ISSN 1126-7798

Geotema - Riv. Quadrimestrale - Anno XX n. 3 settembre/dicembre 2016 - Poste Italiane S.p.A. - Sped. in Abb. Poste DL 353/2003
(conv. in Legge 27/02/2004 n. 46 Art. 1, Comma 1) - CN/BO - Pàtron Editore - Via Badini 12 - Quarto Inferiore - 40057 Granarolo dell'Emilia (Bo)

52

COMMON AGRICULTURAL POLICY ROLE AND VALUE IN A CHANGING WORLD. FOOD - AGRICULTURE - ENVIRONMENT AS KEY FACTORS IN ORDER TO GET THROUGH THE CURRENT GLOBAL ECONOMIC CRISIS

edited by
Andrea Riggio Isabella Varraso

geotema

Pàtron Editore

Common Agricultural Policy role and value in a changing world. Food - Agriculture - Environment as key factors in order to get through the current global economic crisis

Edited by Andrea Riggio, Isabella Varraso

Per eventuali indicazioni di carattere editoriale preghiamo di rivolgersi al Prof. Franco Farinelli, Dipartimento di Comunicazione, Università di Bologna, via Azzogardino 23, Bologna, tel. 051 - 2092229/303.

A richiesta potranno essere forniti estratti a pagamento.
Gli articoli vanno forniti su file, con qualsiasi programma.
Le referenze vanno indicate in note finali, numerate nell'ordine nel quale appaiono nel testo e dovrebbero obbedire ai seguenti modelli:

Bateson G., *Verso un'ecologia della mente*, Milano, Adelphi, 1976, pp. 439-515.

Ricci G., *Città murata e illusione olografica. Bologna e altri luoghi (secoli XVI-XVIII)* in C. De Seta, J. Le Goff (a cura di), *La città e le mura* Roma-Bari, Laterza, 1989, pp. 265-290.

Cosgrove D., *Environmental thought and action: pre-modern and post-modern*, Institute of British Geographers 15 (1990), pp. 344-358.

Abbonamento cartaceo Italia	**€**	**60,00**
Abbonamento cartaceo estero	**€**	**75,00**
Fascicoli singoli cartacei Italia	**€**	**22,00**
Fascicoli singoli cartacei estero	**€**	**25,00**
Abbonamento on-line Privati	**€**	**55,00**
Abbonamento on-line Enti, Biblioteche, Università	**€**	**130,00**
PDF singoli articoli	**€**	**14,00**

Per abbonamenti e ordini di arretrati, rivolgersi all'Ufficio Abbonamenti: **abbonamenti@patroneditore.com** o collegarsi al sito **www.patroneditore.com/riviste.html.**
I pdf dei singoli articoli e gli abbonamenti online possono essere richiesti solo collegandosi al sito **www.patroneditore.com/riviste.html.**
Gli abbonamenti hanno decorrenza gennaio-dicembre, con diritto di ricevimento dei fascicoli già pubblicati, se sottoscritti in corso d'anno.
I fascicoli cartacei non pervenuti vengono reintegrati non oltre 30 giorni dopo la spedizione del numero successivo.

Modalità di pagamento:

Versamento anticipato adottando una delle seguenti soluzioni:

- c.c.p. n. 000016141400 intestato a Pàtron editore - via Badini 12 - Quarto Inferiore - 40057 Granarolo dell'Emilia - Bologna - Italia
- bonifico bancario a CARISBO - Agenzia 68 - Via Pertini 8 - Quarto Inferiore - 40057 Granarolo dell'Emilia - Bologna - Italia - BIC IBSPIT2B - IBAN IT 03 M 06385 36850 07400000782T
- carta di credito o carta prepagata a mezzo PAYPAL (**www.paypal.it**) specificando l'indirizzo e-mail **amministrazione@patroneditore.com** nel modulo di compilazione, per l'invio della conferma di pagamento all'Editore.

Franco Farinelli

Editoriale

È passato qualche tempo da quando i geografi che si occupavano di agricoltura venivano chiamati ruralisti, e confinavano le proprie analisi alla placida descrizione, esteticamente impostata, del paesaggio campestre e delle forme dell'abitazione contadina. Si può anzi essere più precisi, e allo stesso tempo molto più problematici: è ormai passato mezzo secolo, perché *Campagnes Ombriennes* di Henri Desplanques, inarrivata riflessione storico-geografico sul paesaggio rurale italiano, è del 1969, ed è il testo che – secondo uno di quei paradossi frequenti se non normali nella storiografia scientifica – appare esattamente l'anno stesso in cui il funzionamento del mondo, compreso il suo versante agricolo, iniziava ad obbedire logiche e indirizzi che in breve tempo avrebbero reso desueti e labili proprio i lineamenti indagati nel libro con tanta cura e partecipazione. Nell'agosto del 1971 il presidente degli Stati Uniti Richard Nixon abolisce la convertibilità del dollaro in oro, decretando la fine del sistema allestito dal Fondo Monetario Internazionale dopo la seconda guerra mondiale ed inaugurando la stagione dei cambi flessibili. A distanza di poche settimane viene promulgata in Italia la legge che abolisce i patti di mezzadria e che, trasformando i mezzadri in salariati agricoli, pone termine a quella che Maurice Aymard ha definito l'"anomalia italiana", protrattasi per tutto il mezzo millennio che dal Tre-Quattrocento arriva sino all'Ottocento, e assolutamente inclassificabile se paragonata al modello classico, di marca anglosassone, di transizione dal feudalesimo al capitalismo. In quest'ultimo il passaggio avviene soltanto tra Sei e Settecento e coincide con una generale e pronunciata industrializzazione, dunque la transizione è netta e la successione immediata. In Italia invece i liberi comuni del Centro-Nord promuovono fin dal Medio Evo un precoce processo di "sfeudalizzazione", cui non si accompagna, come ad esempio nelle Isole Britanniche, lo sviluppo della grande industria, se non dopo l'unificazione politica della penisola. In tale secolare intervallo, che appunto dura cinque secoli, si assiste da noi, secondo Aymard, alla più lunga "fase d'indecisione" economica mai conosciuta da un Paese occidentale. Essa esprime l'incerto carattere dell'agricoltura italiana moderna, la sua natura di terza via come soluzione mediana ed equilibrata tra produzione per l'autoconsumo (precedente ogni sviluppo capitalistico) e produzione per il mercato, tipica dei sistemi capitalistici maturi. E proprio a tale via mediana, fondata sui rapporti mezzadrili di produzione e di cui Desplanques ha fatto in tempo a descrivere l'ultimo bagliore, si deve quel che ancora costituisce agli occhi dei visitatori stranieri, nella sua forma residua, il principale fascino e la dominante attrattiva del paesaggio rurale italiano. Il che è all'origine di un altro formidabile paradosso, di cui prima o poi questa rivista dovrà occuparsi: in base al quale il paesaggio diventa l'unico modello di percezione della faccia della Terra – come in tutta Europa (o quasi) da anni la convenzione Europea del Paesaggio impone – proprio quando i suoi lineamenti storici vengono irrimediabilmente distrutti, quando il suo profilo esemplare viene completamente trasformato.

Una volta per tutte? Ci si tornerà appunto. Intanto i saggi di cui questo numero si compone rendicontano su che cosa per agricoltura debba intendersi al tempo postmoderno della globalizzazione, avvisano dei nuovi modi, delle nuove

implicazioni, dei nuovi livelli che all'attività agricola oggi si connettono. Una sorta di ricognizione che proprio nella sua caleidoscopica (metascalare cioè) struttura assume il primo dato d'aderenza all'attuale realtà, ancora in cerca di specifici modelli analitico-problematici. Ne emerge, a lettura compiuta, l'idea della agricoltura come "istituzione totale", come tanti anni fa si esprimeva Marcel Mauss a proposito del dono, come ambito produttivo da cui l'intero processo della riproduzione sociale ancora dipende, secondo modalità al cui interno quel che è arcaico e quel che è avveniristico o futuribile appaiono assolutamente congiunti al punto da risultare inestricabili. Forse la maniera più avvertita e cruciale, di certo quella basica cioè fondamentale, per tentare di afferrare l'arcano della forma globale di produzione, cioè la natura del mondo che verrà.

Il Direttore

Andrea Riggio, Isabella Varraso

Introduction

This issue of Geotema collects the contributions to the EUGEO 2013 Congress "Europe, what's next? Changing geographies and geographies of change", session S06 "Common Agricultural Policy role and value in a changing world. Food - Agriculture - Environment as key factors in order to get through the current global economic crisis"[1]. The session, was proposed and organized by the Research Group of the Association of Italian Geographers (A.Ge.I.) named GECOAGRI-LANDITALY, coordinated by Maria Gemma Grillotti, in collaboration with the Sustainability of Rural System Commission of IGU**.** The session was attended by Ana Firmino, Chair of the same IGU Commission, Maria Gemma Grillotti, two researchers from FAO, 40 participants and 24 presentations including 2 poster presentations[2].

The GECOAGRI - LANDITALY Research Group, born in 1993, consists of 12 regional operating units (Piemonte, Lombardia, Veneto, Friuli-Venezia Giulia, Toscana, Umbria, Lazio, Molise, Campania, Puglia, Basilicata, Sicilia), and more than 40 University professors in 20 Italian Universities. During these years, the group carried out a comprehensive analysis concerning the Italian agricultural systems and developed an original methodology to define them at the different territorial levels – regional, provincial and sub-provincial – in their structural, economic, social and function characteristics. The morphological-descriptive analysis of agricultural spaces, organized according to different types of production, has been followed by the interpretation of the sectoral and territorial capabilities of regional spaces[3].

Lately, the working group has expanded its field of action by placing increasing emphasis on landscape and cultural aspects[4], agricultural policies and, in particular, on the difficult path of CAP and its directives, not only focusing on the sectoral functionality but also aimed at a sustainable territorial development, that can have positive effects on the environment, the landscape and the territory, giving new functions to agriculture.

After the effort that has led the Geocoagri Research Group to publish two important thematic atlases dedicated to the documentation and representation of the growing complexity of the rural world, the *Atlante Tematico dell'Agricoltura Italiana* (S.G.I., 2000)[5] and the *Atlante delle Acque d'Italia* (Brigati, 2008), the Working Group has directed the research on the study of non-agricultural activities and new functions of the countryside in close collaboration with the Commission on the "Sustainability of Rural Systems"[6] and, on the food security front, with FAO in reference to the most recent events organized as part of the International Year of Family Farming[7].

Afterwards, there were examined new forms of organization of rural areas and the new concept of rurality as a result of the transition of CAP (Common Agricultural Policy) from the sectoral model to a territorial model and of the most recent socio-economic transformations in the suburban areas. The methodology, developed by GECOAGRI - LANDITALY Group, has been adopted at international level and, in the last phase of the research, group members have studied new forms of organization of rural areas and the new concept of rurality, at regional and local scale, taking into account, in particular, three parameters for the evaluation: density, functionality and accessibility.

Finally the research group, currently named GECOAGRI-LANDITALY, faced the problem of identifying the areas of typical and quality productions, through the examination of the envi-

ronmental and cultural heritage values that make them real tools for promoting an integrated regional development.

The study of the new global and local context conditions and of social networks in the field of the food - agriculture - environment relationship, shows contradictory spatial configurations in rural areas such as those related to the impact of excess production, the increase and volatility of food prices in global markets, the food crises and low productivity situations[8].

Other emerging themes are those related to growing role of new technologies and bioengineering enterprise applied to agriculture in opposite to an approach based on permaculture, quality production, fair trade and the increasing importance of agricultural production and the use of rural space for renewable energy sources and for soil conservation.

The links with these fundamental issues of emerging new agricultural policies in Europe and sustainability in agriculture are all present in this number of Geotema: applied researches on integrated development of agricultural spaces through the offer of new services by farms (tourism, environmental protection, integrated landscape and heritage management, health and education through proper nutrition); case studies about non-agricultural activities, quality production, role of farms in the energy transition.

The session "Common Agricultural Policy Role and Value in a changing World" presents an international debate on the role of agriculture in the European Union also considering the new reforms of the economic policy and the challenges imposed by the global economic crisis. More specifically, it attempts to analyze changes and persistence of relations food - agriculture - environment in Europe's agricultural systems and in rural areas in which the CAP operates.

Grillotti Di Giacomo summarizes such a complex approach through the questions she poses in the session proposal form: "what kind of, and how many results, the incentives of the Common Agricultural Policy achieved, concerning the agricultural best practices? Diffusion of renewable Energy: how many outcomes achieved in agricultural areas? … Will the next Reform (2014-2018) be able to satisfy at the same time the requirements of sustainability and food safe?". Indeed "Climate changes, environmental damages due to excessive agricultural production, rural areas abandonment, increasing demand for quality label food processing production, the current economic crisis, need a completely new approach to the primary sector". On the other hand, the recent loss of confidence in financial investment is worldwide causing a significant revaluation of land ownership and the growth of food production.

The fifteen papers that are published here treat problems and case studies that, in the diversity of topics and approaches, well illustrate the close relationship between food - agriculture - environment on which the Common Agriculture Policy, directly and indirectly, also impacts strongly.

This issue of Geotema is divided into two parts. In the first part Political and Territorial issues of the relationship between Food-Agricolture-Environment there is an exam of problems and interpretations of policies and requirements related to the regionalization processes in agriculture and in rural areas. The report of Grillotti introduces the themes and provides an interpretive framework that connects all interventions. In subsequent reports the researchers considered the will and actions of the European Union to intercept, directly and indirectly, the capacity of agriculture to change their role in responding to the current global crisis (Maria Patrizia Marino) through the processes of innovation (Andrea Sonnino, Delgermaa Chuluunbaatar, John Ruane), developing new values through food production (Valeria De Marcos), also reconsidering the utility, even economic, to know and promote local identity (Maria Fiori) and adopting an ethical vision of territorial organizations (Isabella Varraso).

The second part contains case studies of Italy: which are published in geographical order. Riggio, De Felice analyze the new functions for rural areas throgh the production of biomass energy (Northern Campania); Varraso, Dimitro examine bank loans to the agricultural enterprises in Italy and in Apulia. The new form of rurality in Apulia are studied by Nicoletti (quality production), Tatsion (cultural tourism), Calignano (agritourism in Salento *in the so-called "era of the internet"*), Bozzi (multifunctional agriculture), Lombardi (rural landscape through cinema) and Russo (proper nutrition). From the territorial reality it emerges, among other things, a 'reading' of the aspects of agriculture in Southern Italy, which bears testimony to the particular vocation together with the current efforts of change and innovation, despite contradictions and resistances.

The diversity of issues and approaches manifests the richness of the themes and the great vitality that the agricultural sector is currently manifesting. It also expresses the need to address the issues of agriculture with interdisciplinary logic, perhaps urging researchers in frontier research interests. The rigorously used methodolo-

gies illustrate, quantitatively and qualitatively, the agricultural processes analyzed, and use largely the fieldwork research, both as a key of interpretation of the examined phenomena and as feedback of the analysis. The relations between food - agriculture - environment are read locally by always revealing the impact on the territory specific organizations and landscapes, as well as the effective complexity of the examined reality, even at the local scale.

Notes

[1] EUGEO is the Association of Geographical Society in Europe, http://www.eugeo.eu/. IV EUGEO Congress was attended by about 500 participant from all over the world**.** For the congress programme and abstract see *EG EUGEO ROME 2013* 5-7 *Sept*, ISBN 978.8888.692.-88-3.

[2] The list of participants at the Session S06 and abstracts are in *EG EUGEO ROME 2013* 5-7 *Sept*, 100-105, ISBN 978.8888.692.-88-3.

[3] On the first phase of the Research Group, see especially the series of theoretical and regional volumes "Geografia dei sistemi agricoli italiani", published by Reda (Roma); "Geotema", 5 (1996), "*Geografie e agri-cultura per «seminare meno e arare di più»*"; Grillotti Di Giacomo M.G., Banini T. (2004), *Geografia comparata delle aree agricole europee ed extraeuropee (GECOAGRI)*, A.Ge.I. "Progetti di ricerca dei gruppi di Lavoro", Bologna, Pàtron.

[4] Bryant C.R., Grillotti Di Giacomo M.G. (Eds.) (2007), *Quality Agriculture: Historical Heritage and Environmental Resources for the Integrated Development of Territories*. Proceedings of the International Colloquium, Brigati, Genova.

[5] Grand Prix de la Cartographie 2001.

[6] On this IGU Commission see http://igu-online.org/wp-content/uploads/2014/09/C12-35-Sustainability-of-Rural-Systems-2012-2013.pdf; on the relationships between GECOAGRI and Sustainability of Rural Systems Commission see the Proceedings Grillotti Di Giacomo M.G eds. (1998), "I valori dell'agricoltura nel tempo e nello spazio", 3 voll., Genova, Brigati; "Processi di crescita e riorganizzazione degli spazi rurali", Atti del XXVIII Congresso Geografico italiano, vol. II, Roma, 2000. GECOAGRI has worked the organization of the *International Conference on the sustainability of rural systems*, UGI 2005.

[7] On the relationships between GECOAGRI and FAO, see Grillotti Di Giacomo M.G. (1995), *Guida alla mostra "Campagne nel mondo: rapporti e paesaggi da salvare"*. Dedalo, Rieti (exhibition was held at the FAO Headquarters).

[8] For an introduction about this theme, see Grillotti Di Giacomo M.G. (2012), *Nutrire l'uomo, vestire il Pianeta Alimentazione-Agricoltura-Ambiente tra imperialismo e cosmopolitismo*. Franco Angeli, Milano.

Maria Gemma Grillotti Di Giacomo

The relationship between Food - Agriculture - Environment compared with the new Common Agricultural Policy

Abstract

Food - Agriculture - Environment are mutually connected with an organic, unbreakable, complex bond. Their balance depends not only on pedologic and climate factors or the degree of agricultural techniques development but above all on food processing and commercial policies carried out by National Governments and International Bodies. In order to protect availability, accessibility and quality of food processing products is necessary the contribute of political legislation. In the recent years, many times it has been established considerable paradoxes: surplus in farming production and growing prices; inadequate productivity and imports of farming products from Countries with very advantageous agronomic potentialities; abandonment of cultivable lands situated on hill and mountain areas and land grabbing in the poorest Countries; expansion of no food crops in the same regions where people are starving. In the nineties, whether capitalistic agriculture in western Countries or the collectivism one in Socialist Countries and in Developing Countries affirmed the "rediscovery of territory and genius loci". The new Common Agricultural Policy ("CAP") will have to consider that in order to feed humankind will be necessary to dress Earth through a more respectful use of resources and natural environment and closer use to the traditional food crops of local communities. In this way, rural landscape, which tells stories of thousand-years old efforts and successes, becomes the paradigm more suitable to represent them and to protect quality of farming products and food.

Keywords: *Food, Agriculture, Environment, Common Agricultural Policy, Rural landscape.*

The definition of new Common Agricultural Policy (CAP)

First of all I want you justify the topic of our scientific session *Common Agricultural Policy role and value in a changing world Food-Agriculture-Environment as key factors in order to get through the current global economic crisis*; this intricate choise was done not only to comply with the title of this current Eugeo Conference *Europe, what's next? Changing geographies and geographies of change, but also for replying to the continuous inputs that come from the discussion around a new CAP for the 2014-2020 period*. Moreover, there are also programmatic works, already set up, revolving around the celebration of Expo 2015 *Feeding the planet, Energy for life (Nutrire il pianeta, energia per la vita)*. This event will present the agro-food issues of whole planet (world) trying to propose sustainable models and solutions.

Thirdly, the reason that has steered our interest around the role of CAP in a changing world: is the primacy in the regulatory action about the relation Food-Agriculture-Environment that Europe has gained compared to the other Countries all over the world. In the last fifty years CAP paid attention to the territorial issues setting up structural reforms already since seventies and integrated development programs of rural areas (PIM, LEADERS, AGENDA 2000). Moreover, even Member States accept and ratify "European Convention of Landscape" meant as relationship between culture and nature and they have even pushed for emanation of European directive in order to protect high quality food processing products through the of labels such as (P.D.O., P.G.I., TSGs, ORGANIC).

The relationship Food-Agriculture-Environment could represent one of the possible key to overpass current economic global crisis. By the way, I would like to underline that our proposal about the topic, presented to the EUGEO Committee more than one year ago, has been assumed also by political and governmental representatives on July 7th 2013 at the Royal Palace in Monza that is the headquarters of EXPO 2015. All influential panelists (Napolitano; Barroso; Letta) they have argued that Expo 2015 could represent a great occasion to overtake the current phase of economic and "innovative" stagnancy, that hits not only Italy but the whole Europe.

In first part of my relation, I will stress how Italy and Europe are ahead about landscape-environ-

ment and agro-food issues so that it's possible to export the normative models all over the world. Secondly, I will analyze some paradox about current topics such as the new CAP and last but not least I will provide some reflection to better understand how our discipline take place in this discussion and interpretation of the relationship Food-Agriculture-Environment.

The primacy of Italy and Europe in the protection of agriculture and high quality food products

The first half century of CAP will be mentioned slow and with contradiction. CAP was meant as a process to convert territory to values. Thus, territory is considered as relation between environmental resources, cultivation techniques, food tradition/local specificities. The improving of territory and genius loci occurs at a later stage (Structural Funds, PIM, Leader 1, Leader 2, Leader 3, LEADER +, Agenda 2000, Fischler) through the enhancing of the so called second pillar of the CAP and the paradoxical *set-aside* reform. This second pillar fostered competitivity, boostering productivity and the unitary yield per hectare of cultivated lands. Only in nineties, with an extraordinary convergence of interests shared by agricultural policies of both capitalist and socialist countries, new functions are assigned to the rural areas. This new orientation goes beyond the satisfaction of basic needs (food, clothes) and with the second and third sector (processing industry, marketing, agritourism) concerns also the ethical aspect (preservation of cultural and environmental resources) and the aesthetic content (rural landscape) of human action.

The evolution over the time of CAP, testify, in an emblematic way, the variety of the several socioeconomic interests revolving around the primary sector[1]. From a model of agriculture sector exploitation addressed to the growing productivity (based on quantity and profitability of outputs), CAP changed in a model of functional and qualitative development model. This new approach put Agriculture in linkage with other economic sectors (handicraft, tourism, trade and service industry) and aspects of social sphere (values, tradition, ethics, aesthetics).

Europe and Italy have normative primacy on issues related to Agriculture but very often characterized by paradox and contradictions. Those put in danger the evolution gained even through mistakes of evaluation and support to primary sector (support price policies and set-aside incentives).

New CAP, still under discussion, will have take in account that "to feed humankind" it's necessary to dress the globe in a more respectful way to use natural resources and environment and in the respect of traditional food culture of local communities. Rural landscape that, all over the world, tells stories of millennial labour and success, becomes the paradigm more suitable to interpret them and to protect quality of rural products and food through labels. Europe is well-advanced also in emanation of legislation about landscape safeguard.

European Landscape Convention was adopted in 2000 (in Florence) and it is open for signature by EU Member State. It promotes the protection, management and planning of European landscapes. It contains a range of measures aimed at promoting landscape protection, management and planning, underpinned by principles of sustainable development in terms of keeping potential and economic capabilities for future generation, attracting touristic flows, enhancing commercial flows of high quality production[2].

At the beginning of the new millennium, the research of the balanced relation between Food-Agriculture-Environment is facing the recovery of cultivation and food know-how, that are the result of millennial accumulation of experiences.

The last agricultural revolution invites humankind to limit his intervention on agricultural and to select the kinds of consumption and the food.

In the last years too competitive and industrialized agriculture, has stressed the necessity, in the both capitalist and socialist countries, to reinstate a safer and more balanced relation with environment to protect biodiversity and quality of agro-food products. Although the two different ideological contexts (capitalist agriculture and socialist one), and opposite problems overproduction, agro-food market saturation in western countries, shortage of basic food in less developed Countries and in socialist Countries such as Cuba), there has been an extraordinary convergence of interests which stimulated the research of rural production in the respect of environment, natural resources and closer to the local demand of food.

As CAP was concentrated on the enhancing of rural development, also FAO, in the last ten years, discovered a different approach in agricultural in terms of recovery of traditional not competitive practices. It started the project *Globally Important Ingenuous Agriculture Heritage Systems (GIAHS)*, for the census and development of rural local systems. It promotes the study and the use of sustainable techniques of land utilization in order to export

them in other Countries with similar natural and cultural characteristics. Moreover, Fao signed the proposal to achieve a" Catalogue of rural, historical landscapes that are in risk of extinction", This proposal has been put in the *Final Declaration* of the International *Colloquium* in 2005 by research group GECOAGRI-LANDITALY, committed by UGI *Sustainability of rural systems*[3]. In 2014, there will be the celebration the *international yearof familiar agriculture.*

CAP thanks to valorization of the concept of territory and *genius loci* moved up a process on a worldwide scale. Europe keeps a primacy for the proposal of a new model of integrated territorial sustainable development through the regionalization of intervention, the valorization of rural landscape and the protection of high quality agro-food products.

The new approach of CAP reviews the relation Food-Agriculture-Environment in a different perspective, pushing the next CAP reform towards greening and food security. Also institutions and stakeholders are addressed to make short the distance between consumer and producer in order to achieve protection of environment, farmers health and livestock wellbeing.

The high quality agricultural products are the output of rural areas specificity depending on periodicity of seasons and common rites of agricultural operations such as grape harvest and consumption.

Local tradition is better expressed whereas interaction between natural resources and rural community is more pronounced. The protection of high quality products in terms of production, of process industry, of consumption ways is one of the main goals of European Union. European Union, indeed, has achieved in advance adequate and complete rules in such great way that other non-European Countries have adopted to protect their products too.

Since the last decade of past century among the best measures of European Union it's possible to notice those ones concerning the attribution of quality labels to guarantee excellent agro-food products: Product Denomination origin (P.D.O), Protected Geographical Indication (P.G.I), Traditional Speciality Guaranteed (TSGs), Organic agricultural products[4].

Totally agro-food products with Eu label are 1033, among which 515 PDO, 476 PGI and 40 TSGs. Italy, thanks to 230 products with Eu quality label, has the leadership in production and in registration of the Eu quality labels. France, Spain, Portugal and Greece have respectively 184, 150, 116 e 90 products with Eu quality labels assigned in the period from 1996 21th June to 2011 30th June.

The leadership of Italy in this case is quite expected. Italy has a different naturalistic, environmental heritage (from a geological, morphological and climatic point of view), a variety of microenvironments, and a concentration of different local stories, tradition and cultures expressed in an emblematic way also in models and food rites. Italian food is well known in all over the world and Italian agro-food products are exported everywhere and they are enhanced by initiatives and organizations such as *Slow Food, Eataly Qualivita, Salone del Gusto, Terra Madre.* Also France, Spain, Portugal and Greece have an old agrarian tradition and like Italy they have different territorial assets and peculiar natural resources.

Observing the data of the products covered by the EU labels, the big number of Eu labels (PDO, PGI and STGs) on products coming from third countries, is the clear proof of the primacy of EC law able to attract attention and subscriptions on a planetary scale.

Since 1992, the first regulations in the field (Art. 12 of Regulation (EEC) No. 2081/92 on the IGP and DOP; Art. 16 of Regulation (EEC) No. 2082/92 on the STGs[5]), stressed the opportunities to establish a reciprocal guarantee, valid for the production of quality from both European countries and not European ones. In 2006 regulations also grant to third countries to chose national audit bodies. In other words, European Union protects agricultural food production over which European Union can't use control. It's very urgent to solve this normative paradox since, in 2010-2011 two-year period, the number of application forms coming from non European Countries has duplicated from three to six. Until 30 June 2011, 10 applications on 19 were Chinese like so five products on six, that have PDO labels, are Chinese. Very often these Chinese products are cultivated in polluted areas very close to factories.

So Europe has primacy in regulations about the protection of quality products. Also Italy, has the biggest number of protected quality products through EU labels, therefore in nineties Italy, on a national scale, felt need to safeguard amazing quality food heritage[6] through rules. The Ministerial Decree of 18 July 2000 defines traditional agro-food products (TAP) all productions "whose methods of processing, preservation and seasoning are consolidated over the time, homogeneous across the whole region, according to traditional rules, for a period of not less than twenty-five years[7]" (see Fig. 1).

Fig. 1. Traditional Agro-food Products (TAP) in Italy (*Source*: MPAAF, list published in Ordinary Supplement no. G.U. 167, 11 July 2011).

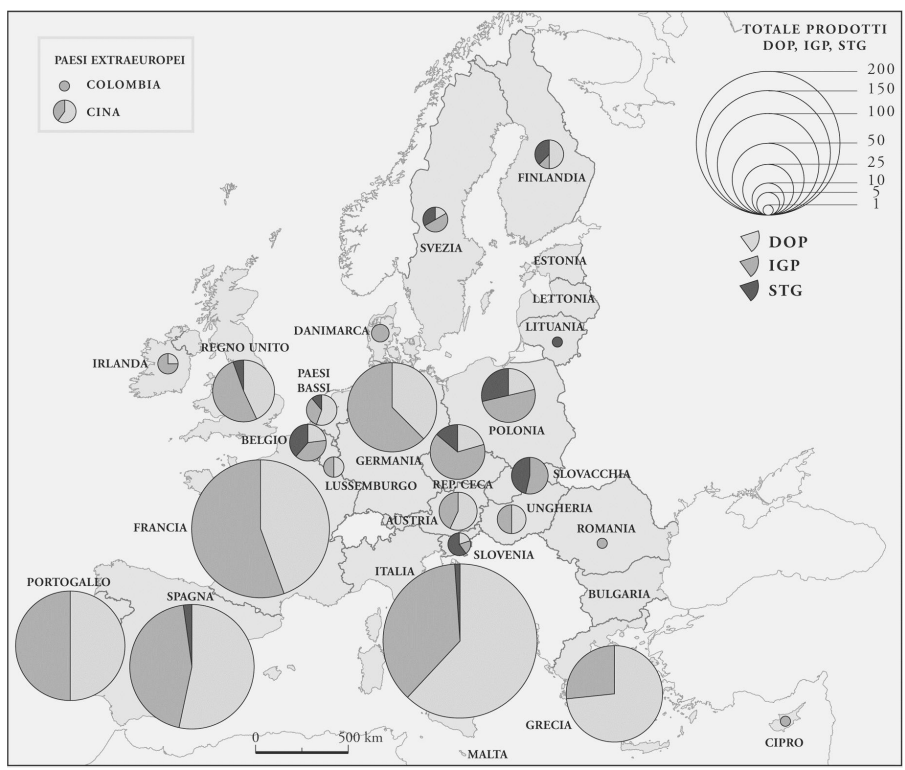


Fig. 2. DOP, ITG, STG, agro-food products in Europe 2011 (*Source*: http://epp.eurostat.ec.europa.eu).

Italy therefore has a leading position in European leadership: sensitivity towards tradition as a guarantee of food products and the sustainability of agricultural practices. Our country has therefore used a strong stimulating action, pushing EU for adopting rules for the protection of the quality and safety food. In January 2002, European Food Safety Authority (EFSA) in Parma (Italy), a politically independent body from all the countries of European Union, with functions of scientific advice and information on the different risks of food chain[8]. In 2009 EuropeanCommission sent a Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on agricultural product quality policy[9]. Moreover, with the publication in October 2008 of the Green Paper on agricultural product quality: product standards, farming requirements and quality schemes, the European Commission gathered opinions and suggestions directly by the Associations and EU citizens (involved in agricultural issues), and in 2009, European Commission issued a document that stressed the importance of the quality of production as the main instrument to achieve higher and more competitive incomes; moreover the document underlines two main aspects: theneed of quality product is combined by more information and news about it, the urgent need to establish safeguard rules for quality products marketed in non European Countries (see Fig. 2).

Concerning problem of international marketing and the risks of counterfeiting, in the absence of specific legislation, the Commission invites immediately to reinforce the European Observatory on Counterfeiting and Piracy established in 2009, to deal with current agreements with third countries WTO and to prepare individual bilateral agreements. Certification and labeling thus become keywords to protect the quality of the product through the transparency of procedures and traceability of all components, and at the same time to meet the increasingly urgent consumer request for information.

Paradoxes and contradictions of an evolution currently at risk

The itinerary and the process of conversion to the territory of the international agricultural policies inrecent years are put at risk by the fact that too many agricultural areas are back to the annual monocultures. Annual monocultures, already responsible for serious damage (desertification and soil pollution), today are paradoxically presented to protect the environment and subsidized to produce biomass for energy (climate and energy package "20-20-20"). This explains the debate around drafting of the new CAP reform (2014-2020); old and recent contrasts between family farming systems and agro-industrial products enforce the decision- makers towards a basic imperative: consider production reality in a realistic and practical approach, starting in each case from the territory and farming factories that work there, in other words from the geography of agricultural systems[10]. The next CAP reform will have handled a lot of issues: to begin with European instances themselves are under discussion and the economic global crisis is hitting Europe for a long time.

The search for new intervention policies in Western Countries is, therefore, full of contradictions:

From one side the definition of new policies affirm the necessity to reduce human intervention, from the other side there are incentives towards mechanization;

From one side there is the willingness to get agricultural production through traditional methods, from the other side there are pressures towards extensive agricultural production;

Moreover, in 2014 there will be celebrated family agriculture but there are a lot of incentives for ethanol-fuel.

Even the shocking data of malnutrition and mortality caused by hunger confirm clear paradoxes of the current agro-food situation: Western Countries recorded surpluses in agricultural production while food prices increase (between 2007 and 2008 have soared by as much as 52%); the lands where the climatic and environmental conditions are better are less cultivated (the intertropical African area import food that could be produced there and even exported); land is missing but the hilly and mountainous land is abandoned; in the meanwhile in less developed Countries there are land grabbing in order to grow no food crops. Countries where people are starving as Perù, Brasil and Asia export food products obtained from speculative agriculture; malnutrition and food disease (diabetes and obesity) in both Western Countries and in less developed Countries. Geography can give a large contribution on all these issues.

Climate change, environmental damage of productivism and the abandonment of rural areas, but also the increasing strong demand for agricultural food production of certified quality and especially the economic crisis that hit the world in

the first decade of the third millennium forced people to consider the primary sector in a different perspective.

Just during the ongoing debate for discussing the new CAP reform the concept of a multifunctional and sustainable agriculture has been clouded by a succession of events: on one hand the international economic crisis requires the reduction of incentives for those areas with regional disparities of development, from other hand the pursuit of high profits at lower operating cost reintroduces, with support for energy crops, the same mechanism that favors annual monocultures and large-scale productions, in other words the sectoral development model, that had been judged negative for environment damage caused, started again.

And while European countryside are filling with overrunning plants for the production of biomass (rapeseed in particular), the new CAP will have to consider that the care of the fields and the beautiful rural landscape, insured by human intervention, are the only real guarantee of future productivity. If in the past the order and the beautiful were opposed to the fear of famine, as we are reminded Marco Terenzio Varrone in his *De re rustica*, today food insecurity, hydrogeological imbalance and desertification of soils are the main problems.

Debate over the six months during Expo 2015 will focus on these contradictions. The event will contribute to propose concrete solutions "capable of: deepening the relationship between diet and health; improving the quality of life and encouraging aware choices of production and consumption, proposing a discussion on Science and Technology in service of humanity; promoting sustainable development and environmental protection; considering solidarity and cooperation on the basis for development.

Why geography is directly involved in interpretation of relationship between Food-Agriculture-Environment

Today thank to a renewed awareness about the importance of relationship between Food-Agriculture-Environment, people but above all policy makers and experts know that is not more enough take in account just one socioeconomic aspect o one problem but they have take in account the interconnection between beauty of rural land, quality of agro-food products and food security.

The geographical science, which studies the complex relationship between mankind and environment and on different scale of investigation, is asked to find out directly, with its diverse and extraordinary methodological apparatus, the new demand of knowledge and learn to know the relation between Food-Agriculture-Environment means in fact take in account different integrated perspectives: demographic, naturalist, agricultural, historical, political, economic, health, technological, geographical, social, cultural, aesthetic and ethical.

On the other hand the interpretation of the close relationship between agricultural practices and environmental resources has already stressed the fundamental role of geographic research. On one hand, national and international agricultural policies have stimulated to find out the value of the land and the need for its sustainable exploitation, on the other side urging the global rethinking of the function of the primary sector and eating patterns, as well as the levels of consumption in various regions of the world, in order to make them fairer, sober and healthy.

Nature, culture, technology, economy and quality are therefore involved in defining relation between Food-Agriculture-Environment. In this new perspective also socio-political and ethical issues are taken in account together with the more specialized territorial agronomic discussion. It'stherefore evident the contribution of Geography to the understanding of the relation between Food-Agriculture-Environment. The following three fields of geographic application express very well the potentialities of our discipline: the interpretation of hunger in the world, the analysis of the variety of traditions and eating patterns, the study of the link between rural landscapes and historical production of high quality food. The most pressing issue that, at different geographical scales, intervention policies on the primary sector have always been inquiring is to understand the relationship between population growth and available resources.

Many scholars wondered if and when the exponential growth of the population will generate environmental imbalances and consume all available resources on earth[11].

Ratio of population growth/environmental impact is generally presented with accents alarmist (identity of Ehrlich, carbon footprint, water footprint of food), even if the rise in global population, instead of being an asset in terms of workforce capacity and production and innovation, must necessarily represent just increased consump-

tion and high environmental impact[12]. In order to eliminate the syllogism whereby the growth of population rises the danger of famine, malnutrition and mortality, it's enough observing that over the last fifty years compared to an explosive population growth, which has effectively doubled the total number of inhabitants of the planet earth, the availability of food has increased from 2300 to 3000 calories per capita per day. The agro-food production in terms of quantity and in absolute terms, is indeed more than doubled and it would be enough to sustain the entire population of the world (over $ 7 billion), since growth trend of agro-food production proved itself capable, in the same period of time, to feed twice the population, but also to raise the number of available calories per capita. Unfortunately, UN state that the problem of hunger in the world is far from solved (24,000 people die every day for lack of food). It's necessary to seek the true causes of such terrible starving mortality (absolute or occult), which cannot be attributed either to environmental factors (many developing countries have large not yet used natural resources), nor technological factors as the failure of the "green revolution" has proved itself with the desertification of agricultural spaces better cultivated because most industrialized. The causes of more than one billion of underfed population are: social disparities, and inadequate agricultural and trade policies put in place not only at the international level, but also and in many cases, particularly at the national and regional levels.

In 2000 Millennium Declaration was adopted by UN General Assembly and it stated eight Development goals, first of all food sovereignty meant as fundamental right to access to food, seven years later, the Declaration of Nyéléni (named after a legendary peasant Malay), signed by 500 representatives from more than 80 countries around the world at the end of March 4, 2007 held in Sélingué (Mali). Declaration of Nyéléni, represents an action of awareness about problem of hunger in the world by civil society.

This document represents an out-and-out international manifesto to define and protect relation between Food-Agriculture-Environment on any geographical scale. It states indeed:" Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems"[13]. In itthe right to food is combined with the duty to safeguard natural resources and the right of people take back control of the food production systems. It is an international program of action that stresses the necessity to integrate local. An action to claim the importance of territory and regionalization of responsibilities against interests dominated by transnational agro-food industries, economic and political imperialism, neo-colonialism and land grabbing[14].

The contribution of geographic research to get answers in several questions is great.

