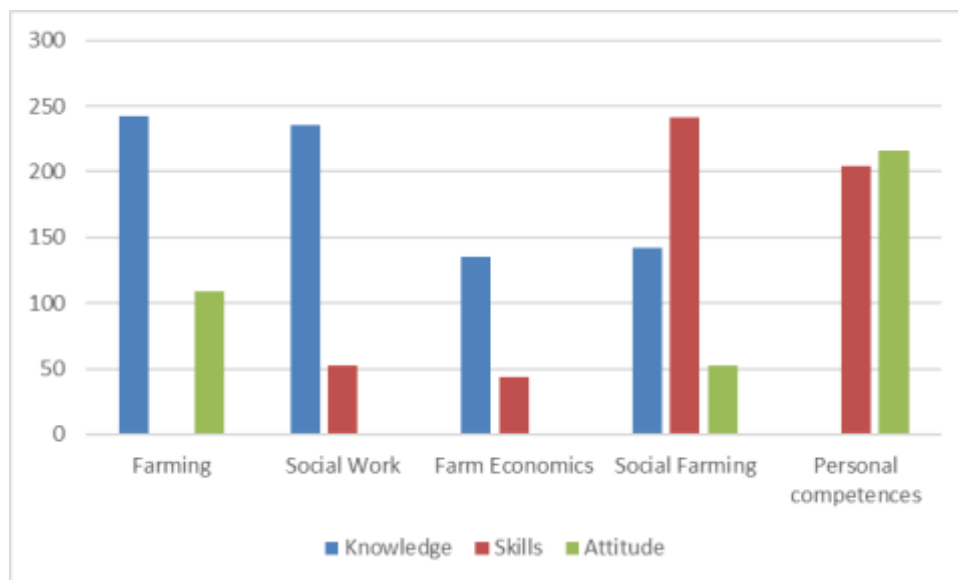


Fig. 3 The most important competencies related to the different topics

Despite fewer questions related to attitude, it scored highly across all countries, reflecting its importance in social organic farming (Fig. 4). Attitude, particularly social sensitivity, is crucial in ecological farming. Overall, knowledge ranked highest (754 points), followed by skills (541), and attitude (377), illustrating the significance of education, particularly in farming and social work.

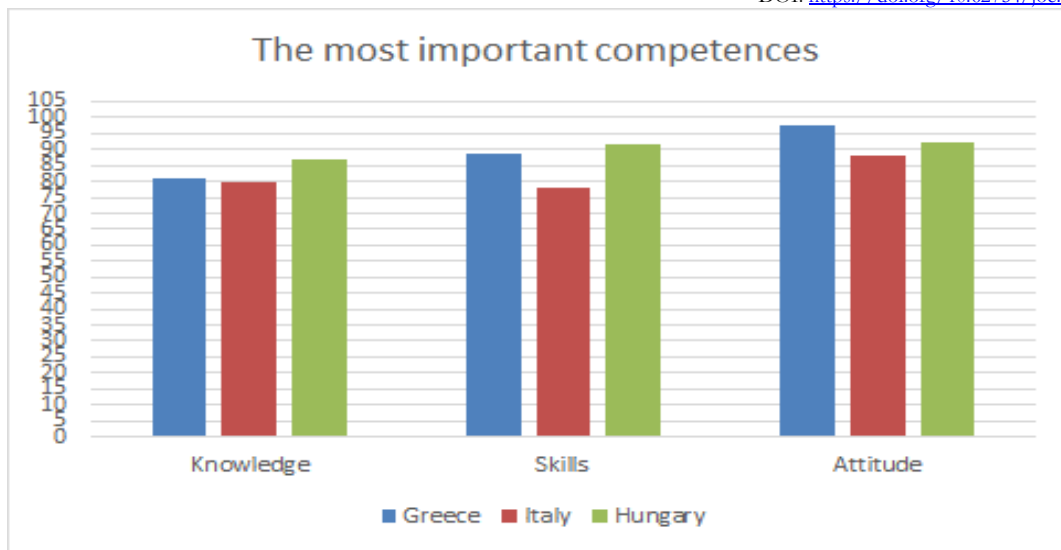


Fig. 4 The most important competencies in the different countries

In specific knowledge areas, the highest-rated topics were care and therapeutic activities, social policy, and organic farming (Fig. 5). Skills emphasized included empathy, therapeutic activity, and understanding human nature (Fig. 6). Patience and commitment to sustainability were the top-rated attitudes (Fig. 7).



Fig. 5 Topics related to knowledge. Note: The maximum possible score for each item was 57.



