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Apulia agro-biodiversity between rediscovery and conservation: the case of the «Salento km0» network

Sara Nocco[*]
Department of History Society and Human Studies, University of Salento,
Complesso Studium 2000, Ed. 5 - Via di Valesio, 73100 Lecce, Italy
sara.nocco@unisalento.it

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Abstract: Green Revolution and the birth of the current global economic system had two opposite, subsequent effects. If, initially, they led to processes of crop homogenization, seasonal adjustment, homogenization of the landscape and markets standardization, they have subsequently pushed local communities towards a recovery of endemic biodiversity at risk of extinction because of such planetary processes, as well as a fundamental element in terms of local development, food security and sovereignty and reduction of environmental impacts. Starting from these instances of recovery and protection, which are increasingly taking place in Apulia, this work will examine both projects created "from above" and initiatives "from below", being the latter the result of a new consciousness that renews social cohesion and gives new value to the territorial milieu. In this regard, the case of the **«**Salento km0**»** network will be examined: born in 2011 and now made up of 61 local subjects including producers, restaurateurs, associations, ethical purchasing groups and traditional stores, which represent a key symbol of a territory that resists and a population that has chosen to stay and innovate according to economic, social, cultural and environmental sustainability.

Key words: biodiversity, landscape, Alternative Food Networks, local development, food security.

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1. INTRODUCTION

The Mediterranean Region, whose basin covers a surface of 3,800 km from east to west and 1,000 km from north to south, is an area characterized by similar climatic conditions having a level of biodiversity among the highest globally and whose name means «a sea made of seas», surrounding a land divided into nations. It is a crossroads and a melting pot of cultures, rich in traditions, history and civilizations that, living one after another, crossing, contaminating and evolving, characterized and still characterize this «space-movement», as Braudel defines it: a series of sea and land routes, of cities holding hands, from the smallest towns to the metropolitan areas [1] (p. 55); a shared area of osmosis among men, products, cultures, whose identity «only exists by exchanging, sharing "natural" diversities» [2] (p. 73).

The very designation *mare nostrum*, given to the Mediterranean by Romans, enshrined not only their political philosophy but the cultural union as well (*ibid*), which identified in oil, bread and wine the symbols of their food tradition. After the collapse of the Empire and the Germanic invasion, Roman's tradition met and merged with the invaders' one, thus creating a new heritage which afterwards, in turn, due to the Muslim occupation of Africa, Spain and part of Sicily, merged with the Arabian culture. Thus, the *mare nostrum* became an «Arabian lake», a sea border separating two extremely different traditions [2] (p. 74). However, that event did not determine the end of cultural changes and food-related fusion. Indeed, the Arabians drove an agricultural, technical and crop renewal. The introduction of new plants (citrus fruit, sugar cane, rice, eggplants, spinach, artichokes, etc.) changed the landscape and led to new recipes. Later, the discovery of America and the import of several alien species (potato, tomato, bell pepper, cocoa,

[*] Corresponding author: sara.nocco@unisalento.it; Tel.: +39 327 6128562

etc.), will transform once more and in such a way the agricultural production and the ancient landscape of the Mediterranean Region that, as Febvre imagines, if Herodotus, father of history and geography [3], should come back from the dead to visit our time, could not recognize it. Actually, he would see orange, lemon and tangerine trees (imported from Far East), agave, aloe, prickly pears (imported from America), eucalyptus trees (of Australian origin) as well as eggplants (India), chili pepper (Guyana), corn (Mexico), rice (a gift from the Arabians) and much more [1,4]. Therefore, he would notice the transformation of ancient natural and harsh landscapes into a varied countryside that, shaped by practices derived from needs, values and ambitions, documents the identity and the culture of the communities that produced it, standing as «social construct», a real cultural landscape [5,6], included among the main topics of biodiversity conservation and protected by the European Landscape Convention (2000)[1] [7], that recognized landscape

> an area or a territory as perceived by its inhabitants or by visitors, whose appearance and character derive from natural and/or cultural (i.e. anthropogenic) factors. Such definition takes into account the idea that landscapes evolve over time for the effect of natural forces as well as the actions of human beings. It also underscores the idea that landscape forms a whole, whose natural and cultural elements are considered concurrently.

Moreover, the establishment of the Osservatorio Nazionale del Paesaggio Rurale, delle pratiche agricole e conoscenze tradizionali (ONPR) [8] allowed, at national level also, the implementation of a rural landscape framework within the rural development policy. This tool, implemented by the MiPAAF (Ministry for Agricultural, Food and Forest Policies), allowed the census (based on nominations proposed by the Bodies involved, located on the whole national territory) and the registration in the *Registro Nazionale dei Paesaggi Storici* (National Register of Historic Landscapes) of 14 rural landscapes and 2 agricultural practices. Further, such establishment is based on a preliminary study of 2010 promoted by the MiPAAF in collaboration with 14 Italian universities and some international research institutes, which allowed to compile a catalogue (though non-exhaustive) of 123 rural historic landscapes [9,10].

