

1 Article

# 2 Eco-social agriculture for social transformation and 3 environmental sustainability: a case study of the 4 UPAS-Project

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12 **Abstract:** Rural areas are facing vulnerabilities and changes caused by negative social, economic and  
13 ecological externalities resulting from industrial agriculture systems. Locally embedded farms and  
14 bottom-linked approaches such as social cooperatives that act in the field of social agriculture are  
15 small, but valuable models to counteract these trends. This article is based on a case study conducted  
16 within the transdisciplinary research and development project UPAS - Unlocking the potential of  
17 social agriculture, 2017-2020 - financed by the Free University of Bolzano. The main focus of the case  
18 study is to determine the impact of social agriculture initiatives on social- and healthcare systems,  
19 natural environment and the communities in which they act. Data collection includes a literature  
20 review, observations and interviews carried out on 35 case studies of social agriculture initiatives  
21 mainly located in Italy. The field-research points out, that actors in the sector of social agriculture  
22 predominantly aim to social and labor integration of disadvantaged people, base their production on  
23 organic methods, and that social agriculture has the potential to foster eco-social transformation and  
24 development of rural areas by the combination of social and ecological concerns. Thus, we use the term  
25 “eco-social” agriculture to describe these approaches. Furthermore, five components of eco-social  
26 agriculture have been defined, which together offer an ideal setting of acting principles, namely: (1)  
27 empowerment and integration of disadvantaged people, (2) promotion of environmentally friendly  
28 agricultural practices, (3) protection of nature, resources and cultural landscape, (4) support to the local  
29 community and (5) education for sustainable development.

30 **Keywords:** multifunctional agriculture; environmental conservation; green care; rural development;  
31 social cooperatives; sustainable agricultural systems  
32

## 33 1. Introduction

34 While industrial agriculture systems are continuously expanding and increasing in their yield and  
35 productivity, this prevailing agricultural model [1] pays insufficient attention to the negative ecological,  
36 social and health effects. Worldwide, intensive agricultural practices are causing soil degradation, water  
37 pollution, overexploitation of natural resources, human and animal diseases, and the displacement and  
38 migration of rural populations. Further dramatic consequences are the loss of traditional farming  
39 practices, indigenous knowledge and land abandonment [2]. Besides the negative impacts and the  
40 externalized social, cultural and ecological costs of intensive farming, the pressure on small producers  
41 and farms has increased. There is a constant decline of farms in Europe, which mainly affects small  
42 farms with less than 10 hectares. World market-oriented agribusinesses with a high dependency on

43 external inputs such as synthetic fertilizers, pesticides and mechanization based on fossil fuels, are  
44 increasing while labor opportunities, species and ecosystem diversity decrease continuously [3-4].

45 Social agriculture is one approach within the broader concept of multifunctional agriculture,  
46 counteracting the negative impact of the global market-oriented farming business. The understanding  
47 of agriculture as a multifunctional sector has been introduced in recent years as a leading principle for  
48 the future of agriculture and the transition and development of rural areas [5]. The concept bases on the  
49 understanding of rural transition as a holistic process, that concerns not only economic and political,  
50 but also social, ecological and cultural aspects. Agriculture is not only the production of food and fiber.  
51 It also includes multiple inter-related dimensions, broadening and deepening farming as well as non-  
52 farming activities [6].

53 Social agriculture or “green care” includes initiatives that combine farming activities and  
54 agricultural resources with a broad variety of therapeutic goals, social practices, educational purposes,  
55 or community services [7-9]. The approach encompasses all activities in which agriculture serves as an  
56 essential factor for achieving social, educational or health outcomes [10]. The combination of  
57 agricultural activities with social- and healthcare services thus, is a strategy of functional diversification,  
58 which preserves jobs and creates income opportunities, provides services to the community and can  
59 contribute to sustainable rural development [11-13].

#### 60 *State of the art and the added value of eco-social agriculture*

61 Social agriculture is a traditional concept [7], which nowadays has been revived and  
62 institutionalized under different socio-economic and social-political conditions. In the last two decades  
63 scientists, professionals and activists from all over Europe have researched the social and health  
64 effectiveness of green care as an approach of social innovation and new local welfare and its  
65 characterization and implementation in the various European countries [7,10,14]. Although a large part  
66 of the scientific publications focuses on the therapeutic effects of green care [15], since 2010 an increasing  
67 number of studies focuses on their practical aspects for rural development and the maintenance of  
68 smaller farming entities. Some examples are studies on social agriculture in connection with stakeholder  
69 and institutional networks [7], rural & community development [12,16,17,19] and social relevance [12].