Fig. 6 Topics related to skills. Note: The maximum possible score for each item was 57.



Fig. 7 Topics related to attitude. Note: The maximum possible score for each item was 57.

The ideal social organic farmer profile

The ideal social organic farmer requires competencies across five key areas: Farming, Social Work, Farm Economics, Social Farming, and Personal Competencies. Interviewees and experts highlighted the importance of self-reflection, stress management, and network-building. They emphasized the necessity of integrating local connections, which facilitate collaboration with local NGOs and government bodies for community projects. Being part of broader social and organic farm networks enhances access to funding and knowledge transfer.

Therapeutic methods tailored to specific groups, such as individuals with addiction or mental health challenges, were seen as essential knowledge areas. Farm activity and educational planning were also critical competencies. In Italy, experts emphasized integration planning and collaboration with intermediaries

familiar with the target groups. Experts also suggested including “needs analysis of farm actors” as a critical skill, essential for well-designed social organic farms (Table 3, 4, 5).

Table 3 highlights key knowledge areas like care and therapeutic activities, social policy, and organic farming.

Topics	Focus Areas
Farming	Basic concepts and terms Organic farming Soil and plant science (including relevant technology) Animal husbandry (including relevant technology) EU agricultural policy (including system of funding)
Social Work	Basic concepts and terms Clients (different kinds of clients; disease patterns, needs, requirements) Legal basis Social policy Pedagogy, didactics and methods <i>Therapeutic methods in social farms*</i>
Farm Economics	Marketing (theories) Business start-up (concepts, business plan, regulations) Financial calculation (general knowledge and skills needed in farming)
Social Farming	Basic concept and terms (principles, background, diversity of Social Farming (in Europe)) Care and therapeutic activities on a SF (theory) Management methods (organisational structures and processes, time management) (theory) <i>Farm activities planning*</i> <i>Educational planning*</i> <i>Integration planning*</i> <i>Farm actors' needs analysis*</i>
Personal Competences	

Table 3 Knowledge (competence) topics and focus areas to be acquired to become an ideal social organic farmer

*italics indicate those focus areas that interviewees (19) and experts (6) recommended

Table 4 focuses on important skills such as empathy, network-building, and farm activity planning.

Topics	Focus Areas
Farming	<i>Network building and social capital related to farming*</i>
Social Work	Communication (theories) Internal communication (with clients, colleagues) External communication (with customers, neighbours, business partners) People skills (conflict resolution, negotiation, work instruction) <i>Stress management*</i>
Farm Economics	Marketing methods in practice
Social Farming	Networks (local or national networks related to Social Farming) Care and therapeutic activities on a SF (practice)

	National regulations on SF (health care, safety, qualification standards) Financial system, funding opportunities Management methods (practice) <i>Farm activities planning*</i> <i>Educational planning*</i> <i>Integration planning*</i> <i>Farm actors' needs analysis*</i>
Personal Competences	Understanding of human nature Empathy Life experience <i>Creativity *</i>

Table 4 Skills (competence) topics and focus areas to be acquired to become an ideal social organic farmer

*italics indicate those focus areas that interviewees (19) and experts (6) recommended

Table 5 lists key attitudes like patience and commitment to sustainability, essential for social organic farming success.

Topics	Focus Areas
Farming	Philosophy of organic farming Commitment for sustainability
Social Work	
Farm Economics	
Social Farming	Philosophy of Social Farming
Personal Competences	Openness Patience Willingness to personal self-development Willingness to professional self-development <i>Self-reflection and motivation*</i>

Table 5 Attitude (competence) topics and focus areas to be adopted to become an ideal social organic farmer

*italics indicate those focus areas that interviewees (19) and experts (6) recommended

This analysis underlines the importance of balancing knowledge, skills, and attitudes, especially in promoting personal and social development within social organic farming.

Discussion

There is a limited amount of research specifically addressing the training and ideal profile of social organic farmers, which highlights the distinctiveness of our research. Despite this gap in literature, we compared relevant elements of our results with existing studies.

Drawing from our findings, it is crucial to prioritize certain areas in the vocational training curriculum for social organic farmers (SO). These include enhancing skills and knowledge in 'social farming,' shaping attitudes and abilities in 'personal competence,' and conveying knowledge in 'social work,' 'farming,' and 'farm economics.' These recommendations are consistent with a circular and holistic approach, which emphasizes the integration of social, environmental, and health considerations into training programs to meet societal needs.