Typical products, bearers of identity, memory, history, tradition and quality, are inextricably linked to the rural landscape. Such products cannot be easily exported and therefore are spatially limited; they are a symbol of places often unrepeatable, carrying meaning and sense, ancient values and knowledge: a priceless heritage of culture and biodiversity that, if properly promoted, could be a driver of social and economic development of the territory itself, a source of wealth, union and interest. Actually, their strong experiential power should not be underestimated, since food involves demands and values that are integrated and incorporated exactly in the same way as we assume nutrients to survive; not a mere physical nutrition, therefore, but a mental and spiritual one.

If, on the one hand, the Green Revolution and the emergence of the current global economic system initially led to the standardization of crops and markets (since not all varieties can be marketed due to contingencies related to transport and profit), afterwards they encouraged local communities to recover endemic biodiversity put at risk of extinction by those global processes. This paper is based on such efforts of recovery and protection, currently on the rise in Apulia, by the adoption of transcalar strategies involving a wide network of Bodies, institutions and local players. We will therefore consider both «top-down» projects and «bottom-up» initiatives, the latter being the result of a new awareness that gives new life to social cohesion and a new value to the territorial *milieu*. In particular, we will consider the case of the «Salento km0» network, a key symbol of a resilient territory and a population that decides to stay and make innovations in the name of economic, social, cultural and environmental sustainability [11].

This research is therefore a preliminary study, within a reflection on food and sustainability, a line of reasoning that does not end with this contribution, but will be expanded in subsequent works by monitoring the transcalar dimension of the phenomenon, analysing the effects, limits and possibilities inherent both in the local territorial system and in the initiatives implemented by local actors and policy makers.

[1] Article 9 of the Italian Constitution, implemented by the establishment of the Code of Cultural Heritage and Landscape (Italian Legislative Decree No. 42, of 22 January 2004; amended by Italian Legislative Decree No. 156, of 24 March 2006 and Italian Legislative Decree No. 157, of 24 March 2006 as well as Italian Legislative Decree No. 62, of 26 March 2008 and Italian Legislative Decree No. 63, of 26 March 2008), also enshrines the protection of landscape as well as of the historic and artistic heritage of the country. In this regard, remarkably interesting are many of the publications and presentations of the archaeologist and historian Salvatore Settis, who often and jointly addressed topics as the landscape, the cultural heritage and the environment.

2. APULIA AGRO-BIODIVERSITY AND THE INTEGRATED PROGRAMMES FOR ITS PROTECTION

Located in the middle of the Mediterranean and composed for 53.2% by lowlands, 43.5% by hilly areas and 1.5% by mountain areas[2], Apulia, due to its bio-geographic features, falls within the Apulian ecoregion[3] (Mediterranean Division, Province of the Apulian Hyblean foreland, Apulian Section [16]), being the result of a very ancient process of anthropogenic territorialization, characterized by a strong integration between man and nature.

According to the *Piano Paesaggistico Territoriale Regionale della Puglia - PPTR* (Regional Territorial Landscape Plan) [13], 1,259,000 ha (equal to 65%) out of a regional surface of 1,933,562 ha, account for the utilised agricultural area (UAA)[4], to which 213,400 ha of urban areas and infrastructure (11%) should be added, thus reaching 76% on non-wilderness areas. Though wilderness areas cover only 335,517 ha (equal to 17%, lowest figure in Italy), the regional level of biodiversity is extremely high. Actually, it should not be forgotten the role played by agricultural areas (especially those with high natural character) and their anthropogenic remains (*masserie*, dry-stone walls, *pagghiare*, etc.) in preserving many wild species (being a shelter and reproduction environment) as well as the ecological connectivity.

The Rural Development Programme (RDP) allowed to create integrated projects to protect the local agri-biodiversity in order to recover, protect and promote ancient cultivated or spontaneous crops undermined, confined or forgot by industrial agriculture. In this regard, are worth mentioning:

- BiodiverSO – *Biodiversità delle Specie Orticole della Puglia* (Biodiversity of Apulian horticultural species)[5], a project implemented both by scientific publications and the creation of a regional network for biodiversity that connected keeper-farmers (holders of local crops), farms, stakeholders (rural tourist facilities, restaurants), local bodies in charge of promoting environmental, cultural as well as historic and architectural resources [15]. The purpose is that of

> contributing to the achievement of a significant reduction of the current loss of biodiversity rate of Apulia vegetable crops by working on all the local crops included in Annex 8 of the RDP Apulia 2007-2013 (therefore on cauliflower, broccoli, artichoke, tomato, *batata*, carrot, chicory, melon), as well as *carosello*, *barattiere*, *cima di rapa*, Catalogna chicory, onion, S. Ippazio carrot, winter melon, Swiss chard and black-eyed pea.
> After identifying, on the Apulian territory, the crop genetic resources at risk of genetic erosion, they will be catalogued (by computer tools), stored and typified [15].