Not only in order to analyze hunger, wastes, lost but also to deal with food tradition, different food needs on basis of living conditions, different age classes (people in the same range of age) and so on. Also experts who study the relationship between nutrition and calories need report the gap of appropriate scientific publication about that[15]. Detailed Studies is missing, what do you need to eat if you live in mountain, or near the sea? Does exist the perfect diet for all? And is right to speak about a food standard suitable for all, always and everywhere? And how much the different food tradition match with the real need of climate and environmental conditions in which a community live?[16] There is yet a huge scientific path waiting answers from geography, because the questions are not only regarding environmental and physical factors, real caloric need per person, but also agrarian models, habits in local food tradition, in dishes, recipes, family stories. It's possible that the food traditions are unawares matched with living conditions of a community or they are the output of an adaptation of climatic and environmental influences.

Further field of application asks geography: the real possibility of using the rural landscape to ensure quality and origin of agro-food products. Today, demand, especially in the upper classes and in most developed countries, prefers foods and dishes rooted in the variety of microenvironments, regional traditions that are real heritage of peasant culture. To document this culture, is the singularity and uniqueness of rural scenery, historical result of human labor; special and unique result of the genius loci where you can find: colors, flavors and fragrances, cultural roots, eating habits, rhythms of the agricultural year, folk songs and rhythmic old dances at the time that marked the efforts of men and women. If the industrialization and mechanization have satisfied the Western countries and approved the flavors, the reaction in the post-productivist is "landscape table", that is, in the rediscovery of the goodness of the local specialties combined with beauty of their places of production. The contribution of geography, which has always been teaching to read

and interpret the shapes of the rural landscape, range over the ability to promote the multimedia functions of the primary sector to the possibility of enhancing the agricultural food production. The capability to combine "landscapes and taste", culture and nature, farming techniques and culinary traditions, is explicitly emphasized by the national and international policies, that today protect both the historic rural landscapes and typical local productions.[17.]

I would like to close my speech emphasizing a final level of involvement of geographical science in the interpretation of the relationship Food-Agriculture-Environment: the erudition contribution of our discipline. It's possible underline two different results: a extraordinary cultural message of cosmopolitan value but also an interpretative risk to consider human being as "output of food and environment".

When the scientific reasoning prefers environmentalist, classificatory, mechanistic perspective, interpretation tends to "discover" a cause-and-effect relationship between human choices and objective data (soil, climate, profit, market) and thus ends up classifying each other and establishing a hierarchy between the different regional situations and food traditions. In this way, as Feuerbach says, human being is "what he eats"[18] and then who eats more, think better and worth more. Instead, if scientific debate focuses on historical-social, humanist and idealist perspective it would be possible consider human choices contingent, open to hope for change, and not so dependent from environmental influences, level of technology and production. In this perspective, agricultural and cultural diversity will be enhanced.

Therefore, geography, that in the course of its epistemology growth, has well experienced the mortification of human potentialities and capabilities[19], can make a crucial contribution to keep away from any form of interpretative determinism. Our discipline knows how keep survey far from any risk of exploitation and degradation of knowledge. Geography underlines, through the analysis of case studies, the uniqueness of regional choices, always new and different, that every society established with its surrounding environment. Geography is open to new ideas and teaches us not to anchor actions and behavior to social codes, formulas and maps (genetic or not) and thus it helps hope for change of social, environmental, cultural, political, economic, food, both condition and situation. The more authentically "geographical" cognitive approach certainly encourage to produce "regionalist and cosmopolitan" knowledge. There is, indeed, a large variety of solutions and decisions adopted by human being. Inevitability of many conditions of underdevelopment has been considered very of ten fatalistic consequence of the constraints of nature and technological lags. The real contribution of geography in this contest is to reduce determinist interpretation (imperialist approach), also indicating possible political-social solutions.

References

Almagià R. (1945; 1953), *Fondamenti di geografia generale*. Perrella, Roma, Voll. I; II.

Bryant C.R., Grillotti Di Giacomo M.G. (Eds.) (2007), *Quality Agriculture: Historical Heritage and Environmental Resources for the Integrated Development of Territories*. Proceedings of the International Colloquium, Brigati, Genova.

Chapuis R., Mille P. (2001), *Systèmes et espaces agricoles dans le monde*. A. Colin, Paris.

Churchill Semple E. (1911), *Influences of Geographic Environment, on the Basis of Ratzel's System of Antropogeography*. New York, Henry Holt and Company, XVII.

FAO (2012), *Le donne, l'agricoltura e la sicurezza alimentare*. Roma.

FAO (2014), *Agricoltura Familiare*. (http://www.fao.org/news/story/it/item/260808/icode/) accessed 14/10/15.

FEDERAL MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT (2012), *Investments in Land and the Phenomenon of Land GrabbingChallenges for Development Policy*. BMZ Strategy Paper, 02.

Gili Borghet A.M. (1991), *Geografia Ambiente Salute*. Libreria Cortina, Torino.

Grain (2011), *Land Grabbing and the Global Food Crisis*. 11.

Grillotti Di Giacomo M.G. (1992), *Una geografia per l'agricoltura Metodologie di analisi e prospettive applicative per il mondo agrario e rurale italiano*. Vol. I, Reda, Roma.

Grillotti Di Giacomo M. G. (1994), *Agricoltura e ambiente: un rapporto già definito nell'epoca classica*. In F. Citarella (Ed.), *Studi geografici in onore di Domenico Ruocco*. Vol. I, Napoli, Loffredo, pp. 285-302.

Grillotti Di Giacomo M.G. (1995), *Agricoltura e ambiente accelerata evoluzione di un rapporto millenario*. In P. Brandis, G. Scanu (Eds.), Atti IV Convegno internazionale di Studi pianificazione territoriale e ambiente "La Sardegna nel mondo mediterraneo". Pàtron, Bologna, pp. 145-161.

Grillotti Di Giacomo M.G. (2004), *Metodologia UGI_GECOAGRI*. Meeting GIAHS Project, FAO, (www.gecoagrilanditaly.jimdo.com).

Grillotti Di Giacomo M.G. (1995), *Guida alla mostra "Campagne nel mondo: rapporti e paesaggi da salvare"*. Dedalo, Rieti.

Grillotti Di Giacomo M.G. (Ed.) (1996), *Geografia e agricoltura per "seminare meno e arare meglio"*. Geotema, anno V, n. 5.

Grillotti Di Giacomo M.G. (1998), *Introduzione a una geografia comparata delle aree agricole europee ed extraeuropee*. In M.G. Grillotti Di Giacomo, L. Moretti (Eds.), Atti del Convegno geografico internazionale "I valori dell'agricoltura nel tempo e nello spazio". Vol. III, Brigati, Genova, pp. 911-938, tavv. fuori testo.

Grillotti Di Giacomo M.G. (1998), *Da Plinio a Mac Sharry: quale modello per la rinascita dell'agricoltura?*. In M.G. Grillotti Di Giacomo, L. Moretti (Eds.), Atti del Convegno geografico

internazionale "I valori dell'agricoltura nel tempo e nello spazio". Vol. II, Brigati, Genova, pp. 375-380.
Grillotti Di Giacomo M.G. (2000), *Atlante Tematico dell'Agricoltura Italiana*. Società Geografica Italiana, Roma.
Grillotti Di Giacomo M.G. (2000), *Una geografia per l'agricoltura. Lo sviluppo agricolo nello sviluppo territoriale italiano*. Vol. II, Società Geografica Italiana, Roma.
Grillotti Di Giacomo M.G. (2001), *Geography Epistemology as a Cosmopolitan Project*. In L. Buzzetti (Ed.), "Geography for Postmodern Society". Società Geografica Italiana, Roma, pp. 375-390.
Grillotti Di Giacomo M.G. (2001), *A New Era for Geography and Agriculture*. In P. Di Carlo, P. Falcioni (Eds.), *New Rurality and Agricultural Policies*. Brigati, Genova, pp. 9-13.
Grillotti Di Giacomo M.G. (2002), *The Transition of European Agricultural Policy: from the Sectoral to the Territorial Model*. In L. Buzzetti (Ed.), "Geographical Renaissance at the dawn of the Millennium", Regional Conference IGU, Durban 4-7 August 2002, S.G.I., pp. 197-216.
Grillotti Di Giacomo M.G. (2003), *La nouvelle saison de l'agriculture entre modèle nord-atlantique et modèle méditerranéen*. In L. Laurens, C. Bryant (Eds.), "La durabilité des systèmes ruraux, une construction sociale et culturelle", Actes du Colloque de la Commission UGI Sustainability of Rural Systems, (Rambouillet-France 2001), AVL Diffusion, Montpellier, pp. 89-98.
Grillotti Di Giacomo M.G. (2005), *The Italian Rural Systems Atlas*. Brigati, Genova.
Grillotti Di Giacomo M.G. (2005), *Our Countryside's Agri-Cultures: Quality Landscape, Valuesand Tastes, 85 Scientific Poster*. WIP Edizioni, Bari, 12-11.
Grillotti Di Giacomo M.G. (2005), *Le petit Atlas de l'agriculture italienne*. Brigati, Genova.
Grillotti Di Giacomo M.G. (2007), *Il paesaggio rurale da paradigma scientifico a fattore di sviluppo locale*. In M.C. Zerbi (Ed.), *Il paesaggio rurale: un approccio patrimoniale*, CAP. III, Giappichelli, Torino, pp. 47-80.
Grillotti Di Giacomo M.G. (2012), *Nutrire l'uomo, vestire il Pianeta Alimentazione-Agricoltura-Ambiente tra imperialismo e cosmopolitismo*. Franco Angeli, Milano.
Gustavsson J. (2011), *Global Food Losses and Food Waste Extent, Causes and Prevention*. FAO, Roma.
Gustavsson J., Cedeberg C., Sonesson U., Van Otterdijk R., Meybeck A. (2011), *Global Food Losses and Food Waste*. In "Save Food", Dusseldorf, pp. 1-26.
Ogang C. (2012), *Sfide di finanziamento agricolo: il caso dell'Uganda,* (http://worldfarmersorganisation.net/img/user/files/newsletter%20it.pdf) accessed 17/02/2015.
Sun Da-Wen (2011), *Handbook of Food Safety Engineering*. John Wiley & Son editor, New York.
Sonnino A., Ruane J. (2012), *La innovación en agricultura y las biotecnologías agrícolas como herramientas de las políticas de seguridad alimentaria*. In E. Hodson De Jaramillo, "Biotecnologías: el compromiso social de la ciencia", Pontificia Universidad Javeriana, Bogotà, Colombia.

Websites.

http://www.deagostinigeografia.it/wing/confmondo/confronti.jsp?goal=100077&section=2&year=2015&title=PIL%20totale.
http://www.ifad.org/pub/factsheet/women/women_i.pdfaccessed 17/02/2015.
http://www.saicosamangi.info/economia/globalizzazione-biodiversita.html accessed 17/02/2015.
http://www.foodsovereignty, accessed 17/02/2015.
http://epp.eurostat.ec.europa.eu, accessed 17/02/2015.
http://unstats.un.orgaccessed 17/02/2015.
http://ec.europa.eu/agriculture/quality/door, accessed 17/02/2015.
http://faostat.fao.org, accessed 17/02/2015.
http://faostat.fao.org/site/339/default.aspx,accessed 17/02/2015.
http://www.census.gov, accessed 17/02/2015.
http://www.fao.org/corp/statistics/en/, accessed 17/02/2015.
www.efsa.europa.eu/it/, accessed 17/02/2015.
www.gecoagrilanditaly.jimdo.com,accessed 17/02/2015.

Notes

[1] The transition of CAP from a sectoral development model to a territorial development model can be divided into six programmatic steps:
– Incentive in order to increase production and yield per unit (in the sixties).
– Policy of Price Support and Structural Policies (in the seventies and the eighties).
– *set-aside* Policy and strengthening of Structural Funds addressed to the integrated territorial development (IMP - Integrated Mediterranean Programs, Leader I 1991-1993 - and Leader II 1994-1999 - *Liaisons entre actions de dévelopement de l'économie rurale*, Rural Development Programs (nineties).
– integrated territorial development policies, development of multifunctional and sustainable agriculture (Leader +, Agenda 2000 Reform).
– regionalization of support interventions and introduction of single farm payment not linked to production but to the adoption of Good Agriculture Practices that means in the respect of environment, farmers, consumers and livestock safe.
– reduction of direct incentives and support to greening and food security interventions.

[2] *World Heritage Convention dell'UNESCO* goes in the same direction with its further integrations, in particular, "Applicative Orientations", in 1995, *represent the cultural landscape* as "the result of the action and interaction of natural and human factors".

[3] The paper has been published in the Acts of the Colloquium. It emphasizes the "urgent need to build a catalog of rural landscapes, especially those ones at risk of extinction; a geographical catalogue to consult to let know the evolutionary cycles of agricultural areas and to build political and economic interventions in a aware and focused way". See Č.R. Bryant, M.G. Grillotti Di Giacomo (Eds.) (2007), *Quality Agriculture: Historical Heritage and Environmental Resources for the Integrated Development of Territories*. Proceedings of the International Colloquium, Brigati, Genoa, Italy.

[4] The preservation of traditional products of quality and the enhancing of food products specificity are achieved at first by the EC Regulations n. 2081/92, which regulates the assignments of PGI and PDO labels, and the Regulations EC. 2082/92, which regulates the assignments on certificates TSGs labels. Later the New EC Regulation no. 510/2006 and the new EC Regulation no. 509/2006 have improved them. The production procedure guideline of products, which have got European quality labels, have to specificity: the name and type of the product, the boundaries of its geographic area of reference, the elements that attest its link with the geographical environment of origin, the detailed and complete description of the techniques and stages of production, the codes of regulations reference, which must be clearly legible on the label; inspection bodies officially recognized at European level which will do the periodical inspections in related factories of produc-

tion. Moreover, the achievement of quality EU labels requires, through the procedure guideline submitted by the producers themselves, a strict respect of production rules and to accept the costs of the required audit by appointed Control Body and the inspections themselves.

[5] The two Regulations considered the possibility to protect also quality products coming from non – European Countries "... provided that: – the third country is able to give identical or equivalent guarantees ... – the third country has an inspection system equivalent ... – the third country agree to provide to corresponding agricultural products and food stuffs benefiting of EU label of specificity, a protection equivalent to that one existing in the EU".

[6] DM 8 September 1999, n. 350. Regulations for the identification of traditional products referred to Article 8, paragraph 1, of Legislative Decree no. Apr. 30, 1998, n. 173; OJ No 240 of 12 October 1999.

[7] The assignment of TAP label is therefore an Italian brand name attributed by the Ministry of Agriculture, Food and Forestry (MiPAAF) as proof of the interaction between: unique food traditions, ingenious production techniques and local natural resources. It's interesting to underline that the link with the tradition in 2008 led to a joint effort between the Ministry of Agriculture, Food and Forestry and the Ministry of Heritage and Culture, which allowed to attribute to TAP the status of direct and concrete expressions of Italian civilization, just like all other National Cultural Heritage.

[8] The decision to create a supranational authority for the protection of food, as an independent source of scientific advice and communication on risks associated with the food chain, was taken as a result of repeated food concern in the late nineties.

[9] COM (2009) 234, Commission of the European Communities: Communication of European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on agricultural product quality policy, Brussels, 28.5.2009.

[10] That is what is claimed by Geographers belonging to GECOAGRI-LANDITALY group: every European Commission support must start from farms and compare with the agricultural systems that characterize the area where incentives are allocated. See Grillotti Di Giacomo M.G. (2000), *Thematic Atlas of Italian Agriculture*, SGI, Rome.

[11] The significant decline in global reserves of cereals and the consequent increase in food prices (more than 50% between 2007 and 2008) confirm the concerns relating to the ability of populating the earth, although the latter phenomenon is due to various factors: ongoingconflicts in the Middle East and in various parts of the world, the growing number of hectars of land addressed to non-food crops (biomass for energy production), financial speculation on food products, land grabbing by rich and developed Countries to the detriment of developing Counties.

[12] For further depth analysis see Grillotti Di Giacomo M.G., 2012, *Nutrire l'uomo Vestire il pianeta Alimentazione-Agricoltura-Ambiente tra imperialismo e cosmopolitismo*, Angeli, Milano.

[13] It puts those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers. Food sovereignty prioritises local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal fishing, pastoralist-led grazing, and food production, distribution and consumption based on environmental, social and economic sustainability. Food sovereignty promotes transparent trade that guarantees just income to all peoples and the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage our lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social classes and generations (Source: www.foodsovereignty).

[14] Accepting instances of Declaration of Nyéléni, Fao defines food security through four parameters: The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports; Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individual. Stability of food availability. According Fao survey, even in 2006 16% of population are not in conditions of food security.

[15] Information do not exist or are unclear ... I will only say that at a time when you learned how to do everything (or almost) with DNA, it seems strange that it is still a matter of doubt how much energy is needed to keep alive a man", in Arienti G. (2003), *Le basi molecolari della nutrizione*, Piccin Nuova Libreria, Padova, p. 4.

[16] Recently this topic has been dealt with by Rotilio G. (2012), *Il migratore onnivoro Storia e geografia della nutrizione umana*, Carocci, Roma.

[17] For this purpose Inter-University research group GECOAGRI-LANDITALY developed a document *Metodologia di Indagine e Proposte Applicative per lo Sviluppo Integrato dei Sistemi Locali Rurali* (SIAE 2007 index no. 2007005663) in which are described the peculiar aspects of the different rural routes through guidelines and research pathways well tested. New social and economic functions attributable to rural landscapes are numerous: promotion of integrated local development; commercial enhancement of quality agro-food productions; guarantee the uniqueness and exclusivity to the consumer; preservation and capitalization of sustainable and virtuous agricultural practices; protection of natural resources and environmental balance, strengthening of economic activities and agri-tourism supply; transmission and amplification of ethical and social message.

[18] Ludwig Andreas Feuerbach in his book "*Il mistero del sacrificio o l'uomo è ciò che mangia*" (1862), he states the inseparable unity of body and spirit insomuch as that in order to have better ideas, you should only eat better; this thesis still fascinates some philosophers and nutritionists.

[19] In twentieth century deterministic interpretation of the relationship between mankind and environment has led the geography, at first, to be exploited by the Nazi-Fascism and then to interpret the relationship between mankind and environment depending on, more or less, production techniques used by people and in particular in chemical industry, mechanical engineering and genetic engineering (see Grillotti Di Giacomo M.G. (2001), *Geography Epistemology as a Cosmopolitan Project*, in L. Buzzetti (Ed.), "Geography for Postmodern Society". Italian Geography Society, Roma, pp. 375-390).

Isabella Varraso

Spaces and ethics in the Common Agricultural Policy

Abstract

The "moral turn" in Geography, recognized by David Smith in 1997, is now established in geographical research, articulating in the different approaches of investigation. It has also encouraged studies on ethical choices in agricultural practices, crop and livestock farming; such studies are demonstrating, for example, important changes in the distributive patterns of agriculture, in terms both of sale of products, and in consumption.
We propose to examine the Common Agricultural Policy in ethical terms, and to consider their effects in the choises of farmers and consumers.

Keywords: *Geography and ethics, Common Agricultural Policy, Multifunctionality.*

Ethics within territories in geographical research

Geographers are questioning with always more conviction on ethical aspects of the way in which research is done, on ethical dimension of spaces, on behavior regarding them. Moreover the traditional discipline places great attention on the diversity of spaces, that contextualizes, on the basis of territorial features, human groups that live therein, historical events, types of lifestyle, environmental aspects, and exposing them allows the differences to emerge and induces evaluations (Ley, 1994).

Territories are open realities, dynamic within space and time, profoundly linked in systematic wefts on the inside and with relations on the outside, able to express spatial processes in continual change and movement. They reveal the technological, creative, social and economic capacities of the population that organize them to respond to their needs, and on the basis of their respective principles, enterprise and ability. At the same time, territories project beliefs, convictions, lifestyle, visions of inhabitants, with relation to reciprocal solliciting, and can be read, represented and shaped in spaces that they manifest and tell. Within this viewpoint the recognition of the differences between places and regions becomes a recognition of the cultural heterogeneity besides the local specificity defined by the identity, and accompanies the territorial sentiments of their residents. It is precisely for the meaning and the importance that they have for human beings, all the territories (and the spaces that they represent), are ethical and as such they must be respected and appreciated (Varraso, 2013, 2014).

The specifically geographic method of comparing, furthermore, gives ulterior added value to the research in that, by comparing between different areas, the relations between regional situations emerge, so avoiding simple generalizations and categorical affirmations that can cause stereotypes and encourage disrespectful behavior.

Even the epistemological capacity of geography, that reasons in multiscaling and transcaling terms, constitutes another aspect of relevant ethical value. Observing facts and phenomena on the Earth's surface with relation to more ample territorial situations where those realities are inserted, helps pointing them out without absolutizing situations, experiences and evaluations. Moreover, meanings and roles done by the territories at diverse scales become one of the first indicators of ethical value attributed to it. In fact, the normative and economic aspects, ethical and non ethical, of the territorial organization, often imposed or induced by national and/or supernational administrative levels, are interpreted at the local scale according to the each own cultural value schemes; reciprocally, the choices taken at a local level, both ethical and non ethical, need to be recognized. They interrogate the most elevated levels of governance.

All those are disciplinary aspects that attribute to the geography, in particular economical, a recognized contribution regarding the growing requests for reflection and ethical evaluations within the study of the present processes of glo-

balization, of the recent economic and financial crisis and consequently the new developmental territorial logics (Silva, 2011; Tamàsy, 2006).

Precisely these reflections, in the last ten years, have imposed on the discipline a new research trend. The "moral turn" imprinted on the territorial research in the 90s by scholars (Smith D.M., 1997, was one of the first who theorized it) look at "geography of everyday moralities given by the different moral assumptions and supporting arguments that particular people in particular places make about 'good' and 'bad'/ 'right' and 'wrong'/ 'just' and 'unjust'/ 'worthy' and 'unworthy'" (Philo, 1991, p. 16). The approach "with more obvious geographical appeal is to accept the universality of certain grand moral values, but also to recognize the spatial (and temporal) particularity of their application" (Smith D.M., 1997, p. 586). Above all, it takes into account relational aspects of territorial behavior even when involving ambits of intervention tied to sentiments and to affection, more or less close in function to the distances time and again considered, and subject to the conditions, historically mutable, in which they manifest themselves. For example, on the international scale, calamitous events can initially induce ethical behavior of solidarity that later weaken, or at the local scale the sentiment of citizenship can lead to eliminating physical and psychological barriers with lasting results (Massey, 2004).

The attitude of curing and paying attention towards anthropic, physical and historical facts and phenomena, therefore attributes a large importance to temporal ties between human groups and territories, within the awareness that precisely "in understanding how our past continues in our present we understand also the demands of responsibility for the past we carry with us, the past in which our identities are formed. We are responsible for the past not because of what we as individuals have done, but because of what we are" (Gatens, Lloyd, 1999, p. 81, cit. in Massey, 2004, p. 9).

This responsibility makes us look at history with different eyes, and attributes also a political responsibility of interventions that, in order to respond to moral needs, must open up to observing each regional system in synergy with others, near and far, also considering the strong connections of systems for which each one of us is in fact tied to and involved in the life of all those who live in every part of the world. This requires an operative change, besides the effort of delivering to future generations a reality in which diversified territories are saved, within the point of view of the sustainable ethics of environment and territory (Kotlyakov, Tishkov, 2009). Thus, one of the aims of the ethics research consists in reflecting on both values and principles that induce ethical actions reciprocately, and on the impact of the socio-economic initiatives as well as behavior and human group values (Bissanti, 1990; Racine, 2010; Ghorra-Gobin, 2012).

In particular, the attraction of the ethical approach is in the awareness that Geography is able to provide, at all spatial scales, the pedagogic resources that can demonstrate to those who are in a privileged position, that they must feel these responsabilities and that knowing what happens at a distance is a prerequisite for taking a responsible action in the place where one lives (Barnett, Land, 2007, pp. 1067-1068).

Ethics in agriculture and Common Agricultural Policy

Therefore, all the aspects of the human activities, have an ethical value, because they fall back on territorial organization. Agriculture, for the ample spaces that it uses, in terms of occupied land, and for the incidence of production and transformation activity for food and industrial purposes, has a strong importance on the ethical choices, economical and political. It has an important role even in the formation and communication processes of antique and new values, because of its strong relations with the land and for the rural landscape that it makes. The countryside draws attention through all the agricultural practises.

The recent economic tendencies, unfortunately, have almost completely moved the attention of the operators of the sector on the structural aspects and management. The level of adopted chosen operatives influences the entrepreneurs' decisions, the single undertakings as the regional agricultural systems, ethically characterizing them: for example, practices more or less productive, type of cultivations, forms of breeding, ecological respect, food security etc. It concerns behaviour that, studied with a territorial viewpoint, and with different approaches – distributive, behavioural, of regional organization, or as market logics etc. – reveal the intensity and the process dimensions involved through the way in which values are transmitted and respected in all the parts that are involved (farmers, food consumers, breeded animals and nature).

"In the late twentieth century, systematic thinking about the values and norms associated with the food system – farming, resource management, food

processing, distribution, trade, and consumption – came to be referred to as *agricultural ethics*" (CAST, 2005, p. 1, cursive of authors), even though the explicit recognition of ethic value of decisions in agriculture is quite recent. "The absolute requirement for safe, nutritious food in order to survive and flourish, coupled with uncertainties about its universal supply in adequate and affordable amounts, predicate a crucial role for ethical deliberation in agricultural decision-making" (Mepham, 2012, p. 86). Moreover, the morality of the interventions in the sector isn't only about food security. "In fact, agriculture is about much more than food supply. Its major products may be classed as food, feed, fiber, fuel, flowers, pharmaceuticals, and raw material; and ethical issues are sometimes critical in consideration of the relative priority that each merits. Of course this alliterative list obscures the great variety of products within the identified categories (including, for example, crops, meat, milk, eggs, wool, and biofuels) and the wide range of practices involved, such as plant breeding, animal husbandry, use of agrochemicals, genetic modification, and organic systems. There are also uncertain bounderies between agriculture and closely related activities such as forestry, fisheries, horticulture, and environmental conservation" (*ibidem*, p. 87). On the other hand the essence of agriculture is modifying or manipulating natural ecosystems for human needs and the dimensions of the intervention depends on subjective judgement, so that the choices are tied to many variables that regard the vision of the world of human groups that practice it. "Agriculture can thus be viewed from many perspectives. It is a technology, an economic activity, an essential component of public health, a fundamental basis of sustainable life-support systems, and an esteemed way of life" (*ibidem*, p. 88) and places ethical problems for each of these aspects.

In 2000 the Dutch Minister of Agriculture, Management of Nature and Fishing, Hayo Apotheker, reflecting precisely on the question "*Is agriculture in need of ethics?*", in synthesis observed that "changing norms and values in society, the influence of new technologies (such as biotechnology) and the international trade liberalisation (WTO) provide arguments for a positive answer on this question" (p. 9), so expliciting how even the market logics and economical orientation, that play a fundamental role in the so-called "moral economy", will ever more influence the economic processes and the consequent territorial transformations.

Within the research, the Council for Agricultural Science and Technology (CAST, 2005) has pointed out three traditional types of surveys tied to ethics that can be regarded as theories: "rights theory", that considers the options from the individuals rights point of view; "utilitarian theory", for which behaviours cannot be considered in an absolute sense but it is necessary to take into account the consequences that actions produce ("the greatest good for the greatest number of potentially affected living beings") and to look at their net benefits; "virtue theory", for which human beings react in accordance with a whole of ideals in which one recognizes oneself (p. 3). There is an ulterior approach that refers to the so called "care theory", whose main focus is the attention towards another person and that person's needs for which "obviously, any system must be economically viable, but this is not the only acceptable characteristic. They must also be chosen based on whether they enhance the relational aspect of reality. This means building them in such a way that they express our best moments of caring and being cared for" (Curry, 2002, p. 129).

The difficulty of evaluating the ethical value of the agricultural choices and their impact on the territory remains, and scholars give different answers according to different approaches. For example, Curry makes a list of behavioural ethics that express the meaning of taking care of the agricultural practices and that can be translated into morally acceptable actions, in terms of attention to reciprocal relations, in a positive man-nature relation. Thus, "agricultural systems must be built on increased understanding, and attentiveness to local complexity rather than the reductionism of universality. Universality inevitably cannot incorporate attachment, nor the relational aspect of reality, into its methods and conceptual framework" (*ibidem*, p. 130). And therefore it is easier to pursue, but even to evaluate, ethical choices in the local ambit and so operate in the direction of a sustainable territorial development, but above all integrated and durable.

Mepham, instead, to surpass the subjectiveness in the analysis, proposes a methodological instrument tied to the observation of each of the situations being subject research work. He adapts a qualitative matrix that considers three principles which he believes to be fundamental within the common morality such as "well-being, autonomy, and fairness. If these principles were applied to the interests of different groups, such as farmers, food consumers, farm animals and wildlife, a full ethical analysis would need to consider how (proposed) alternative practices (might) impact on the principles for each interest group and the relative impacts on the different interest groups" which, in the case of breeding, can be "farmers, consumers,

farmed animals and wildlife. … While it does not prescribe any particular decision, the main advantages of this conceptual tool are: clarification of the ethical basis of decision-making, especially by committees; provision of a means of explaining and justifying ethical judgements; and facilitation of the identification of areas of agreement and disagreement" (2012, p. 90).

Even in this case, as in the previous, the geographic scale of research concerning productive processes as well as the impact of agricultural choices on the territory and the spatial ambits of evaluation, influence the judgement on the behavior and on the construction of ethical environments for human beings, animals and plants.

All choices regarding agricultural spaces, therefore, interrogate the territorial politics and request adequate answers in a various way and with different accents.

In Europe the Common Agricultural Policy (CAP) strongly influences the choices connected to the agricultural sector. The French group of scholars that take the pseudonym CHAMPI has observed: "what today is called 'agricultural politics' is more than a politics of accompaniment of the agricultural production. In effect it's about agricultural, food, environmental and territorial politics aimed to ensuring a regular food supply of consumers in quantity and quality, at stable and reasonable prices, preserving the future. It must consequently subscribe itself to a global political vision, based on the needs of the consumers and the expectations of their citizens, taking into account the agriculturers' interests and particularities of the agriculture" (2007, p. 134). These finalities, that underline those of the treaty of Rome of 1958, can be certainly shared and ethically appreciated. Obviously, in the years they have been applied in different forms and in ways at times subject to criticism. Above all, more attention is placed on the environment and the consequences in the territorial organization, even because of the effect of the increasing sensibility of the population in this field (Salazar-Ordonez, Sayadi, 2011).

"The new policy continues along this reform path, moving from product to producer support and now to a more land-based approach. This is in response to the challenges facing the sector, many of which are driven by factors that are external to agriculture. These have been identified as economic (including food security and globalization, a declining rate of productivity growth, price volatility, pressures on production costs due to high input prices and the deteriorating position of farmers in the food supply chain), environmental (relating to resource efficiency, soil and water quality and threats to habitats and biodiversity) and territorial (where rural areas are faced with demographic, economic and social developments including depopulation and relocation of businesses)". The orientations refer to "three long-term CAP objectives: viable food production, sustainable management of natural resources and climate action and balanced territorial development" (European Commission, 2013, p. 2).

The current debate on the new CAP 2014-2020 remains intense and articulated. There is a constant look at relations outside the European Union and on the needs inside and between the State members (Jambor, Harvey, 2010). Both the enlargement of the European Union, and the consequent diversification of the markets, give rise to the request for integration of agricultural politics with the local territorial politics, and strategic politics at the european scale is more urgent, reacting in a coherent way in function with the agricultural transition processes, rural development and environmental conservation.

The appeal for adapting needs for liberalizing with the need for agricultural assistance and new ways of support continues to remain, because the method used till now for direct payments is not considered effective or justified to guarantee fixed income (Bortzmeyer, Leblé, Racaté, 2004).

There is certainly an agreement on the profound change that involved the agricultural practices, even for the effect of the technological innovations, but the problem remains of how to further on adjust the sector, making it more competitive without upsetting the local pecularities and adapting it to the new markets and to the new commercializing product forms. Moreover, the agro-environmental problem is becoming more crucial following the popularity of the energetic choice that requires political answers and accurate researches to approach the difficult questions regarding energetic balance, competition for use of land, management of common goods and price politics.

Certainly in time the CAP has profoundly influenced the rural spaces and, to use Gray's expression (2000), it has "re-invented" them. In fact, "since its inception, the European Community has conflated these two modes of conceiving rurality and alternately adopting them first in producing agricultural policy on the basis of an image of rurality and then in analysing the concrete rural localities that are the effects of its agricultural policy" (p. 32).

The persistence, the changes and the profound transformation of the agricultural systems on the rural spaces from post-war till today are, for exam-

ple, well documented in Italy in the *Thematic Atlas of Italian Agriculture* (Grillotti Di Giacomo, 2000).

Rurality, conservation of nature, respect for biodiversity, landscape protection, solicitate affirming ecosystem services, that are, according to the definition of the American research group denominated Millennium Ecosystem Assessment (MA, 2005, p. V), "the benefits people obtain from ecosystems. These include *provisioning services* such as food, water, timber and fiber; *regulating services* that effect climate, floods, disease, wastes, and water quality; *cultural services* that provide recreational, aesthetic, and spiritual benefits; and *supporting services* such as soil formation, photosynthesis, and nutrient cycling" (cursive of authors).

They are services which can have a strong ethical identity value in that it takes into account the "key features such as links to human well-being, balanced provision of ecosystem services, treatment of ecosystem services bundles, site specificity and regionalization, appropriate spatial scales, funding permanence, tackling uncertainties via adaptive approaches, or cross-sectoral policy coherence" (Plieninger *et Al.*, 2012, p. 286). For example, an ecosystem based on an approach of the green infrastructure type (that is "as a network of natural and seminatural areas and green spaces") "to cultural landscapes offers an alternative starting point for anaysis and policy formation. It shifts attention from a single sector toward a more integrated approach. Agricultural outputs become one category of service among a variety of others. Policy makers, based on public consultation, need to find a balance among the range of ecosystems services that can be generated within a given territory from a given area of rural land and to promote the mix of services that generates the greatest social benefit" (Hodge, Hauck, Bonn, 2015, pp. 1002-1003). It regards however a logic not yet fully acknowledged and upon which CAP solicits major attention.

An operative form – that the agricultural policies have instead favored and it is largely consolidated so much so as to become a solution for interests even for the ethical meanings that it has taken – is the agricultural multifunctionality that, though studied in different point of views, it is said to not yet have its complete theoretical expression (Renting *et Al.*, 2009).

Ethical choices and multifunctionality in agriculture

In the choices of agricultural multifunctionality the values of the countryside find an ulterior motivation and economic expression, along with a rich ethical communication of meanings and practices. The new spatial acceptation of the concept allows for applications which are more aware and territorially more integrated with the other economical activities, with the actions of rural development and with the normative indications at the diverse intervention scales.

The agricultural multifunctionality concept is developed, as known, in the European Union in the 90s, to allow agricultural operators to be open to the market furnishing products cultivated and transformed by them, along with goods and diversified services, so as to favour the formation of supplementary incomes and, in addition, to assure their presence on the territory and cure of the countryside.

Its connotation is "the result of a complex dynamic between different agendas: the political liberalization agenda – which questioned the legitimacy of agricultural subsidies …; the economic agenda – which explicated new concepts such as joint production or the co-production of private and public goods …; the research agenda – which has a particular emphasis on the modelling of the interrelations between land use and environmental quality, together with increasing attention being paid to questions related to policy formulation and assessment" (Cairol et Al., 2009, p. 271). It has acquired thereafter an increasing territorial valence so much so as to assume a prevailing meaning precisely for its role on the territory. In particular it is connotated for its ties with the sustainable development that according to Tait (2001, pp. 2-3) "is based on the 'triple bottom line' approach, involving environmental, social and economic components or 'functions' ".

In this accepted meaning there is ample recall in the Common Agricultural Policy, in rules and norms that frame it in precise applicative encumbrances.

The multifunctionality in time and in the experience has utilized and favored, in an always more conscious and explicit way, as a consequence besides its characteristics, the positive externality inherent in the agricultural processes. It guarantees, in fact, important returns not only for the technological aspects and pecuniary but also for the valorization of human capital. It takes on this way an ulterior economic meaning which increases the value, making it applicable not only at the primary sector, but even to other economic sectors and the entire economy.

Moreover, offering the opportunity of informing contemporarily the individual and social di-

mension of the external environment (Mann, Wüstemann, 2008), it plays an important role in the logic of agricultural ethics.

Clark (2010) has identified three principal ambits of geographical research on multifunctionality in agriculture, that he so describes in his synthesis: "the first is a broadly sociostructural view as policy discourses that communicate and coordinate new political imperatives in agriculture – increasingly global in reach. The second is an empirical characteristic of land use management and local actor-based decision-making – embedded within but extending outwards from territories and rural communities. The third and most recent is as a theoretical perspective that conceptualises agricultural/rural structural transitions. Coherent in their own right, each of these geographies however remains relatively autonomous" (p. 803).

At the last area of research (p. 810) works as those of Wilson are connected (2008, 2009, 2010; Wilson, Potter, 2007), that in particular theorize the application of multifunctionality at diverse territorial ambits of intervention within the scale action adopted.

Wilson considers the territorial expressions of multifunctionality articulated in successive hierarchical levels, as layers interconnected between each other of multifunctional decisions, that starting from the level of the single farm proceed towards the regional, national and global levels. According to this scholar, the multifunctionality concept is applied in a 'direct' way only to the smaller spatial ambits (that is farms, local and regional communities), for it is at this level that each concrete multifunctional action really works. It is instead applied in an 'indirect' way at national and regional levels, where the rules and regulations prevail, and the prescribed indications and where the network relations contribute to the spatial junction, but where the multifunctional forms are mediated by actors at a local level (2009, pp. 271-272). In particular, the regional level acts as a filter for the politics and the multifunctionality processes that operate bottom-up. The global level, at the moment, remains still external from the multifunctional dynamics, as it mainly tied to aboveall the logics of the networks and world markets.

Wilson sees the "multifunctionality as a spectrum bounded by productivist and non-productivist action and thought enables a normative conceptualisation of weak, moderate and strong multifunctionality pathways for individual farm-level transitions … Strong multifunctionality is characterised by strong social, economic, cultural, moral and environmental capital" (2008, p. 368). Moreover, he affirms, "strongly multifunctional farms are more likely to be weakly integrated into the global capitalist market, as only partial or complete disengagement from global capitalist (productivist) networks and agriculture liberalisation processes will enable on-farm implementation of strong multifunctionality. … The 'strongest' level of multifunctionality can be achieved if all of the above processes and activities occur simultaneously. Weakly multifunctional agricultural systems, meanwhile, would show the inverse of above dimensions (i.e. weak sustainability, weak local embeddedness, etc.)", and "strong multifunctionality is the 'best' type of multifuncionality – or, indeed, the type of multifunctionality with the best quality" (*ibidem*, pp. 368-369).

The 'quality' of multifunctionality, finally, consist in the capacity to interpret the local susceptibility, putting it in the network and connecting it to the other hierarchy levels, previously and/or successively integrating among them territories and weak and strong multifunctional farms (Wilson, 2010).