In terms of the Knowledge category, the topics ranked as 'extremely important' were not significantly different from those considered 'less important' but still relevant to the interviewees. Consistent with interdisciplinary education, the interviewees emphasized that while a team member can specialize in specific activities (e.g., legal issues, marketing, and basic social work concepts), it is advantageous if everyone possesses a general understanding of these areas. This reflects the circular and holistic philosophy, where the interconnection between social, economic, and environmental aspects is crucial for the success of sustainable practices. Furthermore, the SO farmer should have a broad overview of all relevant topics to effectively manage a social organic farm. This finding resonates with other studies that support the idea that, although specialization is beneficial, having a comprehensive understanding across various domains is crucial for successful farming practices, fostering the need for continuous knowledge enhancement (Carreón et al., 2011; Chauhan et al., 2023).

Our study also found that knowledge related to organic farming scored highly. This is because organic farming demands a high level of technical expertise. In alignment with sustainable practices, other studies have demonstrated that training programs can significantly enhance farmers' learning abilities, improving their skills and knowledge in organic farming techniques (Bhanu et al., 2022).

However, it is important to note that many individuals involved in organic farming come from non-agricultural backgrounds and are motivated by their dedication to nature. This phenomenon, supported by studies (Yadav et al., 2023; Gabriel-Ortega, 2022), is attributed to the sustainable practices emphasized in organic farming, such as the use of organic fertilizers, promoting soil health, reducing pollution, and conserving natural resources. Given this, the target group requires foundational training in organic farming principles, philosophy, and practical techniques, consistent with the training frameworks, which often advocate for nature-based learning approaches.

The pedagogy theme also received high ratings in the Knowledge category. The 'learning by doing' approach, foundational to educational and social farms, is an essential pedagogical model in social organic farming. According to other research, educational farms serve as key platforms for experiential learning, enabling participants to connect theoretical knowledge with practical application (Panyakom et al., 2020). These findings align with applied and experiential learning methodologies, which enhance learning outcomes through hands-on agricultural activities (Pace et al., 2014).

Educators and trainers must also be mindful when selecting participants for the SO farmer vocational training program. For example, while fundamental farming knowledge is critical for all participants, social workers rely on the farmers' expertise from their professional background. Specific knowledge, such as soil and plant science, is especially crucial when the farm's output is intended for market production rather than therapeutic purposes. These considerations are in line with tailoring training programs to the specific goals of environmental sustainability and social welfare.

It is also evident that workers on social organic farms must stay updated on the rapidly evolving EU agricultural policies. Many interviewees emphasized the need for collaboration in training, funding, and knowledge sharing with similar entities, a point underscored in Social Capital Theory. This theory suggests that community networks and relationships are critical resources that enhance the exchange of knowledge and support among social organic farmers (Śpiewak & Jasiński, 2019; Malusà et al., 2022).

Understanding the diverse needs of vulnerable target groups is also vital, as highlighted by the interviewees. For example, when working with autistic children, it is important to have structured garden spaces with labeled plots. Skills in human capital management are necessary, as farm staff must collaborate with individuals from diverse backgrounds. Both social workers and farm staff must manage these relationships effectively to create a supportive and inclusive environment, a concept that focuses on social inclusion and health equity in community settings.

In the context of social work, interviewees noted that 'Pedagogy didactics and methods in social work' is a critical knowledge area, while 'care and therapeutic activities on a social farm' is an essential skill for improving the conditions of farm clients. However, the importance of these areas may vary depending on

the specific type of social farm and the needs of its clients. This finding resonates with personalized, community-based care approaches that cater to the specific needs of vulnerable populations.

Time management was another key skill identified by interviewees. Efficient farm operations require careful planning and scheduling throughout the season. Personal competencies such as empathy, understanding human nature, and openness were also deemed essential by interviewees. These findings are consistent with research, which often emphasizes the importance of personal and interpersonal competencies in health-related fields, including agriculture and social care (Sergeeva et al., 2018; Vasylenko et al., 2019).

Moreover, interviewees considered the attitude of self-development, life experience as a skill, and commitment to sustainability as crucial aspects of the SO farmer profile. Identifying with the philosophy of organic farming was also regarded as an important attitude, particularly when linking organic production with social work, a point echoed in other studies (Kretschmer et al., 2021). These perspectives are in line with circular development and the integration of environmental and social objectives in professional roles.

In terms of working methodology, it was found that social farming is not an individual endeavour but requires strong teamwork. The success of social agriculture depends on networking, which can be difficult to teach due to the influence of methods, current regulations, psychology, and even stereotypes. This finding aligns with the Social Innovation Theory, which posits that innovations spread through social systems and that the adoption of social organic farming practices is facilitated by effective communication and collaboration within the farming community.