On a total of 32 crop species, 122 local varieties were identified on which the project is currently focusing.

Another positive aspect of BiodiverSO is its ongoing contribution, since 2016, to the widening of the list of traditional agricultural and food products (*Produzioni Agroalimentari Tradizionali, PAT*) with 66 new PATs (14 in the last revision), thus bringing Apulia to 299 PATs.

- *Re.Ge.Fru.P. – Recupero del germoplasma frutticolo pugliese* (Apulian fruit germplasm recovery), *Re.Ge.Vi.P. – Recupero del germoplasma viticolo pugliese* (Apulian grape germplasm recovery) and *Re.Ger.O.P. – Recupero del germoplasma olivicolo pugliese* (Apulian olive germplasm recovery), included and promoted through the website www.fruttiantichipuglia.it, three projects aiming at protecting, managing and promoting «the biodiversity of Apulia fruit, olive and viticultural heritage through the genetic, pomological, health, technological, historic, social and economic study and analysis in order to identify, characterize, collect, catalogue and store plant material at risk of extinction [16]». In particular, the first one aims at recovering the varieties of fruit of the territory and to promote their properties, thus maintaining the genetic heritage of species and ecotypes of agricultural interest characterizing the historic and traditional landscape of Apulia [16]; the second one aims at «ensuring the conservation of the intraspecies and intravarietal viticultural biodiversity, improving the knowledge of production and

[2] The above percentages make it the flattest Italian region [12].

[3] Ecosystem regions of consistent character in which natural species and communities interact fairly well with the physical characteristics of the environment [13].

[4] Apulia is the region with the highest number of farms and wider invested surface (245 thousand farms and 527 thousand hectares) [14].

[5] The partners of the project include the Dipartimento di Scienze AgroAmbientali e Territoriali (DISAAT) and the Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti (DISSPA) of the University of Bari, the Istituto di Bioscienze e Biorisorse di Bari (IBBR - CNR of Bari), the Department of Scienze agrarie, degli Alimenti e dell'Ambiente (SAFE) of the University of Foggia, the Dipartimento di Scienze e Tecnologie Biologiche e Ambientali (DiSTeBA) of the University of Salento and the Consorzio Parco Naturale Regionale Costa Otranto – Santa Maria di Leuca e bosco di Tricase.

technological characteristics of Apulia vine varieties, restoring and registering in the *Registro Nazionale delle Varietà di Vite* (National Register of Vine Varieties) the propagating materials to allow their use according to laws and regulations [17]»; finally, the third one aims at making an inventory of, identify, protect and promote the extremely rich regional olive germ plasm[6].

- SaVeGraINPuglia (Recovery, characterization, preservation and valorisation of leguminous and forage grains in Puglia) was a 5-year project ended in February 2018, whose objective is expressed by its extended name. It allowed the identification, classification and conservation of 71 local plant genetic resources (RGV) at erosion risk, in particular 30 varieties of legumes (among them 8 varieties of chickpea, 9 of broad bean and 3 of pea), 15 varieties of fodder plants and 26 varieties of cereals (including 15 varieties of durum wheat and 5 of common wheat).

Out of 7 projects submitted for Measure 214, Action 4 «Programmi integrati e Sistema regionale della biodiversità» (Integrated programmes and Regional system of biodiversity), 5 projects were awarded a total financial concession amounting to EUR 11,107,800.00[7], to which were subsequently added EUR 9,000,000.00[8] (D.A.G. No. 434 of 27/11/2015; D.A.G. No. 465 of 09/12/2015), out of the RDP 2007-2013 total resources amounting to EUR 1,544,226,086.00 (of which EUR 327,181,000.00 allocated to Measure 214) [19,20].

The above projects, therefore, were implemented through the protection and enhancement of the local agri-biodiversity, recovering and giving back to the communities local stories, practices and traditions with a view to preserve gene diversity of local varieties (and therefore food safety) and a regional model of sustainable development. Further, such crops, that are not suitable or adaptable to intensive agriculture, prove to be a valuable resource not only for their genetic heritage, but for their unique taste, the ancient memories they keep, the innovation opportunities they bring and their valuable inherent properties.

3. THE "SALENTO KM0" NETWORK: A DEAL BETWEEN OLD AND NEW «KEEPER-FARMERS»

Within the regional landscape, the province of Lecce extends on a surface of 279,907 ha and has a UAA of 161,130.94 ha, covered for 60.4% by olive groves, followed by wheat (11.9%), vine (5,2%), horticultural varieties (3.1%) and citrus fruit (0,3%) [14].