Social agriculture is a further example of the multifunctionality able to integrate marginal rural areas in a territory through significative ethical initiatives. It is an operative ambit promoted by the European Community precisely for sollciting and supporting environmental sustainable opportunities, which has demonstrated to be a new answer to the needs of the rural community.

The social agriculture "indicates in a broad sense those experiences which bind agriculture and social work, with particular referral to the introduction (social-therapeutical, educational, work) of those more vulnerable in the society and/or at risk of marginalisation" (Di Iacovo, 2008, p. 14). From a technical point of view, it privileges the use of low technological input, that have the effect of diminishing the negative externality of agriculture on the environment (Di Iacovo, Fonte, Galasso, 1014). "So, where the mechanisation or chemical input cannot be utilized (because too risky, or not useful in a therapeutic point of view), we return to cultivation techniques based on labor. … It is clear that such a type of activity is feasible on reduced surfaces (otherwise the therapeutic effect would be annulled by the obvious and excessive physical fatigue) and with very slow timing as compared to that of the industrial production. … The need that there is in social agriculture to offer to the user a multiplicity of activities, chores and duties (that are even easily de-

composable in simpler numerous steps) makes an excellent conjugation with the valorisation of the small farms that have always characterized Italian agriculture: small surfaces, very diversified from the productive point of view as well as from the landscape, difficult to mechanize, often located in disadvantageous areas" (Hausmann, Galasso, Paolini, Durastanti, 2010, pp. 219-220).

These are experiences which are spreading in Italy thanks to the growing sensibility towards all those economic aspects of multifunctionality which have moral motivations, such as for example agriturism solidarity, the didactic and social farms, the farms' course of corporate social responsabilty (Pascale, 2010). In fact, many interesting practices are being developed of this type on the national territory (Giaré, 2014) in some cases accompanied by specific initiatives of direction and regulation, as in the Tuscany Region (D'Alonzo, Noferi, 2010).

Significant initiatives of solidarity in Italy, moreover, regard even activities sustained by associations and people who manage the land confiscated from the mafia with ethical criteria and quality logic, respecting disciplinary specifics of production; an example is the famous 'Terra Libera' ('Free Land') that responds to the 'Associazione Libera' ('Association Free').

The social agriculture is also seen as a form of civic agriculture sustained by rural communtities, cooperatives and associations (Galasso, 2012). In Italy it draws on the economists Zamagni and Bruni, that, in particular, in the principles of "*Economia Civile*" (2004) consider ethics the behavior that pursues the common good as a result of levels of well-being of the single individuals in a community. In the case of agriculture, the cure of common goods involves local communities with a system of sustainable and ethical production, taking on the responsibility of the social and environmental impact of initiatives in the farmer's realm.

In addition, the concept of civic agriculture diffused in America by the work of Thomas Lyson (2000), for which "the name evokes many situations, but here it means a locally-based agricultural and food production system that is tightly linked to the community's social and economic development. Farmer's market, community gardens, and community-supported agriculture are part and parcel of civic agriculture. Since these activities are not monitored by federal or state agencies, what is known about them comes mainly from the civic agriculture industry itself" (2000, p. 42). He, moreover, observes that "the literature on industrial district, especially in Europe, provides further evidence that agriculture and food economies organized around a smaller-scale, locally oriented production and distribution systems are possible" (Lyson, 2007, p. 24). "The civic agriculture perspective, however, favors smaller, well-integrated firms / farms cooperating with each other in order to meet the food needs of consumers in local (and global) markets. … Civic agriculture flourishes in a democratic environment. Community problem solving around agriculture and food issue requires that all citizens have a say in how, where, when, and by whom their food is produced, processed, and distributed" (*ibidem*, p. 25).

Final considerations

Daring ideas in Economy have often betrayed the spirit of places and the ethical principle that the diverse spatial ambits, product of nature and of man, are fundamental for the existence of human beings themselves and cannot be enslaved to the rules of profit; it must be reaffirmed that the main application, even economical, is to ensure the life of all human beings and of all the present and future generations in every part of the world.

Whether one operates in a multifunctional sense or wants to react for improving the conditions of the territory and favour the everyday life of the people, clear actions must be taken on those spaces that have remained on the fringes, if not absolutely spoiled, often losing their future respect at the local value system (economical, land, symbolic) (Fiori, Varraso, 2014).

To pay attention to the periphery is the traditional and new challenge that accompanies the recent CAP and to which the European Community must take on, so as to promote ethical values and solidarity for regions, agricultural productions and farms.

References

Apotheker H. (2000), "Is Agriculture in Need of Ethics?". *Journal of Agricultural and Environmental Ethics*, 12, pp. 9-16.

Barnett C., Land D. (2007), "Geographies of Generosity: Beyond the 'Moral Turn' ". *Geoforum*, 38, pp. 1065-1075.

Bauman Z. (2012), *L'etica in un mondo di consumatori*. Laterza, Bari-Roma.

Bissanti A.A. (1990), *Geografia attiva perché e come*. 2^ ed., Bari, Adda.

Bortzmeyer M., Leblé D., Racaté J. (2004), "Les attendus libéraux de la nouvelle PAC", *Mouvement*. 36, n. 6, pp. 132-140.

Cairol D. et al. (2009), "Multifunctionality of Agriculture and

Rural Areas as Reflected in Policies: the Importance and Relevance of the Territorial View". *Journal of Environmental Policy and Planning*, 11, pp. 269-289.
CAST (Council for Agricultural Science and Technology) (2005), "Agricultural Ethics". *Issue Paper*, n. 29, pp. 1-12.
Champi J. (2007), "Quelle politique agricole pour l'Europe?". Économie Rurale, 300, pp. 134-140.
Clark J. (2010), "Geographies on Multifunctional Agriculture: Developing Governance Explanations", *Geography Compass*, 4, pp. 803-818.
Curry J.M. (2002), "Care Theory and "Caring" Systems Agriculture". *Agriculture and Human Values*, 19, pp. 119-131.
D'alonzo R., Noferi M. (2010), *Guida per l'agricoltura sociale in Toscana. La buona terra: lavoro, inclusione, accoglienza*. ARSIA - Regione Toscana, Firenze.
De Filippis F., Sandali P. (Ed.) (2013), *La nuova PAC. Un'analisi dell'accordo del 26 giugno 2013*. Gruppo 2013, Working Paper n. 21, Roma.
Di Carlo P., Moretti L. (Eds.) (2004), *Nuove politiche per il mondo agricolo: multifunzionalità e sviluppo integrato del territorio*. Pàtron, Bologna.
Di Iacovo F. (Ed.) (2008), *Agricoltura sociale: quando le campagne coltivano valori*. Angeli, Milano.
Di Iacovo F., Fonte M., Galasso A. (2014), *Agricoltura civica e filiera corta. Nuove pratiche, forme d'impresa e relazioni tra produttori e consumatori*. Gruppo 13, Working Paper n. 22, Roma.
EUROPEAN COMMISSION (2013), "Overview of CAP reform 2014-2020". *Agricultural Perspectives Brief*, n. 5.
Fiori M. (2012), *Identità territoriale per lo sviluppo e l'imprenditorialità. Applicazioni geoeconomiche d'una metodologia quali-quantitativa*. Bari, WIP Ed.
Fiori M. (2014), "Ricerca e formazione per contrastare la discriminazione delle periferie". In Fiori M., Varraso I. (Eds.), *op. cit.*, pp. 11-21.
Fiori M., Varraso I. (Eds.) (2014), *Periferie d'oggi e nuove realtà territoriali. Riflessioni ed esempi. Bari*, Wip Ed.
Galasso A. (Ed.) (2012), "Dall'agricoltura sociale a quella civica: percorsi di agricoltura responsabile nella provincia di Roma". In *Sistema Agricolo Roma. Indagine sullo stato dell'agricoltura romana 2011*, Azienda Romana Mercati, Roma, pp. 285-300, *www.sistemaagricoloroma.wordpress.com*.
Gatens M., Lloyd G. (1999), *Collective Imaginings: Spinoza, Past and Present*. London, Routledge.
Giarè F. (Ed.) (2014), *Agricoltura sociale e civica*. Quaderno, INEA.
Ghorra-Gobin C. (2012), "L'éthique, nouvelle frontière de la géographie? Géographie et étique à l'heure de la mondialisation". 19^ biennale de Géographie - *Géopoint*, Avignon, Archives-Ouvertes HAL, ID: halshs-00825813.
Gray J. (2000), "The Common Agricultural Policy and the Reinvention of the Rural in the European Community". *Sociologia Ruralis*, 40, pp. 30-52.
Grillotti Di Giacomo M.G. (2000), *Atlante tematico dell'agricoltura italiana*. Società Geografica Italiana, Roma.
Grillotti Di Giacomo M.G. (2012), *Nutrire l'uomo vestire il pianeta. Alimentazione - Agricoltura - Ambiente tra imperialismo e cosmopolitismo*. Angeli, Milano.
Grillotti Di Giacomo M.G., Pollice F. (2006), *Politica agricola comune ed organizzazione degli spazi rurali*. In Bonavero P., Dansero E., Vanolo A. (Eds.), *Geografie dell'Unione Europea*, UTET, Torino, pp. 143-165.
Hausmann C., Galasso A., Paolini S., Durastanti F. (2010), "L'agricoltura sociale per il benessere umano". In ISPRA, *Multifunzionalità dell'azienda agricola e sostenibilità ambientale,* Rapporti n. 128, Roma, pp. 216-225.
Hediger W., Knickel K. (2009), "Multifunctionality and Sustainability of Agriculture and Rural Areas: a Welfare Economics Perspective". *Journal of Environmental Policy and Planning*, 11, pp. 291-313.
Hervieu B. (2002), "La multifunctionnalité de l'agriculture: genèse et fondements d'une nouvelle approche conceptuelle de l'activité agricole". *Cahiers Agricultures*, 11, n. 6, pp. 415-419.
Hodge I., Hauck J., Bonn A. (2015), "The Alignment of Agricultural and Nature Conservation Policies in the European Union". *Conservation Biology*, 29, pp. 996-1005.
Hoekveld G.A. (2008), "Applied Geography and Ethics in Spatial Planning: the Dutch National Spatial Strategy 2006", *Tijdschrift voor Economische en Sociale Geografie*. 99, pp. 223-237.
Jambor A., Harvey D. (2010), *Review of the Challenges of CAP Reform*. Centre for Rural Economy Discussion, Paper Series n. 27, Newcastle University, Newcastle.
Kotlyakov V.M., Tishkov A.A. (2009), "A Strategy of Sustainable Development: the Ethics of the Geographical Approach". *Herald of the Russian Academy of Science*, 79, pp. 501-508.
Ley D. (1994), *sub voce* "Ethics, Geography and". In Jonsthon R.J., Gregory D., Smith D.M. (Eds.), *The Dictionary of Human Geography*, 3^ ed., Oxford, Blackwell, pp. 170-172.
Lyson T.A. (2000), "Moving Toward Civic Agriculture". *Choice*, 15, pp. 42-45.
Lyson T.A., *Civic Agriculture and the North American Food System*. In Hinrichs C., Lyson T.A. (Eds.), *Remaking the North American Food System*. University of Nebraska Press, Lincoln and London, 2007, pp. 19-32.
MA (Millennium Ecosystem Assessment) (2005). *Ecosystem and Human Well-being: Syntesis*, Island Press, Washington DC.
Mann S., Wüstemann H. (2008), "Multifunctionality and a New Focus on Externalities". *The Journal of Socio-Economics*, 37, 293-307.
Massey D. (2004), "Geographies of Responsability". *Geografiska Annaler: Series B, Human Geography*, 86, pp. 5-18.
McCarthy J. (2005), "Rural Geography: Multifunctional Rural Geographies - Reactionary or Radical". *Progress in Human Geography*, 29, pp. 773-782.
Mepham B. (2012), *sub voce* "Agricultural Ethics". In Chadwick R. (Ed.), *Encyclopedia of Applied Ethics*, 2^ ed., Elsevier Store, Amsterdam, pp. 86-96.
Paalberg R. (2009), "The Ethics of Modern Agriculture". *Society*, 46, pp. 4-8.
Pascale A. 2010, *Fattorie sociali e percorsi di RSI in agricoltura*. In ISPRA, *Multifunzionalità dell'azienda agricola e sostenibilità ambientale*, Rapporti n. 128, Roma, pp. 226-230.
Philo C. (Ed.) (1991), *New Word, New Worlds: Reconceptualising Social and Cultural Geography*. Department of Geography, St. Davids University College, Lampeter.
Plieninger T. et Al. (2012), "Mainstreaming Ecosystem Services Through Reformed European Agricultural Policies". *Conservation Letters*, 5, pp. 281-288.
Pollice F. (Ed.) 2012, *Rapporto annuale 2012. I nuovi spazi dell'agricoltura italiana*. Roma, Società Geografica Italiana.
Racine J.-B. (2010), "Géographie, étique et valeurs. Invitation à la riflexion et à l'action". *Géographie et Cultures*, 74, pp. 27-42.
Rentig H. et Al. (2009), "Exploring Multifunctional Agriculture. A review of Conceptual Approaches and Prospects for an Integrative Transitional Framework". *Journal of Environmental Management*, 90, pp. S112-S123.
Salazar-Ordonez M., Sayadi S. (2011), "Environmental Care in Agriculture: a Social Perspective". *Journal of Agricultural and Environmental Ethics*, 24, pp. 243-258.
Silva J.A. (2011), "Economics, Morality, and Method", *Geography Compass*, 5, pp. 825-837.
Smith D.M. (1997), "Geography and Ethics: a Moral Turn?". *Progress in Human Geography*, 21, pp. 583-590.

Smith D.M. (2000), *Moral Geographies: Ethics in a World of Difference*. Edinburg, Edinburg University Press.

Tait J. (2001), "Science, governance and multifunctionality of european agriculture". *Outlook on Agriculture*, 30, pp. 91-95.

Tamàsy C. (2006), "Ethics in Economic Geography". *Geojournal Library*, 86, pp. 201-204.

Tollis C. (2010), "Éthique, espace, action: un triptique à activer". *Géographie et Cultures*, 74, pp. 97-110.

Varraso I. (2013), *Spazi etici ed etica degli spazi*. In Di Iasio D. (Ed.), *Princìpi di economia solidale*, Pensa MultiMedia Ed., Lecce, pp. 181-197.

Varraso I. (2014), *L'etica degli spazi nell'organizzazione di territori periferici e marginali*. In Fiori M., Varraso I. (Eds.), *op. cit.*, pp. 23-39.

Zamagni S., Bruni L. (2004), *Economia civile. Efficienza, equità, felicità pubblica*. Il Mulino, Bologna.

Wilbanks T., "Sustainable Development Requires an Ethical Revolution". *Annals of the Association of American Geographers*, 84 (1994), pp. 541-556.

Wilson G.A. (2008), "From 'Weak' to 'Strong' Multifunctionality: Conceptualising Farm-level Multifunctional Transitional Pathways". *Journal of Rural Studies*, 24, pp. 367-383.

Wilson G.A. (2009), "The Spatiality of Multifunctional Agriculture: a Human Geography Perspective". *Geoforum*, 40, pp. 269-280.

Wilson G.A. (2010), "Multifunctional 'Quality' and Rural Community Resilience". *Transactions of the Institute of British Geographers*, 35, pp. 364-381.

Wilson G.A., Potter C. (2007), "RGRG Sponsored Session Reconceptualising Multifunctionality: Neoliberalism, Agricultural Transitions and Agendas for Future Research". Conference Report, *RGRG Newsletter Winter*, pp. 4-6.

Andrea Sonnino, Delgermaa Chuluunbaatar, John Ruane

Food security, sustainability and agricultural innovation

Abstract

Currently, more than enough food is produced to feed the world's population of 7 billion inhabitants. However, latest FAO figures indicate that 842 million people were undernourished in 2011-13. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. There are four dimensions of food security: the availability of food; access to food; utilization of food and food system stability. Looking to the future, there are also major challenges ahead from the rapidly changing socio-economic environment (increasing world population and urbanization, and dietary changes), climate change and erosion of natural resources. The projected food demand in 2050 will increase by 60 percent. The sustainable increase of productivity, based on the adoption of technological and organizational innovation in agriculture, is therefore key to achieving food security. Increasing productivity can improve food security in two ways. First, providing an opportunity for farmers to increase their incomes and to improve their livelihoods. Second, increased productivity can also lead to reduced food prices, benefiting many poor people in both urban and rural areas as poor households typically spend a large proportion of their income on food. Increased productivity should be achieved while simultaneously conserving the natural resource base upon which future productivity increases depend. In this way, the farmer's income growth can be combined with a truly sustainable resource use.

Keywords: *Food security, agricultural innovation.*

For FAO, food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 1996; Schmidhuber and Tubiello, 2007). There are four dimensions of food security: the availability of food; access to food; utilization of food and food system stability. For food security objectives to be realized, all four dimensions must be fulfilled simultaneously.

The first dimension covers the availability of good quality and nutritious food from local, regional and international sources. It therefore includes issues of food production and processing; trade imports and exports; availability of food stocks and food aid.

The second dimension involves physical and economic access to food for an active, healthy life. This includes marketing and transport infrastructure, food distribution systems and markets; purchasing power or having the money to buy the right food; and social protection programmes to ensure access to nutritious food. If food is available but people do not have the money to access it, they are food insecure.

The third dimension is related to the safe and healthy utilization of food. This includes good health status, since healthy individuals can make proper use of food; having nutritious food choices for all age groups; food safety and quality; and access to clean water and sanitation.

The fourth dimension covers the fact that to be food secure, a population, household or individual should have access to adequate food at all times and should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (FAO, 2006). This dimension is increasingly important with the economic crises and climate change related challenges facing the world, especially in developing countries.

The other side of the coin is food insecurity, a situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. This may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, inadequate use of food at the household level or more of these factors together.

Thanks to technological and managerial innovation, world agriculture is currently able to produce sufficient food to feed the global human population, which is estimated to have surpassed the threshold of 7 billion people worldwide (UN Population Division, 2011). However, latest FAO figures indicate that a total of 842 million peo-

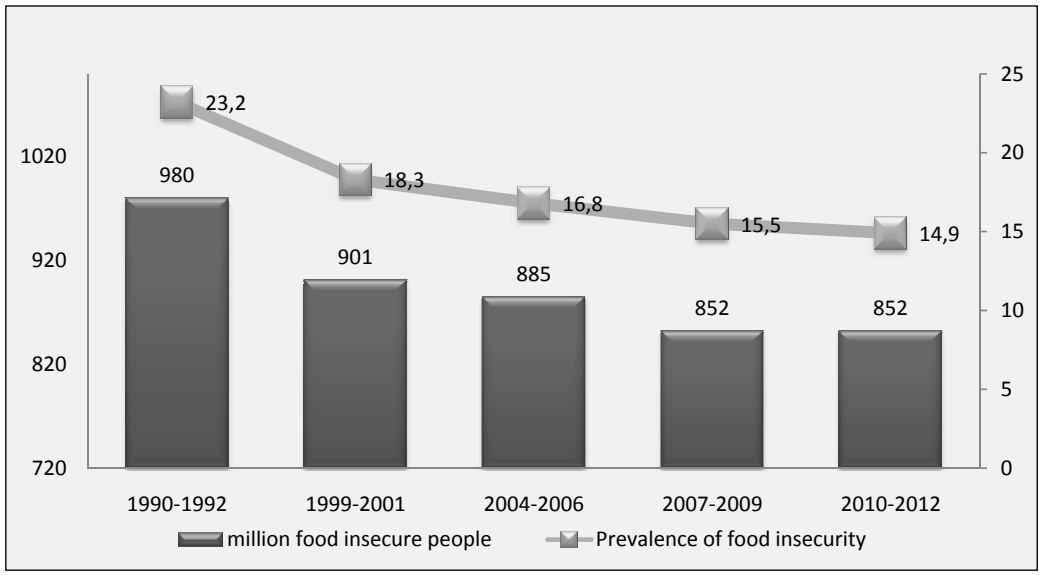


Fig. 1. Food insecurity in developing countries (*Source*: FAO, IFAD and WFP).

ple in 2011-13, or around one in eight people in the world, were estimated to be suffering from chronic hunger, regularly not getting enough food to conduct an active life (FAO, IFAD and WFP, 2013). The vast majority of undernourished people (about 98 percent, or one in six people) live in developing countries, where, in spite of recent progress, one in six people are still undernourished (Fig. 1). The region with the highest number of undernourished people is Asia and the Pacific, where 62 percent of the world's hungry live. The region with the highest proportion of undernourished people is sub-Saharan Africa, where the hunger prevalence reaches 30 percent.

Looking to the future, there are, in addition, some major challenges ahead that can drastically worsen this already unacceptable situation. The first is the rapidly changing socio-economic environment. The world's population is projected to increase to more than 9 billion people by the year 2050 (Fig. 2). Nearly all of this increase will occur in developing countries (UN Population Division,

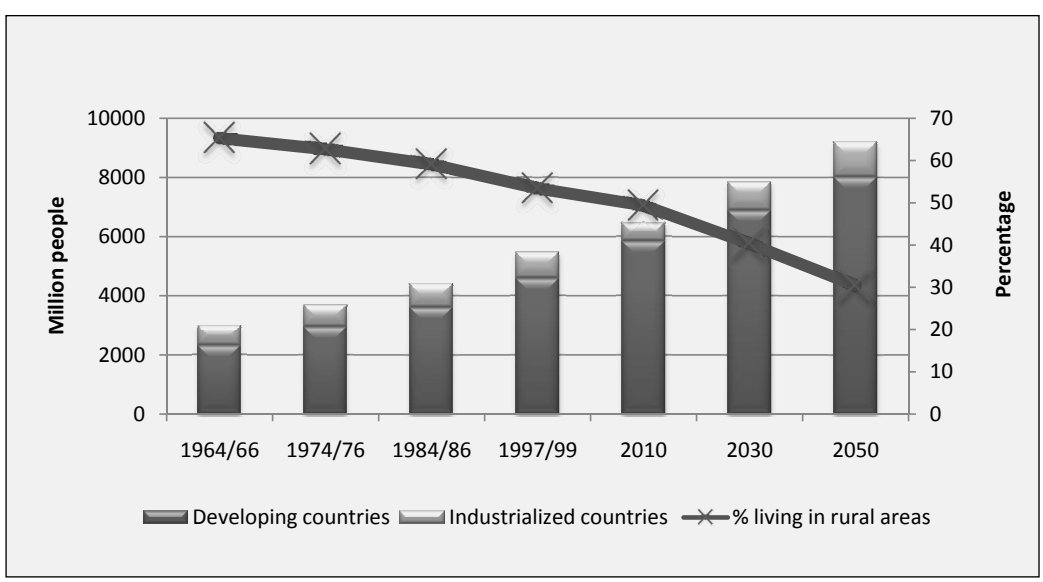


Fig. 2. World population and distribution (*Source*: UN Population Division).

2009). In addition, the ongoing migration from rural to urban areas is expected to continue, so that by 2050 about 70 percent of the world's population will be urban (compared to 50 percent today). Incomes in developing countries are also expected to rise in the future, resulting in dietary changes where the proportion of grains and other staple crops in diets will decline, while the proportion of vegetables, fruits, edible oil, meat, dairy and fish will increase. With this larger, more urban and, on average, richer population, it is estimated that the global demand for food in 2050 may be 60 percent higher than today (FAO, 2009). The second major challenge is the increasingly constrained natural resource base for agriculture: land, soil fertility, water, biodiversity, all resources upon which agricultural production depends, are often degraded and/or eroded by overexploitation or misuse. For example, 33 percent of soils are highly or moderately degraded, with the consequent loss of fertility. In addition, the agricultural natural resource base, including land and water, suffers from the increasing competition from other sectors (industrial use, civil utilization, etc.). For instance, the cultivated land area dropped from 0.45 ha per capita in 1961 to 0.22 ha per capita in 2009, a decrease of 51 percent.

The third major challenge is climate change, which affects the frequency of extreme weather events, alters agricultural growing patterns, as well as the distribution patterns of pests, weeds and diseases that threaten crops and livestock. The overall impacts of climate change on agriculture and food security are expected to be increasingly negative, especially in areas already vulnerable to climate-related disasters and food insecurity.

The needed increase in food production for the future may come only partially from further expansion of the agricultural frontier, because available land is becoming scarce in many areas of the world. The expansion of cultivated land would nevertheless happen at the expense of natural stands with the related detrimental effects on the environment. The majority of food production growth should therefore come from increased yields per unit of land.

The sustainable increase of productivity is therefore key to achieving and ensuring food security. Increasing productivity can improve food security in two ways. First, the increasing demand for agricultural products in low – and middle – income countries provides an opportunity for family farmers to increase their incomes and to improve their livelihoods. Second, increased productivity can improve food availability and so lead to reduced food prices, benefiting many poor people in both urban and rural areas, as poor households typically spend a large proportion of their income on food.

Increased productivity should be achieved while simultaneously conserving the natural resource base upon which future productivity increases depend. In this way, the farmer's income growth, and the related reduction of poverty, can be combined with a sustainable resource use.

Sustainable productivity increase can be largely met by bridging the agricultural productivity gaps across countries and between farmers within countries, and should therefore be based on the adoption of sustainable technological and organizational innovation. Extension services play an essential role in closing these gaps and ensuring that farmers have access to the benefits of research. When not in place, investing in functional demand-driven pluralistic, decentralized, participatory extension systems is essential.

Agricultural research plays a major role in generating appropriate technologies, adapted to the local needs of family farmers, helping them to sustainably improve their production and livelihoods. Agricultural innovation enables farmers to adapt rapidly when challenges occur and to respond readily when new opportunities arise.

There is substantial evidence and general consensus that investments in agricultural research and innovation have significant impacts on both agricultural growth and poverty reduction (Mogues *et al.*, 2012) and are key to promoting transition towards sustainable agriculture production systems. Nevertheless, agricultural esearch investments in most developing countries are still very low (Beintema *et al.*, 2012), and substantially below the recommended level of 1 percent of the agricultural GDP (ECOSOC, 2004). The Official Development Assistance (ODA) does not contribute to a change: investments committed to national agricultural research systems are only a minimal share of the ODA committed to the agricultural sector (2.2 percent in 2011) (Source: ADAM database). It is therefore necessary to substantially increase international and national investments in public agricultural research.

Family farms face numerous barriers which prevent them from adopting more sustainable and efficient practices that combine productivity increases with the preservation of natural resources. These barriers include restricted access to markets, insecure property rights and limited access to inputs, finance, and appropriate technologies.

In addition, improved practices often have high start-up costs and a long pay-off period. Lack of information and skills are one of the biggest hurdles for smallholder farmers, constraining adoption of technologies and reducing their efficiency if eventually adopted.

Effective and well-coordinated institutions could help overcome many of these barriers. Unfortunately, three regional needs assessment studies conducted by the Tropical Agriculture Platform (TAP) initiative highlighted that agricultural innovation systems in most developing countries are inadequate (TAP, 2013). Their components (research, extension, education, farmers' organizations, private sector) are under-resourced and range from weak to very weak from an institutional and organizational point of view. In addition, the functional linkages between the components are often missing or poor.

There is a clear need to establish effective agricultural innovation systems that focus on adaptive, results-oriented research and incorporate real accountability to farmers as clients, and direct involvement of public, private and civil actors, with innovation institutions working together towards clear development outcomes.

Current capacity development interventions undertaken by multilateral and bilateral development agencies are abundant in number but most of them are of limited size and duration, not well aligned with national needs, focused on individual capacity development, not coordinated with each other, and therefore not very effective, as reported in the above-mentioned studies (TAP, 2013). A well-coordinated and substantially resourced international initiative of capacity development of agricultural innovation systems in developing countries is therefore crucial and urgent.

References

ADAM (Agricultural Development Assistance Mapping). (http://www.fao.org/tc/adam/data/index.html), accessed 15/09/15.

Beintema N., Stads G.-J., Fuglie K., Heisey P. (2012), *ASTI Global Assessment of Agricultural R&D Spending Developing Countries Accelerate Investment*. International Food Policy Research Institute, Washington, DC, Agricultural Science and Technology Indicators, Rome, Italy, and Global Forum on Agricultural Research. Rome, Italy (http://www.asti.cgiar.org/globaloverview), accessed 15/09/15.

ECOSOC. 2004. Doc. E/2004/INF/2/Add.2. Geneva, Switzerland (http://www.un.org/docs/ecosoc/documents/2004/resolutions/eres2004-68.pdf), accessed 15/09/15.

FAO, 1996. World Food Summit Plan of Action. FAO, Rome (http://www.fao.org/docrep/003/w3613e/w3613e00.htm#PoA), accessed 15/009/15.

FAO, 2006. *Food Security. Policy Brief*. Issue 2. (ftp://ftp.fao.org/es/ESA/policybriefs/pb_02.pdf), accessed 15/09/15.

FAO, 2009. *Feeding the world, eradicating hunger*. Background paper to the World Summit on Food Security, Rome, 16-18 November 2009. (ftp://ftp.fao.org/docrep/fao/Meeting/018/k6077e.pdf), accessed 15/09/15.

FAO, IFAD and WFP (2013), *The State of Food Insecurity in the World 2013. The multiple dimensions of food security*. Rome: FAO.

Mogues T., Yu B., Fan S., Mcbride L. (2012), "The impacts of public investment in and for agriculture: Synthesis of the existing evidence". *ESA Working paper* n. 12-07 (http://www.fao.org/docrep/016/ap108e/ap108e.pdf), accessed 15/09/15.

Schmidhuber, J., Tubiello F.N. (2007), "Global food security under climate change". *Proc. Natl. Acad. Sci*. USA, 104, 50: 19703-19708.

Tropical Agriculture Platform (2013), Assessment of current capacities and needs for capacity development in agricultural innovation systems in low income tropical countries. Synthesis Report. TAP, Rome (http://www.tropagplatform.org/sites/default/files/documents/TAP_Summary_of_Regional_Assessments.pdf), accessed 15/09/15.

UN Population Division (2011), *World population prospects: the 2010 revision* (http://www.unpopulation.org), accessed 15/09/15.

UN Population Division (2009), *World population prospects: The 2008 revision* (http://esa.un.org/unpd/wpp2008/index.htm), accessed 15/09/15.

Maria Patrizia Marino

Perspectives and role of agriculture in the contest of current worldwide crisis

Abstract

Common Agricultural Policy has kept fundamentally a supporting role to the farming productions in the several Countries in order to improve competitive capacity on international market but also to support the working position of human resources and guarantee the anthropic and environmental dimension of territories.
In the light of the fact that the worldwide financial crisis widened to the real economy causing a block of manufacturing system already damaged by competition from emerging Economies (BRICS), Agriculture could represent an important economic sector able to lead the reconstruction on the basis of a new model founded on centrality of Agriculture and economic recovery of human dimension.
Currently, in Italy Agriculture has an incidence on territorial GDP from 3-4% to 9-10% depending on the different considered regions, so that it has yet huge margin of growth and therefore it could represent a reserve for the development for an integrated economic system: territory with environment, agriculture, food processing products, creativity and culture.

Keywords: *Agriculture, Current worldwide crisis, Territorial development.*

Introduction

Current crisis is notcyclical but constitutes a structural transformation of the economic and productive system never experienced before. In this economic model, the industrial system and the services sector have been the driving force, relegating the primary sector to a complementary and marginal role. The result of that conception has meant for less developed Countries a strong backwardness in agriculture up to the levels of subsistence while for Europe the main objective of primary sector focused on production putting the valorization of agriculture in the hands of processing industry and distribution system.

Until the first half of last century agriculture was considered as a synthesis of negative connotations, because agriculture was field of poverty, hunger, ignorance, archaic social relations. Farmers were ashamed to be farmers, and citizens considered them as peasants, ignorant, hungry. Agriculture was also the place of technological backwardness. In 1962, when in Europe Common Agricultural Policy was established, the most of farmers still milked the cows by hand and were reaping the wheat with scythe.

The early CAP through market price support policies, was to encourage agricultural productivity, ensuring a stable supply of affordable food to consumers and ensuring a viable agricultural sector.

Since its creation, CAP has undergone several reforms. These reforms have almost always implemented gradually. Reduction of price support begun in 1992 (MacSharry reform) and was reinforced in 1999 (Agenda 2000) reform and moreover, coupled direct payments were introduced. In 2003 CAP reform, the decoupling of farm payments started and was pursuit with the 2008 Health Check, and the environmental aspects of agriculture became compulsory requirement in order to receive funds.

In the recent years, the structural changes, that took place in markets at a worldwide scale, affect also agricultural sector.

The most remarkable of these new developments for agriculture are: energy price rise, bigger commodities price volatility, increase of bio energy production, climatic changes, the shift of consumption types in developing countries.

These are very important for the sector because they affect policy needs besides policy effects and thus they might led to new revision reforms of CAP.

Indeed, a new CAP Reform proposal is being reshaped for future challenges. The policy will be fairer, greener and more efficient. It will be more innovative too. As it has tried to do over the last 50 years.

After almost two years of negotiations between the Commission, the European Parliament and the Council, a political agreement on the reform of the CAP has been reached on 26 June 2013.

This political agreement on new direction for common agricultural policy consists in making direct payments fairer and greener, strengthening the position of farmers within the food production chain and making the CAP more efficient and more transparent. These decisions represent the EU's strong response to the challenges of food safety, climate change, growth and jobs in rural areas. The CAP will play a key part in achieving the overall objective of promoting smart, sustainable and inclusive growth.

Hopefully that these proposals can be fully achieved and that therefore future audits can confirm these announced orientations.

Italian agriculture in figures

One of the big problems of Italian agricultureis that agricultural production (farming aggregate) is not adequately processed and commercialized in the place of production, since the processing and distribution processes (processing and distribution aggregate) are absorbed insignificant part, respectively, by manufacturing and commercial sectors. Therefore, significant percentage of added value of agricultural production are calculated in manufacturing commercial sectors.

The rapid expansion of the industrial and commercial sectors, in last decades, has been effecting on the distribution of national income in order to alter, to the detriment of agriculture, the proportion. For this reason, it's necessary to contrast highly speculative phenomena that take advantage of structural weakness of agriculture. Excessive fragmentation of agricultural property, strong seasonality of agricultural products, low level of technology use and delays in management determine intrinsic weakness of primary sector in Italy, especially with reference to the South of Italy which is area of Italy best suited to agriculture and in particular to Mediterranean one. Observing data (see Figg. 1.1, 1.2, 1.3, 1.4), it's possible identify two complementary phenomena:

- low levels of added value and production value are evidence of excessive inability of agricultural sector to hold substantial shares of wealth;
- tendency of the same to the substantially stationary with peakseven negative during the decade 2000-2011, once again testifies to the extreme weakness of agricultural sector but also inability of policies to determine an improvement.

Moreover, it's possible to identify a third aspect that relates directly to big agriculture potentiality not yet expressed that means an integration in the socio-economic and production system and diffusion and strengthening of sustainable dimension.

Situation above mentioned applies to all Italian geographic subdivisions. In fact, in territorial subdivisions of the North-West, North-East, Central and Southern Italy there is a stationary trend uniformly in the long run both in the case of production value and added value. In the South, characterized by more consistent spread of the Italian agricultural sector, added value of agriculture con-

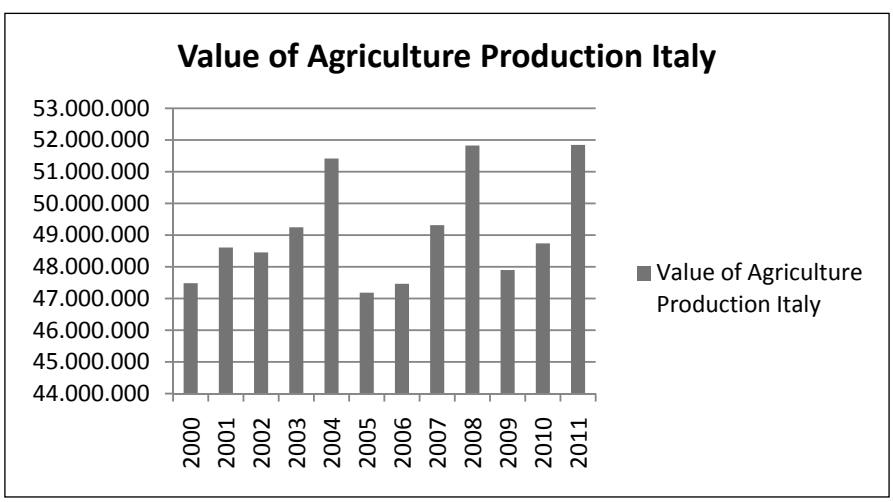


Fig. 1.1. Value of agriculture production in Italy (thousands Euro) (*Source*: elaboration on Inea data).

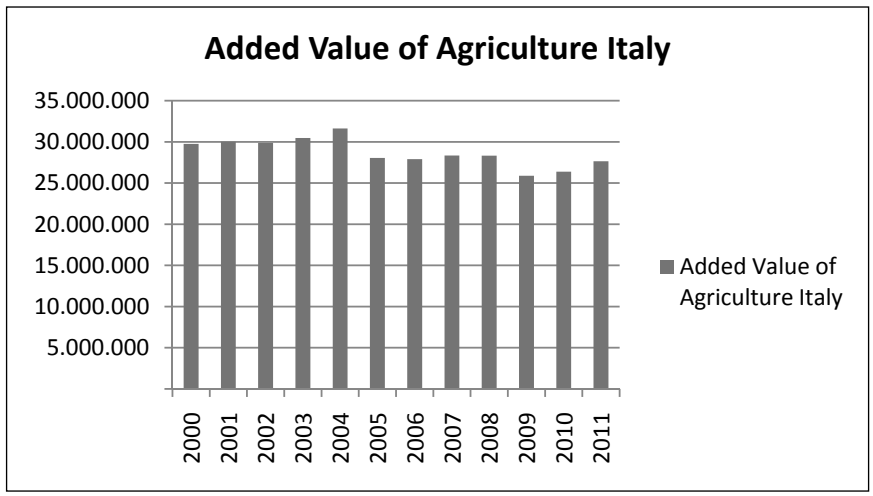


Fig. 1.2. Added value of agriculture –Italy (thousands Euro) (*Source*: elaboration on Inea data).

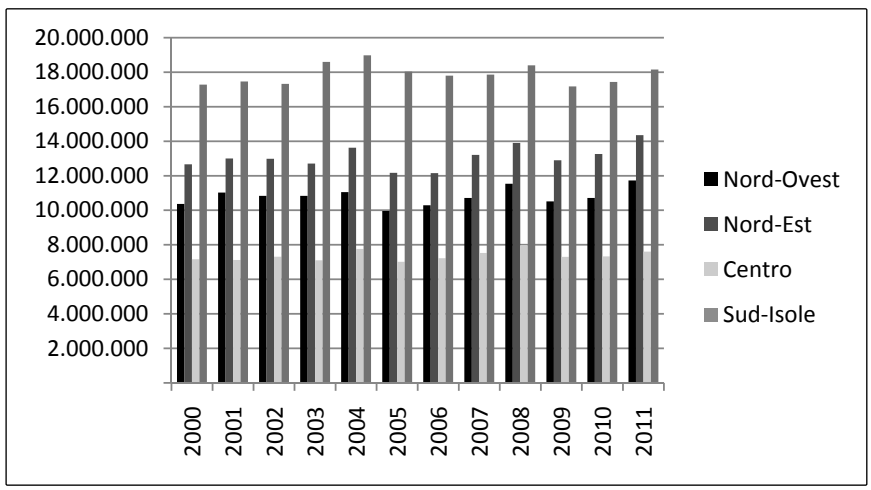


Fig. 1.3. Value of agriculture production - italian territorial division (thousands Euro) (*Source*: elaboration on Inea data).