Lastly, the use of Community-Based Participatory Research (CBPR) methods in developing vocational training programs can ensure that curricula are designed to meet the specific needs and contexts of the communities involved. CBPR, often highlighted in studies, emphasizes the active participation of community members in the research process, which leads to more relevant and effective training programs that address the unique challenges and opportunities in social organic farming.

Conclusions

The key competencies for success in Social Organic Farming (SOF) include a mix of knowledge, skills, and attitudes essential across Hungary, Greece, and Italy. Stakeholders highlight the importance of focusing on social farming topics to develop expertise and personal growth. Organic farming, which demands advanced technical knowledge, requires a holistic understanding of social work, farming techniques, and economics. Continuous learning and adapting to EU agricultural policies are vital for SOF. Essential skills like empathy, time management, and human capital management, alongside attitudes of sustainability and teamwork, are crucial for effective collaboration and successful farm operations.

Limitations

This study, while comprehensive in its approach to understanding the competencies required for social organic farming (SOF) and the development of vocational training syllabi, has several limitations that must be considered.

The geographical scope is limited to Hungary, Greece, and Italy, which may restrict the generalizability of the findings to other European countries or regions with different agricultural practices, cultural contexts, and socioeconomic conditions.

Additionally, although efforts were made to include diverse stakeholders from agriculture, social work, and education, the sample size and the representation of the interested groups might not fully capture the wide range of perspectives and experiences present in the broader population of stakeholders involved in SOF.

The reliance on interviews means that the data is self-reported, which can be influenced by participants' biases, recall inaccuracies. Moreover, the study captures a snapshot in time, and the competencies,

educational prerequisites, and vocational training needs identified might evolve as broader agricultural practices continue to develop. Therefore, the findings might need updating as new challenges emerge.

Furthermore, the study does not fully account for the variability in national and regional policies and institutional support structures that can significantly impact the implementation and success of SOF practices. These external factors can influence the applicability and effectiveness of the identified competencies and training programs.

Lastly, the study does not include a longitudinal component to assess the long-term impact of the identified competencies and training programs on sustainable and inclusive ecosystems. Long-term studies are necessary to validate the enduring effectiveness of the proposed educational interventions. Addressing these limitations in future research can enhance the robustness and applicability of the findings, providing a more comprehensive understanding of the competencies required for SOF and the development of effective vocational training programs.

Appendix A

Topic (competence)	average score	GR	IT	HU
Farming				
Basic concept and terms (K)	2,58	2,33	2,67	2,71
Organic farming (K)	2,74	2,50	2,83	2,86
Philosophy of organic farming (A)	2,53	2,50	3,00	2,14
Soil and plant science (including relevant technology) (K)	2,53	2,50	2,33	2,71
Animal husbandry (including relevant technology) (K)	2,37	1,83	2,50	2,71
EU agricultural policy (including system of funding) (K)	2,26	2,67	2,50	1,71
Commitment for sustainability (A)	2,74	3,00	2,67	2,57
Social Work				
Basic concept and terms (K)	2,32	2,83	2,33	1,86
Clients (different kinds of clients; disease patterns, needs, requirements) (K)	2,68	2,83	2,33	2,86
Legal basis (K)	2,05	1,50	2,17	2,43
Social policy (K)	2,74	3,00	2,50	2,71
Pedagogy, Didactics and methods (K)	2,58	2,67	2,67	2,43

Communication (S) (theories; internal and external communication - clients, colleagues, customers, neighbours, business partners; people skills - conflict resolution, negotiation, communication; work instruction)	2,11	2,83	2,33	1,29
Farm Economics				
Marketing (K) (theories)	2,11	2,17	2,00	2,14
Marketing methods in practice (S)	1,84	2,00	2,00	1,57
Business start-up (concepts, business plan, regulations) (K)	2,32	2,17	2,00	2,71
Financial calculation (K) (general knowledge and skills needed in farming)	2,68	2,50	2,83	2,71
Social Farming				
Basic concept and terms (principles, background, diversity of Social Farming (in Europe)) (K)	2,37	2,33	2,00	2,71
Philosophy of social farming (A)	2,74	3,00	2,67	2,57
Networks (local or national networks related to Social Farming) (S)	2,05	2,83	2,17	1,29
Care and therapeutic activities on a SF (theory) (K)	2,74	2,83	2,83	2,57
Care and therapeutic activities on a SF (practice) (S)	2,32	2,83	3,00	1,29
National regulations on SF (Health care, safety, qualification standards) (S)	1,53	1,50	2,00	1,14
Financial system, funding opportunities (S)	2,11	2,67	2,00	1,71
Management methods (organisational structures and processes, time management) (theory) (K)	2,05	1,33	1,83	2,86
Management methods (practice) (S)	2,11	2,67	2,00	1,71
Personal competences				
Understanding of human nature (S)	2,32	3,00	2,33	1,71
Empathy (S)	2,53	3,00	3,00	1,71
Openness (A)	2,84	3,00	2,67	2,86