A huge agricultural landscape, therefore, characterize this territory, that is the result of a deep anthropogenic transformation started from the Roman conquest, when the lush vegetation of Apulia woods and wetland was uprooted to make the conquest easier, transforming the region into a vast pasture. A rural landscape structure resulting from territorialization and capitalization phenomena that make agricultural landscape a «mirror of the evolving society» [11] (p. 21), since it is nothing more than the «shape that man [...] knowingly and consistently gives to the natural landscape» [21] (p.29).

Agriculture and landscape, therefore, are closely linked since, over the centuries, the first has been the mainstay of life for local communities, that, through this activity, shaped the territory and created the landscape[9]. A «landscape-genous» [5] characteristic deriving firstly by an ancestral push, the natural need to procure food to survive.

Endogenous *cultivar* and local varieties selected over the centuries by expert farmers allowed the creation of typical agri-food products of high quality, frequently carrying a strong identity-linked value,

[6] In this regard, it should be noted that in 2007 Apulia regional authorities enacted a law for the "Protection and Enhancement of the Monumental Olive Trees of Apulia" (Apulia Regional Law No. 14, of 4 June 2007). In particular, Art. 1 enshrines the protection and promotion of monumental olive trees (identified as territorial heritage of the landscape by Art. 6), «including lone olive trees, for their productive, ecological and hydrogeological defence function, and as peculiar and characterising elements of the regional history, culture and landscape», while Art. 8 defines the promotion of the «image of the olive landscape of Apulia, in particular of monumental olives, olive groves and their products, even for tourist purposes» (Apulia Regional Law 14/2007); while the «Paesaggio Agrario della Piana degli Oliveti Monumentali di Puglia», extending on 4 Municipalities (Monopoli, Fasano, Ostuni e Carovigno), characterized by more than 212,000 monumental olives, *masserie*, dry-stone walls and a minor network of roads is included in the National Register of Historic Landscapes.

[7] Broken down as follows: EUR 2,500,000.00 Re.Ge.Fru.P., EUR 2,499,800.00 Re.Ge.Vi.P., EUR 2,500,000,00 SaVeGraINPuglia, EUR 2,000,000.00 BiodiverSO, EUR 1,608,000.00 Re.Ger.O.P.

[8] Broken down as follows: EUR 2,200,000.00 Re.Ge.Fru.P., EUR 2,000,000.00 Re.Ge.Vi.P., EUR 1,800,000.00 SaVeGraINPuglia, EUR 1,600,000.00 BiodiverSO, EUR 1,400,000.00 Re.Ger.O.P.

[9] The relationship between agriculture and landscape, as Ferrigni underscores, is a bidirectional one: agriculture creates landscape, which in turn creates the necessary conditions for agricultural production [5].

often safeguarded by protection marks (DOC, DOCG, DOP, IGP, STG, IGT). At present, the Province of Lecce has about 34 PATs[10], as well as 8 DOCs, 2 DOPs, 2 IGPs, 1 IGTs (Puglia IGT). Such acknowledgements are totally attributable to it or shared with other provinces. Further, the Province, participates to the project "Marchi d'Area" (Area Marks) of Italia Lavoro, investing in the mark "Salento d'amare".

The typical products[11] represent today an important key for local development (thanks to experiential as well as food and wine tourism), food safety (thanks to the protection of dietary variety) and for the reduction of environmental impact in the agri-food sector, as well. Indeed, local food is often produced by innovative organic methods, resulting from the recovery of ancient techniques and knowledge (from this the choice and the possibility not to use synthetic products), distributed preferring short supply-chains and 0-kilometre (locally sourced), thus allowing to shorten the distance travelled by food and, therefore, a significant reduction of emissions.

From this point of view, we consider emblematic the experience of "Salento km0", a network of social economy born in 2011 to bring together a number of local realities, converging on the topics of natural and organic agriculture[12], by following sustainable (organic, biodynamic, synergic, regenerative, etc.) farming practice, protecting agricultural biodiversity and proposing new relationships between producers and consumers, between land and food [23].

> The goal is the creation of a social economy network based on the respect of the whole ecosystem, food self-determination, awareness about food, short supply-chain. Further, "Salento km0" promotes and spreads the knowledge of ancient agricultural varieties, locally selected by generations of farmers among the more suitable to the specific characteristics of the territory, for their stress as well as environmental and climate change resistance, therefore being the only ones able to ensure food safety for the local community [23].

The network, made of manufacturers, restaurants, associations, solidarity purchasing groups (*GAS, Gruppi di Acquisto Solidale*) and stores, currently has 61 local realities, of which 57 located in the province of Lecce: Cutrofiano and Tricase are the Municipalities with higher numbers, 4 respectively (Table 1, Figure 1).