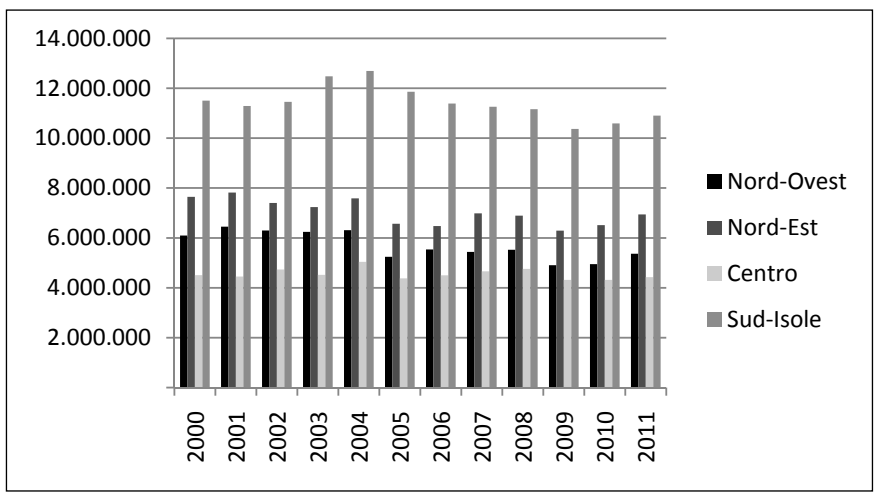


Fig. 1.4. Added value of agriculture – Italian territorial division (thousands Euro) (*Source*: elaboration on Inea data).

quers the maximum value in 2004, recording in later years a steady slowdown.

Food industry

As previously mentioned, the agricultural products are the basis for the development of food manufacturing industry that in Italy represents a fundamental branch of whole economic and productive system. The food industry has shown in 2012, revenue growth by 2.3 percentage points over the previous year, confirming the manufacturing food sector the most important in Italy after heavy engineering. The food sector accounts for about 10.7% of the entire manufacturing sector in terms of employment.(see INEA Report on the State of Agriculture 2013). Observing data about added value of Italian food industry, it's possible to notice that its value is similar in consistence to the added value of Italian agriculture production (see Fig. 2.1). In last decade, food industry has shown a strong tendency to increase. Moreover, food industry is the only sector that has observed positive performances, despite a slowdown ingrowth dynamics, even in the period 2008-2012, characterized by economic crisis. The difficulties of Italian food industry are in fact found to be smaller than the rest of the manufacturing sector. This situation high lights the extraordinary potentiality of agriculture that has growth prospects still now unexpressed and that may represent for future a key source of employment. Hence the need to redefine the basis on which restructuring the agricultural sector in Italy, focusing on quality, enhancement of local typical products, on technological diffusion, the aggregation of production phases, perhaps through a strong cooperation whereas it is not possible to proceed to the concentration of landed property.

The fragmentation of property is proposed as a further crucial problem because it reduces the bargaining power of farmers and make bad their capacity to compete on a par with foreign competitors, with a few exceptions (the cooperative model of apple growers, for example) and extreme cases such as the citrus, where 170,000 hectares of national production are divided among 126,000 companies. This "pulverization" also reduces the level of training of farmers often too small to invest in applied research.

Therefore with strategies aiming at getting a set of new technical and managerial skills as well as the provision of logistical infrastructure, innovation and capitals then agricultural production activities could strengthen even through activities such as direct sale of agriculture products. It was observed in literature that activity of this kind could have beneficial effects for both producer and consumer and what is more, it plays a positive role in several other spheres. It's an example of a "short chain" and a direct relationship between agricultural producers and consumers. It may have economic, social and environmental implication[1].

It is worth emphasizing that the support "for developing direct sales and local markets" as well as improving the functioning of food supply chain was defined as one of the aims of Common Agricultural Policy 2013-2020[2]. In this perspective it should be considered positively simplifications proposed in the margins of discussion for the approval of the so-called "do" decree-law of the Italian government put in place. According to these simplifications it will no longer be necessary the notice of business starting,(so-called SCIA), for out door retail sales in the farm, as well as it will be granted immediate consumption of agricultural products in the farm premises (no need to change destination of use), obviously in compliance with health standards and no table service. It will be also facilitate agriculture products e-commerce, for which it will be enough a notice to Municipality where the farm is located. This aspect is of particular importance in view of a decisive modernization of technical and organizational management of the farm. It will be encouraged a greater spread of information technology with positive feedback even on level of training of human resources, secondly it will favor a decisive shortening of the supply chain by bringing the consumer in direct contact with the producer in view of the enhancement of zero distance agricultural production. Finally, it may stimulate within farm a necessary attention to the essential aspects of logistics and distribution of agricultural products.

Dynamics

Observing the figures, it's possible identify two statements, first of all the structural weakness of the Italian agricultural sector; secondly, gap of development of agricultural sector compared to its potentialities. This is true both whole National territory and geographic single subdivisions. At this point the question is: what have been agriculture dynamics in the crisis years and what will be perspectives in future. At this regard, observing dy-

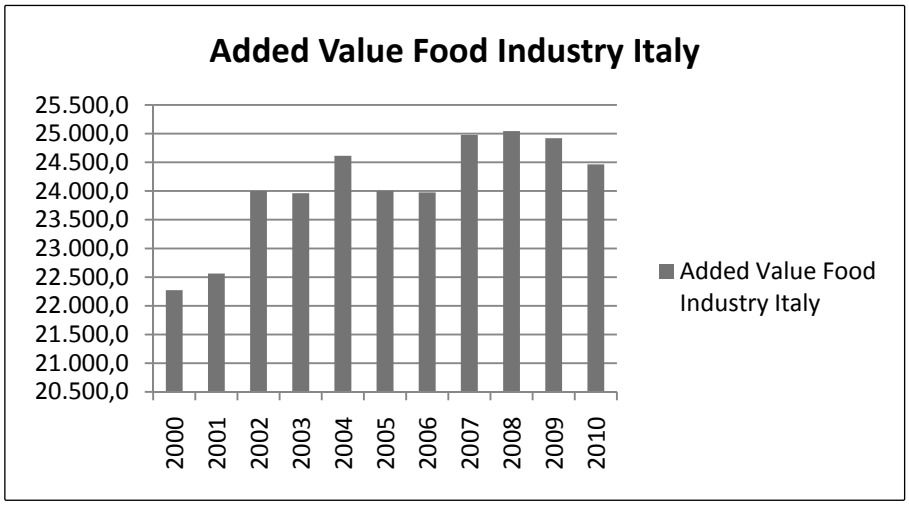


Fig. 2.1. Added value of food industry - Italy (millions Euro) (*Source*: elaboration on Inea data).

namics of agriculture added value in the different regions of Italy from 2000 to 2012 and projections up to 2016 (see cartography 3.a, 3.b, 3.c) they show that percentage annual variations express very low levels, of ten close to zero and in many cases negative values.

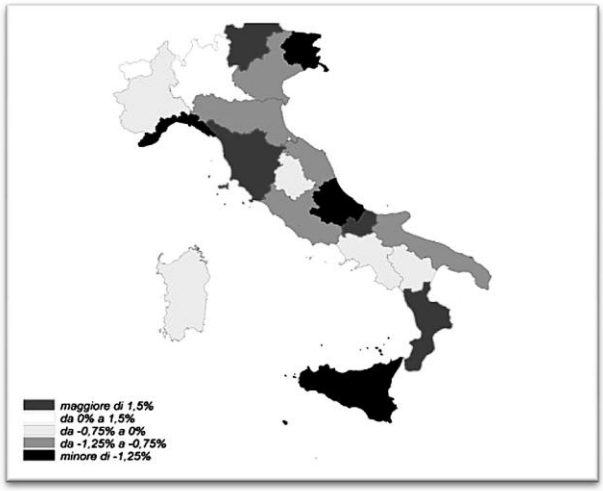
Pre-crisis years (2000-2008), record, in relation to agriculture added value, positive percentage changes above the 1.5% only for Calabria, Molise, Tuscany and Trentino Alto Adige; percentage changes, ranging between 0 and 1.5%, however, belong to the added value of the Aosta Valley and Lombardy; percentage changes of other Italian regions agriculture added value are negative.

During period over crisis (2009-2012), it has been recorded a positive increase in agriculture added value changes, contrary to what happened for the manufacturing sector. Regions that record percentage changes of value added with the positive sign are nine. Piedmont, Emilia Romagna, Molise and Basilicata are in pole position, having recorded a percentage change of value added greater than 1, 25%. Lombardy, Veneto, Lazio, Puglia and Calabria were among the regions that have show edinstead for the same period (2009-2012) a percentage change between 0.5% and 1, 25%. It can be said therefore, in the light of what has been observed for the period 2009-2012, that in four years covering full period of recession, the agricultural sector has shown greater resilience than other sectors of economy.

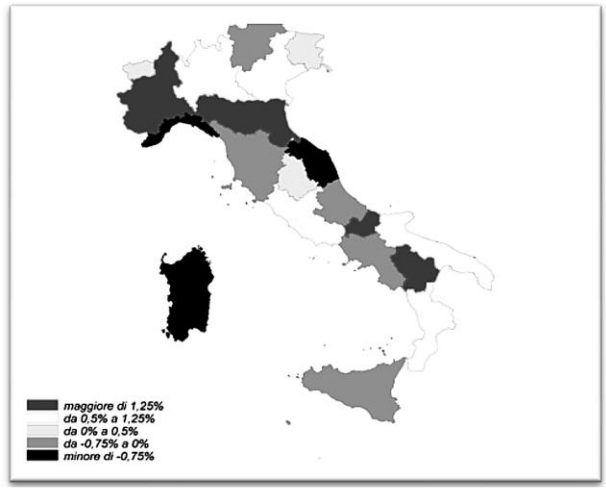
Agriculture added value figures about perspective (percentage change) underline, on the other hand, a potential weak growth that highlights a persistent structural difficulty of agriculture sector. Forecast data, indeed, show a slight positivepercentage change (greater than 0.25%) just for four regions (Trentino, Molise, Calabria and Tuscany. Forecast of agriculture added value of the Aosta Valley and Lombardy record prospects of percentage changes between –0.05% and 0.25%. While all other regions record variations with consistently negative sign between –0.5% and –2.25%.

A process to be strengthened: rural tourism

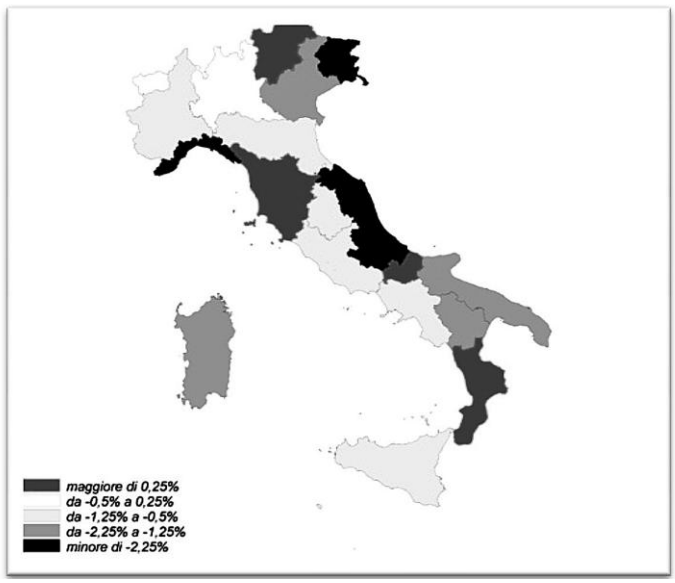
It is necessary to propose for agriculture sector, objectives of recovery, revitalization and enhancement of territorial specificities together with the diffusion of technological innovation, attraction of new and advanced youth employment. To this end, the new policies will aim to promote a decisive integration between agriculture, food, environment and territory in a process that reverberates its effects on tourism, in the name of creativity, culture and sustainability. In particular, in this context, the development of tourism flows both internal and external towards the discovery of territories, driven by the development of typical agricultural products, can inject new life (especially in Italy) and prospects for a sector such as tourism today exclusively tied to some excellent art cities (Rome, Florence, Venice) or beach holidays. It will therefore facilitate a process of seasonal adjustment of touristic flows catalyzed by new attractors related to the knowledge/discovery of new territories, (hamlets, farmhouses, farms, castles, countryside churches) through oil and wine tours to get in touch with Bacchus' art and the winemaking



3a. 2000-2008



3b. 2009-2012



3c. 2013-2016

Fig. 3a, 3b, 3c. Dynamic of Agriculture Added Value in Italian Regions (percentage variation) (*Source*: Osservatorio Banche-Imprese di Economia e Finanza - OBI).

process, to discover the secret of olive oil, to learn in general something about the other local agricultural products and food traditions.

Success samples of this kind of discovery/holiday can be found in Tuscany with its famous "casolari" typical countryside old houses, in Trentino Alto Adige with its trekking tours, or in Basilicata region with its rural routes to discover their strong feeling of identity[3].

Discovery of identity and culture of belonging to territories, on the other hand, may represent an additional element to support the integration of agriculture into the wider economic system. An example of success in this direction is certainly represented in Puglia by rediscovery of music and dances related to the phenomenon of tarantism (closely related to the phases of annual cycles of agriculture) in Salento[4]. In a such context also the same fashion system could have some advantages. Fashion system historically developed, especially in the South of Italy, downline of processes of modernization of the economic system characterized by the transition from agriculture to the industrial economy.

The full-blown crisis of Italian production system, in particular in South of Italy, linked to fashion system, displaced by the advent of new international producers (China, India and so on), could find in an integrated model of development of the territory, tourism, culture and creativity, a new season of reorganization and revitalization (see OBI, annual reports on enterprise and competitiveness and annual reports on GDP and added value).

It is necessary follow a new approach aiming at multifunction agriculture, that means supporting farmers to the diversification of their offer and upgrading their production processes in biodynamic terms, in order to integrate production with agricultural tourism, agro-food supply in a sustainable way. In this perspective it is necessary that the new CAP, national policies and especially regional ones can support the achievement of a diversified and differentiated agriculture in place of an offer centered on monoculture increasingly dominated by the expansion of intensive production and distribution of petroleum products with the risk of a very dangerous financial drift for a sector such as agriculture one which in the diversity, in specificity, in productive excellence has always had (and should have) its strengths.

Conclusions

It is clear that the future of European and Italian economic system as well is linked to developing a new economic and social paradigm that fix up failures produced by the system till now experienced.

It must be recognized that agriculture must have a central role in the development of the economic system as economic indicators showed. In addition, it is also argued that it's strongly required a strong integration between agriculture, territory, food, culture, creativity, with a renewed approach aiming at protecting environment, health and the ecosystem. In this perspective of integrated agriculture with economic system, is of great importance the role of tourism. Tourism, in fact is seen as a real opportunity, linked to ability to internalize landscape function of agriculture in the market, through the farms, quality products, certification, territorial marketing, communication. On the other hand, the tourist pressure if not properly managed, could lead to overexploitation of rural areas, loss of socio-cultural identity and a trivialization of territory. Therefore, EU, national, regional and territorial policies will have to design appropriate and functional strategies aiming at development of sustainable agriculture from an economic, social, cultural identity and environmental point of view.

References

Alabrese M. R. (2008), "La vendita diretta dei prodotti agricoli". *Rivista di Diritto Alimentare* (www.rivistadirittoalimentare), 3, pp. 3-7.

Albisinni F. (2009), "Sistema agroalimentare". *Digesto Discipline Privatistiche*, pp. 163-170.

Albisinni F. (2011), *La vendita diretta dei prodotti agricoli*. In L. Costato, E. Rook Basile, A. Germanò (Eds.), *Trattato di Diritto Agrario*. Vol. I, *Il diritto agrario; circolazione e tutela dei diritti.*, Utet, Torino, pp. 263-372.

COMMISSIONE EUROPEA (2010), *Comunicazione della Commissione UELa Pac verso il 2020*. COM 672.

COMMISSIONE EUROPEA (2012), *Position paper dei servizi della Commissione sulla preparazione dell'Accordo di partenariato dei programmi in Italia per il periodo 2014-2020* (http://www.speslab.it/sites/speslab/files/documenti/pp_ita_def_ce.pdf), accessed 15/02/15.

De Martino E. (1961), *La Terra del Rimorso*. Il Saggiatore, Milano.

Fennel R. (1997), *The Common Agricultural Policy: Continuity and Change*. Clarendon Press, Oxford.

Fiori M. (2012), *Identità territoriale per lo sviluppo e l'imprenditorialità. Applicazioni geoeconomiche d'una metodologia quali-quantitativa*. Wip Edizioni, Bari.

Grant W. (1997), *The Common Agricultural Policy*. Palgrave Macmillan, Basingstoke.

Grillotti Di Giacomo M. G. (2005), *The Italian Rural Systems Atlas*. Brigati Genova.

Grillotti Di Giacomo M. G. (2005), *Towards quality agriculture: historical heritage and environmental values in integrated territorial growth*. Relazione introduttiva al Colloquium *FAO-IGU-GECOAGRI* (www.gecoagri.it), accessed 15/02/15.

Grillotti Di Giacomo M. G. (2012), *Nutrire l'uomo Vestire il pianeta Alimentazione-Agricoltura-Ambiente tra imperialismo e cosmopolitismo*. Franco Angeli, Milano.

Grillotti Di Giacomo M.G., Pollice F. (2006), *Politica agricola comune ed organizzazione degli spazi rurali*. In P. Bonavero, E. Dansero, A. Vanolo (Eds.), *Geografie dell'Unione Europea*. UTET, Torino, pp. 143-165.

Groenewegen P.D., Vaggi G. (2002), *Il Pensiero economico. Dal mercantilismo al monetarismo*. Carrocci, Roma.

Masini S. (2007), "I mercati degli imprenditori agricoli a vendita diretta". *Diritto e Giurisprudenza agraria, alimentare e dell'ambiente*, 3, pp. 289-295.

Nigro R. (1987), *I fuochi del Basento*. Rizzoli, Milano.

OSSERVATORIO BANCHE-IMPRESE DI ECONOMIA E FINANZA (2012), *Il valore aggiunto dei comuni del Mezzogiorno*. Giannini Editore, Napoli.

OSSERVATORIO BANCHE-IMPRESE DI ECONOMIA E FINANZA (2012), *Rapporto Impresa e Competitività*. Giannini Editore, Napoli.

OSSERVATORIO BANCHE-IMPRESE DI ECONOMIA E FINANZA (2013), *Aspetti e misure territoriali del benessere*. Giannini Editore, Napoli.

Scarpelli L. (2010), *Geografia delle attività agricole e dell'economia rurale*. In Morelli P. (Ed.), *Geografia Economica*. McGraw-Hill, Milano, pp. 17-52.

Varraso I. (2004), *Turismo e dinamiche territoriali di sviluppo, valorizzazione delle risorse e organizzazione sistemica degli spazi garganici*. Edizioni Scientifiche Italiane, Napoli.

Note

[1] See Albisinni (2011), Masini (2007), Alabrese (2008).

[2] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "*The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*", Brussels, 18.11.2010, COM(2010) 672 final.

[3] In Basilicata, one of the most emblematic attractors of identity is represented by the rural cinema-show "History Bandita", which takes place every year between August and September. The cine-show 'La Storia Bandita' tells the interesting history of brigandage in Lucania in Southern Italy, developed near the Unification of Italy. The history of banditry has found a discussion in the epic novel of NIGRO, 1987.

[4] It is predominantly a rural phenomenon characterized "by the symbolism of tarantula bites and poisons and by symbolism of music of dance and color that release from this poisoned bite". The phenomenon observed by the anthropologist De Martino still in the 50s in Salento (Apulia) countryside, had spread throughout the ancient kingdom of Naples since the Middle Ages (see De Martino, 1961).

Maria Fiori

Territorial identity and rurality

Abstract

At the beginning of the '70s, especially in the countries of the South of Europe, rural tourism becomes the lever to raise uncompetitive agricultural realities and to diversify their activities (Rocca, 2013). This form of tourism allows, at the same time, to reduce the migration from rural to urban areas by creating occupation. Born to respond to these needs, farm holiday has opened a new way for a different and elaborate form of rural tourism often confused with the farm holiday as synonymous. In fact, when we consider rural tourism we refer to all forms of tourism activities that are made in rural areas and in contact with nature. It is not necessary that these activities are made by a farmer with his farm (Schifani, 1995).

Keywords: *Rural tourism, Territorial identity, Multidimensionality.*

Agricultural dynamism

Starting from the early seventies of the era recently past, particularly in the countries of Southern Europe, rural tourism becomes a lever which uplifts the non-competitive agricultural situation and diversifies the activities (Rocca, 2013). This type of tourism allows for the decrease in migration from rural areas to the urban areas, in that it creates work. Farms and rural homes adapted to the needs of vacationing requisites, become this way able to attract diverse tourist activities, not only those "governed" by the farmer and limited to the country, but even those, more in general, tied to the contact with nature and the cultural, social, architectural and gastronomical characteristics (therefore, identity) of a territory (Fiori, 2012). In this way, the capacity to attract visitors and offer work, even well-qualified, increases.

This new reality can be read as a sign which Simoncelli (2001, p. 35) defines as "unsuspectable dynamism" of the rural world, besides a radical change of an entire system. In fact, as known, the primary activity has changed very much, in particular from World War II and after, as in general the relation between city and countryside, having become rapidly very complex, but at the rural world till now it is often attributed an idyllic and bucolic halo that, although quite far from reality, it is maybe the most specific and persistent character of its image.

As Formica points out (1996, pp. 18-19), clearly «the importance that modern society has attributed to agriculture is beside the simple calculation of income that it produces within the Gross National Product and the occupation that it assures the active population, presuming parameters of diverse evaluation than those of the pure economic balance. The parameter regarding the quality of life and environmental protection seem fundamental, for which agriculture is capable of contributing in a decisive way in that it constitutes the principal go-between for man and nature. In essence, just in the greatly industrialized countries it could be the key element of a new type of economical-territorial organization which is not based on an excessive research of simple profit and near-sighted efficiency».

The increasing acknowledgment of the value of the local developmental processes (be it in the research field as well as in the various operator categories), has contributed in providing «an agricultural evolution, within the globalization processes, and a dematerialization of the economy, from the production sector historically in decline to the multifunctional, crucial for cohesion and territorial competition» (Alfano and Cersosimo, 2009, p. 5; Shucksmith, 2000).

Just the very globalization processes have contributed bringing to one's attention the rural territory in all its components, from the strictly economic ones to the social and cultural ones (Vallega, 1989), and some of the principal changes that have intervened in the agricultural field have brought a new type of polifunctionality and have allowed to place the focus on personal aspects and on the territorial specificity (Grillotti Di Giacomo, Moretti, 1998).

This is surely a change in one's point of view,

which has still a long way to go, at all levels: at the moment the focus seems to be concentrated on developed countries aboveall; the need to think over the geography of agriculture as a whole, originates from significant and important changes that in advanced economies have surfaced in the sector, in particular with the expansion of industrial agriculture after a long post-war period dominated by mass production and a substantially quantitative regulation, by single States or associations of States.

It's undoubted, however, that the most recent changes, taking place from the mid eighties, are forming a new and profound meaning. For example, consumers in general and organized groups are becoming more aware, not only of the type of food being consumed, but also of the origin and transference, therefore of what happens to the raw material through the whole productive process. In the "satiating" societies the motive for food consumption is no longer found mostly in satisfying the physiological needs, but rather in a series of psychological or socio-relational factors imprinted in the dominant life-style, so much so as to speak of a real and literal "food symbolism" (Padilla, Thiombiano, 1995).

Because of the increasing range of demand the rural areas are requested to produce and deliver services, coming from local areas as well as from extra-local areas. Moreover, external global pressures are accelerating the dismantling of traditional support systems of a farm, without it being clear with what to substitute them with (Marsden, 1998, p. 266). All that can be considered the effect of a real ideological contrast between the rural development objectives already owned by social State logic and those of the market and globalization ideology, regarding even the production and commerce of goods.

All this warrants the need to integrate new levels of priorities of the rural, of economical and territorial type. The present prospective change – besides the system – consists at least in the fact that one can "see" that the agricultural problems should be integrated in a more ample social and territorial context, for the benefit of the whole population, rural as well as urban. This doesn't mean exaggerating the weight of a sector that in developed countries, in terms of occupation and wealth, is by now very low: in Italy, for example, agriculture presently contributes a total of 5.1% of the economy in terms of work and 2.2% at the nominal GDP, while a growing bulk has been taken on by the industrial transformation of the agricultural products and by incorporated services in the goods destined for food supply (ISTAT, 2015).

The "economic culture" approach

All that just described appears as a result – but even as a factor – for establishing, in a complex link of interdependence worthy of a systematic research concerning significant case studies, of what Ray calls «the economic culture approach of rural development» (Grillotti Di Giacomo, Moretti, 1998, p. 3); an approach, moreover, "legible" through the most recent reflections of multifunctional agriculture.

Regarding the changes we mentioned previously, the same Ray asks some basic questions: «The rural and urban areas in Western Europe – as elsewhere – are increasingly adopting the cultural signs as a key-resources for achieving the territorial development objectives. Such strategies make up the answer to the extra-local forces that have demonstrated the power of mining the local vitality at the base»; he proceeds observing that the answer that these territories and places can give consists in pursuing an endogenous pattern of development, wherein the development is reformulated so as to depend more on the local resources, physical as well as anthropic.

And, therefore, «the local specificity research moves its attention on the indicator signs of the local cultural systems so that today it assists at a proliferating of initiatives in which the local cultural resources are seen as the key to improving the economic and social well-being of rural areas», where the word 'economy' indicates that one is referring to the relationship between resources, production and consumption, while the word 'culture' tries to express the reorganization of the economies, at least partly, to a local cultural-territorial geographic scale.

Note that Ray underlines how the concept of a cultural economy regards primarily the production ambit: that is, the territory, its cultural system and the network of actors that build as a whole resources, in order to continue pursuing the interest of that territory (1998, pp. 3-4). That concept of an economy of culture would derive, according to the Author, from three complex processes: the changes in post-industrial capitalism, according the post-modern prospective; the European Community choices with regard to rural development; the spreading of regionalism as a global phenomenon not only European.

As for Italy in particular, the Common Agricultural Policy reforms (CAP=PAC Politica Agricola Comunitaria) and of "Agenda 2000", as well as the reformulation of art. 2135 of the Civil Code, have brought up for discussion the definition of "farm",

which was accepted by the agricultural economy for a long time: for example, the farm was defined as the elementary combination of production means, one of which is the agricultural farmland, which constitutes the territorial base (Serpieri, 1956, p. 17). Amplifying considerably the notion of agricultural farmer and leaving out the ties with the land, all productions are instead qualified as agricultural, based on the cure and development of a biological cycle or of a phase necessary for the same cycle, arriving therefore, to the "loss of the territorial character of agricultural activity" (Costato, 2001), otherwise absolutely the paradox of an agriculture that doesn't cultivate (Grillotti Di Giacomo, 1998, p. 15).

Also for this, the differences between the agricultural farms and those of other economic sectors have diminished rapidly for diverse aspects. All this has pushed the involved groups and the development agencies to define a new rurality in the multifunctional sense, so as to claim public support in a period of financial straits, Marsden (1998) notes, but also encouraging scolars to "update" their reading of territory models (Grillotti Di Giacomo, 2012).

New multifunctionality

In Italy the new agriculture is acknowledged by the legislation in 2001; the law supports the multifunctionality with force, and therefore opens new possibilities for agritourism, the selling of farm products, the organization of didactic activities and the introduction of methods for production and management consonant with environmental compatibility.

Broadly speaking the multifunctionality (multiuse availability and destinations), is not new in agriculture, in that it has always produced goods and made services, principally aimed at food goods for human beings and assessable, but even other aspects not acknowledged by the market and not explicitly increased in value, such as security, that is soundness and salubrity that consumers expect from such products. In virtue of the law, the present efforts to allow using the mechanisms and instruments for tracing are aimed precisely at rendering explicit the security aspect, and thus to permit distinguishing reliable and safe foods from the anonymous and less secure ones. Another important function, implicit in agricultural activity is formed by its environmental, territorial and landscape effects: all the agricultural undertakings function (unassessably) on maintenance and preservation. And moreover one mustn't overlook the patrimony of traditions, values, culture, that it still keeps and passes on, even through the radical changes aforementioned.

Multifunctionality and cultural economy: wine and food tourism

An example of the key role of multifunctionality in agriculture is the wine and food tourism, truly increased considerably in these last years, even in the South of Italy, and most recently in Apulia. For many tourists, the table pleasures and the curiosity of discovering what the territory offers constitute all the more a factor of attraction deriving from culture, art and history, that goes beyond the "simple" exotic tasting flavors, and stimulate the curiosity to become familiar with production sites, tradition and culture. This is how agritourism, didactic farms, wine tasting roads proliferate, and typical products are the protagonists in all seasons of the year in that they are a vehicle not only of produce but also of culture and emotions exuding from the territory (Pugliapromozione, 2012).

Furthermore, the so-called "gourmet" tourists prefer the low season (autumn and spring), when it is easier to find peace and to relax and get favorable offers at low-cost, assuring this way ulterior advantages deriving from off-season. The rise in preference for goods produced on farms and for agritourisms and, in addition, for vacationing under the banner of food and wine, and the traditional cuisine, generally correspond to an interest to document themselves as much as possible on the history and the traditions of the territory in which they will stay, that can be seen as a peculiarity of a middle-high social class with a high cultural level (ISNART, 2012). These simple data demonstrate how it could be truly advantageous making tourist packages, opportunely promoted and with steady prices that, for example, make their culinary training a bulwark, but not just cooking courses and traditional recipes, but art courses and antique trades tied in with food and handcrafts, which would require qualified personnel. There is an accepted meaning of multi-functionality referred to the fact that, historically speaking, the farm was run by family. Therefore, the farm is the place in which family relations create activities, occupation, products, economy, for itself and for the community, and the strategic role of women becomes extrinsic.

All this makes one understand why, according to Marsden (1998, pp. 267-269), the underlying question in many present debates is: in what way can

one develop new visions on the significance and value of the rural world, now that justifications based solely on agricultural production have lost almost all of their importance? The same author also observes how many of these debates seem to start at the presupposition that the efficiency of a farm is based on markets regulated by the State, and there is the conviction that in order to remain competitive worldwide, the European farm must, for example, cut costs, the support of agricultural prices no longer being discounted like before. So, all the same, maybe consumers will be able to buy food products at lower costs, but the areas characterized by a marginal agriculture will go more in crisis, and other lands will be abandoned, because the farms will concentrate more on cultivating what maximizes unitary profit.

In addition, the action of the regulating State is more difficult today and less fruitful than in the past, in that the growing complexity of the public politics reduces the efficacy of the traditional governmental bureaucratic techniques based above all on board of governors and controlling. Up to not long ago, in fact, many of the States duties were relatively simple to organize according to the traditional lines of transmission of bureaucracy, while the new social-economic regulation forms are such that their success depends above all on the capacity to have an influence on behavior, on consumption habits or on productive charts of millions of individuals and millions of farms and local administrations. Therefore, it depends on something extremely complex and elusive, not only because it's about facing new and complex problems from a technical point of view, but also because the task consists in trying to modify expectations and individual behavior. This means that credibility leans towards taking the place of a coercive force such being the essential resource of politics.

And in fact, the intervention measures of the European Community tend to reward a more modern behavior, such as the reconquering of segments of the production chain, and thus the upstream or downstream integration processes, the horizontal agreements with the competitor, the resorting to new technologies that favor the directly commercializing of products, etc., even with an eye on government expenditure (Borelli, 2002, p. 1; Scoccini, 2001, p. 9). The direct aid is divided from the production, and is subject to obligations as for the environment, food security and for the well-being of the animals.

This should push farmers to produce according to market demand and not relying on receiving the maximum subsidy.

An italian specificity, the agritourism

A particularly interesting data is the fact that Italy has quickly achieved a specificity, that of agritourism, an activity that, according to the national and regional legislation, is included precisely among the agricultural ones. Law 20 February 2006, n. 96, defines in fact agritourism as an activity of "reception and hospitality done by farmers … even in the form of capital society or of persons or associated among themselves, through the use of their own farm in connection with the activity of cultivating the farm land, silviculture and breeding animals." So, diversely from the European Community, for which "rural tourism is an ample notion comprising whatever touristic activity is done in the rural environment, including tourism on the farm", in Italy the two sectors are clearly distinguished, and agritourism is considered "… a real agricultural activity connected to cultivation and breeding» (ISTAT, 2012, p. 2).

Moreover, it concerns a carefully regulated activity, different from rural tourism, for which there is no specific legislation: «agritourism represents the offer of hospitality by the farm that obtained the appropriate authorization and has adjusted its structure accordingly in order to have such an activity…», that is one or more typologies of agricultural activities, such as lodging, restoration, wine and food tasting and the organization, even the outside structure within the availability of the farmland facilities, «…recreational activities, cultural, didactic, sports, walking holydays or horseback riding, even through conventions with a local board, aiming at increasing the value of the territory and rural patrimony» (ISTAT, 2012, p. 9).

Already in the 5-year term 2005-2010 agritourism «has been confirmed as a typically Italian reality, different from rural tourism diffused in other European Countries. The close ties between agritouristic activities and comprehensive management of the farm qualify the sector as a fundamental resource of the agricultural reality of the Country» (ISTAT, 2012, p. 2). Now, even though the agritouristic activity seems to be up till now concentrated above all in Northern Italy, the South has recorded a notable increase; in particular Apulia between 2009 and 2010 records a +26.6% and, even with a slight decrease in 2013 (survey year of the most recent report available), it seems to be going presently in a highly positive direction in this ambit, in spite of the recent economical crisis. Another significant element that emerges from this sector is the remarkable amount

of female presence at the managerial level, equal to 49.8% in the South (ISTAT, 2014, p. 3).

The current era presents, therefore, new opportunities besides the critical situation, to create alternatives and interpretative renewed models that have even a political effect: new theories can arise from studies on tenability, on specificity and the territorial production systems and food consumption, regarding an ecocompatible agriculture.

For example, the various forms of organization, such as cooperatives, and the expansion of recourse to the denomination of origin of many products, favors the development of local chains of distribution of food products. These in turn encourage consumer fidelity, but even of producers, that become guarantors of the quality requested by the consumer; the regulation is given thus by the quality instead of a strictly economical criteria, but this requires an approach based on economic and social politics.

This implies that, apart from the polyfunctional role, the farms must try to regain at least some of the food production chain, in order to reduce the discrepancy of distance from companies, with more solid structures and with a stronger market pull, upstream or downstream the farm. The agritourism's capacity to attract both consumer and farmer (in particular women), seems to demonstrate it's being in tune with today's reality.

Attention and the search for explanations and intervention measures for these new realities compels one to investigate the differences based on the economic relations, and the challenge for agricultural politics, as for the farmers, is to find the way to reintegrate agriculture in the countryside, in the economy and in the rural environment from which it was thought to have detached itself during the productive modernization phase.

Consequently, politics, evaluation and research must become more sensitive towards the diverse ways with which the rural areas are integrated in the regional and national economies. One must consider the typology and strewn relational market for which rural areas take part. Moreover, aside which, areas connected by market relations can present unequal non-agricultural forms of development, associated with the increase of tourism, activities for spare time, new manufactured products and service activities. This means that coherent rural politics must reflect these differences (Nainggolan *et Al.*, 2012).

But this requires that the studious of the agricultural and rural world must apply themselves in order to know and comprehend more and more rural spaces and factors at the basis of their differences (Marsden, 1998, p. 270-273), attempting to approach the diverse themes, as much as possible, in a multidisciplinary viewpoint and therefore in collaboration with scholars of diverse sectors, as much current research in the Economical Geographical field attests it's being necessary, given the new and growing complexity of the economical and territorial systems (Aoyama, 2011).

The spreading of such awareness has probably contributed to the diffusion of researches into personal experience and the farmers' motivations, made in various international disciplinary sectors, taking the stance that observing the behavior of the single farmer in space and time, is necessary for comprehending above all cultural and social relations, in that the study of the structural conditions clarifies the economical and political influence on the agricultural system in a given moment. Both approaches are necessary for explaining the behavior of rural families, that is, if one wants to understand the alternative behavior, it is necessary to learn the individuals' attitudes regarding the agricultural activity, notwithstanding the undoubted difficulties of such a method of research (Fiori, 2012; Grillotti Di Giacomo, 2000 b).

Regarding the other farms of the agri-food industry, in fact, the agricultural one is always in a weak position in relation to its own clients, above all with the fresh products sector (even if, following an already advanced evolution in other European Countries, an always larger portion of the fruit and vegetable production is sold directly to supermarkets and big organized distribution, skipping the intermediate links of the commercial chain and recuperating thus a part of the added value). All the same, in order to reach the goal of better using the opportunities offered from the vertical coordination, agriculture must also continue along the lines of horizontal integration, through the cooperation and the associations, so that the associations assume the form of a real organized agency of the product (Malassis, Ghersi, 1995).

In effect, the competition inside Europe is increasingly delineating itself as a competition for contracts with chain supplies and related activities. The regulation is confronted with a competition between the farm and the diverse chain suppliers, and one can clearly see it in the food distribution field and the detail sector. The same concept of internal market is supplanted gradually by the development of unequal networks of supply chains.

This gives the space a new shape, where quality, choice and credibility become nodal points in the regulation of relations of associated market forms.

Final considerations

In the geographical field there is a tendency towards better define the space dimensions of changes made in the agricultural relations and representations, and which identity it corresponds with. It is interesting how, today even in other disciplinary ambits, there emerges an inevitable need to refer to the concreteness of territorial situations and to the multi-upgrading territorial phenomena (as it is obvious in geographical and in geo-economical research since a long time!); one example is made by the considerations of Keane (1997). He observes, in addition, that the principles of the "sustainable rural community" are the most adequate for development, but remembering Schumpeter's definition of development as "creative destruction", he predicts at a research level, as far as a political rule, and of the agricultural world in general, a major and fuller awareness of the "alternative cultures". Like other scholars, he believes that European rural development programs certainly require "control and coordination", even though "we all know that these are the least effective instruments for influencing decisions and behaviors" with respect to the incentives given to the best results.

Theory and practice demonstrate their difference just concerning this, he affirms, from the moment that a principle very much shared as this, it is difficult to apply, in that there has not been much work at making objective methods for evaluation processes and performance, necessary for delineating clearly the steps for accountability, but extremely difficult to do, as is very difficult to understand and define concretely the local development (Keane, 1997, pp. 175-176). The concept of multi-upgrading emerges implicitly from the affirmation that, because the rural areas and the local economies don't perpetuate in isolation, but are a part of a whole, if one wants to seriously predispose an integrated territorial approach, one must try to understand the processes that intervene and keep in mind, different from what many development programs do, that a taken action must be traced on at least two dimensions, the local one and the extra-local one.