70 There is also an increasing number of studies with emphasis on agroecological practices, ecosystem  
71 services, local and traditional breed and crops and landscape conservation [18-21]. Organic and  
72 biodynamic cultivation methods are popular agricultural practice in social agriculture as they are best  
73 suited to social agriculture activities with disadvantaged people and other target groups. According to  
74 the report published by the Italian Rete Rurale Nazionale [22] on social agriculture in Italy, almost 70%  
75 of the examined initiatives (N = 367) adopt organic or biodynamic farming methods. Comparable results  
76 can be found in a study in the Spanish region of Catalonia, where 60% of the structures of social  
77 agriculture follow the principles of organic and agroecological farming [17]. According to Wiesinger et  
78 al. [11] one third of over 600 green care farms in Austria are organically farmed, while similar results  
79 can be found in Limbrunner & van Elsen [15] on social agriculture in Germany.

80 Studies and reports are underlining that not only environment and natural resources are benefiting  
81 from the application of organic farming, also social, psychological and health aspects gain importance  
82 and effectiveness. According to these studies [15,18,19,21,23] the following added values have been  
83 identified:

- 84 • The provision of jobs in a chemical-free, healthy and relaxing environment that promotes physical  
85 and mental health, social relationships as well as the empowerment and self-esteem of people;
- 86 • the stronger therapeutic, inclusive and emotional effects through a closer contact with the living  
87 (soil, animals, plants), the perception of growth processes and outcomes, and the meaningfulness  
88 of producing food and goods for people and the community;
- 89 • the educational added value of an agricultural system that respects the environment and  
90 biodiversity, that supports the development of an appreciative attitude and relationship towards  
91 nature and agriculture and boost the promotion of long-term eco-social actions and awareness for  
92 sustainability;

- 93 • the preservation and promotion of biodiversity, ecosystem services, multifunctional cultural  
94 landscapes, local products and traditions with the aim to improve the quality of life in rural and  
95 disadvantaged areas by creating social cohesion and provision of services.

## 96 2. Material and methods

### 97 2.1. UPAS - Unlocking the potential of social agriculture

98 The UPAS project used a transdisciplinary approach to investigate the field of social agriculture,  
99 which is currently regulated by law in Italy. The project started in autumn 2017 and ended with March  
100 2020. It was led by the social science-area of the Faculty of Education and involved the Faculty of Science  
101 and Technology at the Free University of Bozen-Bolzano. Italy is considered a pioneer in social  
102 agriculture and is also ahead of the South Tyrolean reality. The concept of social agriculture introduced  
103 in Italy with Law 141/2015 is seen as a declination of multifunctional agriculture, representing one of  
104 the pillars for the development of rural areas [22]. In June 2018, the Autonomous Province of Bolzano  
105 South Tyrol passed the Law on Social Agriculture for the province. In doing so, it follows other regions  
106 of Italy that have already adopted regulations [24]. The project aims to take stock of the activities of  
107 social agriculture in South Tyrol and other Italian regions, as well as to analyze the actors and their  
108 experiences in this field. It evaluates development perspectives, possible new user groups and the  
109 prerequisites for further development. The focus lies on social and ecological aspects of social  
110 agriculture and on a comparative look at the established experiences in Italy.

### 111 2.2. Methods

112 As part of the UPAS research project at the Free University of Bozen-Bolzano, an explorative  
113 research bases on field-visits of 35 institutions, acting in eco-social agriculture was carried out. The cases  
114 are situated in the Italian regions of South Tyrol (10) & Trentino (4), Veneto (8), Sicily (4), Lombardy (2),  
115 Friuli Venezia Giulia (1) and Liguria (1). Other four case studies have been analyzed in Austria,  
116 respectively located in Tyrol (1), Styria (1) and Carinthia (2) and one in Madrid, Spain. Data collection  
117 based on observation, interviews and literature review has been carried out from May 2018 to March  
118 2020.