On 2 June 2017, following several meetings and discussions, the constituent entities signed the *Manifesto* for natural agriculture of Salento, thus laying the foundations for a district of natural agriculture in Salento. A «pact between realities», according to the network website, with an environmental, social and ethical aims: safeguarding the environment (by means of natural agriculture and therefore rejecting synthetic and transgenic products); protecting and enhancing local agricultural biodiversity, landscape and local cultural identities; promoting alternative manufacturing methods; creating a mutual and aware community; implementing an ethic alternative economy.

Among the activities and projects through which the network pursues its goals, it should be mentioned the Urban Workshop "*To Kalò Fai*" (from the *griko*[13]: the good food)[14], informal collaboration with the BiodiverSO project and the coordination of the Galatina and Zollino GAS.

Most of the realities that constitute it are far from wholesale production and are oriented towards horizontal relationships between manufacturer and consumer. Therefore, products can be found directly in factories, within solidarity purchasing groups, local markets and, in limited cases, in shops that share the same philosophy: 0-kilometre, seasonality, short supply-chain and return to land.

[10] Probably a non-exhaustive count due to the difficulty to geographically locate the origin of every single PAT: 18 of them are also present in the BiodiverSO project, within which out of 122 regional varieties focused on by researchers, 36 refer to the province of Lecce.

[11] Local, since they are produced in a particular place, and typical, since they are bearers of specific identity, traditions and values of a given community in a precise territory.

[12] According to the definition of the International Federation, organic agriculture means an «agricultural system promoting a production environmentally, ecologically and socially healthy of food, fabric, wood, etc. Within this system, land fertility is considered the key to the good result of production. By working with the natural properties of plants, animals and landscape, organic farmers aim at maximizing quality in every aspect of agriculture and environment» [22] (p. 230).

[13] An ancient dialect of Greek origin.

[14] A project launched following a convention with the Municipality of Zollino (where the workshop is located), started in 2015 by Meditfilm and undertaken within the programme "BollentiSpiriti" of Regione Puglia. Through workshops, meetings, events and educational gardens, this space is a collector of educational actions, relationships and culture.

Moreover, the network can be found on various social platforms and has a WebTV[15] and a website, key showcases for the promotion and development of the project and the realities taking part in it. In this regard, a careful exploration of online media used by it and by the single entities composing it was crucial to identify, even spatially (Table 1, Figure 1) the different realities, the values that form the base for its creation and the reasons that led them to aggregation. The analysis also allowed to register their dense and diverse activity, mostly educational initiatives and various types of events, participation in external projects, protection and preservation of ancient varieties and cooperation with integrated programmes to protect biodiversity. In this regard, a dedicated section of the website allows to find out ancient varieties grown today by the network producers; among them, there are many PATs and many other are included in the Biodiverso project[16]: white chicory of Tricase, *cima di rapa* (PAT), *cucuzza genovese*, black-eyed pea (PAT), Zollino broad bean and little pea (both PATs), *mugnolo* (PAT), *batata* (PAT), Sannicola curly pea and Vitigliano dried pea (both PATs), Sant'Ippazio carrot (PAT), Morciano tomato (PAT), etc.

Table 1. Geographical and numerical distribution of network players

MUNICIPALITY/HAMLET	No.	PLAYERS
ACQUARICA DEL CAPO	1	EcoBottega and GAS of Acquarica
BOTRUGNO	2	Sciglio – Le Api Del Parco Paduli GAS Botrugno
CASTIGLIONE D'OTRANTO (Hamlet of Andrano)	2	Casa delle Agriculture Soc. Agricola Coop. Gruppo di Acquisto Popolare del Salento
CASTRIGNANO DEL CAPO	1	Agriturismo Serine
CEGLIE MESSAPICA	1	Ex Terra
COPERTINO	1	Apicoltura Saverio Alemanno
CUTROFIANO	4	Caseificio Artigianale Sciacuddri Azienda Agricola Le Lame Drogheria dell'Ignoto Frutterò – Save the fruits
FELLINE (Hamlet of Alliste)	2	Dei Agre StaiTerraTerra
GALATINA	2	GAS Galatina Terre e Valori Alimentari
GALATONE	2	Comune Agricola Lunella Azienda Agricola Dinamica Salentina di Dario Specchia
GALLIPOLI	1	Agriturismo Calamate
GROTTAGLIE	1	Azienda Agricola Blasi
LECCE	2	GAS.P – Il mercato equo solidale a San Pio GAS Lecce – Oltre Mercato Salento
LEQUILE	1	Il Giardino sotto il naso
LEVERANO	1	GAS Leverano
MAGLIE	1	GAS Maglie
MIGGIANO	1	Azienda Agricola Merico
MONTERONI	1	Azienda Agricola Ruralia
MORCIANO DI LEUCA	1	MasseriaDidattica Li Tumeddi
NARDÒ	3	Azienda Agricola Cosimo Chiriasi Agricampeggio Le Fattizze Terre Paduli
OSTUNI	1	Giardini Della Grata (Cooperativa Bio Solequo)
OTRANTO	2	Azienda Agrituristica Salos Agriturismo Le Fontanelle
PARABITA	1	Azienda Agricola Stefania Stamerra – Biocoltura
POGGIARDO	1	Mulino Maggio
PORTO CESAREO	1	La Sallentina

[15] A project by Meditfilm for online spreading of audio-visual contents focused on the network, Salento, its landscapes and its biodiversity, the "change farmers" (as these producers define themselves) and their testimonies.