In particular, in Italy, the agritourism realm demonstrates being in the clear as for growth and consolidation, but case-study is necessary time consuming and onerous, and a continuous agreement and networking between farmers, administrations and scholars, besides a real contact and awareness of the global world, so as to focus on interpretations and procedures, certainly not "precise", but however necessary.

References

Alfano F., Cersosimo D. (2009), *Imprese agricole e sviluppo locale. Un percorso di analisi territoriale*. Edizioni Tellus, Roma.

Aoyama Y. (2011), "Emerging Themes in Economic Geography: Outcomes of the Economic Geography 2010 Workshop". *Economic Geography*, 87, pp. 111-126.

Bessière J. (1998), "Local Development and Heritage: Traditional Food and Cuisine as Tourist Attractions in Rural Areas". *Sociologia Ruralis*, 38, pp. 21-34.

Borelli U. (2002), "Parole e fatti", *Impresa Agricola*, 23, p. 1.

Costato L. (2001), "Il diritto agrario: rana di Esopo o diritto alimentare?". *Nuovo Diritto Agrario*. Editrice Monteverde, Roma, 2, pp. 357-369.

Fiori M. (2012), *Identità territoriale per lo sviluppo e l'imprenditorialità. Applicazioni geoeconomiche di una metodologia quali-quantitativa*. WIP - Edizioni Scientifiche, Bari.

Formica C. (1996), *Geografia dell'agricoltura*. La Nuova Italia Scientifica, Roma.

Grillotti Di Giacomo M.G. (1998), *I Geografi Italiani e gli Spazi Agricoli*. Brigati, Genova.

Grillotti Di Giacomo M.G. (2000 a), *Atlante Tematico dell'Agricoltura Italiana*. Società Geografica Italiana, Roma.

Grillotti Di Giacomo M.G. (2000 b), *Geografia e agricoltura. Teoria e prassi nell'organizzazione degli spazi agricoli*. Kappa, Roma.

Grillotti Di Giacomo M.G. (2012), *Nutrire l'uomo vestire il pianeta. Alimentazione-Agricoltura-Ambiente tra imperialismo e cosmopolitismo*. Franco Angeli, Milano.

Grillotti Di Giacomo M.G., Moretti L. (Eds.) (1998), *Atti del Convegno geografico internazionale "I valori dell'agricoltura nel tempo e nello spazio*". Voll. I-II-III, Brigati, Genova.

ISNART (Istituto Nazionale Ricerche Turistiche) (2013; 2014), *Rilevazione annuale sugli esercizi ricettivi*. Anno 2013, pubblicato 11 nov. 2013, Anno 2014, pubblicato 11 febbr. 2015, www.istat/agriturismo.

ISTAT (2012; 2014), *Report. Le aziende agrituristiche in Italia*. Anno 2010, 19 gennaio 2012, e *Anno 2013*, e 10 ottobre 2014. www.istat.it.

ISTAT (2015), *Report. L'andamento dell'economia agricola*. Anno 2014, 18 giugno 2015. www.istat.it.

Keane M. (1997), "Rural and Local Development in Ireland: Exploring the Theory-Practice Interface". *Regional Studies*, 31, pp. 173-178.

Malassis L., Ghersi G. (Eds.) (1995), *Introduzione all'economia agroalimentare*. Bologna, Il Mulino.

Marsden T. (1998), "Agricolture beyond the Treadmill? Issues for Policy, Theory and Research Practice". *Progress in Human Geography*, 22, pp. 265-275.

Nainggolan D. *et al.* (2012), "What does the Future Hold for Semi-Arid Mediterranean Agro-Ecosystems? - Exploring Cellular Automata and Agent-Based Trajectories of Future Land-use Change". *Applied Geography*, 35, pp. 474-490.

Padilla M., Thiombiano T. (1995), "Consumo e domanda alimentari". In L. Malassis, G. Ghersi (Eds.), *Introduzione all'economia agroalimentare*. Il Mulino, Bologna.

Poon J., Thai D.T., Naybor D., "Social capital and female entrepreneurship in rural regions: evidence from Vietnam". *Applied Geography*, 35, pp. 308-315.

PUGLIAPROMOZIONE (2012), *Il turismo in Puglia nel 2012-2013 e le prospettive di crescita al 2020*. In E. Daluiso (Ed.), www.agenziapugliapromozione.it.

Ray C., (1998), "Culture, Intellectual Troperty and territorial Rural Development". *Sociologia Ruralis*, 38, pp. 3-20.

Rocca G. (1998), *Dal prototurismo al turismo globale. Momenti, percorsi di ricerca, casi di studio*, G. Giappichelli Editore, Torino, 2013.

Schifani G. (2001), "La ristorazione pubblica biologica in Italia: attivazione di mercati locali e ricadute sociali, economiche e ambientali". *Economia Agro-Alimentare*, 6, pp. 71-88.

Scoccini E. (2001), www.cia.it, p. 9.

Serpieri A. (1956), *Istituzioni di Economia Agraria*. Edizioni Agricole, Bologna.

Shucksmith M., "Endogenous Development, Social Capital and Social Inclusion: Perspectives from LEADER in the UK". *Sociologia Ruralis*, 40, pp. 208-218.

Simoncelli R. (2000), "L'evoluzione del mondo rurale e gli emergenti riflessi geografici". *B.S.G.I.*, serie XII, vol. VI (2001), pp. 31-38.

Vallega A. (1989), *Geografia umana*. Mursia, Milano.

Valeria de Marcos

Peasants and the production of food: new values and ways of thinking about the relationship between food, agriculture and the environment[1]

Abstract

In the twenty-first century, the countryside has been characterized by advances in the production of commodities on a large scale based on a large estate model, production highly adapted to the technical and technological packages of the Green Revolution, and the use of a small, at all times wage earning, workforce. Another characteristic that has expanded in recent times has been that of the presence of large corporations – of seeds and inputs – in controlling the direct production of farm products, and often, subsequently, going on to market them.
This production model, which is highly encouraged by Latin American States, has resulted in the imposition of an increasingly less diverse model of food production, characterized by the imposition of the capitalist logic of the pursuit of profit at any cost, and the privatization of seeds, land and water (Vivas, 2009), which ultimately ends up resulting in an increasingly defined process of genetic erosion (Porto Gonçalves, 2006).
The imposition of this model eventually resulted in a crisis for many peasants, from which another production model emerged based on the production and dissemination of native seeds, the diversification of varieties made from agro-ecological farming practices, and direct commercialization by means of agro-ecological fairs or solidarity purchase groups. Two opposing models are to be considered here, which have highly differing results on the countryside and the perspectives they hold on the future are quite different from each other; these are the models to be analyzed in the present article.

Keywords: *Peasants, Production of food, Agriculture, Environment.*

Introduction

As is widely known, the countryside in the twenty-first century – especially that of Latin America – has been characterized by advances in the production of commodities on a large scale, carried out on large estates, and highly adapted to the technical and technological package of the Green Revolution which was introduced to Latin America in the 1970s; it is further characterized by the spread of a pattern of agricultural production highly dependent on chemical inputs, little diversification, with a high concentration of land and the use of a small, at all times wage earning, workforce. Another characteristic to have expanded in recent years – while not hegemonic – is that of the increased presence of large corporations – of seeds and inputs – in controlling the direct production of farm products, and often, subsequently, going on to market them. This insertion has come about through the purchase or lease of large tracts of land in several Latin American countries, and especially in Brazil, whose case we consider in this article.

This production model, which is highly encouraged by Latin American States, has resulted in the imposition of increasingly less diverse types of food produce, characterized by the high concentration of capital and land in the countryside, the increasing presence of large agribusiness corporations monopolizing the production process in part or entirely, the imposition of the logic of the capitalist pursuit of profit at any cost, and the privatization of seeds, land and water (Vivas, 2009). Large petrochemical companies such as Monsanto, Bayer, Dupont, among others, gradually started to diversify their lines of action, and, apart from selling fertilizers and pesticides, began to devote themselves – starting with mergers or the acquisition of other companies – to the production of genetically modified seeds and the sale of sealed packets of seeds, fertilizers and pesticide seeds. This practice eventually triggered a process that Porto Gonçalves (2006) classified as *genetic erosion* and gradually went on to establish peasants' growing dependency in relation to these companies.

The imposition of this model eventually resulted in a crisis for many peasants. The combination of the high prices of inputs and a lack of clarifica-

tion regarding the need to purchase the complete package – seeds, pesticides and fertilizers – to obtain the guaranteed results caused many peasants to only buy part of the package – the seeds – damaging the performance of the crops.

Alongside the expansion of the production of commodities, the expansion of the production of crops for agro-energetic purposes also had an impact in reducing the area used to cultivate food destined for the domestic market and consequent supply of such food products for that market area. This combination of factors eventually resulted in the so-called "food crisis" of 2008, due to an increase in the prices of products on the market. At the time, the trigger of the crisis was the choice made by the United States to produce ethanol from corn, using part of that year's harvest to begin production, without the necessary increase of its production having taken place. The reduced supply of the product for human and animal foodstuffs raised its price on the world market and, consequently, increased the demand for substitutes, which in turn generated a 'domino effect', raising the price of various other products on the world market.

However, this fact, while true, only explains part of the crisis of that year. Another part of the explanation must be sought in another event that took place in 2007 which was not directly linked to agricultural production, namely the mortgage crisis (subprimes) experienced by the United States. This crisis ended up displacing investments hitherto made in this sector for the agricultural and oil markets, which contributed to the rising price of food and supplies in 2008. It is worth highlighting that the rise in prices was largely caused by speculation; in effect, those who had the products available held onto them in anticipation of the "best" price. This was only possible because many of the countries adhering to neoliberal policies had reduced their regulatory inventories, thereby leaving the market to self-regulate. Speculation on food ended up increasing food prices to unsustainable levels and without the buffer stocks of the States, speculators could recoup some of their losses at the expense of the people who needed to acquire food. The result accounted for the approximately 925 million hungry people in the world that year, a figure that has continued to grow over the years, despite the stabilization of the production of goods[2].

With the crisis playing itself out, and the increasing subordination of small farmers in relation to large companies, another production model emerged, based on the production and dissemination of native seeds, the diversification of crops made from agro-ecological farming practices, and direct commercialization by means of agro-ecological fairs or solidarity purchase groups. There are also cases in which the production or, more frequently the commercialization, is carried out collectively, through the organization of peasants into cooperatives, associations or collectives. This concerns two opposing models, which have highly differing results on the countryside and the perspectives they hold on the future are quite different from each other. Understanding the paths of this crisis and the alternatives that country-dwellers come up with in order not to get carried away by it, is what we will do next.

The "food crisis" and the model of large corporations

Several factors influenced the rise of food prices and, in particular, the continued high levels of prices. From a *contextual* point of view, the problems that directly affect agricultural production can be highlighted, such as drought or other weather phenomena; increased meat consumption in Latin America and Asia; increased cereal imports by hitherto self-sufficient countries and the decrease of grain stocks in national systems. However, beyond these *contextual* factors we find structural issues which were at the heart of the crisis being experienced. One factor was the very crisis of the model imposed by the Green Revolution which while on one the hand has resulted in the process of the modernization of agriculture and increasing agricultural production, on the other it has failed to solve the problem for which it was created: the problem of hunger in the world.

Another, no less important factor is that of the effect of neoliberal policies initiated in the 1990s, and still in force today. The numerous rules imposed, above all on developing countries, contributed decisively to the crisis being experienced in the present day. In terms of agriculture, it is worth highlighting that the neoliberal prescriptions for developing countries[3] included; the removal of subsidies for basic goods and the reduction of food inventories that make up the basic basket of various countries; increased exports of primary products (and the consequent increase in the area occupied by commodity-producing monocultures), followed by the reduction of agricultural production for the local market, and the lowering of customs barriers for foreign trade; a policy with major repercussions on the local economy. This, combined with

free market regulation, facilitated the entry of European and American agricultural products – both subsidized despite recommendations to the contrary by the World Trade Organization (WTO) – in the markets of developing countries that have chosen the neoliberal prescription.

The neoliberal prescription ends up transforming countries that were previously food exporters into food importers, which puts local agriculture in a state of crisis, especially that of peasants targeting the domestic market. If, initially speaking, the prices of products are convenient from an economic point of view – disregarding the impact that the imports, in offering domestically produced products at lower prices can have on local producers – once the change is consolidated, the country ends up in the hands of suppliers, usually large multinationals. With the monopoly of the market guaranteed, supply and prices are subsequently dictated by these large groups, subordinating the countries to their food policies, which can end up jeopardizing their food security policies.

Those who benefit from this situation are the multinationals, which, through a series of purchases and mergers, come to control the different stages of the production process; from the production of seeds to the sale of fertilizers, pesticides, industrial processing, distribution and the commercialization of food. By closing the loop and allying themselves with potential competitors, thereby ensuring a monopoly on the market, these companies determine much more than the price of food: they determine what we consume, what we buy, and, worst of all, how the production process takes place. As the capitalist logic of seeking the greatest possible profit is the one that predominates, the strategy for achieving this end is that of producing cheap food. From this perspective, the concern for quality – with regard to security, human health risks (for worker and consumer) and the nutritional characteristics of food – loses ground to the cheaper cost of production.

This whole process occurs through; agreements between political elites and international institutions, benefits offered by states for the establishing of large multinational companies in their territories, the spread of "studies" that only consider the advantages of the implantation or spreading of certain cultivars, the lobby for the liberalization of such crops – particularly with regard to GMOs – and international recommendations for greater liberalization of the market.

The fact is that today we are experiencing an unprecedented crisis, which started in 2008 and has yet to come to a close. It is a multifaceted crisis: an economic, financial, energy-based crisis – caused by the dependence on fossil fuels and fossil fuel inputs – a biodiversity crisis – caused by the disappearance of animal and plant species due to the standardization of production and degradation of ecosystems – and a labor crisis, among others. Despite this crisis, the model of agriculture based on the *intensive use of land*, of evermore *industrial* character (marked by heavy use of mechanization and industrial inputs and by increasing enforcement of the logic of industrial production), greater *mileage* (due to the long distances that products must travel to reach the consumer's table, the result of more 'favorable' production conditions, in other words, lower prices) and *oil-dependency* (both for production and for the distribution of goods) continues to reign (Vivas, 2009).

Such a model, in order to achieve some "success" requires the investment of a large amount of capital in the production process which controls much of the production line, that is, from the production of inputs to the commercialization of fresh or processed food. Such a condition is restricted to a very small number of large corporations that, through mergers and acquisitions, can control all stages of the line – from seed production to the commercialization of raw and industrially processed food – or agribusiness capitalists, who, by virtue of having large quantities of products, can negotiate lower prices, reducing the exposure of land income to commercial capital. For the majority of those who produce food not directly intended for the internal market, subordination to large corporations and subordination of land income to capital occurs both at the time of the purchase of inputs as well as at the time of the commercialization of food, not to mention when finance is needed to be able to continue producing. This situation creates a cycle of dependency which is hard to leave without making a loss, and the condition in which the freedom of production is, paradoxically, the increasing subordination to big business.

To escape this cycle of dependence and subordination and seek independent paths of production and commercialization of food, peasants organized in social movements or in small groups have sought alternatives to these hegemonic practices, which conceive a different logic in organizing production and commercialization, which, in turn, also involves control of the whole production line, that is, everything from the production of seeds and inputs to the marketing of food. These are practices that involve the production and storage of native seeds, production from an agro-ecological base, and the commercialization of produc-

tion at agro-ecological fairs and/or fair trade networks, based on principles of solidarity economy, and, in some cases, the collective organization of production and/or commercialization. In some cases all the stages of the production process are interconnected, in other words, the same peasant (or group) has – or participates in creating – a bank of native seeds, and produces and markets the products according to either principles of agroecology or solidarity, generally through some form of collective organization. In other cases, these three stages are realized through networks; in effect, those who produce the food access the seeds from a bank of native seeds – and also sell – and/or deliver their production to be put on the market at agro-ecological fairs or solidarity consumer groups. In yet another example, participation might be limited to one step, the most common being the agro-ecological production base. Such practices are found across different parts of Brazil but not Brazil alone, and this is what we will now consider.

The foundations of the peasant project for the 21st century

Before discussing the peasant practices as another form of organization of production and commercialization, it is necessary to understand on what basis the peasants organize their production, in other words, the logic and the principles which guide them. Unlike capitalism, which organizes its production in order to obtain profit and collect income from the land, the peasant organizes his production in order to meet the needs of his family. Even if inserted in the capitalist mode of production and commercialization in the capitalist market, it is not the logic of the capitalist organization of production and commercialization that guides him. This means that in situations where the capitalist would stop producing because profit is not guaranteed, the peasant still produces because he hopes that the income from the sale of what he produces will guarantee the satisfaction of the needs of his family. There may be cases where, due to situations beyond his control, the proceeds from the sale of what he has produced do not guarantee that objective. This subjects him to a crisis, but not necessarily bankruptcy. This difference stems from the fact that, firstly, a peasant is unlikely to only produce one type of farming produce. Instead, they usually have a low level of specialization, which equates to greater diversification of production. This characteristic allows them to rely less on the market to purchase products they consume and, more importantly, to have a greater variety of products to offer to the market, which reduces the impact of obtaining low prices through the commercialization of a particular type of agricultural produce as the difference can be met with the commercialization of another type of agricultural produce at a lower price; while the reduction of the proceeds from the sale may not necessarily prevent access to the goods and products required to meet the needs of the family since they would usually produce some of the foodstuffs that they consume directly. Ultimately, the crisis may imply a reduction in spending over the following year until the situation returns to normal, but is unlikely to lead the peasant to immediate bankruptcy.

Another important characteristic of the peasantry, and one that is at the heart of the organization of production, is that of the *family-orientation* of the workforce and ownership of land and means of production (Chayanov, 1974; Shanin, sdp; Tavares Dos Santos, 1978; Martins, 1990, 1991 and Oliveira, 1991). In fact, these are the two pillars on which peasant production is founded. They are the guarantors of this diverse organizational logic of life and production. Family workforce is the labor system by which this form of organization of production comes to life. It is from the family sphere – their needs and the availability of workforce it offers – that the peasant organizes their production, choosing which products to grow – those intended for the market and those intended for family consumption – the extension of the area for cultivation and the number of family members needed to tend to it. A balance is always under consideration between the needs of the family and the fatigue induced by the work, and the possibility of achieving that balance depends on the increase or decrease of self-exploitation of the workforce and meeting the needs of the family (Chayanov, 1974).

All family members are equally important to the progress of activities, as, within the domestic family group, no family member or productive activity can be considered more or less important. There is a sexual division of labor: men perform activities that require more physical strength, while also being responsible for contact with the market, with the commercialization of the product; women are mainly occupied with housework, raising children, tending the garden and the orchard in the backyard, family care and ensuring family members' well-being. Children start to work from a young age: boys follow the father and

girls follow the mother in productive activities. What starts as a "game" slowly progresses, until they are able to take responsibility for the whole or part of a particular crop, rearing or production cycle. When necessary, women, and younger sons and daughters complement the work of the men.

Agricultural and animal rearing activities complement each other and, in the case of peasant communities living in the vicinity and/or placed in an area where forest still exists and can provide for the community, they also engage in foraging activities. In some cases they still produce their own tools or various utensils for personal use or sale.

Furthermore, socializing with the community has an important role, from which the supply and/or receiving of aid through joint effort or exchanges of days of service occurs. Socialization also takes place at the congregation in the church, during games of bowls and football matches, and the meetings and celebrations of the Church and/or the Association; what with community life and exchange between neighbors being another important pillar of peasant life.

It is from this diverse and pluralistic universe that the practices we will now consider emerge, in opposition to the logic of the capitalist organization of production and commercialization. From the production and control of seeds, to production and commercialization in agro-ecological centres, peasant farmers have shown the possibility of imagining another project for the countryside of the 21st century, free of genetically modified seeds, standardization of cultivars and the subordination of the land's income to capital.

The peasant project for the 21st century

Native seed banks

Among the many practices of organizing production developed by peasants, that of producing, storing and exchanging ***native seeds*** is undoubtedly the most important, as it ensures full autonomy in relation to the control of seeds used to grow food produce whether it is for personal consumption, or for commercialization. The peasants who produce and cultivate them are true ***guardians of the seeds and biodiversity*** and, in acting as they do, contribute to reducing the effects of genetic erosion caused by the homogenization of cultivars imposed by large corporations and their "improved" seeds. Nevertheless, the fact that these banks are now officially recognized is due to the organization of peasants in various social movements and organizations to reverse some of the effects of the new Brazilian Law of Seeds and Seedlings (10,711/03) of August 2003, promulgated in substitution of that of 1977 (Londres, 2014). The 2003 law was the result of the aspiration of seed producing sectors and private companies involved in research on new cultivars and/or genetic improvement and its main innovation was that of encouraging private investment in research, facilitating the private concentration and control of the seed sector. The Law went on to classify the so-called commercial seeds in six different types[4], with the objective of forcing the continuous purchase of basic or certified seeds, consolidating the dependence of food producers in relation to seed producing companies (Londres, 2014).

The changes made in the Law stimulated the organization of civil society sectors seeking changes in law to create recognition of the existence and value of ***native seeds***, allowing for their production, trade and use. These efforts ensured important results such as the recognition of the existence of native seeds (Art 2, XVI.), formerly considered grains; permission for peasants, agrarian reform settlers and indigenous people to multiply seeds and seedlings for sale or trade among themselves (Article 8, § 3.); the exemption from registration with the Ministry of Agriculture (Art. 11, § 6) and the prohibition of restrictions on native seeds on financing programs or public programs (Art. 48) (Londres, 2014).

Despite these achievements, the Decree regulating the Seed Law (5,513/2004), being more restrictive than the Law, hindered the commercialization of seeds by peasants' associations or cooperatives. This problem was only resolved in 2012 when the 7,794/2012 Decree created the National Policy on Organic Production and Agroecology (PNAPO). In its Article 12, the Decree made the exemption from registration with Renasem[5] for peasants and other categories of household scale clear, not only for *distribution* but also for *exchange and trade* among themselves; thereby removing the obstacle preventing cooperatives and peasants' associations from trading seeds with non-cooperative members/associates and making the possibility of trading with other units of the federation clear (Londres, 2014). The problem of access to Family Agriculture Insurance (SEAF)[6] is yet to be resolved under the National Program for Strengthening Family Agriculture (PRONAF). The insurance in question aims to cover 65% of the expected revenue of the funded tillage, avoiding bad debt for peasants in the case of crop failure[7]. Although the Decree prevents the restriction

of financing programs for projects that declare the use of native seeds, to this day farmers who use native seeds in their crops do not have access to SEAF, and in cases of crop loss, can become insolvent and unable to access new credit until the debt is cleared[8].

Despite all these difficulties, there are now many ***native seeds banks*** which have been created and organized in different parts of the country, which are of larger or smaller size, and maintained by family groups or created and accessed by a larger peasant group, the so-called **Community Seed Banks**. It is possible that the same peasant has his family seed bank and also participates in the community group, which he would normally use when his stocks are insufficient to guarantee produce in the next harvest. In some states of Brazil, such as Paraiba, the **Community Seed Banks** are organized in terms of region and state, which allows for a greater number of peasants to visit these banks. To this end, so-called **Mother Banks** are created, and usually located at the headquarters of the Rural Workers' Unions (STR). These are support structures for the **Community Banks,** which receive and store an annual quota provided by member Banks, thereby working as a supply centre (LONDRES, 2014).

With regards to the mode of operation of the **Community Seed Banks**, there are essentially two forms of organization. One is the system created in Paraíba, Northeast Brazil, named the **Passion Seed Bank**[9]. Its aims are the rescue, reproduction and storage of ***native seeds*** and the combating of hybrid and genetically modified seeds, ensuring peasant autonomy.

In the Acauã settlement, located in the municipality of Aparecida, PB, in the Alto Sertão[10], the **Seed Bank** – the third of Paraiba[11] – began to operate before the land was even occupied, with eighteen families each deciding to deposit five kilos each of selected beans and ten of corn, in the **Seed Bank**, in order to guarantee the planting of seeds the following year. From then on the practice has only expanded.

Beans, corn, rice and sesame are the main seeds which are stored. The rules of the **Seed Bank** are established by a statute and may vary from location to location. In Acauã, the Statute calculates that each seed withdrawal from the bank is repaid with an increase of 20% for corn and 10% for beans. The goal is to increase the amount of stored seeds to help a larger number of peasants. When the associated peasants cannot pay off the debt in one year, they can do so the following year, with no increases. Unsettled debts may jeopardize the operation of the **Bank**, whose conduct falls under the responsibility of a committee approved by the Assembly of the Association of Settlement, which serves for a term of two years.

Another example of the operation of Native Seed Banks is that of the Union of the Country Community Associations in Canguçu-RS (UNAIC), which was created in 1988 and brings together 50 community associations of Canguçu. The Union's Native Seeds programme, created in 1997, gained momentum in 2002 following the allocation of a specific space for the bank, at the headquarters acquired in 2000. Since it began, the Bank has had two aims, one *commercial* in aiming to be an income alternative for its members, and the other *social*, in aiming to preserve species of cultural importance to the communities involved. Initially about 40 families were involved in the new phase of the planting and multiplication of native seeds in Canguçu (SARAVALLE, 2010). In order to access the public state programmes such as *Swap-Exchange*[12] UNAIC registered with the Department of Plant Production (DPV) of the Secretariat of Agriculture, Livestock and Agribusiness of the State Government of Rio Grande do Sul (SAPA / RS) as a producer of specialized seeds, signing an agreement with the Federal University of Pelotas (UFPel) to use the Seed Processing Unit. Participation in the Swap-Exchange program enabled the preparation of a project for the construction its own Seed Processing Unit, which took place in 2001.

Seed production is carried out exclusively by peasants associated with UNAIC on an individual basis, and the commercialization is undertaken collectively by UNAIC, with the value – which is decided in meetings which happen twice a year – passed on to the peasants in accordance with the quantity and quality of the seeds provided. Commercialization takes place with or without associates, both locally and in other regions of the state and Brazil (Saravalle, 2010).

At the Processing Unit the seeds pass through eight steps: **1. technical monitoring** of the peasant seed producers at three different stages, two in the field – immediately after planting and at the time of flowering – and at the headquarters of UNAIC; **2. trailing**[13], the third stage of technical support, which consists of cleaning and preparing the machines in order to avoid contamination of seeds, followed by the labelling of bags in which they are stored, with data on the variety and the producer's lot identification number; **3. germination tests**, carried out to verify whether or not the seeds will be processed[14]; **4. pre-cleaning of**

grains carried outin a hopper to separate the impurities from among the seeds; **5. drying** in a silo dryer, where the seeds remain at a constant temperature of 42ºC until their humidity reduces to 13%; **6. classification of grains** also carried out mechanically, by type and size; **7. grain separation** on a gravity table, through which the seeds are separated in terms of impurities, transfers, and those which are approved; **8. purging and packaging**, in accordance with the requests to be met[15] (Saravalle, 2010).

With regards to the conservation of germplasm, UNAIC adopts two different strategies: *ex situ* conservation, which consists of conservation removed from the location where it develops naturally – in local or chilled chambers with low levels of humidity and oxygen[16] – and on farm conservation, which consists of the sustainable management of varieties of traditional crops with wild and herbaceous species developed on a local basis by peasants in agriculture, horticulture or traditional agroforestry systems (Saravalle, 2010).

Agro-ecological crops

Another dimension of the peasant project for the twenty-first century is that of agricultural production through agro-ecological principles. Created through Agroforestry systems, in the forms of mandalas or through traditional beds, these practices require a different organizational logic and a different treatment of production which in turn also ends up triggering changes in the ways in which production is commercialized.

The guiding principles of agroecology hold the general perspective of understanding property as a complete agricultural ecosystem, in which traditional agricultural practices and innovative ideas, secular knowledge and the discoveries of modern science engage in dialogue on equal terms. Its main purpose is to search for socio-environmental solutions to modern problems faced by agriculture, from distinct and complex socio-cultural realities. Moreover, in a broader perspective going beyond the technical dimension, the inclusion of the socio-cultural dimension means that relationships within the family and with external actors – generally consumers – also undergo a gradual process of change. The three main references on the subject are Gliessman (2001), Altieri (1989) and Guzman (2000), each bringing a different perspective relating to their different backgrounds, and, in practice, putting forward different ways of understanding and practicing agroecology.

Gliessman (2001), a qualified ecologist, occupies the middle ground between pure ecology and applied ecology, based on the observation of traditional knowledge regarding agricultural management as being responsible for bringing ecology and agriculture together, especially that which is practiced on small farms. From this perspective, agroecology is understood as: "the application of ecological principles and management practices in the design and management of sustainable agro-ecosystems" (Gliessman, 2001:54). His understanding of agro-ecosystems: "a place of agricultural production – an agricultural property, for example – understood as an ecosystem" (Gliessman, 2001:61), enables a complex analysis of the food production system, including all the structural components of an ecosystem and their relationships, which results in the agricultural system being understood as something greater than the sum of its individual cultures. The diversity[17] of an agro-ecosystem is considered the main strategy for sustainable management, as it strengthens links between species and leads to reduced human interference and inputs, thereby achieving ecological stability more quickly. The sustainability of an agro-ecosystem is, in turn, understood as "the condition of being able to perpetually harvest the biomass of a system, because its ability to renew or be renewed is not compromised" (Gliessman, 2001:520). By aligning ecological components with social ones, the understanding that sustainability will only be achieved through changes in the relations of production that enable autonomy or independence from the capitalist market is deepened. Yet, the main focus of his theoretical construction is the ecological dimension, which results in the "human species" being seen as a "regulatory species" of the ecological processes (Biase, 2010).

Altieri (1989), qualified as an agronomist, contrasts agroecology with the agricultural modernization model, conceiving it as a counterstrategy of "autonomy and sustainable economic development". To this end, he emphasizes the importance of developing technologies appropriate to local ecological and socioeconomic realities on the one hand, and on the other, the need for the production system's full compliance with the principles of sustainability. From a techno-agronomical perspective which maintains ecological aspects at the centre of the discussion, Altieri realizes the politicization of agro-ecology, going on to define it as:

> a scientific discipline that focuses on the study of agriculture from an ecological perspective and a theoretical framework whose purpose is to analyze the ag-

ricultural processes comprehensively. The agro-ecological approach considers agricultural ecosystems as core units of study; and within these systems, mineral cycles, energy transformations, biological processes and socioeconomic relationships are investigated and analyzed as a whole (Altieri, 1989:26).

Based on the principles of *biodiversity* and the *ecological balance of the ecosystem* he considers the management of natural and productive resources and identifies methodological elements related to agro-ecological procedures focused on the *optimization of the farming system*. His intention is not, however, to identify an "agro-ecological package" to replace the "green revolution package". On the contrary, he encourages the creation of "appropriate technologies", adapted to local ecological, agronomic and cultural realities. As a source of extensive experience in the field, his examples allow the reader – and in particular the technician/peasant who works within an agro-ecological framework – to gain insights, and examples to follow, as opposed to prescriptions to follow or a list of steps to be fulfilled.

Altieri also goes on to point out the need for a deep understanding of the reality experienced by peasants – in their ecological and socioeconomic dimensions – so that the proposed technology can be effectively appropriated. He therefore proposes the creation of differentiated rural extension methodologies, conducted by multidisciplinary teams capable of in-depth understanding of the social, cultural, economic, ecological and technical dimensions of the reality in which the interventions will be made. Altieri, with his agronomic reading of agro-ecology, searches the realm of traditional peasant knowledge for the necessary components to develop technologies appropriate to the economic reality and the agricultural ecosystem; wherein lies his most important contribution.

Guzmán (2000), of a sociological background, includes a socio-anthropological dimension in his discussions of agroecology, which immediately relates to studies of the peasantry. He seeks to establish symmetrical exchanges of knowledge between the natural sciences and human sciences, and especially between intellectuals and peasants. The need for proximity to the peasant results in the central concern of his proposal being that of in-depth knowledge of local realities – with special emphasis on the cultural and social dimensions – so that the local knowledge of the peasants is not only valued but also viewed as the main basis from which the proposed lines of action/intervention should be created.

Guzman develops his conception of agroecology from the convergence – on equal terms – between the ecological, agronomic, economic and socio-cultural dimensions of sustainable agriculture; criticizing discussions which in limiting themselves to the technical and environmental dimensions also restrict themselves to the development of ecological techniques of agro-ecosystem management, disregarding – or devaluing – the socio-cultural aspects inherent in such techniques. For him, the epistemological foundations of agroecology should be based on the study of the production and reproduction of different societies' relationships with nature, since in ecosystems managed by men, the movement recognized inside them is the result of a *social construction*, the result of the transformations of the relationship between nature and society over time, especially in those established by peasants in rural communities; the nerve centre of his theoretical elaboration. From this perspective he denies the value of any form of intervention that comes from "outside" and does not consider this dimension.

As we can observe, there is a convergence between the three ways of conceiving agroecology, namely the need for valuing *diversity*: the ecological for Gliessman, the technical for Altieri and the sociocultural for Guzmán. Although they all point to the need for a complimentary relationship with the other dimensions, they end up prioritizing one element over the other, and this stems from their very formations. The challenge to achieve what is termed *complete agroecology* (Biase, 2010), is to reconcile these three dimensions of diversity without one imposing itself on the others. For this to materialize, it is crucial that a major change in attitude on the part of those who will interact with the peasant communities takes place. It is necessary for technicians, agronomists, and extension workers, apart from talking, to learn to listen, and to respect differences and to collectively construct knowledge regarding new production practices *with the peasants* and not *for the peasants*. In other words, *another complete agroecology* will only emerge when technicians, agronomists, and extension workers – regardless of what qualification they hold – also develop different ways of relating to the peasant communities with whom they interact.

Agro-ecological production through the Mandala

By way of example we present the experience of agro-ecological production through *mandalas*, present in various areas of rural settlements and

rural communities throughout Brazil, with special concentration in Paraíba, considered the perfect setting to become the main operating area of the ***Mandala Agency***, the Civil Society Organization of Public Interest (OSCIP) that idealized it. The first *mandala* experiments were carried out in the Acauã settlement, as chosen by Willy Pessoa, then consultant of SEBRAE-PB, to check the feasibility of his idea. After several meetings a small group of peasant decided to accept the challenge of putting the idea into practice and making the necessary adjustments. The first *mandala* was built in the yard of the headquarters of the Association by a small group of peasants and served as a reference for the others built in the yards of each of their homes. The mistakes and modifications in the search for its improvement was part of a building process between peasants and technicians, being gradually incorporated into subsequently built *mandalas*[18].

The minimum area required for the implementation of a *mandala* is ¼ hectare. A location close to home must first be chosen for its construction. The centre of the area where it is intended to be constructed will house the tank to store water for irrigation, and it is dug in funnel-shape and covered with cement. Fish, ducks and teals are reared in this tank to enrich the water that will be pumped to the beds. 2m should be left between the edge of the tank and the flower beds. The area is surrounded with a wire screen to prevent the ducks and teals from moving between the beds and ruining the crops. Within this enclosure is a nest for the ducks, the tank for the production of fertilizer, and an apparatus with hoses which takes water to the beds through a low pressure pump.

The water is pumped from the tank to irrigate the circular beds through perforated hoses, in which swab rods, cables or plastic chair stuffings are inserted and act as sprinklers. One of its ends is attached to the hole and the other is flame-sealed. The jet of water comes out of a cut made in the side of the swab, in any direction, activated by simply turning the rod[19]. Each circle has a hose to irrigate it and two faucets, each covering half of the circle. The distance recommended by the agency is of 1m between the holes, but experience has shown the need to reduce them or increase them, depending on the amount of water that the crop requires.

The circular beds are built around the tank's sealed enclosure. The width of the bed is 1.20 m to allow for harvesting without trampling. The first three circles correspond to the so-called "*circles of life*" and are to be used for growing vegetables for family consumption. The five following circles (from the fourth to eighth) are intended for commercial crops. The ninth circle should be cultivated as a "hedge" to protect the mandala from the wind as well as from foreign pollination. Each construction site must have the widest possible range of cultivated varieties, alternating vegetable patches with fruit trees, medicinal plants, herbs and flowers whose function is to attract insects that can control or repel harmful pests/insects. The following are used as fertilizer: manure, compost, mulch and biofertilizer, usually made from cattle manure, ashes, dead matter, milk, whey, sugar, cattle urine, tobacco, lime and water, fermented for 30 days and then strained and sprayed on crops, once or twice a week. The periodic spraying of the beds, cultivation of plant repellents, and crop rotation to prevent the weakening of the soil are practices to enrich the soil and at the same time *prevent* the outbreak of possible diseases, within an agro-ecological framework.

Commercialization through agro-ecological fairs and solidarity purchase groups

With the resolution of a problem, the doing away with subordination relating to the technological packages imposed by the Green Revolution, another challenge makes itself felt: that of breaking out of the subjugation of the land's income to capital as occurs through subordination to the capitalist market. Direct sale to the consumer is undoubtedly the solution at hand, be it through agro-ecological fairs, or by selling to solidarity purchasing groups. Such a way out, however, requires an organization of peasants which exceeds the limits of a family organization, as it requires a diversity, quantity and continuity in the supply of products to consumers that a single family is not usually able to guarantee. These solutions are always collective, requiring commitments and respect for collectively defined rules in order to work. These practices find countless examples here in Brazil. As an example of its operation we shall present two cases we followed – the UFPB agroecology fair, located in João Pessoa-PB and two solidarity consumer groups through the Seeds of Peace Network and the Consumer Cooperative Comerativamente at USP in São Paulo-SP.

The UFPB agroecology fair

The choice of agroecology made by the peasants of four areas of rural settlements of the Paraiban Zona da Mata land area – Dona Hele-

na, Padre Gino, Rainha do Anjos and Boa Vista/ Ponta do Gramame – stemmed from the need to seek alternative paths for commercialization. A discussion had begun in the late 1990s with representatives of peasants, secretaries of agriculture, the mayors of municipalities where the settlements are situated, representatives of the Bank of the Northeast, EMATER and the University. Avenues for overcoming the difficulties of production outflow were sought, with various ideas being proposed, such as selling to schools, kindergartens and hospitals and using itinerant trucks for sales, which gained little support. The idea of creating a Supply Center of Settlements, wherever direct sale of produce was possible, was quickly accepted. It was taken as far as identifying a location, by the BR 101 that connects João Pessoa to Recife, but another obstacle quickly appeared: the limited quantity and diversity of products offered by the settlements, which resulted in the idea being abandoned. The possibility of using an abandoned area near the site of the fair held in Sapé so peasants could exhibit their products was raised, but the city hall did not follow up the referrals. A fair in Santa Rita came under consideration, also without success. The difficulties led to reduced participation in meetings, which nevertheless continued to take place. At this point awareness of the need to seek new options emerged; that of offering different products in an equally different market.

Diversifying production was the first step taken. The next step was the most important: the opting for another means of production, agro-ecological production, a decision taken after a visit to experiments being carried out in Santa Maria-RS by a representative of Cáritas, where the group which was interested in the idea visited. Resources were requested from BNB and the Bank of Brazil, but the response was negative. The group did not give up and started to dedicate itself to the agro-ecological growth of vegetables with its few existing resources.