Life experience (S)	2,11	2,83	2,67	1,00
Creativity (S)	2,21	3,00	2,17	1,57
Patience (A)	2,89	3,00	2,67	3,00
Willingness to personal self-development (A)	2,68	2,50	2,50	3,00
Willingness to professional self-development (A)	2,63	2,50	2,33	3,00

Table 6 Countries' average scores relating to the different focus areas (3 points are the maximum)

The points (average scores) obtained from the questionnaire evaluation assist institutions interested in implementing a SO farmer curriculum in determining a suggested hierarchy of importance among focus areas. For in-stance, focus areas that received higher scores are prioritized and may receive more credits during the training program. Based on the competences - which describe the subject areas requiring knowledge or skills and attitude - it is recommended to determine the number of practical and theoretical hours. Additionally, incorporating farm visits and practical placements into the curriculum is advised. The characteristics of each country and the profile of educational institutions differ. Training largely depends on specific needs, the duration of the program, enrollment requirements, and other factors. However, what is important are the topics and focus areas listed in Table 2. The topics suggested by the experts (refer to Table 3,4 and 5) should be integrated into the SO farmer training program to ensure an interdisciplinary approach covering various fields of expertise.

References

- Andersen, E., & Elings, M. (2008). Social farming and social inclusion: Possibilities for rural development. In A. Fischer (Ed.), *Agricultural landscapes: Proceedings of the 1st international multidisciplinary conference on agricultural landscapes* (pp. 167–174).
- Bassi, I., Nassivera, F., & Piani, L. (2016). Social farming: A proposal to explore the effects of structural and relational variables on social farm results. *Agricultural Economics*, 4, 13. <https://doi.org/10.1186/s40100-016-0057-6>
- Bhanu, C., Ravisankar, N., Ghasal, P. C., Choudhary, J., Singh, R., Raghvendra, K. J., Meena, A. L., Meena, L. K., Dutta, D., & Mishra, R. P. (2022). Knowledge-based assessment of trained certified farm advisors (CFA) on organic farming. *Indian Journal of Agricultural Sciences*, 92, 85–89. <https://doi.org/10.56093/ijas.v92i1.120845>
- Carreón, J. R., Jorna, R. J., Faber, N., & Van Haren, R. (2011). A knowledge approach to sustainable agriculture. In M. Behnassi, S. Draggan, & S. Yaya (Eds.), *Global food insecurity* (pp. 11–20). Springer. https://doi.org/10.1007/978-94-007-0889-1_2
- Casagrande, M., Peigné, J., Payet, V., Mäder, P., Sans, F. X., Blanco-Moreno, J. M., Antichi, D., Bärberi, P., Beeckman, A., & Bigongiali, F. (2016). Organic farmers' motivations and challenges for adopting conservation agriculture in Europe. *Organic Agriculture*, 6, 281–295. <https://doi.org/10.1007/s13165-015-0136-0>
- Chauhan, L., Kaur, M., Chandra, S., & Jaryal, R. D. (2023). Evaluating constraints faced by farmers in the adoption of Paramparagat Krishi Vikas Yojana in Rajasthan State of India. *Asian Journal of Agricultural Extension, Economics & Sociology*, 41, 804–813. <https://doi.org/10.9734/ajaees/2023/v41i102228>
- Courts, B., Csapó, B., Csibi, J., Gyóí, G., Gyóiné Török, I., Kléger, A., Moudrý, J., Signoriello, I., Ujj, A., & Pereira, R. (2020). *Trainers' guide: Social farm mentor training*.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). SAGE.