[16] Out of 122 local varieties included in the BiodiverSO project, 36 belong to the province of Lecce.

MUNICIPALITY/HAMLET	No.	PLAYERS
SALVE	2	Agriturismo Sante Le Muse Azienda Agricola La Pezza
SAN CASSIANO	1	Parco Paludi – Laboratorio Urbano Aperto Lua
SAN DONACI	1	Azienda Agricola Melusina
SAN DONATO	1	Azienda Agricola Lagorosso
SANNICOLA	1	I Colori Della Terra – Spazi Popolari
SERRANO (Hamlet of Carpignano Salentino)	2	Contrada Serulla Agriturismo Lu Schiau
SPECCHIA	1	Gas Matine
SPONGANO	1	Azienda Agricola Piedi Grandi
SQUINZANO	1	GAS MalaChianta - Squinzano
SUPERSANO	1	Cantina Supersanum
TRICASE	4	Gli Orti di Peppe Cooperativa Sociale Terrarossa
MARINA SERRA (Hamlet of Tricase)		Agriturismo Gli Ulivi Associazione Marina Serra
TUGLIE	1	Azienda Agricola Corrado Losavio
UGENTO	2	Agriturismo Masseria Gianferrante Tenuta Bianco
VASTE (Hamlet of Poggiardo)	2	Vivere la Canapa Apicoltura Impresa Agricola Dott. Luca Circhetta
VITIGLIANO (Hamlet of Santa Cesarea Terme)	1	Giuseppe Bene Azienda Siliqua – Pisello Secco Di Vitigliano
ZOLLINO	2	Cooperativa di Comunità Jemma GAS Zollino