119 The case studies are agricultural businesses, social cooperatives, public facilities and agricultural  
120 projects that offer therapeutic, educational, nursing or social services to a broad target group of people.  
121 In total, 34 farms in social agriculture have been selected in Italy and Austria through an internet  
122 research and by interviewing experts in the field of social agriculture. For the selection, the Austrian  
123 platform "ARGE Green Care – Wo Menschen aufblühen" (2020) [25] and the two Italian online  
124 platforms "Forum Nazionale Agricoltura Sociale "(2020) [26] and "Fondazione Campagna Amica -  
125 Coldiretti" (2020) [27] have been consulted. The project in Madrid has been included in the study as the  
126 author visited it during a study visit organized through a collaboration between CREA-PB (Research  
127 organization for Agricultural Research and Agricultural Economics) and IMIDRA (Madrid Institute for  
128 Rural, Agrarian and Food Research and Development), as part of the activities of the National Rural  
129 Network (Rete rurale Nazionanle 2014-2020) in October 2018. Semi-structured interviews were hold  
130 with the actors, mostly the managers, of the selected companies. They were carried out in most of the  
131 cases as part of a field-visit or in some cases by telephone. The interview included questions concerning  
132 the initiative itself (e.g. start of initiative, legal form and agricultural area), the specific activities or offers  
133 of social agriculture (e.g. social, education or therapeutic offers) and the agricultural practices (e.g.  
134 cultivation methods, crops and breeds diversity). In addition to these questions, open discussions were  
135 held in order to find out more about specific experience, motivation, hurdles and potential of the  
136 initiatives.

## 137 3. Results

### 138 3.1. Social agricultural practices in Italy, South-eastern Austria and Madrid

139 **Table 1.** Overview of the 35 case studies of eco-social agriculture in the study area of the Italy  
 140 and the south-eastern Austria and Madrid, differentiated according to the legal forms of  
 141 agricultural business, social cooperative, agricultural cooperative, private sector, public  
 142 institutions and third sector.

Name of the initiative	Municipality/Region	Year <sup>1</sup>	Main social aims	Agricultural practices
<b>Agricultural company/ farm</b>				
Santerhof	Mühlbach/ Province of Bolzano	1991	Social and labor integration of people with special needs, educational activities for schools	Organic fruit and wine production; animal husbandry, breeding of an autochthonous pig breed
Al confin	Vicenza/ Veneto	2002	Labor integration of disadvantaged young people; farm-kindergarten	Organic production of vegetables, cultivation of local varieties; animal husbandry, local chicken breed
La Costa	Sarcedo/ Veneto	2003	Social and labor integration of disadvantaged young people	Organic wine, olive and vegetable production, cultivation of an autochthonous grape variety; use of regenerative energy
La Pachamama	Marostica/ Veneto	2004	Social and labor integration; educational activities with schools; guided trekking with donkeys; courses in organic agriculture	Organic wine, olive, cereals and vegetable production, cultivation of autochthonous corn variety; beekeeping
Valentinhof	Meran/ Province of Bolzano	2013	Social and labor integration of migrants and refugees	Organic production of fruits and vegetables
Almerleben	Dölsach/ Tyrol, Austria	2014	Educational activities for children and schools; family-adventure-days at the farm;	Organic agriculture; forestry; animal breeding
Peintnerhof	Liesing/ Carinthia, Austria	2014	Educational activities for schools; seminars on healthy lifestyles and nutrition with focus on people with civilization diseases	Organic agriculture; breeding of rare autochthonous sheep and trout species;
La capra felice	Frassilongo/ Province of Trento	2015	Social integration of migrants and refugees; educational activities with schools; sustainable tourism	Organic goat breeding for milk and cheese production; keeping of a rare autochthonous goat species; landscape restoration, recovered abandoned land
Biosozialhof Vintlerhof	Brixen/ Province of Bolzano	2018	Social and labor integration; pet therapy with donkeys; educational activities	Organic cultivation of cereals and vegetables; beekeeping; breeding of donkeys and poultry; sustainable forestry
Il giardino delle Bio-Diversità	Augusta/ Sicily	n.d.	Labor integration of migrants and refugees	Organic cultivation of fruit and vegetables; recovered abandoned land
<b>Social cooperative</b>				
Quetzal	Modica/ Sicily	1995	Labor integration; creation of circular economy and fair work conditions in agriculture	Cultivation and conservation of old, local almond-specie; processing of fair-traded chocolate
School on the farm	All over the province of Bolzano	1997	Environmental education and education for sustainable development through the offer nature and farm experiences	Composed by 30 mountains and valley, dairy and fruit farms, some of them using organic production methods
Conca d'oro	Bassano del Grappa/ Veneto	2006	Social and labor integration; assisted housing for disadvantaged people	Organic cultivation autochthonous varieties of vegetables, fruit, cereals and olives; restoration of cultural landscape by planting trees and hedges