- Czyżewski, B., Kłodowska, M., Matuszczak, A., Matuszewska, A., & Śmidoda, D. (2018). Social sustainability in agricultural farms with selected types of production in European Union countries. *Annals of the Polish Association of Agricultural and Agribusiness Economists*, 20, 35–40. <https://doi.org/10.5604/01.3001.0012.2939>
- De Vivo, C., Ascani, M., & Gaito, M. (2019). Social farming and inclusion in EU ESI funds programming. *Italian Review of Agricultural Economics*, 53–60. <https://doi.org/10.13128/REA-10853>
- Dessein, J., & Bock, B. (2010). The economics of green care in agriculture: COST866 Green care in agriculture. Loughborough University.
- Di Iacovo, F., & Vadnal, K. (2009). Supporting policies for social farming in Europe: Progressing multifunctionality in responsive rural areas. *Arsia*.
- Eizenberg, E., & Jabareen, Y. (2017). Social sustainability: A new conceptual framework. *Sustainability*, 9, 68. <https://doi.org/10.3390/su9010068>
- Eurostat. (2020). Integrated farm statistics, preliminary data.
- FIBL. (2015). Sustainability and quality of organic food.
- Gabriel-Ortega, J. (2022). Organic farming: Truth or myth, judge for yourself. *Journal of Selva Andina Research Society*, 13, 95–99. <https://doi.org/10.36610/j.jsars.2022.130200095x>
- Gillwald, K. (2000). Concepts of social innovation.
- Guerra, J. S. (2003). Institutional innovation for sustainable agriculture and rural resources management: Changing the rules of the game. Wageningen.
- Hassink, J., De Bruin, S. R., Berget, B., & Elings, M. (2017). Exploring the added value of green care farms for people with dementia. *Journal of Housing for the Elderly*, 31, 278–294.
- Hassink, J., Elings, M., Zweekhorst, M. B., & Van den Nieuwenhuizen, N. (2010). Sowing, growing, sharing: Developing a framework for evaluating social farming. *Care Farming UK Conference Proceedings*, 1–13.
- Hine, R., Peacock, J., & Pretty, J. (2008). Care farming in the UK: A scoping study. National Care Farming Initiative.
- Hudcová, E., Chovanec, T., & Moudrý, J. (2018). Social entrepreneurship in agriculture, a sustainable practice for social and economic cohesion in rural areas: The case of the Czech Republic. *European Countryside*, 10, 377–397. <https://doi.org/10.2478/euco-2018-0022>
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173–202. <https://doi.org/10.1146/annurev.publhealth.19.1.173>
- Jarábková, J., Chreneková, M., & Varecha, L. (2022). Social farming: A systematic literature review of the definition and context. *European Countryside*, 14, 540–568. <https://doi.org/10.2478/euco-2022-0027>
- Kabil, M., Rahmat, A. F., Hegedűs, M., Galovics, B. & Dávid, L. D. (2024). Circular Economy and Tourism: A Bibliometric Journey through Scholarly Discourse. *Circular Economy (Berlin)*, 2(1), Paper: HGWO7144, 21p. <https://doi.org/10.55845/HGWO7144>
- Kinsella, J., O'Connor, D., Smyth, B., Nelson, R., Henry, P., Walsh, A., & Doherty, H. (2014). *Social farming handbook: Guidelines for considering, planning, delivering and using social farming services in Ireland and Northern Ireland*. University College Dublin.
- Kociszewski, K., Graczyk, A., Mazurek-Łopacińska, K., & Sobocińska, M. (2020). Social values in stimulating organic production involvement in farming—The case of Poland. *Sustainability*, 12, 5945. <https://doi.org/10.3390/su12155945>
- Kretschmer, S., Langfeldt, B., Herzig, C., & Krikser, T. (2021). The organic mindset: Insights from a mixed methods grounded theory (MM-GT) study into organic food systems. *Sustainability*, 13, 4724. <https://doi.org/10.3390/su13094724>
- Kummer, S., Igelsperger, L., Hauser, M., Vogl, C. R., & Chowdhury, A. (2010). Knowledge systems, innovations, and social learning in organic farming.

- Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). SAGE Publications.
- LaSalle, T., & Hepperly, P. (2008). Regenerative organic farming: A solution to global warming.
- MacRae, R. J., Frick, B., & Martin, R. C. (2007). Economic and social impacts of organic production systems. *Canadian Journal of Plant Science*, 87, 1037–1044. <https://doi.org/10.4141/CJPS07135>
- Malusà, E., Furmanczyk, E. M., Tartanus, M., Brouwer, G., Parveaud, C.-E., Warlop, F., Kelderer, M., Kienzle, J., Alcazar Marin, E., & Dekker, T. (2022). Knowledge networks in organic fruit production across Europe: A survey study. *Sustainability*, 14, 2960. <https://doi.org/10.3390/su14052960>
- Mani, V., Agarwal, R., Gunasekaran, A., Papadopoulos, T., Dubey, R., & Childe, S. J. (2016). Social sustainability in the supply chain: Construct development and measurement validation. *Ecological Indicators*, 71, 270–279. <https://doi.org/10.1016/j.ecolind.2016.07.007>
- Melchior, I. C., & Newig, J. (2021). Governing transitions towards sustainable agriculture—Taking stock of an emerging field of research. *Sustainability*, 13, 528. <https://doi.org/10.3390/su13020528>
- Moudrý, J., Küffnerová, N., & Hudcová, E. (2020). The textbook: Social farming in higher education - Teaching and learning material for university level courses.
- Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. National Endowment for Science, Technology, and the Arts & Young Foundation.
- Nazzaro, C., Uliano, A., & Marotta, G. (2021). Drivers and barriers towards social farming: A systematic review. *Sustainability*, 13, 14008. <https://doi.org/10.3390/su132414008>
- Nicolosi, A., Laganà, V. R., Di Gregorio, D., & Privitera, D. (2021). Social farming in the virtuous system of the circular economy: An exploratory research. *Sustainability*, 13, 989. <https://doi.org/10.3390/su13020989>
- Padel, S. (2001). Conversion to organic farming: A typical example of the diffusion of an innovation? *Sociologia Ruralis*, 41, 40–61. <https://doi.org/10.1111/1467-9523.00169>
- Palys, T. (2008). Purposive sampling. In L. M. Given (Ed.), *The Sage encyclopedia of qualitative research methods* (pp. 697–698). Sage Publications.
- Panyakom, R., Pongsuk, P., Intorrathed, S., & Hongmaneerat, K. (2020). A new way of agricultural farm work in the educational facilitation of dual education between vocational education and upper secondary school curricular programs. *Journal for the Education of Gifted Young Scientists*, 8, 935–946. <https://doi.org/10.17478/jegys.711312>
- Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R. T., Başak Dessane, E., Islar, M., & Kelemen, E. (2017). Valuing nature's contributions to people: The IPBES approach. *Current Opinion in Environmental Sustainability*, 26–27, 7–16. <https://doi.org/10.1016/j.cosust.2016.12.006>
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.
- Pace, R., Dipace, A., di Matteo, A., & Contó, F. (2014). On-site and online learning paths for an educational farm. *Pedagogical perspectives for knowledge and social development. Research on Education and Media*, IV, 39–56.
- Posner, G. J., & Rudnitsky, A. N. (2006). *Course design: A guide to curriculum development for teachers* (7th ed.). Pearson/Allyn and Bacon.
- Pretty, J. (2008). *Agroecological approaches to agricultural development*.
- Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. In *Proceedings of the 2000 ACM conference on computer-supported cooperative work* (p. 357). ACM.
- Röös, E., Fischer, K., Tidåker, P., & Nordström Källström, H. (2019). How well is farmers' social situation captured by sustainability assessment tools? A Swedish case study. *International Journal of Sustainable Development & World Ecology*, 26, 268–281. <https://doi.org/10.1080/13504509.2018.1560371>
- Rutherford, K. M. D., Langford, F. M., Jack, M. C., Sherwood, L., Lawrence, A. B., & Haskell, M. J. (2008). Hock injury prevalence and associated risk factors on organic and nonorganic dairy farms in the United Kingdom. *Journal of Dairy Science*, 91, 2265–2274. <https://doi.org/10.3168/jds.2007-0847>