Source: Author's processing of website www.salentokm0.com data

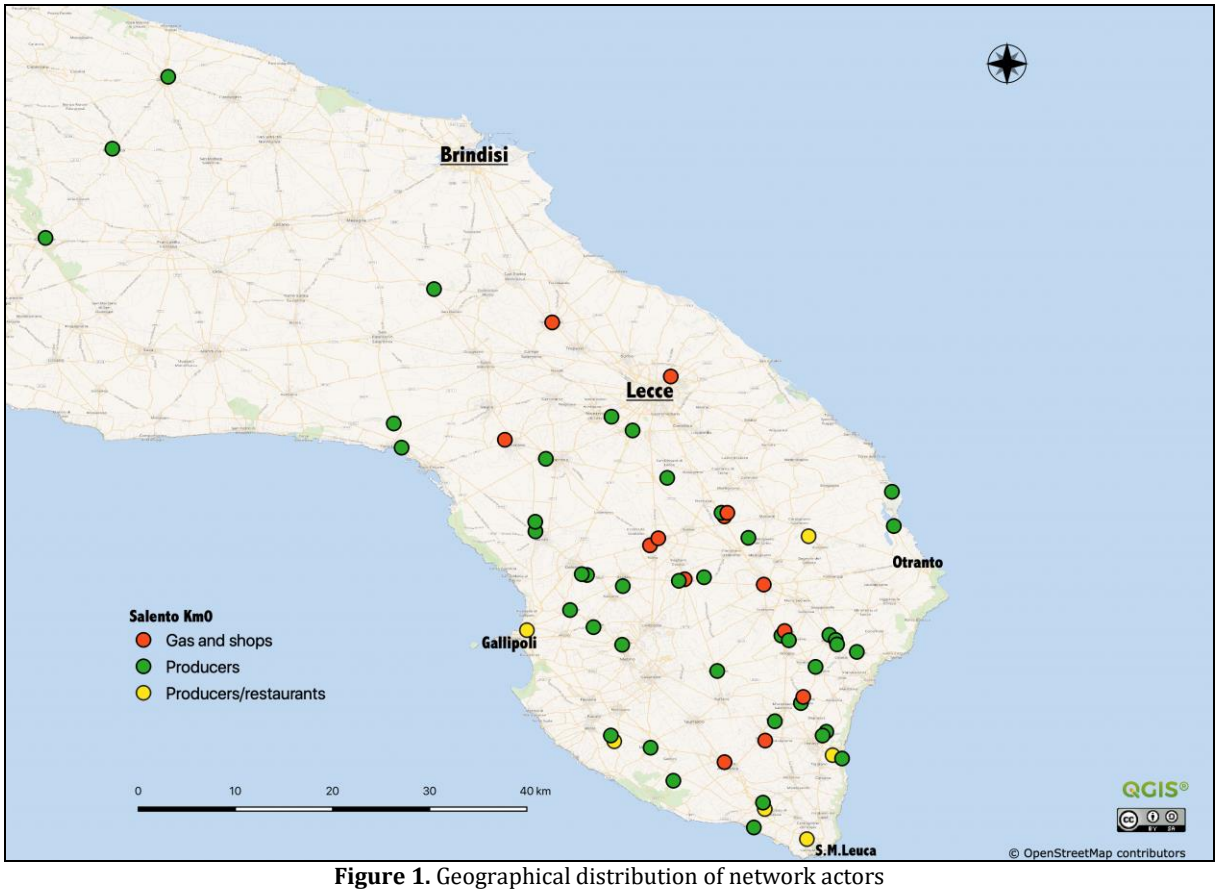

Figure 1. Geographical distribution of network actors
Source: Geocartographic Laboratory of the University of Salento. Dr A. Magurano

A remarkable example is the association «Casa delle Agriculture - Tullia e Gino - Castiglione d'Otranto», established in 2011 in the hamlet of Andrano by some young people who wished to stay in their land and give it new vitality, after many years of population ageing, abandonment and depopulation. Their aim is the creation of a new kind of social and sustainable economy. Against this background, in 2012 was held the first edition of the «Notte Verde», that since then takes place every 31 August. An event rich in workshops, conferences and meetings among producers, inhabitants and agricultural experts that every year brings to this hamlet about 30,000 people. In 2013, the association started to take over and regenerate some abandoned lands (also located in neighbouring municipalities), for a total surface of 15 ha, that were given on free loan to the association by elderly people or people who migrated to other places. Currently, ancient cereals are recovered and cultivated and, since March 2019, they are ground on-site thanks to the creation of the first community mill with the collaboration of the *Gruppo di Acquisto Popolare del Salento* for the direct sale[17]. In 2014, in cooperation with Free Home University, Ammirato Cultur House and the Regional Natural Park Otranto-Leuca, in order to promote and regenerate natural paths around Castiglione, frequently used as landfills[18], the «Parco dei frutti minori» was established. Within the park there is the «Vivaio della biodiversità», changed into the «Vivaio dell'inclusione»[19] thanks to the tender PugliaCapitaleSociale 2.0 of Regione Puglia, currently a BiodiverSO site for the *in-situ* protection of some local varieties at risk of erosion. The production range is completed with the common apiary for the community honey. Overall, the actions of this innovative project, which led to the establishment of a cooperative of the same name, are focused on the protection of biodiversity, lawfulness, accessibility, food democracy and right to food. From such topics the educational activities of the association are also originated, among them the community Agriludoteca located in the premises of the former elementary school of the hamlet.

Young keepers, therefore, that come back or stay, reweaving space and social fabric, exchanging seeds and knowledge not only with other local realities, but with old farmers, thus creating a bridge between generations that links present and past, now not so distant from each other; surely a repeatable model, a real social and environmental regeneration engine to give new life to inland areas.

Figure 2. Community mill
Source: Author's photograph, 2020

[17] The current demand of flour made of ancient grains is so high that the association decided to undertake «supply-chain agreements» with small local producers, whose cereals, cultivated according to standards recorded in a dedicated product specification, will be purchased at twice the market price.
[18] 100 tons of waste are removed and «replaced» by ancient varieties of fruit trees.
[19] A project aiming at involving the weakest groups of population, such as the elderly, migrant and disabled population, to help their inclusion and prevent isolation.