<b>Farm-women cooperative South Tyrol</b>	All over the province of Bolzano	2006	Offers ranges from near-natural childcare, summer care to childcare at events as well as senior care	Children and seniors are supervised at the farms that work partially with organic methods
<b>Cadore SCS</b>	Pieve di Cadore/ Veneto	2008	Social and labor integration of people with disadvantages and migrants	Organic cultivation of artichokes; restoration of high-alpine landscapes, maintenance of forest and hiking paths
<b>Terre Altre</b>	Masi di Cavalese/ Province of Trento	2013	Social integration; activities related to nature protection, environmental education & nutrition with schools and adults; forest-kindergarten	Biodynamic cultivation of old, local varieties of cereals, vegetables, fruit and medical plants; beekeeping; preservation of agricultural heritage
<b>L'arcoliao</b>	Siracusa/ Sicily	2013	Labor integration for prisoners in and outside of the prison structure and for migrants and refugees	Organic cultivation of berries, vegetables and fruits
<b>Nazareth</b>	Cremona/ Lombardy	2013	Labor integration of disadvantaged people; housing-support; creation of local markets and economic circuits	Organic cultivation of vegetables; processing of local products
<b>Cooperativa Samuele</b>	Trento/ Province of Trento	2014	Social and labor integration for people with disadvantages	Organic cultivation of wine, fruit and vegetables; beekeeping
<b>Vinterra</b>	Mals/ Province of Bolzano	2015	Social and labor integration	Organic cereals and vegetable production
<b>M25</b>	Vicenza/ Veneto	2017	Labor integration of prisoners	Organic production of vegetables and fruit; organic bakery
<b>Public institutions</b>				
<b>Biologischer Gartenbau Latsch</b>	Latsch/ Province of Bolzano	1992	Labor integration of people with mental diseases; direct marketing	Production of organic seeds and seedlings; cultivation and processing of vegetable also old varieties
<b>Sägemüllerhof</b>	Gais/ Province of Bolzano	1994	Social integration and therapy offer for people with mental diseases; assisted housing	Biodynamic cultivation of vegetables, cereals and potatoes; breeding of endangered, local cattle species; restoration of crushed stone depletion
<b>Orti sinergici, Legami di terra</b>	Casalmaggiore / Lombardy	2013	Labor integration with disadvantaged people; open community gardening	Biodynamic gardening; permaculture; cultivation of old plant varieties
<b>Agrolab</b>	Perales de Tajuña/ Community of Madrid, Spain	2016	Social integration of unemployed people and people at risk of social exclusion; community cohesion and local economy	Three-year training on organic farming and marketing of agricultural products; cultivation of local varieties; recovering of abandoned land
<b>Agricultural cooperatives</b>				
<b>Consorzio le galline felici</b>	Catania/ Sicily	2008	Labor integration of migrants and refugees; creation of fair work conditions in agriculture	Support of member-farms in producing sustainable, organic and fair products, as well as in the marketing of products
<b>Consorzio delle Valli e Dolomiti Friulane</b>	Tramonti di sotto/ Friuli Venezia Giulia	2017	Social integration of migrants and disadvantaged people; activities to promote sustainable tourism	Composed by 25 small multifunctional farms, some are organic; landscape restoration and recovering of abandoned pastures
<b>Private sector</b>				
<b>Ökologische Landwirtschaft Attendorf</b>	Hitzendorf/ Styria, Austria	2012	Social integration of disadvantaged young people	Organic production of fruit, vegetables and herbs
<b>Projekt Salewa Garden</b>	Bozen/ Province of Bolzano	2016	Social integration of refugees and migrants	Urban gardening project based on the principles of permaculture
<b>Third sector</b>				