It took a few years for the situation to consolidate itself. In 2000 further steps were taken. The implementation of workshops on commercialization, which considered aspects relating to public relations, served as preparation for dealing with consumers. The exchange of products for other products among peasants was also encouraged, so that there might be greater diversity of food to consume for all, without compromising the proceeds from sales, a concept that was very well received. In 2001, Cáritas made a loan of R$ 6,000.00 so that the commercialization process could begin. The first stalls were created, and in November 2001 the first "*Agro-ecological Fair*" was held in a public square near the Mangabeira market, in one of the largest low-income neighborhoods in João Pessoa-PB

Another five or six other fairs took place in Mangabeira, but progressively less money was raised through these fairs. The group decided to bring the experiment to a halt to assess the reasons for its failure. In 2002, with support from the Federal University of Paraíba (UFPB), the fair moved onto Campus I, into the parking lot next to the Central Library, where it takes place to this day[20]. In 2004 an association was created for the fair, *The EcoVárzea Association of Agro-ecological Farmers in Paraiba*, whose aims are to; unite the peasants who opted for agro-ecological agriculture, guaranteeing the continuity of production and the commercialization of members' production; create new production outflows; strengthen the peasants' self-management and act as an intermediary in the development of projects which aim to improve the conditions of its associated members. The fair currently consists of 20 stalls and over 40 peasants are directly involved in running it, not counting those who participate indirectly. The peasant-farmers participating in the fair make a weekly contribution to the "fair fund" to cover any expenses for its maintenance[21]. The experiment was a success and the example was initially followed in the form of the Alto Sertão[22] settlements which in turn stimulated new projects in other places in Paraíba. Today there are about twenty fairs distributed in different municipalities across the state (SANTOS, 2010).

What is new about these fairs? It is hard to order key points. The peasants stand to benefit and offer society safe, agro-ecological products, grown without pesticides and using cultural practices that respect the environment. They are products of agrarian reform, proof that such reform is taking place and, above all, that it is viable. They are the ways which have been uncovered as a means of rebuilding what capital had divided: the producer/consumer relationship. These relationships, however, are reconstructed on other foundations; within the peasant logic of trust, solidarity, respect and friendship that develops between fellow *people*, and not between mere producers and consumers. The fair thereby constitutes *a meeting space, a space of unhurried conversation, and a space in which to exchange recipes*. Peasants are warning us that it is high time to change the pace, and to regain the control of time that capital so stubbornly takes away from us.

The solidarity purchase groups[23]

Last but not least, the Solidarity Purchase Groups; whose practices require a different kind of organization to that of trade fairs. Generally speaking, these initiatives are undertaken by groups of consumers who express interest in consuming higher quality products, which are purchased directly from producers and allow for more or less direct links, at fairer prices for both parties. These groups are organized both informally – groups of friends, neighbors, co-workers/ fellow students – or formally – in the form of an association or cooperative.

The first step is that of the establishment of a minimum number of consumers so that a wholesale purchase can be distributed among all participants. The next step is to identify the producers; which can be done through the personal suggestion of a member who knows a producer, or from a survey of areas with a concentration of production that satisfies the interests of consumers and, using this starting point, develop the contacts needed to form the supply. The third step is to establish an agreement to take into account consumer demands, and the producers' ability to supply with regard to quantity, frequency and price. With this agreement in place, the fourth and final step relates to the responsibility for logistics and transport costs, to ensure that the products reach the consumers. In general the total amount is delivered to a given site, and consumers take charge after collecting their respective purchases[24]. The costs are distributed among consumers and as a rule the value received by producers is of higher value than that normally paid by capitalist buyers.

The most common way it works is through the establishing of closed "baskets" at a fixed price. Consumers are to indicate their intention to purchase the baskets in advance as defined by the group so that those responsible for intermediation have time to process the requests and pass them on to suppliers who, in turn, should have time to harvest, store and distribute products to the group. The tendency, faced with the costs of transportation, is to concentrate suppliers in nearby areas. Another issue is that consumers need to be available to adapt to the new system, anticipating their consumption in advance and adapting themselves to what the suppliers can offer, which may result in having to learn to consume products hitherto outside their "consumer patterns".

Experiments of this kind have come across some obstacles which must be overcome, including: the need to maintain a minimum number of steady consumers so as not to jeopardize the supply of food and/or overburden those who have committed to purchasing; high transportation costs, which also depends on steady consumption so as not to burden members; difficulties in terms of diversification of production for the suppliers; willingness or not to purchase previously unknown products; difficulties in remaining faithful to the principles of the solidarity economy in a capitalist market. On the other hand, it has also shown the possibility of building these practices effectively as long as the group that takes part is willing to build a solidarity economy collectively, to constantly reflect on their practices, recognize their responsibilities in regard to difficulties and search for shared solutions.

Collective commercialization practices

In the cases considered here there are no cases of collective production, which is why we will not address the issues they bring to the discussion here[25]. What we would like to bring to the discussion, based on the experiences of agro-ecological fairs and solidarity consumer groups, are issues involving commercialization and consumption when carried out collectively. Such practices, while ostensibly 'simpler' than collective production, bring a need for collective commitment with them that is often difficult to consolidate. Although the peasants themselves possess more 'socializing' structures than other members of capitalist society, even unconsciously, they are also prone to more 'individualized' behavior; in practice such characteristics are strongest in the family or community context and tend to be less apparent within groups of 'strangers'. There are always 'individual', 'family' or 'community' to be defended and the collective construction of responsibilities is an exercise that requires a commitment to the group rather than the individual. It is necessary to understand that for the group to benefit, everyone should benefit, and crucially everyone should play their role in making that happen.

In cases of collective commercialization and consumption, there are three issues which have the most bearing on the success of the process. The first relates solely to commercialization and refers to the adjustments necessary to ensure a certain 'standardization' of production. Although the uniqueness of each production source is to be respected, it is necessary to ensure that the same 'standard' of product is to be offered so as to avoid 'preferences' among suppliers in the case of fairs

– thereby transcending personal affinities – and the consequent gains of some to the detriment of others. In other words, unlike most conventional fairs, agro-ecological fair prices are standardized; if more than one farmer sells lettuce, they should offer similar sized lettuces of a similar appearance, to prevent consumers from searching out those which are "bigger/nicer" and ignoring the "smaller/uglier" varieties, which would result in losses for the peasant who had harvested them, brought them to the fair and failed to sell them. The same applies in the case of consumer groups because the product kits should have the same appearance to avoid dissatisfaction among consumers and any eventual complaints or price reductions for the supplying peasants, who are responsible as a group for the sales, and not individually.

The second issue relates to the commitment to supply in the case of commercialization and acquisition of products in the case of the consumer. Once a commitment of supply and/or consumption is made, it is paramount that it should be maintained. This issue is of more importance in cases of supply to consumer groups where the amount is fixed in advance. At fairs a lack of produce entails direct damage to the peasant vendor, but in the groups the consequences are shared out among all. In the case of consumer groups committed to purchasing the baskets/kits it is also important because last minute waivers entail a rise in costs for those who honored their commitments and an eventual loss of products and damages for suppliers as well.

The third issue also applies to both groups – peasants and consumers – and concerns efforts in conducting management activities. Participation in meetings where commitments are defined, the distribution of activities among its members – and especially their execution – and the timely payment of fees established by the group, must be taken on as commitments and duly treated as priorities, to avoid overburdening one individual to the detriment of others, jeopardizing group activity as a whole.

To keep moving forward...

The experiences discussed here clearly demonstrate that the peasants have found their own path and taken control of their own future in the construction of *a peasant territory* of / with *autonomy, freedom and solidarity*. This is proof that it is possible to consider *a different future for agriculture*, free of pesticides and GMOs, respectful of the environment, full of solidarity and stories, and not only of *seeds that enchant us*, and that this future can – and should – be built collectively.

References

Altieri M. (1999), *Agroecologia: bases científicas para una agricultura sustentable*. Editorial Nordan-Comunidad, Montevideo.

Altieri M. (2001), *Agroecologia: a dinâmica produtiva da agricultura sustentável*. Editora Universidade/UFRGS, Porto Alegre.

Altieri M., Nicholls C. I. (1989), *Agroecologia: as bases científicas da agricultura alternativa*. PTA/FASE, Rio de Janeiro.

Biase L. de (2010), *Agroecologia, campesinidade e os espaços femininos na unidade familiar de produção*. Master's dissertation. Escola Superior de Agricultura "Luiz de Queiroz". Universidade de São Paulo. Piracicaba-SP, pp. 191.

Camargo P. (2010), *Organização produtiva e socioterritorial da agroecologia - o MST e sua Cooperativa Agropecuária Vitória, Paranacity-PR*. End of course project (Monograph). Depto. de Geografia FFLCH USP, pp. 250.

Chayanov A. V. (1974), *La organización de la unidad económica campesina*. Nueva Visión, Buenos Aires, pp. 342.

Gliessman S. R. (2001), *Agroecologia: processos ecológicos em agricultura sustentável*. 2ª Ed. da UFRGS, Porto Alegre.

Gonçalves, F. S. (2011), *O que você se alimenta quando você se alimenta? Rede de Cooperação Econômica e a busca de uma nova relação campo-cidade*. Scientific initiation. Dept. of Geography, FFLCH USP.

Guzman Casado G. I., Gonzales De Molina M., Sevilla Guzman E. (2000), *Introducción a la agroecologia como desarrollo rural sostenible*. Ediciones Mundi-Prensa, Madrid.

Londres F., *As sementes da paixão e as políticas de distribuição de sementes na Paraíba*. [e-book] Rio de Janeiro: ASPTA, 83p, 2014. Available on http://aspta.org.br/wp-content/uploads/2014/05/Caderno-ANA-Sementes-ASA-Para%C3%ADba.pdf, accessed 11.07.2014.

Marcos V. de (1996), *Comunidade Sinsei (u)topia e territorialidade*. Master's dissertation in Human Geography, Academic advisor: Ariovaldo U. de Oliveira. Dept. of Geography, FFLCH USP., São Paulo, pp. 400.

Marcos V. de (2004), *Alternative per la produzione agricola contadina nell´ottica dello sviluppo locale autosostenibile*. Tesi di Dottorato di Ricerca in Geografia e Pianificazione del Paesaggio per la valorizzazione del patrimonio storico-ambientale, XVI ciclo, Università degli Studi di Genova, Genova, Italy, pp. 626.

Marcos V. de (2006), "Solidariedade que tece redes: as estratégias de reprodução e recriação camponesa nos assentamentos do alto sertão paraibano". *Anais do XIV Encontro Nacional de Geógrafos*, Rio Branco, AGB, pp. 1-12.

Martins J. de S. (1990), *Os camponeses e a política no Brasil*. Vozes, Petrópolis-RJ.

Martins J. de S (1991), *Expropriação e violência*. 3ª ed., Hucitec, São Paulo.

Oliveira A. U. de (1991), *A agricultura camponesa no Brasil*. Contexto, São Paulo.

Petersen *et al.*, 2013, "Sementes ou grãos? Lutas para desconstrução de uma falsa dicotomia". *Revista Agriculturas: experiências em agroecologia*, v. 10, n. 1, AS-PTA, Rio de Janeiro, pp. 36-46.

Porto-Gonçalves C. W. (2006), *A fome e o meio ambiente*. In C. W. Porto-Gonçalves (Eds.), *A globalização da natureza e a natureza da globalização*. Civilização Brasileira, Rio de Janeiro, pp. 205-284.

Salgado M. R. (2014), *Entre a produção agrícola e o consumo responsável: limites e possibilidades*. End of course project (Monography). Dept. of Geography FFLCH USP, São Paulo, pp. 135.

Saravalle C.Y. (2010), *Banco de Sementes: estratégia deresistência camponesa na (re)produção e manutenção da vida e da agrobiodiversidade*. End of course project (Monography). Dept of Geography FFLCH USP, São Paulo, pp. 76.

Santos T.A. (2010), *Agroecologia como prática social: feiras agroecológicas e insubordinação camponesa na Paraíba*. Master's dissertation. Dept. of Geography FFLCH USP, São Paulo, pp. 249.

Shanin T. (1976), *Naturaleza y lógica de la economia campesina*. slp, Anagrama, Barcelona, pp. 83, sdp.

Tavares R. O., Marcos, V. de. (2006), "O uso da mandala no Assentamento Acauã, em Aparecida-PB". *Anais do XIV Encontro Nacional de Geógrafos*, AGB, Rio Branco, pp. 1-12.

Tavares dos Santos J. V. (1978), *Colonos do vinho*. Hucitec São Paulo.

Thomaz F. (2010), *O modelo socialista de cooperativa de produção agropecuária (CPA): contradições e avanços, estudo de caso da Copava*. Master's dissertation, Dept. of Geography FFLCH USP. São Paulo, FFLCH USP, pp. 200.

Vivas E. (2009), *Los entresijos Del sistema agroalimentario mundial*. In X. Montaug, E. Vivas, *Del campo al plato. Los circuitos de produción y distribución de alimentos*. Icaria, Barcelona, pp. 9-40.

Notes

[1] The following was written, with modifications, using the article "O projeto camponês para o campo do século XXI" as a basis, which was approved for oral presentation at the IX Latin American Congress of Rural Sociology (ALASRU), held in October 2014 in Mexico.

[2] It is estimated that by 2017 this figure will reach the milestone of 1,200 million (Vivas, 2009).

[3] These countries went through a process of privatization, decreases in wages and reduced spending on education and health.

[4] Genetic seed (produced by the breeder), basic seed (produced by the breeder or maintainer of the variety), certified first generation seed (C1), certified second generation seed (C2), uncertified seed with proven first-generation genetic origin (S1), uncertified seed with proven second generation genetic origin (S2). With each generation (planting/harvesting) these seeds go into a lower category, until they "expire".

[5] National Register of Seeds and Seedlings.

[6] Also known as *Proagro Mais*.

[7] Membership is mandatory for those who access Pronaf Costing.

[8] The justification made by the government for not providing access to the SEAF is that of *financing* and *insurance* being two different things. The response offered by the Ministry of Agrarian Development to resolve the impasse was the creation of the National Register of Native Cultivars (implemented in 2006), a *parallel register* for native seeds. Such a response, however, did not resolve the issue because the peasant organizations do not encourage Register membership. This is due to both the fear of private appropriation of local genetic resources made available in the Register and an insistence in regard to the general Law exempting native seeds from registration (Londres, 2014).

[9] These seeds also are called **Seeds of Resistance** in Alagoas and Goiás, **Seeds of Abundance** in Piauí, **Seeds of the People** in Minas Gerais (Petersen et al., 2013). For details on the number and the distribution of banks see Marcos (2006), Londres (2014).

[10] The driest and hottest part of Paraíba state.

[11] The first Seed Bank was established in the Three Brothers settlement, near the municipality of Antenor Navarro. The second was in Guaraci in Valley Piancó.

[12] A program that encourages and facilitates the acquisition of up to two bags of twenty kilos of seeds for peasants who gain 70% of their income from agriculture and have an annual income that does not exceed R$ 40,000.00 (Saravalle, 2010).

[13] The mechanical separation of the grains which will give rise to seeds.

[14] The minimum rate for processing the seeds is 75%. Normally the seeds of the peasant producers of UNAIC have germination rates of 90%.

[15] During packing the seeds are treated with Diatomaceous earth, an organic treatment which protects the grain mass and leaves no toxic residues on human health.

[16] In the case of UNAIC the conservation of 19 varieties of corn, 30 varieties of beans and 13 of green manure takes place, with these being stored in PET bottles or small sealed plastic pots, and placed in a small refrigerator. These stored seeds are planted each year to prevent them from losing their usability and value.

[17] He understood diversity as how the number of species make up a community at a particular location as well as its form of organization, which includes the spatial, functional and temporal distribution of species in a given agro-ecosystem.

[18] This concerns its unusual design. Although the first *mandala* already had a circular design, those built in the yards of homes have been adapted to the conditions of the site, and it is unusual to find mandalas with circular beds on these sites. Nowadays, the process of constructing the mandala begins with the visit of *Agency* technicians to carry out an inspection of the site, evaluate existing conditions and individual factors than can be leveraged and decide what needs to be purchased. The infrastructure already offered at the house does not enter the calculation and many of the costs need to be taken on by the farmer who has it built. For more details see Tavares, R.O. and Marcos, V. de. (2006).

[19] The range of the water jet will depend on the pump's power. In the case of using of low-power pumps, such as the 'frog pump', the water only reaches the first few circles with force, making it difficult to grow crops in the others. In the case of a complete m*andala* a pump with greater power would be required.

[20] The fair continues to take place on Campus I of the University, albeit in a space less exposed to the sun.

[21] The value is variable, corresponding to 2% of the determined day's earnings.

[22] The practice of agro-ecological production and commercialization in Alto Sertão is accompanied by the ***agro-ecological farming network***, coordinated by Sertão CPT and ASA, with the objective of seeking food sovereignty and environmental preservation.

[23] Due to limitations of space, empirical details about these groups will not be given. For more details see Marcos (2004), Gonçalves (2011), Salgado (2014).

[24] Consumers can either go individually to the site to collect the products, or on a rotating weekly basis, or when deliveries arrive, (depending on frequency), one consumer may be responsible for the distribution of products among all the other group members.

[25] More details on this may be found in Marcos (1996, 2004, 2010), Thomaz (2010), Camargo (2010).

Andrea Riggio, Pierluigi De Felice

Biomass energy, agriculture and sustainability. A case study in the inside hill of Northern Campania[1]

Abstract

Renewable sources of energy could promote local development providing that the planning is sustainable, respectful of issues concerning the environment, the landscape and society. At the same time the plan needs to evaluate the resources of the territory in order to create the basis for an economic development. The aim of this contribution is to offer an analysis based on quantity and quality and suggest a plan for generating energy from biomass in a hilly environment that helps to reveal the riches of the land left by man and time and assigns new values and functions to the territory which needs to be smarter, greener and more inclusive. In the light of the new planning trends and taking into account the European strategic directives, considering the assets of the hilly landscape and of the territorial vocations, this study looks at an area in the province of Caserta located in Northern Campania, where, alongside the potential production of energy from biomass the presence of the Roccamonfina Volcano offers the region outstanding environmental and territorial value. The move towards renewable sources of energy, if suitably planned in accordance with European standards could be the answer to the social and economic unbalance which still characterizes these realities, by making sure that the values of the ecosystems are preserved and by contributing to the innovation and attractiveness of these hilly areas in terms of occupation and economy.

Keywords: *Energy planning, Biomass, Sustainable development.*

Reference framework

The traditional energy sources (coal, gas and petrol), which have influenced the development in the past century, cannot successfully guarantee an energy supply, which is economically sustainable and in conformity with the process of the development (IEA, 2013).

The high cost, the limited resources (considering that they are non-renewable sources in due course), the increasing request of sources of traditional energy (even from developing-economy countries like China and India), the reliance on other States (which supply the main sources) politically unreliable and unstable, the highly polluting effects of combustion – in particular of the coal, in May 2013 the level of the carbon dioxide gathered in the atmosphere exceeded the parameter of 400 ppm (IEA, 2013) – the production of new technologies are the main causes that are determining a new energy transition process declined the sources of alternative energy, the efficiency, and the energy saving, processes that (for the above-mentioned reasons) cannot be minimized.

Our goal, therefore, keeping in mind the contribution of the economy and aware of the importance of the Geography – meant as the study of space, of territory, of environment and of landscape – and in the energy-transition, and how its heuristic approach is binding in the matter of a new multilevel-economic planning, as confirmed in the studies and in the research conducted so far about the energy and geography (Bridge *et al.*, 2013; Blaschke 2013; Bradshaw, 2010; Solomon, Krishna 2010), aims to evaluate (through a quality-quantitative analysis) the possibility to combine the renewable biomass energy sources with an agricultural landscape – alias the totality of morphological, economical and social aspects of the agricultural business (Grillotti Di Giacomo, 1992), offering an energy plan of sustainable biomass. To demonstrate that it is possible to combine the biomass in an agricultural area, that we have identified for this specific case in the Town of Roccamonfina, which is located in the northern part of Campania, in the province of Caserta (Fig. 1), we will dwell on two aspects, as the literature concerning this sector states[2]: one, the theoretical type (which is intended to take into account the European, national and local information that is indispensable comparison tools for an energetic planning strategically effective) as well as it discovers in it useful territorial vocations, or dispositions, or inclinations, or invitations: more precisely of the potentialities

to furnish it certain productions or energies or facilitations (Gambi, 1972): «when a human society makes an environment its own, in some way, it does it because it recognizes, useful vocations […] dispositions, or inclinations, or invitations: more precisely of the potentialities to furnish it some productions or energies or benefits». Once the biomass/territory, environment and landscape bond is clear, it will be focussed on the quantitative aspect that departing from the predispositions of the place, the potentiality territorial in energetic terms is defined.

Part one

The area of study and the normative context

The European Committee in the Communication known as «Planning Chart for energy 2050», (from now on «Energy 2050» where for a long term «the challenges to be faced to achieve the UE objective of the substitution of coal assuring at the same time the certainty of the energetic provisioning and the competitiveness is delineated», European Commission, 2011), it restates the im-

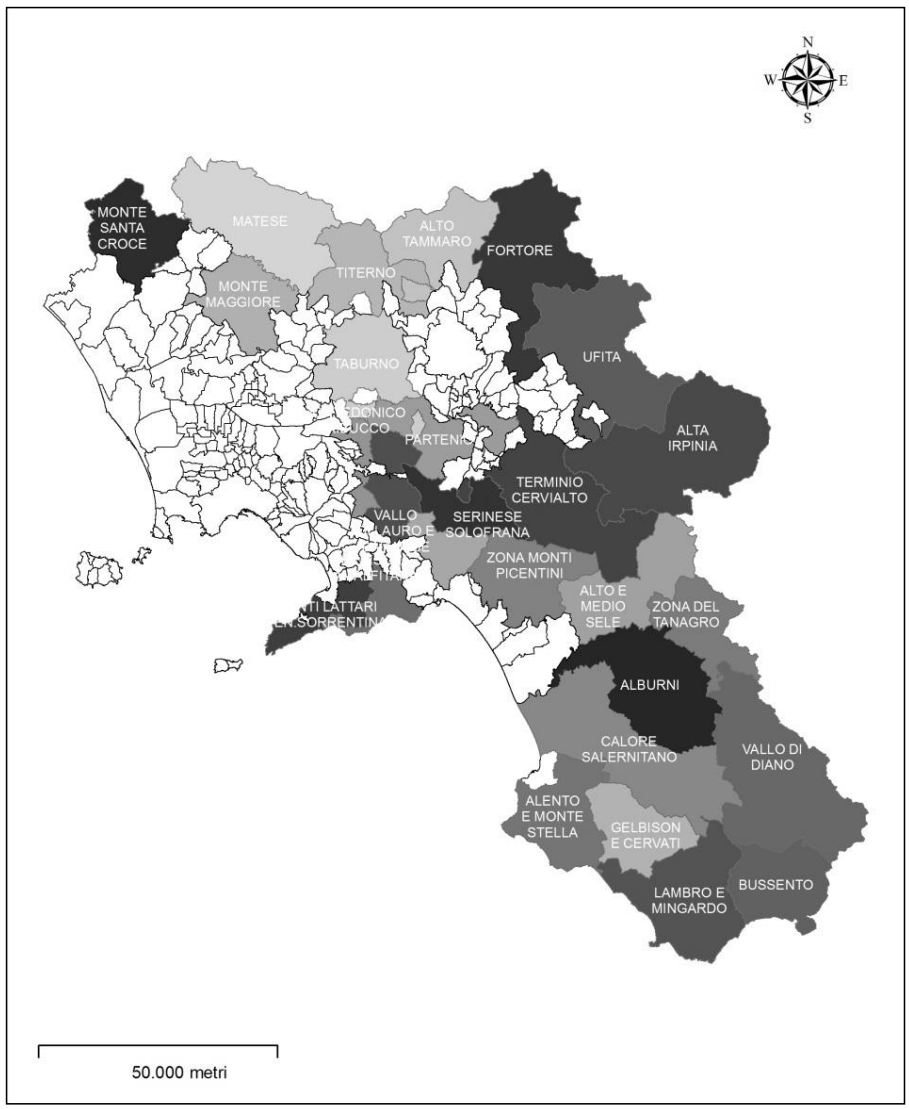


Fig. 1. The Mountain Communitles of Campania (*Source*: Our elaboration on regional data). Roccamonfina is situated in the Northern part in the province of Caserta, in the Region of Campania. It is part of the "Comunità Montana" «Monte Santa Croce». According to ISTAT, the territory of the municipality of Roccamonfina is classified as an area of inland hills presenting a medium grade of urbanization . Considering the position of the Town of Roccamonfina, in taxonomic parameters, elaborated by the Ministry for the Cohesion for the defining of inland areas (see footnote 3), we can ascribe Roccamonfina in the internal towns of the South.

portance of energy as a motor of development to guarantee a good quality of life and an environmental and economic safety.

In order for this to happen, it is necessary to carry out an energetic planning, careful to the values of the territory and shaped to the new sources of renewable energy, as required by the environmental policies by the national legislative platform and by the economic conjuncture present at the moment.

In the National Energetic Strategy (from now on SEN, 2013) the decisive role for the economic and social development of the Nation, for the energetic sector through the reduction of the costs of provisioning of the energy, for the strengthening of the energetic safety of the Country, for the increase of production of energy from renewable sources and for the attainment of the environmental objectives pointed out from Europe is confirmed.

From this last strategy, through the Community Funds 2014-2020, important resources can be intercepted and destined to the social, economic and territorial cohesion, predisposing as the preliminary document and the method promoted by the Office of the Cohesion in December 2012 remind and known as «Methods and objectives for an effective use of the community funds 2014-2020»[3] (from now on MOFC) actions aimed to intercept the aforesaid sources but above all to also get efficient and effective results in the energetic branch.

On a local scale the programmatic documents on energy recall and develop how much was promoted and strongly wanted by the top down planning.

The Regional Environmental Energetic Plan published in 2009 (from now on PEAR) outlines an energetic picture of a suffering Campania. The Energy's deficit for 2007 amounts to 60% in terms of necessary energy to the balance of the budget and 47% in terms of installed power[4].

In order for the Campania region to be more independent from an energetic point of view significantly reducing imports outlined in PEAR, considering the European Directives, energy development strategies relying on renewable energy, the percentage of 35% for 2020, the regional electricity requirements. For this purpose, an increase of the general contribution of the renewable sources in the regional energetic budget of Campania from the actual 4% to 20% in 2020 is expected (PEAR 2009). A particular role is assumed by the biomasses of agro-forestry origin that have the assigned task, as stated in the of Rural Development Plan, 2009 (from now on PSR) of «to compete for the economic development of the rural areas and to the diversification of the income of the agro-forestry businesses, also taking the opportunity for the reduction of several environmental (nitrates of agricultural origin) and forest (sustainable management) problem list».

In the regional energy planning, renewable energy represents a necessary action, also considered the set objectives (burder sharing) for each region which implement the European and national ones. Campania, in this regard, must achieve in terms of renewable energy equal to 16.7% in 2020 (Official Gazette, no. 78 of 04.02.2012).

In this regional horizon, characterized by energetic issues, the province of Caserta, of which Roccamonfina is administratively part of, covers an important role in the regional energetic requirement. As demanded by the Provincial Environmental Energetic Plan (from now on PEAP) around the 55% of energy produced in the region originates from the province of Caserta, despite the fact that the production is fundamentally carried out through conventional (hydroelectric and thermo electric) sources. Our research and study, strong on the European background, national and local indications, aware of the strategic role of energy, especially of the renewable one, in the territorial planning of economically and socially fragile reality like some areas of the Mezzogiorno (south), declines, as we have already anticipated in the introduction, on the synthesizable theme in the binomial renewable energies/agricultural internal areas[5].

The choice has also been influenced by the supranational experience, where the application of the technologies to the renewable sources of energy and the actions of energetic efficiency had requested a territorial governance.

For this reason we can remember, and as an example, the experience promoted by the European Committee of the «The Covenant of Mayors» where the adhesion of many Municipalities (5716 to the date of May 25, 2013) of the twenty-seven European countries - in Italy 2736 Municipalities participated.

This study follows the innovative formulation of the governance quoted above and it experimentally applies it to a marginal Municipality of a poor agricultural internal area: the Municipality/Town of Roccamonfina. The latter, for its position and for its environmental, demographic and economic condition belongs in that taxonomy of the inside areas of the South (Mezzogiorno).

The selected Town, Roccamonfina, situated in the Northern part of the province of Caserta and which is part of the *Comunità Montana* «Monte San-

ta Croce» belongs to a climatic type "E" zone or to a class that, for atmospheric conditions, needs a great quantity of heat for the heating system (DPR 412 of the '93). It is therefore necessary to find energetic solutions that are sustainable with the environmental charts and at the same time advantageous for the local economy.

Therefore, the energy transition to new renewable energy sources can be, if properly conjugated with the territorial vocations, a driving economic and social development. To such intention, we quote a passage from the poet Arminio, a humanist of the landscape, who, on a conference on the internal areas, affirmed, in a writing titled «Ideas for the internal Mediterranean», that there should be a tax of thirty thousand euro a year for every windmill blade and to use these funds to improve services for the elderly. This, apparently simple statement, conceals within, a strong cultural semanteme that interprets a bond between the new technologies and local resources, among guardianship, safeguard and development, between innovation and conservation. These themes can rightly be considered as key words of the present contribution which will focus on the energy and on the energy potential, on local resources, on economic and social development, on safeguard and on the environmental protection. As the poet Arminio says «a plot of politics and poetry, economy and culture, scruples and utopia».

Energies from biomasses in the internal agricultural areas. A geographical analysis

In general, the FER and in particular, biomasses, for their nature, have an inseparable relationship with the territory because they are originated in the same environment. It is certainly not sufficient to appraise only the potential of the biomass resource, already on its own, a complex operation, but there are also a series of variables that need to be considered in order to opportunely conjugate the biomasses in the inside areas.

In the search of the best location for the biomasses, the analysis of the proximity between source and distribution also plays a fundamental role. It is not enough to know the potential of biomass of the territory to define it functional for the production of the FER. It needs to also keep in mind some organizational structures of the place, of the infrastructures in order to make the transformation, economically advantageous and sustainable (Stephen *et al.*, 2010). Transporting raw materials from a specific place to turn it into something else, and having the vehicle that is destined to the transfers, fuelled with traditional fuels becomes non sustainable action from an environmental point of view – the transport sector is responsible for about 30% of carbon dioxide in developed countries (Anable, Bristow, 2007) – economically disadvantageous and, the place of the production of raw material, finally, won't have a true benefit in terms of occupation and local development (Ness, Brogaard, 2008).

The preferred form of distribution of the renewable energy from biomass would be from an energetic source connected directly to the distribution network, through a short supply chain, on a regional base (Puttilli 2009), provincial or also municipal, as in our operational hypothesis, guaranteeing a local economic development both in terms of occupation and in terms of energetic saving.

The biomass, as every FER, can generate conflicts with the territory, and particularly with the internal agricultural areas, that often introduce undeniable environmental values, therefore, for the biomasses, the pressure of the agricultural biodiversity, in a territory of merit and quality as that of the Municipality/Town of Roccamonfina, the deforestation, as well as the quality of the air and water need to be considered.

Bearing in mind the strong concern of FAO (2008) about food safety, it would be necessary to preserve the current extensive crops and to introduce cultivations for energetic purposes that have a low environmental pressure (EEA 2008) and are part of the local plant and animal life.

Besides the elements of conflicts, for the analysis of the biomass-territory relationship, it is surely important to consider the potential synergies between the resources and the internal areas.

Specifically, we remember, for example «the General Forest Plan 2008-2013», whose draft of document contains an action (10) to approach the increase of the production of combustible biomasses in Campania, taking this practice as a favourite and taking into consideration the good existing potentialities in the Region in terms of production of biomass and foreseeing the improvement of the existing woods and the amplification of the forest surfaces.

Also «Park Areas» and «SIC» can be finalized for obtaining biomasses for the production of renewable energy, provided that the intervention does not have remarkable effects on the objectives of maintenance of the same site. Therefore, it allowed the cultivation care to public and private woods, consisting in operations of thinning the

coppices and in the fustaies that allow the recovery of the branches.

In this way it would create a synergy among inside areas, resources and energy and the interest of the energetic policies of the local development and of the guardianship of the environment and the landscape would be safeguarded.

Finally it is important to consider the organization of the territory, in relationship to the source of renewable energy on a different scale. It becomes mandatory, therefore, to appraise the presence of businesses devoted to the production and the exploitation of elements destined to the biomass FER and of cooperatives that implement interventions aimed in improving the energetic efficiency.

Elements, these last, useful to estimate if the local territory is predisposed for a short supply. It needs to appraise the presence of the local policy maker, of the stakeholder able to set in relationship the central State with the community and with the local authorities to sensitize, to convey, to promote, to overcome possible conflicts and to create, at the same time a network of interdependencies (Reho 2009).

Holding in the due consideration the kaleidoscopic complexity of the production of biomass energy, as shortly recalled, and aware of the difficulty of the operation system of a short chain, it is necessary to recall, at this point, even though shortly, the strength and weakness of the territory through an analysis that keeps in mind the values and the environmental brittleness, cultural, social so that it is possible to conjugate in a sustainable way, overcoming conflicts and resistances, the internal agricultural inside energy/areas.

Part two

The town of Roccamonfina. Territorial analysis for a sustainable energy planning

According to ISTAT, the territory of the municipality of Roccamonfina[6] is classified as an area of inland hills[7] presenting a medium grade of urbanization[8]. Considering the position of the Town of Roccamonfina, in taxonomic parameters, elaborated by the Ministry for the Cohesion for the defining of inland areas (see footnote 4), we can ascribe Roccamonfina in the internal towns of the South because it does not present a number of basic facilities such as secondary schools, a hospital with emergency department, a type silver[9] railway junction.

The MOFC in the citation which we have gathered in the inland areas (note 4), clearly speaks about resource endowment. The economical aspect of our discussion, of the internal agricultural areas defined energy as an engine of development. We believe that it is useful, even though briefly, to draw our attention on the environment, on the territory and on the landscape of Roccamonfina, on one hand because the action energy is sustainable and consistent with the territory and on the other hand because we want to confirm how many internal areas of our country represent a real patrimony to support, protect and at the same time to develop. For this reason, before looking at the *strictu sensu* of the energetic potentialities, it is useful to draw our attention and highlight the strengths and weaknesses of the town of Roccamonfina referring to three SWOT charts which show, in a synthetic way, as the economical contribution requires, the geographic picture of the municipality of Roccamonfina.

The biomass potential of the municipality of Roccamonfina. A theoretical analysis[10]

One of the problems in the analysis of the biomass potentiality is its evaluation of some variables which are not easily ponderable, such as the re-use of part of the biomass in the production business cycles, in the uses of energy, in the combustion for the production of thermal energy in fireplaces or stoves. In a specific ISTAT case study relating data was not only compared to the town of Roccamonfina for its relation to its site but, also for its location. For this reason, we have compared the census data of the other municipalities that are part of the unit of the Mountain Community "Monte Santa Croce" in which Roccamonfina is part of. Finally, this data was contrasted with the standard, provincial parametrics of Caserta. The choice of this multi scale analysis (Municipality, Province and the Mountain Community) lies in the fact that even though, an analysis that is conducted on a municipal scale (which is always necessary and which has to be declined to the values of sustainability), deals with a broader vision that certainly goes beyond the municipal limits. In addition to this date, many quantitative data are not available on a municipal scale and this creates many problems in the analysis of the potential. In this study, we have used a tool, that is a software known as AGRIRES destined to a quantification of the potentialities of residual type agricultural biomass, in order to hypothesize a further local

Strong Points	Presence of natural resources of great landscape and nature value Park Area Presence of cultural resources Strategic position	Low sustainable appreciation of the resources of high natural value. Inadequate infrastructural facilities. Poor dissemination of environmental awareness. Phenomena of illegal activities. High production of waste and low percentage of recycling. Deficit of production and supply of clean energy. Water stress epigeo. Little safeguard for biodiversity. No regard for natural resources for the creation of job opportunities. High dependence on energy from traditional sources.	Weak Points
Opportunities	Importance of territorial, environmental and landscape dimension for the strategies in the town's development Development of information for the society.	Loss of biodiversity due to human impact. Loss of competitiveness in the tourist- sector due to environmental and social degradation	Threats

Fig. 2. SWOT analysis relating to the environment, to the territory and the landscape of the town of Roccamonfina (*Source*: Our elaboration).

Strong Points	Unoccupied dwellings Valuable environment Increase in university and secondary school graduates Increase in the size of the family	High aging index High dependency ratio of the elderly Decreased fertility index values Negative demographic balance Lack of entrepreneurial function For professional positions	Weak Points
Opportunities	Unoccupied dwellings Valuable environment Increase in university and secondary school graduates Increase in the size of the family	Social discomfort Decline in birth rate in the absence of Social Welfare Economy is not developed	Threats

Fig. 3. SWOT analysis of the population of the Town of Roccamonfina (*Source*: Our elaboration).

energetic evaluation of the residual biomasses (Colonna, Regina, 2011; Colonna, Del Ciello and Petti, 2010).

Going into detail for the use of the woody crops areas, the following charts show data related to the following periods of investigation. Only some of the woody biomasses have been estimated, those mostly present in the territory and at the same time the most appropriate for the production of thermal energy.

Once the background is known, the hypothesis of an energetic planning starts from a local dimension, and therefore the following planning hypotheses are valued for elements of development/change relevant only in the territory of the municipality of Roccamonfina for its position and climatic zone[12] needs a sustainable energetic action more than others. From the comparison of the reported data there is an obvious reduction of the SAU between 2000 and 2010. Such a reduction is compatible with the desertion of the land, in contrast to the agricultural development policy of the last period. Other forms of work activities, more profitable and more rewarding, attract the younger age groups that tend to split the traditional family farmer with a consequent reduction of cultivated areas. Furthermore, the reduction of the SAU is also due to, as the field research has

Strong Points	Tourism with untapped potential (religious tourism, rural, nature, sports). Abundance of local quality products (chestnuts).	High unemployment. Weakness of the business sector. Lack of use of the primary resourse (Chestnuts). Low evaluation of resources and cultural sites. Lack of abilitity to boost natural tourism sector. Low presence of innovative financial tools. Low propensity to the aggregation and to the integration, in order to create clusters and supply chains. Poor diffusion of technology and innovation. Little inclination to entrepreneurship.	Weak Pooints
Opportunities	European, national and regional policies for sustainable tourism development	Decreased Regional competitiveness system. There is the risk that the competitive areas will adapt easily and quickly to the tourism evolution.	Threats

Fig. 4. SWOT analysis of the production system of the Town of Roccamonfina (*Source*: Our elaboration).

Tab. 1. Comparison BUSINESS AREA depending on the use of the land of the Municipalities which are part of the Comunità Montana Monte Santa Croce and of the town of Roccamonfina.

	SAU a arable	SAU a permanent cultivation	SAU permanent pastures and fields	Woods	Other Surfaces	Total Surfaces
Comunità Montana 2000	4049,10	5851,79	2155,28	5632,78	404,16	18987,67
Comunità Montana 2010	2340,54	5322,50	1860,44	2537,07	449,28	12754,33
Roccamonfina 2000	29,58	1930,19	0,32	276,32	35,04	2300,28
Roccamonfina 2010	18,85	1325,05	16.48	144.88	50.06	1574,83

Source: ISTAT, Agriculture Census, 2000 and 2010.