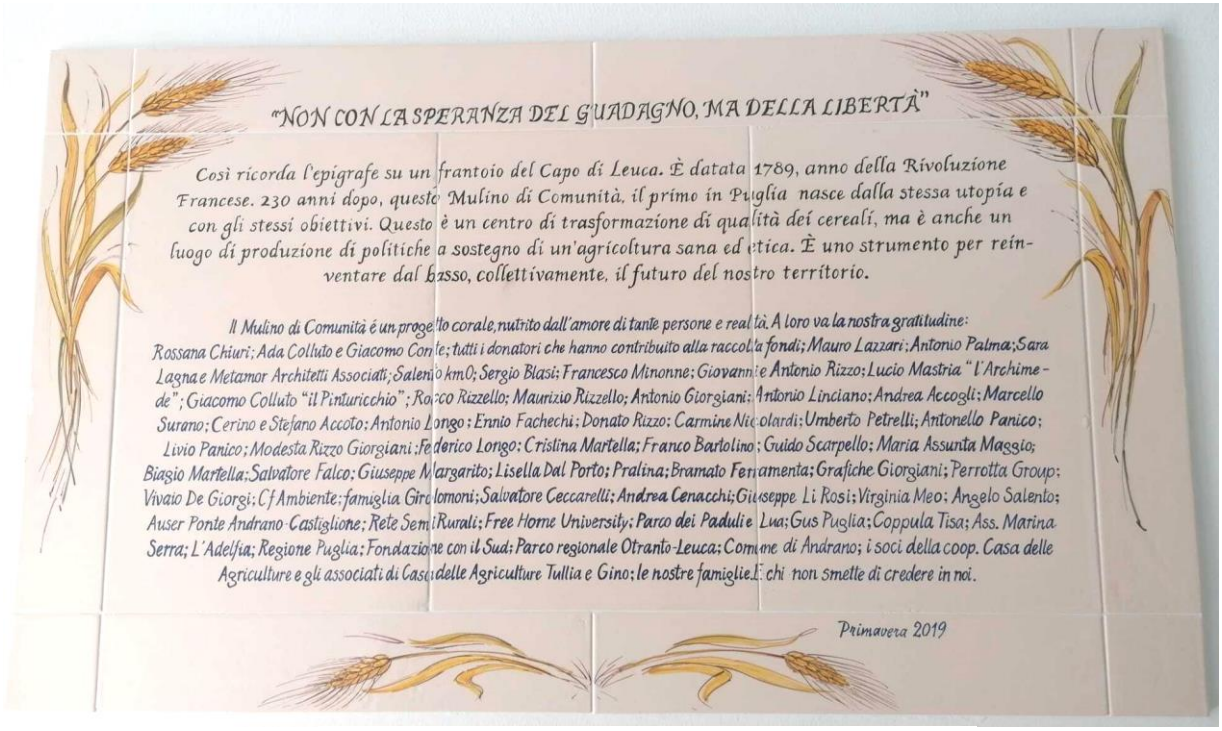

Figure 3. Community mill
Plate at the entrance to the mill
Source: Author's photograph, 2020

Figure 4. Community mill
Stone mill with sifter
Source: Author's photograph, 2020

Figure 5. Community mill
Display of products
Source: Author's photograph, 2020

4. CONCLUSIONS

The advent of the industrial agriculture and of new technologies allowed man to untie food production from climate, seasons and place of origin. It led, through monoculture, to a standardization of landscape and, by reducing its complexity, to its simplification, the consequent abandonment of ancient low-yield varieties and a subsequent serious loss of biodiversity, as well as the abandonment of agriculture especially in mountain areas, with a subsequent increase of disruptions (landslides, environmental deterioration, fire, etc.) due to the neglect of those elements that had characterized it as a rural landscape. The landscape simplification was followed by the simplification of words, therefore the place itself becomes a «space» or a «site», it loses its meanings, memories and becomes an object, a «beast of burden» to exploit with the only objective being the maximization of production [24]. Nevertheless, such de-territorializing process is reversed by the projects of local farmers and communities, that could be defined «virtuous» precisely for their opposition to such systems. The place, the territory, the landscape itself are restored to their condition since, through the community, they regain their value by the recovery of stories, techniques, traditions and social relations. A real regeneration, taking back the territory to its subjectivity, its stolen identity, and restoring consumers to their condition of inhabitants.

Phenomena as the «re-farmization» and «return to land», the recovery and protection of ancient local varieties and the rediscovery of a local identity awareness move together within a sustainable cycle originated by the crisis of a standardized and global food system, source of anxieties, fears and uncertainty. Marginal territories, villages and small towns, which have been long characterized by de-anthropization, population ageing and social drainage, acquire new vitality.

Against this backdrop emerges a new kind of farmers, young and culturally engaged. By «taking the baton» from old generations of farmers (that often give ancient seeds and lands on free loan) they assume

the role of keepers[20], frequently together with the local communities to which they belong and that, in this way, become communities of practice[21].

New models of social cohesion, therefore, guided by a stronger local awareness able to give back the territory to its inhabitants, ensure the protection of local biodiversity and food safety, regain the right to food sovereignty, which, even more so today, in the light of the current pandemic events and their close links with human practices related to habitat destruction, wildlife trafficking, certain livestock farming practices and the consequent loss of biodiversity, can become the key to a paradigm shift towards sustainability (understood in its many forms), aimed at protecting both the environment and the tangible and intangible heritage of the territory and its populations, and becoming drivers of local development.

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[20] Interesting, in this regard, Art. 12 of Law 39/2013 of Regione Puglia, concerning the protection of the genetic and local resources of agricultural, forestry and livestock interest, that institutionalises and defines the role of the keeper-farmer.

[21] A group of persons having the same interests that develop shared practices and create and share knowledge, whose belonging is based on participation and interactions [25].