<b>Heimstätte Birkenhof</b>	Velden am Wörthersee/ Carinthia	1961	Social and labor integration	Biodynamic production of cereals and vegetables; breeding of autochthon poultry, cows and donkeys
<b>Villa Rizzi</b>	Sardagna/ Province of Trento	2009	Social and labor integration of disadvantaged young people	Organic production of aromatic and medical herbs as well as vegetables
<b>Semirurali Gärten</b>	Bozen/ Province of Bolzano	2010	Social integration of migrants; educational activities with schools and families from the community	Urban gardening based on organic agriculture for family-subsistence; beekeeping
<b>Il Pomodoro</b>	Bolzano Vicentino/ Veneto	2011	Labor integration of disadvantaged young people	Organic agriculture and gastronomy
<b>Fuori di zucca</b>	Vicenza/ Veneto	2013	Labor integration of disadvantaged young people.	Shop sells organic products coming from social agriculture initiatives of the surroundings of Vicenza
<b>Progetto IntegrAzioni (Chapter 3.4.)</b>	Manarola/ Liguria	2014	Social and labor integration of socially disadvantaged people, migrants and refugees	Recovering of agricultural land by the restoration of dry-stone walls so to reallocate cultivation of wine and olives

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<sup>1</sup> the year refers to the year in which the organization started its social agriculture activities.

144 About 57% of the analyzed case study initiatives started their social agricultural activities in the  
 145 past ten years while only 17% started it before the year 2000. The main social aim of 31 cases is  
 146 represented by social and labor integration, followed by environmental education and education for  
 147 sustainability. Nursing and childcare services are offered only by one single initiative. Furthermore,  
 148 20% of the cases combine integrational and educational activities and reach therefore a bigger target  
 149 group. Therapy services play a minor role in the analyzed initiatives. A total of 5 social agriculture  
 150 initiatives recovered and manage previously abandoned agricultural areas and 50% of the companies  
 151 cultivate autochthonous and/or rare crop varieties and/or animal breeds. A total of 12 case studies are  
 152 cultivating a brought diversity of 40 to 60 different plant species on their fields. Small farm shops, *Gruppi*  
 153 *di Acquisto Solidale* (G.A.S., Italian for ethical purchasing groups) and other forms of direct marketing  
 154 are characteristic for social agriculture initiatives and adopted by 83% of the studies initiatives.

### 155 3.2. Actors, motivations and institutions

156 The legal forms of the analyzed case studies are divided in social cooperatives (11), agricultural  
 157 businesses (10), third-sector-organizations (6), public institutions (4), agricultural cooperatives (2) and  
 158 private sector (2) that use agricultural activities for social, educational, or nursing and/or purposes. This  
 159 spreading of providers confirms the national situation in Italy [22], where social cooperatives are the  
 160 dominant actors in social agriculture with 46%, while private farms have a share of 19%, third-sector-  
 161 organizations 12% and public entities 6%. Most of these organizations emerged within the last 20 years.  
 162 71% of these providers are specialized in labor integration and 35% in environmental education. By this,  
 163 they foster directly the shift to ecological agriculture and sustainable rural development. Social  
 164 cooperatives indeed, are especially appropriate for this field. Combining social-agriculture with social  
 165 cooperative organization according to the Italian law n. 381/1991 opens a broader space for synergies  
 166 and creative solutions. This law recognizes that a social cooperative of type B, aiming to encourage  
 167 integration in employment for the benefit of disadvantaged persons, can work in the agricultural sector  
 168 as well as in the industry, trade and service sector. Social cooperatives allow for interesting experiments  
 169 by merging agricultural production with social, cultural, ecological and political objectives [28].

170 Another result of our field research is, that bottom-linked initiatives such as local cooperatives of  
 171 eco-social agriculture often arise from the actor's motivation to promote changes in the existing  
 172 conditions of agribusiness and to create new opportunities for rural and disadvantaged areas. They tend  
 173 to establish direct relationship between producers and users, to increase awareness towards natural  
 174 resources as well as appreciation and respect to those, involved in the food production [12-14]. The  
 175 concern of the actors besides the improvement of the life-situation of the involved disadvantaged  
 176 persons is the ecological aim. Many of them underline, that it doesn't make sense to focus on human

177 health and ignoring the health of nature. The proximity of social and ecological objectives of small farms  
178 and local cooperatives in social agriculture is evident. The farmer of *La Pachamama, Veneto*  
179 (<http://www.asineriasociale.it/>) for instance expressed it in the following way: “If I pay heed to the  
180 health of people, biological farming is a precondition.” Social agriculture without the sensibility for  
181 natural circuits, without ecological responsibility for him is not imaginable.