- Seufert, V., Ramankutty, N., & Foley, J. A. (2012). Comparing the yields of organic and conventional agriculture. *Nature*, 485, 229–232. <https://doi.org/10.1038/nature11069>
- Sempik, J., Hine, R., & Wilcox, D. (2010). Green care: A conceptual framework; a report of the working group on the health benefits of green care, COST 866, Green care in agriculture. Centre for Child and Family Research.
- Smith-Spangler, C., Brandeau, M. L., Hunter, G. E., Bavinger, J. C., Pearson, M., Eschbach, P. J., Sundaram, V., Liu, H., Schirmer, P., & Stave, C. (2012). Are organic foods safer or healthier than conventional alternatives? A systematic review. *Annals of Internal Medicine*, 157, 348. <https://doi.org/10.7326/0003-4819-157-5-201209040-00007>
- Steininger, B., Bálint, C., Chovanec, T., Evans, R., Hudcová, E., Jancsovszka, P., Moudrý, P., Nobelmann, M., Pařízek, M., & Schneider, C. (2019). Curriculum – Teaching social farming in higher education.
- Sundrum, A. (2001). Organic livestock farming. *Livestock Production Science*, 67, 207–215. [https://doi.org/10.1016/S0301-6226\(00\)00188-3](https://doi.org/10.1016/S0301-6226(00)00188-3)
- Suryani, E., Hendrawan, R. A., Rahmawati, U. E., Wulandari, A. D., Damanhuri, & Chou, S.-Y. (2022). Social farming development to improve farming desire and profit: A system thinking approach. In *Proceedings of the 2022 International Conference on Computer Engineering, Network, and Intelligent Multimedia (CENIM)* (pp. 290–294). IEEE.
- Szimbóziós Alapítvány. (2015). *Szociális farmok létrehozása Magyarországon kézikönyv és fejlesztési javaslatok*.
- Tsegaye, Visser, O., & Adams, I. (2017). Social sustainability and continuity of family farms: How the Dutch are doing it. *International Journal of Agricultural Economics*, 16(1), 11–24. <https://doi.org/10.13140/RG.2.2.10178.81604>
- Tuomisto, H. L., Hodge, I. D., Riordan, P., & Macdonald, D. W. (2012). Does organic farming reduce environmental impacts? A meta-analysis of European research. *Journal of Environmental Management*, 112, 309–320. <https://doi.org/10.1016/j.jenvman.2012.08.018>
- Tulla, A. F., Vera, A., Badia, A., Guirado, C., & Valleperas, N. (2018). Social return and economic viability of social farming in Catalonia: A case-study analysis. *European Countryside*, 10, 398–428. <https://doi.org/10.2478/euco-2018-0023>
- Tyler, R. (2013). *Basic principles of curriculum and instruction*. University of Chicago Press.
- Washington, H., Taylor, B., Kopnina, H., Cryer, P., & Piccolo, J. J. (2017). Why ecocentrism is the key pathway to sustainability. *The Ecological Citizen*, 1, 35–41.
- Wistoft, K. (2010). Health strategies and reservoirs of knowledge among adolescents in Denmark. *Global Health Promotion*, 17, 16–24. <https://doi.org/10.1177/1757975910365233>
- Yadav, S. K., Babu, S., Singh, R., Yadav, D., & Rajanna, G. A. (2023). The role of organic and natural ecosystems in the food industry. In *Sustainable development and pathways for food ecosystems* (pp. 115–128). Elsevier. <https://doi.org/10.323/90885-6>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.
- Zhang, X., Hong, Y., & Li, H. (2019). Sustainable agriculture development in China: Impact of policies and practices. *Journal of Environmental Management*, 244, 441–450. <https://doi.org/10.1016/j.jenvman.2019.04.117>
- omer, R. J., Bossio, D. A., Sommer, R., & Verchot, L. V. (2017). Global sequestration potential of increased organic carbon in cropland soils. *Scientific Reports*, 7, Article 15554. <https://doi.org/10.1038/s41598-017-15794-8>
- van der Ploeg, J. D., & Roep, D. (2003). Multifunctionality and rural development: The actual situation in Europe. In G. van Huylenbroeck & G. Durand (Eds.), *Multifunctional agriculture: A new paradigm for European agriculture and rural development* (pp. 37–53). Ashgate.
- van Huylenbroeck, G., Vandermeulen, V., Mettepenningen, E., & Verspecht, A. (2007). Multifunctionality of agriculture: A review of definitions, evidence, and instruments. *Living Reviews in Landscape Research*, 1, 1–43. <https://doi.org/10.12942/lrlr-2007-3>
- Visser, M., & Theuvs, M. (2015). *Agricultural knowledge and innovation systems in transition: Responding to globalisation and the sustainable development agenda*. Springer.
- Voicu, C., & Andrei, J. V. (2012). Economic aspects of multifunctional agriculture in Romania. *Procedia Economics and Finance*, 3, 540–544. [https://doi.org/10.1016/S2212-5671\(12\)00191-2](https://doi.org/10.1016/S2212-5671(12)00191-2)

- Ward, F. A., & Pulido-Velazquez, M. (2008). Efficiency, equity, and sustainability in a water quantity–quality optimization model in the Rio Grande Basin. *Ecological Economics*, 66, 23–37. <https://doi.org/10.1016/j.ecolecon.2007.07.004>
- White, B., Borrás, S. M., Hall, R., Scoones, I., & Wolford, W. (2012). The new enclosures: Critical perspectives on corporate land deals. *Journal of Peasant Studies*, 39, 619–647. <https://doi.org/10.1080/03066150.2012.691879>
- Wilkinson, J., & Goodman, D. (2017). Food, globalization, and sustainability. In P. B. Thompson & D. M. Kaplan (Eds.), *Encyclopedia of food and agricultural ethics* (pp. 1135–1143). Springer.
- Wolff, S., & Resnik, J. (2012). Institutionalizing care and the commons in rural landscapes. *Journal of Environmental Policy & Planning*, 14, 23–40. <https://doi.org/10.1080/1523908X.2011.635303>