Tab. 2. Town areas occupied by woody crops agricultures land capable to produce woody biomasses for thermal uses.

Municipality (Town)	Grapevines (ha)	Olive Trees (ha)	Fruit trees (ha)	Woods (ha)[11]	Total
Conca della Campania	49,16	180,76	467,19	242,19	939,3
Galluccio	174,61	196,82	226,3	276,77	874,5
Marzano Appio	24,53	75,28	579,77	200,65	880,23
Mignano Monte Lungo	94,08	214,99	205,96	2447,74	2962,77
Presenzano	37,26	119,97	391,34	975,37	1523,94
Rocca d'Evandro	122,75	143,97	14,33	601,41	882,46
Roccamonfina	1,69	6,65	1921,85	276,32	2206,51
San Pietro Infine	14,37	332,09	1,98	348,21	696,65
Tora e Piccilli	45,85	71,12	107,05	264,12	488,14
Total	564,3	1341,65	3915,77	5632,78	11454,5

Source: ISTAT, Agriculture Census 2000.

Tab. 3. Town area occupied by crops woody agricultures and forest land capable to produce woody biomasses for thermal uses.

Municipality (Town)	Grapevines (ha)	Olive Trees (ha)	Fruit trees (ha)	Woods (ha)	Total
Conca della Campania	28,13	182,29	587,98	140,2	938,6
Galluccio	194,47	158,98	281,77	169,96	805,18
Marzano Appio	8,86	43,6	783,18	92,51	928,15
Mignano Monte Lungo	49,11	160,16	284,75	412,16	906,18
Presenzano	7,05	116	384,59	605,67	1113,31
Rocca d'Evandro	51,89	88,07	25,89	289,55	455,4
Roccamonfina	7,83	74,72	1250,33	144,88	1477,76
San Pietro Infine	4,93	226,94	0,91	351,02	583,8
Tora e Piccilli	12,27	62,92	244,88	331,12	651,19
Total	364,54	1113,68	3844,28	2537,07	7859,57

Source: ISTAT, Agriculture Census 2010.

confirmed, a strategy of the farmer to reduce the tax burden of their properties. On the basis of the elaborations and taking into account that most of the pruning and trimming of larger sizes have already a local energy use and also part of the branches and shoots have an alternative use, ISTAT estimated data in 2010, indicate that there is an additional potential including between 60 and 100 kilotons per year of pruning available from all vine, and Olive-bearing areas. For only the municipality of Roccamonfina the value of the potential gross settles on 23 ktonne/year for woody biomass type (Fig. 5).

A planning that tends to recover some abandoned land, with a new use of the SAU lost between 2000 and 2010 to build an energy chain, located in the town of Roccamonfina can be hypothesized. The assumptions and the consequent processing/simulations are made, as already mentioned, in order to protect the biodiversity of the landscape. The existing crops and focuses only the surface SAU lost in the period between the fifth and sixth ISTAT census of agriculture, preserving thus the landscape and its environmental importance is retained. Additional woody biomass were estimated on an annual basis, from the pruning of vineyards, olive groves and orchards, in the town of Roccamonfina derived from a reuse of 250 ha

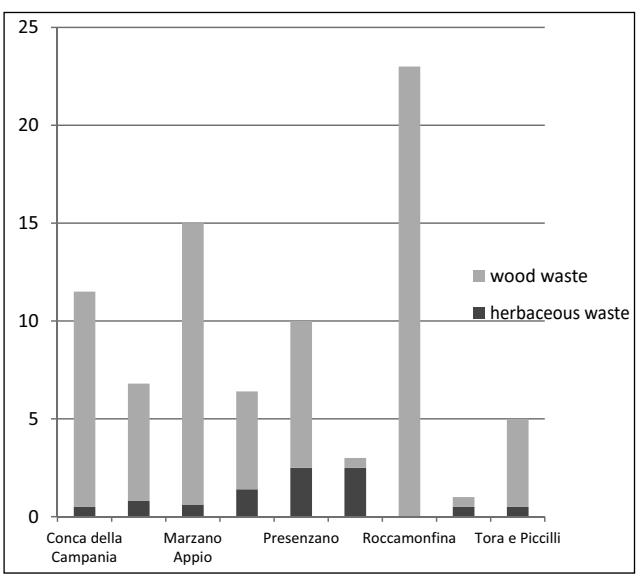


Fig. 5. Gross potential agricultural residues for the area of interest (*Source*: ISTAT data 2010, processed by ENEA).

of abandoned. On the basis of ISTAT data it is taken into account that the dynamics of permanent cultivations is usually very slow and residues were evaluated by both the annual pruning and that from the explants of the fruit trees based on the average parameters already used in other studies. The first hypothesis was made with a breakdown in the use of 100 ha of woods, 50 ha for vines, olive trees and 50 ha to 50 ha to more fruit trees. This allocation is distributed in percentage terms over the whole surface SAU investigated an increase of 3.9% of the woods, 13.7% for the vines, 4.5% for olives and finally 1.3% for fruit-bearing trees. The data processing was carried out with ENEA software for the evaluation of the potential of biomass from agricultural residues provides an increase estimated of 1000 tons/year (Fig. 6).

A second planning assumption, of course, also linked to the conditions of energy-territorial planning, increases the total area in terms of component SAU and SAT introducing an increase/reuse on the initial surface not in absolute terms but as a percentage of the total, and quantifies the woods in +5%, +15% over the vineyards, +5% for olive groves and orchards, respectively, for a total of about 430 acres between SAT and SAU. This simulation produced a further increase in the gross potential resulting from agricultural waste for a total of 3.8 ktonne/year, of which 3.38 ktonne/year of potential income available to the territory.

The results shown in Fig. 7, give the gross biomass potentiality from agricultural remains. Subtracting the amount that already has a position/use the net potentiality for the territory is obtained, available and distributed on the entire

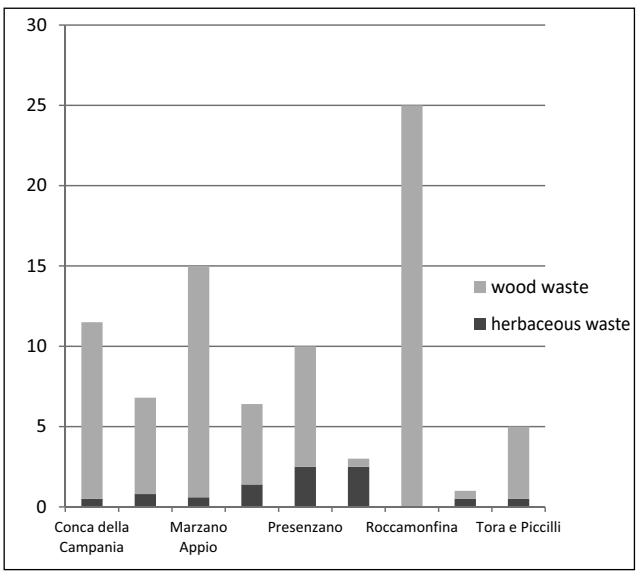


Fig. 6. Gross potential agricultural residues for the area of interest (*Source*: ISTAT data 2010, processed by ENEA from the first hypothesis of increase SAU).

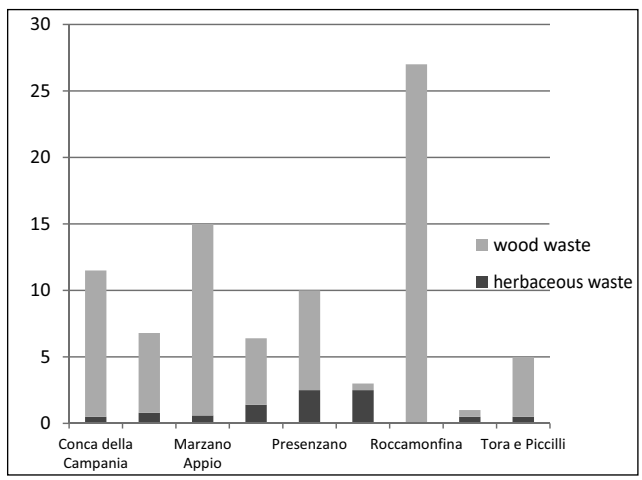


Fig. 7. Potential gross agricultural residues for the interested area (*Source*: ISTAT data 2010, processed by ENEA from the second hypothesis of increase SAU).

municipality under analysis and, therefore, does not take into account the logistics for subsequent use. In fact, biomasses should be collected, transported and concentrated in sites close to processing plants taking into account the season when producing. These factors affect the technical and economic convenience in the use of agricultural remains. Evaluation which is necessary and interesting, but is not considered in this first phase. To obtain the amount of energy content in the biomass remains, (the type, size, composition and moisture of the harvested biomass should be taken into account), an average value of the energetic content was used, the PCI (lower calorific power) equals to 18.25 MJ/kg. The two hypotheses of increase of the area used have produced a net increase in the potential available to the territory of 0.9 kt and 3.3 kt, respectively, and therefore the total potential energy about 405 TJ in the first case and about 445 TJ in second hypothesis (Table 4).

Referring to the category regarding woods, only the woods in the internal part of the agricultural property were considered (tab. 1). It is specified that there are also woodlands with cutting cycles that are from about 20-25 years in which the level of maximum use is low and could be increased without affecting the equilibrium of the woodland. In addition, the use of branches left behind in situ in the cutting phase, can produce further quantities of residues that are useful for an energetic value, considering the prohibition of burning, in the place of production, plant residues and pruning from agricultural activities, as required by the legislation in force (185 del D. Lgs n. 152/2006). It is evident, therefore, that the quantities of biomass available in the area (and which could meet the heating requirements of farms/households of the Town) would be far more significant if also residues from the processing of chestnuts and hazelnuts as well as olive pomace (which has been deliberately neglected in this study) are considered.

Conclusions

The territorial analysis and quantitative assessment of the potential from biomass of the municipality of Roccamonfina and as suggested, national and European stated on renewable energy sources can lead us to assess, in a positive way, the theoretical and technical potentiality of this town with relation to biomass energy. The study theoretically showed that in this area the biomass energy planning can be practiced and can represent a sustainable practice as it would use, partially, agricultural wastes that are a problem for local farmers for the disposal, due to the recent rules/laws prohibiting burning on agricultural soils. In addition, the proposal to increase the SAU with crops already on site would ensure the quality of the landscape and at the same time the diversification of crops, avoiding those critical issues and conflicts that arise regarding energetic biomass cultivations. Our proposal would be in agreement with the local, national and European legislative platforms, and the realization of a biomass power plant in this area could represent a driving force for the local economy which is, at the moment, fragile. In order to obtain and in particular to assess the potential on a municipal scale, such as the one chosen, given the statistical data available, which is not enough, given the scale of the study, further investigation is needed on the ground and an analysis through geographic information systems that allow to integrate, implement and assess in great detail and in particular, the potential at a municipal scale. It is well aware that an energy planning in order to be sustainable, must also consider costs and management, as well as the monitoring of the consumption of biomass and their origin, the actual surfaces involved in the cultivation/production, more generally, the knowledge of the development of use and consumption of the ground and urbanized areas using other detection systems that also cover the uses of land provided by the municipal planning

Tab. 4. Potential gross and net energy for the municipality of Roccamonfina only for agricultural wood residues.

Town of Roccamonfina	GrossPotential (kt)	Net Potential (kt)	Potential energy (TJ) Agricultural wood residues (TJ)
Initial Situation	23,67	21,21	387
I hypothesis	24,78	22,19	405
II hypothesis	27,47	24,59	445

Source: ISTAT, 2010 processed by ENEA.

instruments. Sure enough, in the present study the reduction of agricultural land involved small/medium-scale is justified by the abandonment of the agricultural activity because of more profitable activities (feedback cross-demographic data feedback), while the larger surfaces covered a different intended use of the soil following of significant type human activities (decision-making and planning, creation and development of industrial areas, craft, PIP, with feedback on socio-economic elaboration). Whereas the inland areas and also the depressed can compete as long as they are based on a plan that uses tools of ex-ante evaluation of innovative and already on the market.

References

Adamo N. *et al.* (2009), *Relazione sullo Stato dell'Ambiente in Campania*. ARPAC, Napoli.

Amato F. (2007), *Dall'area metropolitana di Napoli alla Campania plurale*. In L. Viganoni (Ed.), *Il mezzogiorno delle città. Tra Europa e Mediterraneo*. Franco Angeli, Milano, pp. 175-211.

Anable J., Bristow A. L. (2007), *Transport and Climate Change: supporting document to the CfIT report*. Commission for Integrated Transport, London.

ANCI, IFEL (2011), *Atlante dei piccoli comuni 2011*. Roma.

Arminio F. (2013), *Geografia commossa dell'Italia interna*. Mondadori, Milano.

Bencardino F. *et al.* (2010), "Vecchie e nuove polarità nella geografia urbana della Campania. Alcune riflessioni". *Bollettino della Società Geografica Italiana*, XIII, 4, pp. 801-821.

Blaschke T., Biberacher M., Gadocha S., Schardinger I. (2013), "'Energy landscapes': meeting energy demands and human aspirations". *Biomass and Bioenergy*, 55, pp. 3-16.

Bradshaw J. M. (2010), "Global energy dilemmas: a geographical perspective". *The Geographical Journal*, 176, 4, pp. 275-290.

Bridge G., Bouzarovski S., Bradshaw M., Eyre N. (2013), "Geographies of energy transition. Space, place and the low-carbon economy". *Energy Policy*, 53, pp. 331-340.

Brittan G. G. (2001), "Wind, energy, landscape: reconciling nature and technology". *Philosophy & Geography*, 4, 2, pp. 169-184.

Calvino I. (1972), *Le città invisibili*. Einaudi, Torino.

Camera di Commercio di Caserta (2010), *I Comuni della Provincia di Caserta. Anno 2011. I principali Indicatori Socio Economici*. Caserta.

Cavallaro V., Dansero E. (1998), "Sustainable development: global or local", *Geojournal*, 45.1-2, pp. 33-40.

Colonna N., De Felice P., Forni A. (2013), "La transizione energetica come paradigma di sviluppo sostenibile. Un caso di studio nella collina interna della Campania settentrionale". In ENEA, *Atti della XXXIII Conferenza scientifica annuale AISRe Roma, "Istituzioni, Reti Territoriali e Sistema Paese: La governance delle relazioni locali - nazionali"*, 2013, pp. 23-49.

Colonna N., Del Ciello R., Petti R., (2010), "Biomasse agroforestali: valutare il potenziale a scala regionale", *ARS*, 127, pp. 20-24.

Colonna, N., Regina P., (2011), *AGRI_RES, Valutazione quantitativa del potenziale energetico da residui agricoli, Codice di calcolo*. Copyright ENEA numero deposito 2011003775 del 14 settembre 2011.

Commissione europea (2011), *Tabella di marcia per l'energia 2050 COM 885*, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0885:FIN:IT:PDF>, accessed 09.02.2015.

Cristinzio G., Testa A. (Ed.) (2006), *Il castagno in Campania. Problematiche e prospettive della filiera*. Imago Media, Dragoni (CE).

Currand D. W. (1973), *Géographie mondiale de l'energie*. Masson, Paris.

Dansero E., Puttilli M. (2010), *Paesaggio, vulnerabilità e rischio. Temi e riflessioni a partire dalle fonti energetiche rinnovabili*, In Mautone M., Ronza M. (Eds.), *Patrimonio culturale e paesaggio. Un approccio di filiera per la progettualità territoriale*, Gangemi, Roma, pp. 163-170.

De Felice P., Forni A. (2011), "Le barriere all'energia green". *Rinnovabili.it*, rivista on line http://www.rinnovabili.it/energia/efficienza-energetica/le-barriere-allenergia-green3083/, accessed 25.05.2014.

Dell'Agnese E. (1987), "Per una bibliografia ragionata di geografia rurale e agraria". In G. Corna Pellegrini (Ed.) *Aspetti e Problemi della geografia*. Marzorati, Settimo Milanese (MI), pp. 187-226.

Dematteis G. (2002), *Progetto implicito. Il contributo della geografia umana alle scienze del territorio*. Franco Angeli, Milano.

Droege P. (2008), *La città rinnovabile*. Edizione Ambiente, Milano.

Ducci D., Tranfaglia G. (2005), "L'impatto dei cambiamenti climatici sulle risorse idriche sotterranee in Campania", *Bollettino Ordine Geologi della Campania*, 1-4, pp. 13-21.

Ducci D., Tranfaglia G. (2008), "The Effect of Climate Change on the Hydrogeological Resources in Campania Region - Italy". In Dragoni W. (Ed.), *Groundwater and climatic changes*. Geological Society, London, Special Publications, 288, pp. 25-38.

EEA (2008), *Energy and environment report 2008*. 6.

Esposito C. A. *et al.* (1999), *Natura 2000. Il progetto Bioitaly in Campania*. Regione Campania, Napoli.

European Commission (2010), *Energy 2020. A strategy for competitive, sustainable and secure Energy*. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0639&from=EN>, accessed 09.02.2015.

FAO (2008), *The State of Food and Agriculture*. Roma.

Gambi L. (1972), *I valori storici dei quadri ambientali*. In *Storia d'Italia*. Vol. I: *I caratteri originali*, Einaudi, Torino, pp. 3-60.

Grillotti Di Giacomo M.G. (Ed.) (1992), *Una geografia per l'agricoltura*. Voll. I-II, Reda, Roma.

IEA (2013), *Renewable Energy Medium-Term. Market Report*. Colet, Paris.

Ministero per la Coesione Territoriale (2012), *Metodi e obiettivi per un uso efficace dei fondi comunitari 2014-2020*. Roma. http://www.dps.tesoro.it/aree_interne/doc/Metodi_ed_obiettivi_27_dic_2012.pdf, accessed 09.02.2015.

Ministero dello Sviluppo Economico (2013), *Strategia Energetica Nazionale: per un'energia più competitiva e sostenibile*, <http://www.sviluppoeconomico.gov.it/images/stories/normativa/20130314_Strategia_Energetica_Nazionale.pdf>, accessed 09.02.2015, Roma.

Ness B., Brogaard S. (2008), "An environmental assessment of sugar beet transport in southern Sweden using GIS proximity analysis". *Area*, 40, 4, pp. 459-471.

PAE (2011), *Piano d'Azione Italiano per l'Efficienza Energetica Bozza*.

Provincia di Caserta, *Piano Energetico Ambientale della Provincia di Caserta. Linee di indirizzo Strategico* (2009), <http://193.206.101.116/ENERGIA/Documenti/Linee_Indirizzo_Strategico_PEAP_CE_Marzo%202002.pdf>, accessed 09.02.2015.

Puttilli M. (2009), "Per un approccio geografico alla tran-

sizione energetica. Le vocazioni energetiche territoriali". *Bollettino della Società Geografica Italiana*, 3, pp. 601-616.
Regione Campania (2007), *Programma di Sviluppo Rurale 2007-2013*. <http://agricoltura.regione.campania.it/psr_2007_2013/pdf/PSR_2011.pdf>, accessed 18/06/2012.
Regione Campania (2009), *Piano Energetico Ambientale Regionale*. <http://www.economiacampania.net/UserFiles/File/VolumePEAR.pdf>, accessed 18/06/2012.
Reho M. (ed.) (2009), *Fonti energetiche rinnovabili, ambiente e paesaggio rurale*. Franco Angeli, Milano.
Rettenmaier N. *et al.* (2010), *Biomass Energy Europe. Status of Biomass Resource Assessments, Versione 3*, <http://www.eu-bee.com/default.asp?SivuID=24158>, accessed 18/10/2013.
Solomon B. D., Krishna K. (2010), "The coming sustainable energy transition. History, strategies and outlook", *Energy Policy*, 39, pp. 7422-7431.
Stephen J. (2010), "Strategic environmental assessment for energy production Large-scale wind power in electricity markets with Regular Papers", *Energy Policy*, 38, 7, pp. 3489-3497.

Websites

A*RPA CAMPANIA, http://www.arpacampania.it, accessed 18/06/2012*
ARPAC, http://www.meteoambientecampania.it/, accessed 18/06/2012
ISPRA CAMPANIA, http://sgi2.isprambiente.it, accessed 18/06/2012
ISTAT (2009), Atlante statistico dei Comuni, http://www3.istat.it/dati/catalogo/20061102_00/ accessed 18/06/2012.
ISTAT, Demografia in cifre, http://demo.istat.it/, accessed 18/06/2012.
PROVINCIA DI CASERTA, www.provincia.caserta.it, accessed 18/06/2012
REGIONE CAMPANIA, www.regione.campania.it, accessed 18/06/2012.
UNIONCAMERE, Atlante della Competitività delle province e delle Regioni, www.unioncamere.gov.it/Atlante/, accessed 18/06/2012.

Notes

[1] The work is the outcome of joint reflection. Andrea Riggio is the author of part one; Pierluigi De Felice is author of part two.
[2] In 2010 a study entitled *Biomass Energy Europe. Status of Biomass Resource Assessments*, was pubblished, edited by Rettenmaier N., Schorb A., Köppen S., declined on the theme of the biomasses and on the studies to it devoted. It is read in the research that is necessary to appraise the theoretical potential for a coherent, effective and sustainable analysis of the biomasses, technical, economic and practicable (cfr. also Colonna, De Felice and Forni, 2013).
[3] The document proposes a method to intercept and to use in effective and efficient way the funds coming from Europe and destined to the different thematic areas individualized by the European union. Of these last ones we remember, particularly, the one committed to the support towards a transition for a low emission of carbon. The anticipated actions for this thematic area can be synthesized in the followings points: 1) to improve the energetic efficiency and to promote the use of intelligent energy; 2) to improve the sustainable exploitation of the biomasses in the rural areas; 3) to improve the energetic quality of the urban environments and to increase the electric mobility; 4) to consolidate eco-sustainable technology productivity chains and increase the required energetic quote covered by renewable sources.
[4] In reality, calculating the producibility of the FER plants already authorized but not yet completed/realized, reaching an amount of 1485 MWps from renewable sources the deficit of power can be considered below this percentage, reaching the park of the sources renewable quota, 33% of the deficit would be covered in fact from FER plants (Regione Campania, 2009).
[5] Considering the complexity of the definition of "internal areas" and keeping in the correct consideration the different institutional taxonomy and academic aspects l (OCSE, MIPAF, EUROSTAT), in order to reach the goals we recall, also aware of the limits and of the natural impermanence, the declaration of internal areas data in the document already quoted MOFC: "that part of the Town, around three fifths of the territory and a little less than a quarter of the population – distant from centers of agglomeration and service and with unstable trajectories of development but at the same time endowed with resources that the central areas miss it, "rugged", with demographic problems but at the same time strongly polycentric and with an elevated potential of attraction".
[6] The municipality of Roccamonfina, in the province of Caserta, has a land area equal to 30.94 square kilometers and a population density of 117 inhabitants/km² if we consider the resident population in 2011 numbered 3626 units (ISTAT, Census 2011). The population density of the province of Caserta stood, according to ISTAT census data (Census, 2011) to 342 inhabitants/km². This municipality is part of the taxonomy of the small towns of Italy, which represent 70.3% of the national municipalities (The Atlas of Small Towns, 2011).
[7] ISTAT has divided the country into homogeneous areas resulting from the aggregation of contiguous municipalities based on threshold altimetry values. The maximum elevation spot of Roccamonfina amounted to 1006 m, while the minimum at 303 m. The elevation of the city is 612 m. See ISTAT, 2009.
[8] ISTAT has based the degree of urbanization on population density and contiguity between areas by classifying the territory into three types of areas. An area is formed by a group of local contiguous areas.
[9] According to the classification given by the Italian Railway, in the category of station SILVER, includes all other medium-small plants with an attendance average for metropolitan services-regional and long-distance less than that of GOLD category.
[10] The data for these analyzes were drawn up together with the research department of ENEA from people, in particular, of Engineer Andrea Forni and Pasquale Regina where senses of gratitude must be confirmed.
[11] Resuming the ISTAT definition, it is specified that in Tables 2 and 3, the data for the column woods indicate the surface in the woods adjacent to farms.
[12] Taking into account the taxonomy of the municipalities according to climatic zones, as shown in Table A attached to the DPR 412/93 as of October 31, 2009, the City of Roccamonfina belongs to band E.

Isabella Varraso, Antonio Dimitrio

Impact of the global economic crisis on bank loans in agriculture in Italy and in Apulia (2010-2013)[1]

Abstract

The international economic crisis that, starting from the bankruptcy of the Lehman Brothers investment bank declared on September 15, 2008, has transversally hit all the sectors of the world economy; it has had and continues having significant repercussions on the agricultural sector with different effects between developed and non-developed regions.
The European Union is also entering a new period of Common Agricultural Policy reform, and this crisis well illustrates how agriculture is integrated in the economic circuits and worldwide.
The banks, particularly, are playing an important role in credit for farms, above all in the European regions that are economically stronger.
In order to observe if and how the present economical crisis is affecting agriculture and which difficulties the operators are experiencing in starting initiatives able to deal with the present productive competition, it is necessary to pay attention to the access of loans from private investors, through financial bank loans to agricultural holdings, instead of resorting to European funds or public support to agriculture.
This paper is based on the Database Statistics of the Bank of Italy, in order to analyse the trend of lending to the agricultural enterprise in Italy and in Apulia from 2010 to 2013 (the last official data actually available), to examine and provide evaluation of guidelines in place, spatial variations, typology and quality of loan, and to help offer any guidance on further investigations.

Keywords: *Geography of finance, Bank loans in agriculture, Italia, Apulia.*

Impacts of the global economic crisis on agriculture

The international economic crisis that, starting from the bankruptcy of the Lehman Brothers investment bank declared on September 15, 2008, has transversally hit all the sectors of the world economy; it has had and continues having significant repercussions on the agricultural sector with different effects between developed and non-developed regions (Lin, Martin, 2010).

The analysis of the characters and the spatial manifestations of the crisis is very complex, and in agriculture it assumes diverse characters according to aspects, undertakings, rural or strickly agricultural, that are examined. Kennet Bessant (2007) considers "four general themes of discourse on crisis, each with a corresponding level or frame of analysis: (I) *financial difficulties* (family or household level), (II) *structural changes* in agriculture (organizational or sectoral aspects), (III) *rural livelihoods* (community or regional issues), and (IV) *international dimensions* (global influences or repercussions)" (p. 445, cursive of author), internally articulated, closely connected among themselves and that request different answers. "It is important to note that policies directed at one particular aspect of a farm crisis, for example, addressing financial difficulties through commodity-specific programs, can have reverberative effects on structural (e.g., increased economies of scale or capitalization) and global conditions (e.g., trade distortions)" (*ibidem*, p. 450). In particular it attributes a fundamental weight on the geographic scale in order to conduct the analysis and find best solutions. Thus, "as with crisis anaylsis, agricultural policy responses should be examined at multiple points of impact: family, sectoral, regional, and international" (*ibidem*, 2007, p. 451). At the family level, the need for sustaining income is recognized considering the multiple activities. "On a larger scale, off-farm activity plays an important role in stabilizing rural populations through the integration of farm operators into local economies. … It is, therefore, vitally important for policy discourse to recognize the multidimensional or multilevel nature of farm-related crises, the complex nature of precipitating factors, and the varied implications for farm livelihoods, rural communities, and the agricultural sector" (*ibidem*, pp. 454-455).

In the Eurozone the economist Shambaugh be-

lieves it to be more realistic and useful to speak of three crises. "Each of the three will prove difficult to solve, but crucially, all are also interdependent, such that a solution to one will be undone by the others unless they, too, are resolved. The euro area is currently in a banking crisis, where banks face a capital shortfall, interbank liquidity is restrained, and future losses are uncertain. At the same time, it faces a sovereign debt crisis, where at least one country (Greece) will not pay its debts in full, and bondholders are displaying increasing concern about other sovereigns. Finally, it also faces a macroeconomic crisis, where slow growth and relative uncompetitiveness in the periphery add to the burden of some of the indebted nations. This last crisis is one primarily about the level and distribution of growth within the euro area. … The crisis are interlinked in several ways. … To complete the circle, continued troubles for the banks could bankrupt certain sovereigns, already struggling under the weight of supporting the banks within their jurisdictions, and failure of these banks could lead to a broken credit channel, which in turn could become a further constraint on growth" (2013, pp. 158-159).

These considerations on the crisis suggest "at least three ways in how it can distress EU farmers: the banking crisis may cause a credit crunch for agricultural borrowers, by spoiling the functioning of rural financial markets; economic recession and dwindling demand for income-elastic food products may lead to a reduction of farm incomes; constraints on public budgets may lead to spending cuts in agricultural and rural policies" (Petrick, Kloss, 2013, p. 2). The banks are playing an important role in credit for farms, above all in the European regions that are economically stronger. However, "what helped during the current banking crisis may turn out to be a bottleneck for future development of the sector. Institutional weaknesses in banking may slow down structural change and inhibit further modernization. Future institutional reforms thus should not bypass the agricultural banking sector" (*ibidem*, p. 5).

The European Union is about to enter a new CAP reform period. … The present crisis works as a revealer. Aside from the world hierarchical mutation of the States, this crisis well illustrates how a sector such as agriculture is integrated in the economic circuits and worldwide. Within the eurozone, the crisis indicates moreover how the delicate question of sovereign debts and of public deficits claims the conditions of agricultural budget formation for the 2014-2020 period, not less than certain costs that occur at the national scale" (Pouch, 2012, p. 19).

In Italy, even through relevant difficulties, agriculture seems to react to the recession in act, manifesting signals of strength and vitality. The most recent data published by ISTAT (Italian National Institute of Statistics, 2014) show, at 2013, a reduction in the GDP (Gross Domestic Product) of 1,9% with respect to the previous year with significant reductions of added value (–3,2% in the industry in a strict sense, –5,9% in construction, –0,9% in services on the whole) with exception to the agricultural, forestry and fishing sector (+0,3%) and of some services (+1,5% financial and insurance activities, +0,4% in real estate as well as in the professional activities).

This seems to confirm the traditional opinion of the economists regarding the anti-cyclical nature of agricultural sector "that for its characteristics it would be able to absorb and reduce macroeconomical shocks, in one sense or another and therefore could go bucking the general economic cycle: growing less when the economy pulls and suffering less in the recession phases" (De Filippis et Al., 2010, p. 5), even if one must remember the strong incidence of the price trends on the performance of the sector, for which the effects of the economic cycle "are noticed with a certain delay, due to the major rigidity of the supply and demand of agrofood goods" (*ibidem*, p. 6). Moreover, the data should be integrated with ulterior information not always easily measurable, as the role done by informal and undeclared activities and works, that the statistics surveys are not able to take on correctly and punctually.

The agricultural sector in Italy shows weak structures that cause resistance in overcoming the present severe economical and financial crisis, such as the "average farm size is still too small for achieve a generalized process of innovation and internationalization; the weakness of the assets makes more difficult new investments in research and development; the poor transparency of accounting data of a sector that operates, mainly, in simplified accounting methods, makes relations with the banking sector more arduous" (Sabatini, 2013, p. 9).

They are all aspects that, aside which, condition the access to loans for agricultural entrepreneurs and are even more significant in that the entire sector characterizes itself "for a high need of financial resources to activate the productive processes" (Gobbi, 2010, p. 3). In particular, the access to financial banking is often for the small or very small firms, the first and/or principal possibility to

deal with needs of a brief period in order to surpass a deficit of liquidity. In that sense, the role of the financial institution becomes fundamental in that, through the lending, even medium and long-term, they offer the farmers the opportunity to put into practice the structural changes necessary for reacting on the loss of competition tied to the actual crisis.

In this paper, we wish to analyse the process of bank lending to the agricultural enterprise in Italy and in Apulia in the quadrennium from 2010 to 2013, the last official data actually available, to observe and provide evaluation of guidelines in place, spatial variations, typology and quality of loan and to help offer any guidance on further investigations.

Methodology

"In addition to the loan granted by banks and financial intermediaries, the available sources for the agricultural enterprises to handle these [economical] needs are the capital risk and, probably in a larger measure with respect to the productive unity of other sectors, the contributions that under various forms are furnished by the public sector" (Gobbi, 2010, p. 3).

With the objective of observing if and how the present economical crisis is affecting agriculture and which difficulties the operators are experiencing in starting initiatives able to deal with the present productive competition, it is necessary to pay attention to the access of loans from private investors, through financial bank loans to agricultural holdings, instead of resorting to European funds or public support to agriculture.

In the agricultural sector is actually arduous to obtain financing from lenders. In Italy this constitutes an ulterior obstacle to the traditionally difficult relationship between bank and agricultural enterprises. With the objective of monitoring the reliability and the solidity of the firms that operate in the various divisions of agriculture, the banks utilize the rating instrument for evaluating the creditworthiness of the agricultural enterprises. Such an instrument, "based above all on quantitative data extractable from the undertakings' balances, seems to be unsuitable for the agricultural sector, since most of the farm are not able to produce adequate documentation because they don't have to write out the book-keeping. Thus, even taking a risk at a relatively contained level with respect to other economic sectors, the farms receive from the financial institutions worse access conditions" (INEA, 2012, p. 126).

In this paper it was decided to start the survey on the flow of credit in agriculture since 2010 because it is thought that at that date one could start to see the first significant signs of the crisis in Italy through the analyses of changes in modality and entity of grants of credit in the sector, and because in that year there were interventions by the european central banks. In fact, "the evolution of the financial crisis in Europe connected to the prospective of sustainability of the sovereign debit in the peripheral countries of the eurozone, starting in the spring of 2010, have imposed on the Italian bank system – as in those of other countries – the revision in a restrictive sense of criteria for the grants of loans, consequently determining an increase in the margin on the investment at a greater risk and a major request of guarantees, in particular for minor enterprises" (Giannola, 2013, p. IX) and, as said, the agricultural sector has suffered significantly from these restrictions even because of its structural weaknesses.

The Authors then decided to conduct the survey until the last data available at the time of the research, relative to 12/31/2013.

We thought the credit would reveal a change in the agriculturers' behavior with respect to the crisis, for example with a reduction of investments or on the contrary with harder recours to credit to meet the needs of production, and would manifest the response of the banking system for this grant, by the effect of future prudential encumbrances made by the ECB (European Commercial Bank) but even responding to further, more consistent doubtful debts. It is an hypothesis that, in this phase of research, it is not taken into account the multiple variables connected to the bank credit proceedings and that of the agricultural sector, but focuses solely on observing the variables observed.

Here has been referral to the data published by the Bank of Italy and reported in the "Base Dati Statistica" (BDS - Database Statistics), a database present on the Bank of Italy site, that contains an historical record of data available for user consultation, opportunely extrapolating in function with temporal and spatial aspects that are the subject of research (international, national, for some variable provincials and in some cases even municipal). The updating of database is done in a trimester period, and in the same period, it is published on the internet site of the *Bollettino Statistico Banca d'Italia – Eurosistema* (Statistic Bulletin Bank of Italy – Eurosystem). The printed version of the Bulletin is static in that it contains information available

at the moment of the publication. The database, on the contrary, offers dynamic tables because data are systematically updated and revised in light of the eventual corrections which have arrived in the meantime. It concerns, as observed by Gobbi (2010, p. 3) "information of an aggregated nature, that is not able to explain, if not in a very minimal way, the great differences that exist between diverse categories of enterprises in reasoning on the dimensions, of the productive specializations, of the technology used" but that, even with such limitations, certainly furnishes significant information.

In our case we utilized the data present on December 31st of every year, and it was decided that we conduct our analysis at the national scale, by regions, with more details on the Apulia region, by provinces, as it is not possible to further deeper analysis.

In order to understand even the difficulty of the grant credits and in order to consider, in an indirect way, the impact of the crisis on financing the farm enterprises, the focus was placed on the bad debts.

We proceeded by examining the following sections of the Database Statistics of the Bank of Italy: (I) 'bad debts – for the geographic area and division of economic activity of the clients', (II) 'investments – by region and economic activity of clients', (III) 'bank loans beyond the short-term to the agriculture – by region, economic destination and conditions of the investment' (from this last section, the heading 'agriculture, forestry and fishing' was extrapolated). Therefore, the data for each heading and each region was extracted.

The first section of the database reports the data on the basis of the ATECO codes (codes of the Italian Institute of Statistics of economic activities) and for the present work we took back the relative values from the agricultural sector (code A) and confronted them with the total non-performing grants for all the productive sectors (according to the heading of: 'Total ATECO'). As for the second section, the regional filter of database was applied, repeating the data, as said, on December 31st of each year. For the third section, the regional filter was applied and the ulterior subdivisions were considered for 'the aim of economic investment' and that is, according to the denominations of the Trimestral Statistic Bulletin of the Bank of Italy: (I) 'purchase of rural real property (in the database denominated 'purchase of real property – other rural real property'), (II) 'construction of rural buildings' (in the database denominated 'constructions – non-residential rural buildings'), (III) 'purchase of machinery, equipments, vehicles, and various rural products' (in the data base 'purchase of machinery, vehicles, and various equipments').

The tables drawn here contain the results of the aforementioned extrapolation, in addition to which they report the totals calculated for three large partitions of Italy in Northern, Central, Southern Italy and Islands, according to the articulation proposed by the Bank of Italy and reported in the Glossary of the Statistical Bulletin of the Bank of Italy (Northern: Piemonte, Valle d'Aosta, Liguria, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giulia and Emilia Romagna; Central: Toscana, Marche, Umbria, Lazio; Southern and Islands: Abruzzo, Molise, Campania, Apulia, Basilicata, Calabria, Sicilia and Sardegna). They report, mereover, the regional percentages of the variables considered on the total of Italy, so as to verify the eventual presence of signs of recovery in the last year and, for the same reason, the percentile variations 2012-2013 are also calculated, in addition to the percentile variations of the data of the entire period studied.

In order to evaluate the spatial dimensions of the phenomena, and acquire a synthetic vision of the data within their territorial evidence, choropleth maps were elaborated, trying, where possible, to make cartographic correlations overlaying circles charts. The basic map was furnished by ISTAT, upon our request. The original maps are with colors, but are included here in black and white.

Investments in agriculture

In regions characterized by crisis and uncertainties, along with the lack of liquidity, it is possible that enterprises are unable to pay financing and within the arranged terms. For verifying the difficulties of banks granting loans we thought of starting from the observation of bad debts, that is the exposure of credit for clients in a state of insolvency or in substantially similar situations, connected to loans in Italy in agriculture and, to better evaluate the relative importance, they were confronted with those of all the productive sectors. Moreover, the bad debts were calculated with respect to the number of enterprises that were given loans.

From the data analysis of Bank of Italy in the quadriennium 2010-2013 (Tab. 1) particular critical situations are not evidenced in the agricultural sector, or at least not worse with respect to

the overall behavior of the economic activities. In 2013, of the 17.856 farm enterprises who received loans, aside from the guarantees that assist them, the bad debts amounted to 4.728 million euro, increasing with respect to 2012 (+13.82%) and even the ratio on bad debts/recipients is slightly increasing, having grown in the same period the number of recipients. On the whole, in 2013 the agricultural sector shows a good ability to resist the crises, at least at this level of observation.

In light of these difficulties of banks to foreclose loans, we wanted to observe what was the volume of investment in the primary sector in Italy, to start verifying a particular tendency of the phenomenon and if there were, and eventually to what degree, regional differences (Tab. 2). Ulterior information could have been obtained confronting these data with other social-economical information (for example, the active population in the sector, the number of agricultural holdings, the cultivated area used etc.), but in this phase of work they were not calculated, but are considered to be developed later.