182 On the other side, social professionals working in eco-social agriculture initiatives, show a broader  
183 understanding of users. Their focus is not primarily on the specific disadvantages or deficits, but on the  
184 potential, vocation and dedication and how to develop it in a socio-productive way. They define their  
185 role as facilitators who have to create the context to strengthen people’s capacity, to increase their self-  
186 efficacy and stability in daily life. They build person-centered as well as institution-centered networks  
187 for the social integration of users and the embedding of the social farming organization as a  
188 complementary system that takes part in the process of decentralization and innovation of local welfare  
189 especially in terms of the living environment of those affected [24].

190 Derived from the observation and interviews we collected during one and a half year, a general  
191 definition of eco-social agriculture has been created: Eco-social agriculture is a combination of social  
192 services and responsible agricultural practices, an innovative approach and a sociopolitical mindset that  
193 responds to the negative effects of the globalized agricultural sector and population decline in rural  
194 areas. It supports environmentally friendly and regenerative production methods, while locally  
195 embedded educational, therapeutic, cultural and economic services are carried out in the sense of a  
196 sustainable society.

197 Thus, actors in social agriculture are often pioneers of eco-social transformation of rural areas on  
198 one, and of new local welfare systems on the other side. The Italian association for biological agriculture  
199 (AIAB) underlines the complementarity of social and ecological motivations of actors in social  
200 agriculture who predominately represent an attitude committed to the common good [18]. In addition,  
201 some of the actors we investigated restore historical cultural technics and cultural goods or revitalize  
202 traditional local species of plants and animals, contributing to cultural and biological diversity and local  
203 resilience. One of these examples will be presented below.

### 204 3.3. Components of eco-social agriculture

205 In order to accompany present and future social agriculture initiatives towards an eco-social  
206 transformation and to foster the symbiosis between agriculture, humans and nature, a guideline  
207 composed by five eco-social components has been created and checked with interviewees. These  
208 components form the basis for the growth and further development of eco-social agriculture and are  
209 put together to inspire farmers, community initiatives, social cooperatives and stakeholders from the  
210 private and public sector. They indicate which direction eco-social initiatives can take to get closer to  
211 more inclusive communities, sustainable rural areas and an environmental-friendly agriculture. Each  
212 component is accompanied by a statement as well as a more detailed explanation:

213 **1. Empowerment of disadvantaged people:** Eco-social agriculture enhances personal skills and  
214 self-esteem with the aim of a social inclusion of disadvantaged people.

215 Support of human-nature relationships embedded in natural cycles and rhythms, sensual  
216 experience with nature including animals; increase self-efficacy in the production of food,  
217 empowerment through the activation of human potential based on suitable tasks, resilience through  
218 taking responsibility, success experiences, self-perception through physical activities; reproduce real-  
219 world and employment-like conditions.

220 **2. Environmentally friendly, organic-ecological agriculture:** Eco-social farming preserves the  
221 health of soil, plants, animals, people and the planet as a whole by reproducing natural cycles,  
222 increasing biodiversity and maintaining ecosystem services (Figure 1).

223 Based on natural cycles, preservation of soil fertility, carbon storage capacity, natural water balance  
224 and microbial soil life; avoids the use of chemical-synthetic pesticides, hormones and synthetic  
225 fertilizers; attention is paid to promoting biodiversity, animal welfare and human health; examples are  
226 practices based on principles of agroecology and cultivation like organic, biodynamic agriculture,  
227 permaculture and/or traditional agroforestry or silvopastoral systems.



228 **3. Protection of nature, resources and cultural landscapes:** Eco-social farming supports the  
229 conservation and restoration of valuable cultural and natural landscapes and strives to preserve  
230 biodiversity.

231 Measures and practices for the protection of species, natural resources, biotopes and / or  
232 landscapes: in practice it can be found in the establishment and maintenance of protected areas, the  
233 preservation, promotion or reintroduction of animal and plant species worthy of protection like rare or  
234 endangered traditional local breeds and crops and the promotion of pollinators (e.g. wild and honey  
235 bees); includes also the maintenance of ecosystem services and the restoration of ecosystems and  
236 cultural landscape such as wetlands, alpine pastures and meadows.

237 **4. Support to the community:** Eco-social agriculture supports the use of local resources and the  
238 creation of networks in order to reinforce regional economic cycles and to lead rural communities  
239 towards a sustainable development.

240 Support local-regional cycles and the resilience of a rural region by embedding production and  
241 marketing in local economic circuits and by creating of job opportunities; preserve cultural heritage,  
242 traditional agricultural practices and knowledge for example through the production of regional  
243 products; favor decentralization of social services by new actors in the social environment, creation of  
244 new networks between stakeholders from various sectors (e.g. health, education, social, agriculture,  
245 forestry, environment).

246 **5. Education for sustainable development and environmental education:** Eco-social farming  
247 fosters an appreciative attitude towards farming and nature and strengthens awareness, sustainability  
248 and respect towards common environment and resources (Figure 2).

249 Includes formal and informal educational and experience contexts that cover topics from  
250 sustainability, ecology, biodiversity, traditional agriculture, life on a farm, food production and natural  
251 resources up to environmental and climate awareness; promotes in an interactive, participative,  
252 researching and action-oriented way personal skills such as critical thinking, teamwork, solidarity,  
253 community cohesion and sustainable lifestyles.

254 To approve the ecological effects of social agriculture over a longer term, will need more research within  
255 the next years.



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257 **Figure 1.** The social cooperative Terre Altre applies biodynamic cultivation methods and grows more  
258 than 60 different crops on two hectares. They also practice apiculture, environmental education and  
259 recovered numerous local weed varieties. Author: Terre Altre.





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**Figure 2.** Children experience agriculture and the diversity of medical herbs on the fields of the Terre Altre social cooperative in Val di Fiemme, Trentino, Italy. Author: Cristina Vinante, Terre Altre.

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The entanglement of ecological and social value added becomes apparent. In order to make the appearance and application of the components more concrete a case study, which was evaluated as part of the UPAS research project at the University of Bolzano, will be illustrated:

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*3.4. (Drystone)Walls for social inclusion: the IntegrAzioni project in the Cinque Terre National Park located in the region of Liguria, northwestern Italy.*

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The project IntegrAzioni, which started in 2014, is inspired by the model of social agriculture and offers the opportunity to refugees and socially disadvantaged people to complete a qualification-internship in agriculture and drystone wall construction. These internships are intended to support people in difficult life situations, to gain work experience and to receive a fixed income. On the other hand, it forms workforces with skills in the farming sector in order to support agricultural businesses and restore drystone walls. This project has been possible thanks to the contribution of ten different local, regional and national institutions.

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The story of the project begins with a storm which severely damaged the picturesque coastal villages of the Cinque Terre National Park in 2011. The effects were particularly negative for the centuries-old terrace landscape, the infrastructure and consequently for the population, the ecosystem and the economy of this fragile area. After this destructive event the villagers of Manarola (located in the national park area) founded the Fondazione Manarola Cinque Terre ONLUS ([www.fondazionemanarola.org](http://www.fondazionemanarola.org)) with three main aims: (1) to adopt landscape restoration measures in order to protect the territory and to support the hydrogeological functions of the soil, (2) to recover abandoned agricultural area (approximately 80% of the cultivated area is abandoned) and make it again available to the cultivation of vine and olives and (3) to preserve agricultural traditions and keeps old drystone wall construction techniques alive. The lack of local workforces in Manarola due to over aging and migration of the population led to the cooperation with Caritas Diocesana La Spezia-Sarzana-Brugnato, which manages the SPRAR and CAS facilities (local structures for refugees) in the nearby city of La Spezia and is also a reference point for socially disadvantaged people. Through this cooperation

288 the project IntegrAzioni was born. Caritas is responsible for the work integration process, the  
289 organization of grants and internships and the selection of the trainees. The training is divided into  
290 three phases: in the first phase, the trainees receive a theoretical basis and a training with agricultural  
291 tools and practices. Phase two takes place on the agricultural terraces that surround Manarola. The  
292 foundation selects the terraces and get them through a free loan for use from the owner. Here is where  
293 the trainees learn to restore drystone walls, to clean the rainwater drainage system and to free the  
294 landscape from invasive shrubs. The trainees are accompanied by four elderly villagers with long-term  
295 experience in the ancient construction technology of the drystone walls. In the third and final phase, the  
296 trainees who want to continue the experience in the agricultural sector will be placed in private farms,  
297 on wineries or social cooperatives located in the national park area or in the nearby villages. Since the  
298 beginning of the project in year 2014 until 2018 and after two training seasons a total of 7.809 square  
299 meters of agricultural area had been recovered while 418 square meters of drystone walls have been  
300 restructured. A total 3.000 square meters of the recovered areas have been assigned to local farms while  
301 4.000 will be assigned to the local agricultural cooperative Cinque Terre.

302 The IntegrAzioni project has been chosen as best-case for its variety of ecological and social benefits  
303 produced within a disadvantaged territory. The collaboration of local and regional, public and private  
304 actors combined with innovative and inclusive approaches shows how unemployment and landscape  
305 degradation can be defeated by creating new job opportunities and service such as social inclusion and  
306 environmental protection. Furthermore, the “Art of dry stone walling, knowledge and techniques” has  
307 been added in the list of UNESCO Intangible Cultural Heritage in 2018 after Italy and other European  
308 countries submitted the application [29].

#### 309 4. Discussion and Conclusion

310 Eco-social agriculture can be characterized by the combination of the five components, delineating  
311 the added value which the approach is able to provide to people, community and nature [18]. Common  
312 to all approaches is the holistic view of person, nature and region. Following the defined components,  
313 all of the analyzed projects and initiatives can be attributed to eco-social agriculture. In fact, each of the  
314 35 analyzed case study initiatives fulfills at least one or more components of eco-social agriculture. The  
315 implementation and the field of activities can shift, depending on the circumstances, possibilities and  
316 local needs. These initiatives not only opt for organic or biodynamic cultivation methods. Many projects  
317 revive agricultural traditions and preserve local crop varieties and/or animal breeds. The diversity of  
318 animal and plant species stands also for the diversity of people: diversity is turned into an enriching  
319 and strengthening resource that benefits nature and society. Diversity contributes to strong and healthy  
320 ecosystems but also to flourishing communities. In the field of social work and local social policy, the  
321 approach can be seen as social innovation, able to generate new local welfare-settings. It must be taken  
322 into account, however, that within this competitive sector, social agriculture as a new welfare-supplier  
323 needs political support.

324 The embedding processes of eco-social agriculture represent a great potential for disadvantaged  
325 people as well as for the entire society. Also, regional cycles and resilience of the rural areas can profit.  
326 With its diverse informal, formal and non-formal educational processes, eco-social agriculture is helping  
327 to shape an eco-social restructuration of society. It is primarily based on the benefits for the  
328 disadvantaged, for the social environment and for nature. Eco-social agriculture sees disadvantaged  
329 people as well as all people as part of a social structure and as part of nature. This shows the societal  
330 changing potential to support the necessary eco-social turn [24, 28, 30].

331 As our field studies show, especially bottom-linked initiatives and social cooperatives in the field  
332 of social agriculture are based on interrelated structures, transversal networks, strong local-regional  
333 embeddedness and a high weight of social and cultural values. Furthermore, eco-social agriculture  
334 unites three social spheres: the socio-cultural, the value-creation and the political sphere with  
335 community decision-making processes and diverse local, regional and national co-operations.

336 To sum up, three basic characteristics describe eco-social agriculture as intended in this article:

337 (i) The combination of social needs of rural and disadvantaged areas such as social inclusion  
338 processes, work integration, educational activities, therapy and care offers for people with special needs

339 based on sensibly designed agricultural activities always considering gender equal and fair working  
340 conditions;

341 (ii) the active interaction and cooperation at local-regional level with the population, institutions,  
342 companies, politics and social networks to promote identity, coherence, solidarity and support to local  
343 economy, and

344 (iii) the responsible use of natural resources in order to protect the health and well-being of current  
345 and future generations and the environment, the promotion of ecological practices and the conscious  
346 integration of measures to preserve biodiversity and the cultural landscape.

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