From table 2 emerges that in 2013 the North has the largest share of loans for investment in agriculture (much as 61.71%), with positive variations in the quadriennium, except of the Valle d'Aosta and Liguria (respectively –10.42% and –8.30%). Only in 2012-2013 negative variations are registered in almost all the Northern regions, aside from Lombardia (+1.09%) and Veneto (+0.67%), moreover in line with the trend of the quadriennium. In the same period it seems to speculate upon the situation in Southern Italy (–1.69%), with a positive variation verified only in Basilicata (+1.16%) that even registers a moderate volume of investment with respect to almost all the other regions, and a negative peak in Sardegna (–5.33%).

In Central Italy there is a significant volume of consistency (+19.36% with respect to Italy) and a positive variation of +5.14% in the attribution of investment accompanied by a variation percentile of –0.27% in the 2012-2013 period in which contribute Emilia Romagna (–0.47%) and Toscana (–0.93%).

The spatial dimension results further evidenced with a choropleth map that summarizes how the phenomenon, though it develops patchy, presents a significant territorial concentration (Fig. 1).

Less favored areas can be easily identified. The country's strong areas, and in the South (Apulia and Sicily) stand out. The data inform us however that Apulia in 2013 with 2.174,83 million euros of investments represents 6.62% of the national value and in the quadriennium examined has a positive variation percentile of 5.63%; Sicily however with a good 2.298,18 million euros of investments, holds only a 3.04% of the national volume but with a positive variation of 8.26%, giving testimony of the diverse local capacities of using financial resources and the variety and complexity of the regional situations.

The different importance of the interventions of the financial institutions influences therefore a great deal the results on the territory. Moreover, in the last years, the unfavorable economic juncture, the increased uncertainty of markets, together with the difficulty of access to credit, has brought the farm enterprises to reduce in the first place the investments for the development of their activity. This has caused a "loss of structural competitiveness in a sector, that being agricultural, often characterized by low productivity of factors and in which the only opportunity for remaining competitive is represented by investments that al-

Tab. 1. Italy: bad debts and recipients in the agricultural sector and in the total of the productive sector in the period 2010-2013 (in million euros).

YEARS	AGRICULTURE			TOTAL PRODUCTIVE SECTORS		
	Bad debts	Recipients	Bad debts/recipients	Bad debts	Recipients	Bad debts/recipients
31/12/2010	2.686	13.220	0,20	58.530	269.271	0,22
31/12/2011	3.630	15.526	0,23	80.261	334.118	0,24
31/12/2012	4.153	16.611	0,25	93.887	365.285	0,26
31/12/2013	4.728	17.856	0,26	118.039	396.562	0,30

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

Tab. 2. Italy: financing in agriculture, forestry and fishing in regions, 2010-2013 (in million euros).

Regions	2010	2011	2012	2013	2013 % Total Italy	Variation % 2010 - 2013	Variation % 2012 - 2013
Piemonte	2.923,08	3.130,94	3.192,07	3.180,72	7,21	8,81	–0,36
Valle d'Aosta	51,43	51,09	50,00	46,07	0,10	–10,42	–7,86
Liguria	424,02	401,49	399,63	388,83	0,88	–8,30	–2,70
Lombardia	7.815,35	8.463,15	8.713,42	8.808,57	19,98	12,71	1,09
Trentino Alto Adige	2.092,37	2.197,90	2.185,05	2.172,09	4,93	3,81	–0,59
Friuli Venezia Giulia	1.325,15	1.378,23	1.417,40	1.404,24	3,18	5,97	–0,93
Veneto	4.995,55	5.447,01	5.554,59	5.591,66	12,68	11,93	0,67
Emilia Romagna	5.232,44	5.568,14	5.644,98	5.618,46	12,74	7,38	–0,47
Toscana	4.334,33	4.451,17	4.407,09	4.366,16	9,90	0,73	–0,93
Umbria	955,26	994,86	1.002,16	1.004,82	2,28	5,19	0,27
Marche	1.183,65	1.316,70	1.303,62	1.305,35	2,96	10,28	0,13
Abruzzo	614,70	699,69	698,50	703,84	1,60	14,50	0,76
Lazio	1.644,98	1.837,69	1.845,84	1.858,94	4,22	13,01	0,71
Campania	1.082,77	1.108,97	1.094,27	1.087,28	2,47	0,42	–0,64
Molise	158,03	172,22	162,51	161,62	0,37	2,27	–0,55
Puglia	2.058,93	2.290,84	2.221,25	2.174,83	4,93	5,63	–2,09
Basilicata	359,92	386,67	389,97	394,51	0,89	9,61	1,16
Calabria	644,63	663,05	682,68	665,41	1,51	3,22	–2,53
Sicilia	2.122,88	2.330,29	2.331,44	2.298,18	5,21	8,26	–1,43
Sardegna	848,84	895,75	913,22	864,58	1,96	1,85	–5,33
Nord Italia	*24.859,39*	*26.637,95*	*27.157,14*	*27.210,64*	*61,71*	9,46	0,20
Centro Italia	*8.118,22*	*8.600,42*	*8.558,71*	*8.535,27*	*19,36*	5,14	–0,27
Sud Italia e Isole	*7.890,70*	*8.547,48*	*8.493,84*	*8.350,25*	*18,94*	5,82	–1,69
TOTALE ITALIA	**40.868,31**	**43.785,84**	**44.209,68**	**44.096,16**	**100**	**7,90**	**–0,26**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

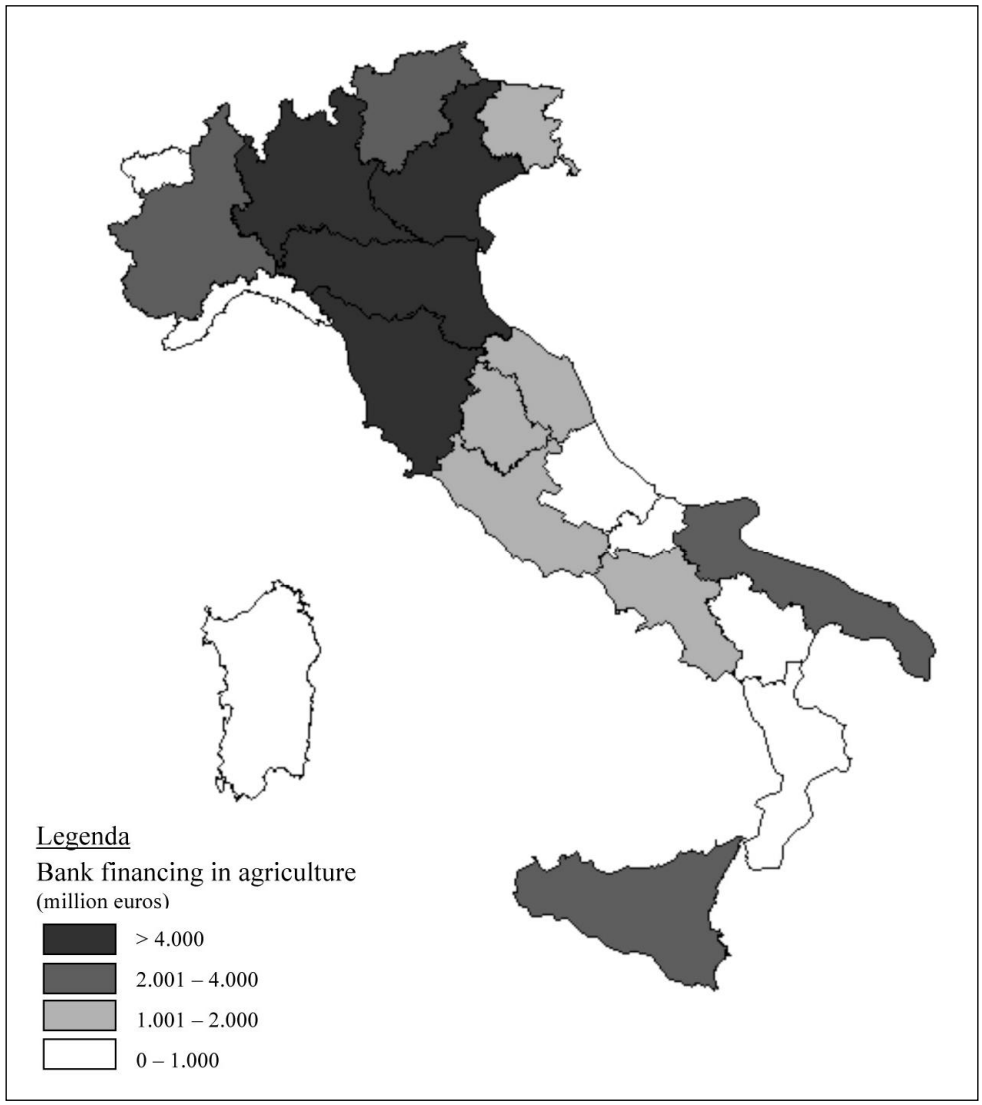


Fig. 1. Italy: bank financing in agriculture, forestry and fishing, 2013 (our processing on Bank of Italy data (DBS), 12/31/2013).

low improving organization of agricultural production" (De Filippis, Romano, 2010, p. 44).

To verify in which directions the interventions of the financial institutions have gone, we have considered, as said, the bank loans beyond the shorth-term in the agricultural sector for the first three variables listed in the official database of the Bank of Italy: purchase of rural real property, construction of rural buildings, purchase of machinery, vehicles and various equipments.

The situation in 2013 by region is illustrated in Table 3, which already allows one to observe the orientation of the agricultural operators and unveils the differences and problems.

Tab. 3. Total bank loans beyond the short-term for investments in agriculture, forestry and fishing in Italian regions, 2013: purchase of rural real properties, construction of farm buildings, purchase of machinery, vehicles and various equipments (in million euros).

The total loans of Northern Italy (8.588,95 million euros) is almost three times that of Central Italy and three and a half that of Southern Italy and the Islands (respectively 2.997,01 and 2.480,81 million euros) with a volume for Lombardia (3.057,77 million euros) a good doublely superior Veneto (second region for consistency with 1.678,79 million euros). The type of credit mostly requested is that of the construction of rural buildings, above all in Lombardia and Toscana (first and second

Tab. 3. Total bank loans beyond the short-term for investments in agriculture, forestry and fishing in Italian regions, 2013: purchase of rural real properties, construction of farm buildings, purchase of machinery, vehicles and various equipments (in million euros).

Regions	Purchase rural real properties	Construction farm buildings	Purchase machinery, vehicles and various equipments	Total bank loans
Piemonte	208,70	476,52	440,61	1.125,83
Valle d'Aosta	3,10	32,91	6,73	42,74
Liguria	11,51	41,83	25,25	78,59
Lombardia	468,81	1.495,04	1.093,72	3.057,57
Trentino Alto Adige	185,69	266,93	88,96	541,58
Friuli Venezia Giulia	74,66	158,62	176,81	410,09
Veneto	307,62	635,95	735,22	1.678,79
Emilia Romagna	343,65	686,19	623,92	1.653,76
Toscana	263,47	708,23	446,80	1.418,50
Umbria	57,86	200,61	79,49	337,96
Marche	114,44	133,89	120,19	368,52
Abruzzo	32,48	62,16	76,34	170,98
Lazio	212,01	463,80	196,22	872,03
Campania	78,64	191,33	124,47	394,44
Molise	8,96	19,852	23,39	52,20
Puglia	105,14	314,70	336,52	756,36
Basilicata	25,40	37,61	67,36	130,37
Calabria	20,79	49,21	159,93	229,93
Sicilia	164,89	143,53	154,56	462,98
Sardegna	34,62	138,50	110,44	283,56
Nord Italia	*1.603,74*	*3.793,99*	*3.191,22*	*8.588,95*
Centro Italia	*647,78*	*1506,53*	*842,7*	*2.997,01*
Sud Italia e Isole	*470,91*	*956,89*	*1.053,01*	*2.480,81*
TOTALE ITALIA	**2.722,43**	**6.257,41**	**5.086,93**	**14.066,77**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

place on the regional list for the variable considered); a significant investment in the purchase of machinery and equipments is verified instead in the South and the Islands, with a good 1.053,01 million euros of requested loans.

The cartographic representation of this data is reported in figure 2 and constitutes the basis for the ulterior representation of the single voices of investments in agriculture which will be examined in the following paragraph.

Destination of bank loans and investments in agriculture

The confrontation of the tables that follow with that regarding the investments, clearly reveals how the increase of investiments, registrated in the quadriennium 2010-2013, did go hand in hand with the increase of the financing. Such data must be read as a warning: the investments take on an essential role for to relaunch the economy, they contribute to the growth of a productive structure and the reduction of unemployment; in the last quadriennium the loans granted to farms resulted indispensable above all for the current aim, that is the need for the liquidity for the ordinary management rather than for the actions of corporate restructuring.

Observing medium-and long term loans, those granted for financing corporate investments, the amount in Italy in the year 2013 for the purchase

of rural real property (Tab. 4) shows, in the quadriennium considered, a reduction of –7.49%. The spatial distribution of the loans shows that the Northern regions contain a higher concentration: Lombardia, Veneto, and Emilia Romagna, absorb more than 40% of total money, while in the same period that of the Central and Southern Italy register a generalized drop (–18.94%), particularly in Calabria, Molise and Sicily, with exception to Basilicata that instead shows an increase (+16.62%). Shifting the analysis of variation in the period 2012 and 2013, it is possible to point out a shy positive sign that could allow to catch a glimpse of a possible regression from the crisis in a short time. The increase in the investments for this purpose, anyway, is circumscribed to the Northern regions, while the Central and Southern present almost exclusively a negative trend, with exception to Basilicata (+13.84%) and Sardegna (+0.87%).

The financing beyond the short-term destined for the construction of rural buildings (Tab. 4), is the typology of investment that, within the examined period, seems to have undergone the effects of the reduction of the loan.

As already observed, the variable of financing beyond the short-term for the construction of rural

Tab. 4. Bank loans beyond the short-term for investments in agriculture in Italian regions, 2010-2013: purchase of rural real properties (in million euros).

Regions	**2010**	**2011**	**2012**	**2013**	**2013 % Total Italy**	**Variation % 2010 - 2013**	**Variation % 2012 - 2013**
Piemonte	196,88	206,85	205,04	208,70	7,67	6,00	1,79
Valle d'Aosta	2,58	2,58	3,17	3,10	0,11	20,17	–2,33
Liguria	14,11	11,45	11,32	11,51	0,42	–18,41	1,74
Lombardia	484,76	483,10	479,00	468,81	17,22	–3,29	–2,13
Trentino Alto Adige	184,46	191,48	183,75	185,69	6,82	0,67	1,06
Friuli Venezia Giulia	72,58	76,29	73,73	74,66	2,74	2,87	1,26
Veneto	282,10	294,91	292,27	307,62	11,30	9,05	5,25
Emilia Romagna	355,93	353,36	351,09	343,65	12,62	–3,45	–2,12
Toscana	337,73	306,53	283,70	263,47	9,68	–21,99	–7,13
Umbria	60,69	68,00	63,50	57,86	2,13	–4,66	–8,88
Marche	120,80	117,99	115,62	114,44	4,20	–5,26	–1,02
Abruzzo	38,43	38,03	32,66	32,48	1,19	–15,48	–0,56
Lazio	249,19	234,94	220,18	212,01	7,79	–14,92	–3,71
Campania	97,19	95,81	79,92	78,64	2,89	–19,08	–1,60
Molise	12,28	11,57	10,21	8,96	0,33	–27,04	–12,26
Puglia	130,43	130,16	115,96	105,14	3,86	–19,39	–9,33
Basilicata	21,78	19,46	22,39	25,40	0,93	16,62	13,44
Calabria	34,48	31,94	24,37	20,79	0,76	–39,72	–14,70
Sicilia	206,65	195,56	177,08	164,89	6,06	–20,21	–6,88
Sardegna	39,69	39,18	34,32	34,62	1,27	–12,78	0,87
Nord Italia	*1.593,40*	*1.620,02*	*1.599,37*	*1.603,74*	*58,91*	*0,65*	*0,27*
Centro Italia	*768,41*	*727,46*	*683,00*	*647,78*	*23,79*	*–15,70*	*–5,15*
Sud Italia e Isole	*580,93*	*561,71*	*496,91*	*470,91*	*17,30*	*–18,94*	*–5,23*
TOTALE ITALIA	**2.942,74**	**2.909,18**	**2.779,27**	**2.722,43**	**100,00**	**–7,49**	**–2,05**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

buildings recorded the highest share of investments (Tab. 5), but it is also that in the four years was most penalized by the reduction of bank loan (–23.0%).

From the reading of the data relating to this type of investment (Tab. 5), a strong fall emerges with respect to the previous table analyzed: the financing for the construction of rural buildings, although destined at 60.63%, for the Northern Italian regions, underwent a uniform reduction on the entire national territory. It goes from –21.98% of the Northern regions, to –23.70% of the Southern ones, reaching up to the highest data of Central Italy, –25.02%, in spite of Abruzzo's behavior (+11.08%).

In 2013 the finances over the short-term on the purchase of machinery and equipments (Tab. 6), even though on an increase of 3.62% in comparison to 2010, in the last period 2012-2013 register a decrease in comparison to 2012, which is more noticeable in the Northern and in Central Italy (respectively of –6.88% and –6.36%) and less felt in Southern Italy (–2.53%).

The investments in agricultural machinery, although necessary for the farms, register a dip that worries not only the agricultural sector, but even the support activities, in this case represented by the production of agricultural machinery. The reason depends on the inversion of the trend at

Tab. 5. Bank loans beyond the short-term for investments in agriculture for Italian regions, 2010-2013: construction of farm buildings (in million euros).

Regions	2010	2011	2012	2013	2013 % Total Italy	Variation % 2010 - 2013	Variation % 2012 - 2013
Piemonte	721,64	658,55	535,95	476,52	7,62	–33,97	–11,09
Valle d'Aosta	35,12	28,69	33,48	32,91	0,53	–6,29	–1,70
Liguria	56,86	51,89	46,30	41,83	0,67	–26,43	–9,65
Lombardia	1.770,54	1.697,32	1.615,27	1.495,04	23,89	–15,56	–7,44
Trentino Alto Adige	233,93	317,54	300,02	266,93	4,27	14,11	–11,03
Friuli Venezia Giulia	197,67	199,27	176,17	158,62	2,53	–19,76	–9,96
Veneto	871,17	866,99	689,83	635,95	10,16	–27,00	–7,81
Emilia Romagna	976,02	860,96	750,34	686,19	10,97	–29,70	–8,55
Toscana	965,52	988,22	740,86	708,23	11,32	–26,65	–4,40
Umbria	216,60	216,43	198,79	200,61	3,21	–7,38	0,92
Marche	186,42	155,01	147,57	133,89	2,14	–28,18	–9,27
Abruzzo	55,96	53,49	65,40	62,16	0,99	11,08	–4,95
Lazio	640,79	653,91	491,01	463,80	7,41	–27,62	–5,54
Campania	282,59	313,49	276,40	191,33	3,06	–32,29	–30,78
Molise	23,38	25,01	21,69	19,852	0,32	–15,09	–8,47
Puglia	373,51	375,09	337,28	314,70	5,03	–15,75	–6,69
Basilicata	54,29	48,22	43,4	37,61	0,60	–30,72	–13,34
Calabria	83,57	75,62	54,37	49,21	0,79	–41,12	–9,49
Sicilia	174,13	172,86	155,16	143,53	2,29	–17,57	–7,50
Sardegna	206,32	191,48	159,13	138,50	2,21	–32,87	–12,96
Nord Italia	*4.862,95*	*4.681,21*	*4.147,36*	*3.793,99*	*60,63*	*–21,98*	*–8,52*
Centro Italia	*2.009,33*	*2.013,57*	*1.578,23*	*1.506,53*	*24,08*	*–25,02*	*–4,54*
Sud Italia e Isole	*1.253,76*	*1.255,26*	*1.112,83*	*956,89*	*15,29*	*–23,70*	*–14,01*
TOTALE ITALIA	**8.126,04**	**7.950,04**	**6.838,42**	**6.257,41**	**100,00**	**–23,00**	**–8,50**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

the national scale (of –5.92%), registered in the biennium 2012-2013, that is justified above all by the fall of the tendency to purchase new agricultural machinery as pointed out by a Nomisma study of 2013 on the evolution of the agricultural machines market, done for FederUnacoma. The survey reveals how the decrease in purchase of tractors registered in the period 2007-2012 (–28.0%) is partly attributed also to the increase of recourse to subcontractors which recorded nearly 4 million days dedicated in farms (Nomisma, 2013, p. 1). The cost for such supporting activity has grown in a substantial way in these last years, as is demonstrated in Table 7: in the quadriennium 2010-2013 an increase of 17.13% was registered, for a total outlay that, in 2013, is 2.820,80 million euros.

The core that shapes this type of financing for the development of the agricultural sector is evidenced, moreover, by the interest shown by the legislator that, with the Decree Law 69/2013, that reinforced the guarantee fund for the small and medium size enterprises at the time introduced by the article 2, comma 100 of the Law 662/1996. The aim of the fund is to ensure loans granted by banks to the small and medium enterprises in order to boost and facilitate access to loan. Arti-

Tab. 6. Bank loans beyond the short-term for investments in agriculture in Italian regions, 2010-2013: purchase of machinery, vehicles and various equipments (in million euros).

Regions	2010	2011	2012	2013	2013 % Total Italy	Variation % 2010 - 2013	Variation % 2012 - 2013
Piemonte	459,23	471,62	459,23	440,61	8,66	–4,05	–4,05
Valle d'Aosta	6,62	7,02	7,27	6,73	0,13	1,66	–7,43
Liguria	32,84	32,47	32,48	25,25	0,50	–23,11	–22,26
Lombardia	1.076,84	1.191,22	1.189,64	1.093,72	21,50	1,57	–8,06
Trentino Alto Adige	79,43	108,55	98,04	88,96	1,75	12,00	–9,26
Friuli Venezia Giulia	185,79	196,86	190,60	176,81	3,48	–4,83	–7,24
Veneto	739,10	812,83	795,49	735,22	14,45	–0,52	–7,58
Emilia Romagna	595,62	615,93	654,10	623,92	12,27	4,75	–4,61
Toscana	317,59	309,03	472,81	446,80	8,78	40,68	–5,50
Umbria	66,90	72,54	83,51	79,49	1,56	18,82	–4,81
Marche	196,39	169,52	137,71	120,19	2,36	–38,80	–12,72
Abruzzo	72,70	83,89	78,46	76,34	1,50	5,01	–2,70
Lazio	157,43	170,17	205,88	196,22	3,86	24,64	–4,69
Campania	146,06	135,96	136,64	124,47	2,45	–14,78	–8,91
Molise	30,06	29,37	24,91	23,39	0,46	–22,19	–6,10
Puglia	265,85	337,60	327,73	336,52	6,62	26,58	2,68
Basilicata	60,19	67,72	68,00	67,36	1,32	11,91	–0,94
Calabria	144,90	154,78	168,52	159,93	3,14	10,37	–5,10
Sicilia	180,68	177,87	169,16	154,56	3,04	–14,46	–8,63
Sardegna	94,92	102,24	106,97	110,44	2,17	16,35	3,24
Nord Italia	*3.175,47*	*3.436,50*	*3.426,85*	*3.191,22*	*62,73*	*0,50*	*–6,88*
Centro Italia	*738,31*	*721,26*	*899,91*	*842,70*	*16,57*	*14,14*	*–6,36*
Sud Italia e Isole	*995,36*	*1089,43*	*1080,39*	*1053,01*	*20,70*	*5,78*	*–2,53*
TOTALE ITALIA	**4.909,14**	**5.247,19**	**5.407,15**	**5.086,93**	**100,00**	**3,62**	**–5,92**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

Tab. 7. Italy: subcontracting activities in the years 2010-2013 (in million euros).

Activities supporting to agriculture	2010	2011	2012	2013	Variation % 2010 - 2013	Variation % 2012 – 2013
Subcontracting and rental of vehicles and agricultural machinery	2.408,10	2.522,30	2.706,30	2.820,80	17,13	4,23

Source: Our processing on INEA data, 2014.

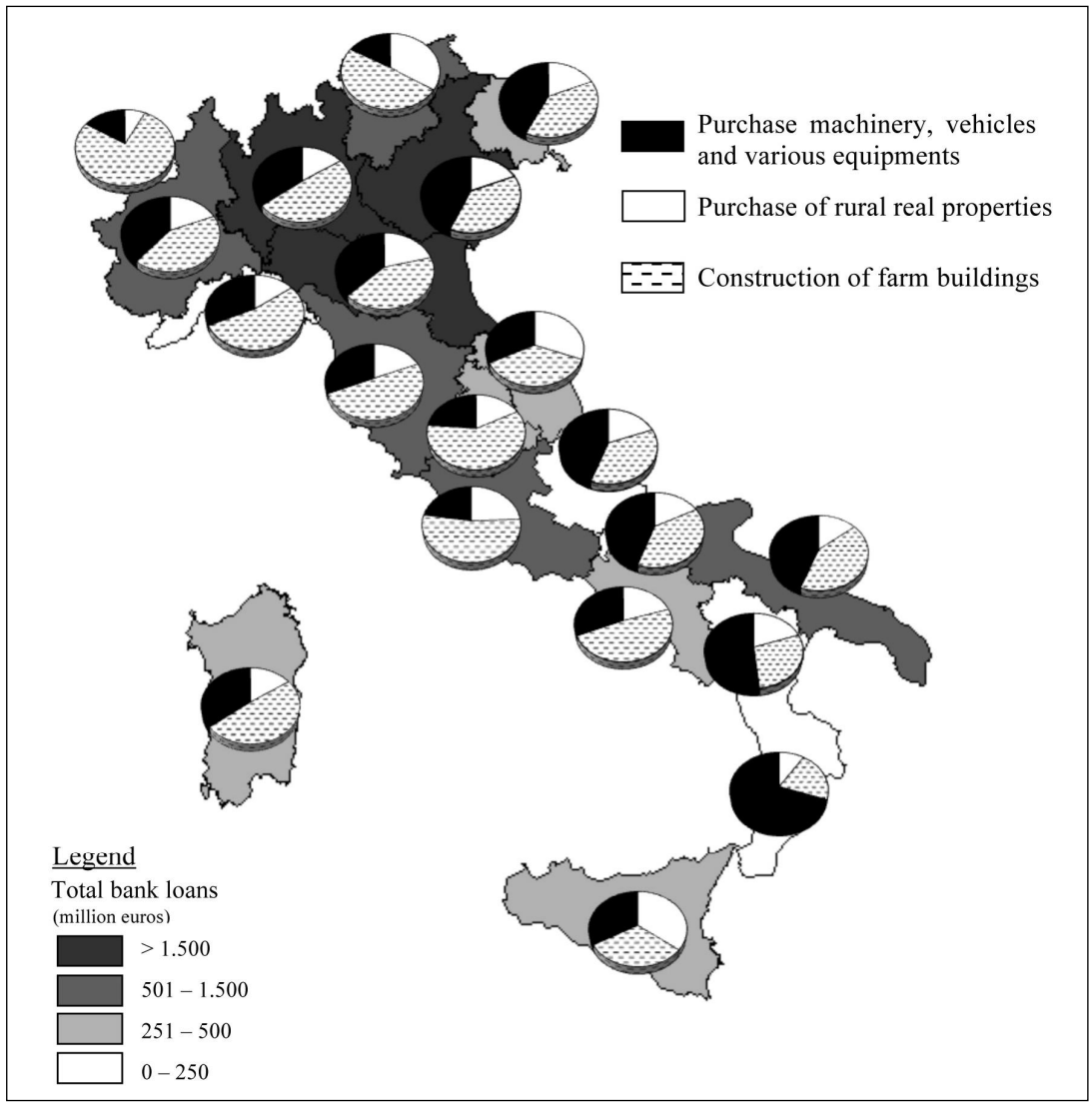


Fig. 2. Bank loans beyond the short-term for investments in agriculture, forestry and fishing in Italian regions, 2013, for: purchase of rural real property, construction of rural buildings, purchase of machinery, equipment, vehicles, and various rural products (our processing on Bank of Italy data - (DBS), 12/31/2013).

cle 2 of the Decree, in particular, has provided the "granted in favor of the small and medium size enterprises of a contribution for investments, even through operations of leasing, in machinery, plants, tools for enterprise and brand new equipment for production use, as well as for the investments in hardware, in software and in digital technology, a proportional contribution to the loan interest on financial cost that enterprises must pay to the lenders on financing or leasing

contract for the purchase of equipment, plants or brand new machinery".

Even for the variables relating to the financing exceeding the short-term, it was observed the territorial dimensions through the cartographic representation in figure 2 which shows the basic choropleth map describing the total investments beyond the short term by region, the thematic map with circles charts of the three types of investments considered. The visualization of the diverse regional behaviors and the comparison between the same in their relative positions appears clear, just as are evident the behavior of the agricultural enterprises in the different territorial realities.

Access to bank loans for agriculture in Apulia

The agricultural systems in Apulia have shown since post-war till today a great vitality carrying out an important role in the regional economy as far as broadness and quality of the areas cultivated, for the productive capacity, and the entrepreneurial opportunities (Grillotti, 1992; Grillotti, 2000; Di Carlo, 1996; Fiori, Varraso, 1995; Pollice 2012).

The agricultural sector actually, even given the structural and conjunctural problems, is facing the difficulties with great pride and its survey is certified by the ISTAT data of 6° General Census of Agriculture of 2010: Apulia is the region of Italy with a major number of agricultural enterprises (more than 270.000) followed by Sicily (219.000), Calabria (138.000), Campania (137.000) and Veneto (127.000). In terms of economic results, Apulia's agricultural system is dominated by small agricultural holdings, the major part (63.8%) has an economic consistency inferior to 8.000 euros, and barely the 5% has a standard production superior to 50.000 euros (Confagricoltura Apulia, 2014, p. 14). More in detail, although in 2013 "the recessive phase started the previous year continued in Apulia" (Bank of Italy, 2014, p. 5), the agricultural sector defended itself well, allowing for an increase in "added value of the sector at 2.4% after the strong fall of the previous year" (*ibidem*).

The negative juncture together with a financial structure that, above all in the small and medium enterprises, is characterized by a "low patrimonialization and by an excessive dependence on bank loans" (Confindustria, 2014, pg 14) has influenced the dynamics of the financing to the Apulia enterprising, precluding the same from the possibility to get funds from the capital market. Moreover, the well known structural weaknesses of the enterprises in the agricultural sector, characterized by the poor transparency of countable data due to the simplified accounting regime, making the relationship with the bank system even more difficult that, as surveyed in more parts, has shown a "behavior always more orientated towards prudence … with choices that do not always seem to satisfy the demand for loans expressed by the territory" (Del Principe *et Al.*, 2013).

Confronting the data pertinent to the loans granted in Apulia and those pertinent to the whole national territory, always learned from the database of the Bank of Italy, it shows how the apulian statistics is often not in line with the national one. Even in Apulia, the construction of rural buildings is the financing majorly penalized, as confirmed in the data of financing destined to this investment (Tab. 8), yet, such data show a reality that, although negative, results being better than the national one.

Tab. 8. Bank loans beyond the short-term for investments in agriculture in Apulian provinces, 2010-2013: construction of farm buildings (in million euros).

Provinces	2010	2011	2012	2013	2013 % Total Apulia	Variation % 2010 - 2013	Variation % 2012 - 2013
Bari	155,04	152,71	133,00	121,11	38,48	–21,88	–8,94
Foggia	69,09	72,58	70,53	69,12	21,96	0,04	–2,00
Brindisi	24,63	25,92	21,38	18,63	5,92	–24,36	–12,86
Taranto	43,90	42,43	35,68	30,18	9,59	–31,25	–15,41
Lecce	64,35	65,35	60,97	59,92	19,04	–6,88	–1,72
Barletta - Andria - Trani	16,49	16,10	15,72	15,75	5,00	–4,49	0,19
TOTALE PUGLIA	**373,50**	**375,09**	**337,28**	**314,71**	**100,00**	**–15,74**	**–6,69**
TOTALE ITALIA	**8.126,04**	**7.950,04**	**6.838,42**	**6.257,41**	**–**	**–23,00**	**–8,50**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

The table, moreover, shows how the medium reduction of financing in the apulian provinces, in the last quadriennium, has stood at –15.74%, with the Taranto province that recorded the strongest negative results (–31.25%), followed by Brindisi (–24.36%) and Bari (–21.88%); the only province that records an increase, although slight, in the consistencies with respect to 2010 is Foggia (+0.04%). In the Barletta-Andria-Trani province, confronting 2012-2013, there is a slight inversion of the negative trend (+0.19%), while Taranto and Brindisi reveal a worrying performance that, in the same period have recorded a drop in the consistencies respectively at –15.41% and –12.86%.

Apulia shows a negative performance in the data analysis of the relative financing beyond the short terms destined for the purchase of rural real property (Tab. 9).

The Apulian data demonstrate a significant drop in the 2010-2013 period: the reduction in the financing for this use, passes from 130 million euros in 2010 to 105 million euros in 2013 with a decrease much above the national average (–19.39%). The most substantial reduction is from the province of Brindisi (–61.92%) followed by the provinces of Lecce (–43.14%) and Bari (–23.24%). In sharp contrast the statistics regarding Barletta-Andria-Trani: in the last quadriennium, there is a registered strong increase in financial grants for the purchase of rural real property (+61.67%).

In the last year, positive data of Barletta-Andria-Trani follow (+9.34%) along with Foggia, the only province that registered a reversion of the trend and is receiver of more than a third of the financing for this destination. The performance of the province of Brindisi even for this type of investment registers a stronger negative trend (–51.20%), followed by the province of Lecce (–28.57%) that as a whole showed a drastic negative variation in the consistencies (more than 8 million euros).

Even in Apulia, as in the rest of Italy, the growing difficulty of access to loans, has conducted enterprises to invest mainly in the development of the directly productive activity. This is what is demonstrated by the survey regarding the financing for the purchase of machinery, vehicles and various equipment (Tab. 10).

The percentage variation in the last four years, registers an increase of the consistencies at +26.58%, much above the national average remaining at 3.62%. Even for this destination it is Barletta-Andria-Trani that show the highest value (+83.35%) followed by Bari (+75.81%) and Brindisi (+68.70%), while Taranto, even for this type of investment, undergoes a significant penalization (–26.39%).

The data regarding the total amount of financing destined for the investments in Apulia (Tab. 11) show how the contraction that concerns the region results being less important with respect to the average decrement registered in Italy. More in detail, as shown in the map in Fig. 3, there seems to be a substantial amount of investments destined for the purchase of machines, transportation means and various equipment in almost all the provinces, with exception to Taranto and Lecce while, in all the provinces, the less consistent piece is destined for the purchase of machinery, vehicles and varuous equipments. The figure seems to confirm how, in a time of crisis and scarce liquidity, investing in goods for production is preferred as it is immediately insertable in the productive cycle.

The map in figure 3, in analogy with the analysis done for the regions of Italy, shows the behavior of the variables considered for the Apulian provinces.

Final considerations

Statistical data show then how the contraction of loan for agriculture hit the financing tied to the investments in a more significant way. The explanation is linked to the need for the farms to resort to the loan above all for overcoming the deficit of liquidity that, particularly in the last years, is making the agricultural sector fall to its knees: at the increase of occupation in the last four years treated, there is no followed up by investments and this is a clear sign of the impossibility to plan medium and long-term investments. It was on the other hand difficult imagining a diverse evolution of the situation faced with a crisis so long and deep, where "the enterprises of the agricultural sector, notwithstanding the continuing improvements made in the past years, on the whole, show some structural weaknesses" (Sabatini, 2013, p. 9). Even the investments for the purchase of machinery and agricultural equipments, fundamental for the activity of every agricultural enterprise, undergo a standstill in 2013 caused by the recourse to subcontracting as well as by a more parsimonial management of the agricultural machinery.

The statistics regarding bank loans destined to the Apulian provinces demonstrate an improvement with respect to the average national statistics. This could have a double meaning: the

Tab. 9. Bank loans beyond the short-term for investments in agriculture in Apulian provinces, 2010-2013: purchase rural real property (in million euros).

Provinces	2010	2011	2012	2013	2013 % Total Apulia	Variation % 2010 - 2013	Variation % 2012 – 2013
Bari	43,68	43,02	36,76	33,53	31,89	–23,24	–8,79
Foggia	41,37	43,65	37,03	37,78	35,93	–8,68	2,03
Brindisi	18,12	15,70	14,14	6,90	6,56	–61,92	–51,20
Taranto	17,02	17,47	16,36	15,72	14,95	–7,64	–3,91
Lecce	5,10	5,02	4,06	2,90	2,77	–43,14	–28,57
Barletta - Andria - Trani	5,14	5,30	7,60	8,31	7,90	61,67	9,34
TOTALE PUGLIA	**130,43**	**130,16**	**115,95**	**105,14**	**100**	**–19,39**	**–9,32**
TOTALE ITALIA	**2.942,74**	**2.909,18**	**2.779,27**	**2.722,43**	**–**	**–2,10**	**–4,47**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

Tab. 10. Bank loans beyond the short-term for investments in agriculture in Apulian provinces, 2010-2013: purchase of machinery, vehicles and various equipments (in million euros).

Provinces	2010	2011	2012	2013	2013 % Total Apulia	Variation % 2010 – 2013	Variation % 2012 – 2013
Bari	69,34	125,80	120,95	121,91	36,23	75,81	0,79
Foggia	109,29	117,83	105,80	110,98	32,98	1,55	4,90
Brindisi	19,97	21,32	28,86	33,69	10,01	68,70	16,74
Taranto	35,01	32,22	28,73	25,77	7,66	–26,39	–10,30
Lecce	16,99	20,84	18,79	16,20	4,81	–4,65	–13,78
Barletta - Andria - Trani	15,26	19,59	24,61	27,97	8,31	83,35	13,65
TOTALE PUGLIA	**265,86**	**337,60**	**327,74**	**336,52**	**100**	**26,58**	**2,68**
TOTALE ITALIA	**4.909,14**	**5.247,19**	**5.407,15**	**5.086,93**	**–**	**3,62**	**–5,92**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

Tab. 11. Bank loans beyond the short-term for investments in agriculture in Apulian provinces, 2010-2013: purchase of rural real properties, construction of farm buildings, purchase of machinery, vehicles and various equipments (in million euros).

Provinces	2010	2011	2012	2013	2013 % Total Apulia	Variation % 2010 – 2013	Variation % 2012 – 2013
Bari	268,06	321,53	290,71	276,55	36,56	3,17	–4,87
Foggia	219,75	234,06	213,36	217,88	28,81	–0,85	2,12
Brindisi	62,72	62,94	64,38	59,22	7,83	–5,58	–8,01
Taranto	95,93	92,12	80,77	71,67	9,48	–25,29	–11,27
Lecce	86,44	91,21	83,82	79,02	10,45	–8,58	–5,73
Barletta - Andria - Trani	36,89	40,99	47,93	52,03	6,88	41,04	8,55
TOTALE PUGLIA	**769,79**	**842,85**	**780,97**	**756,37**	**100**	**–1,74**	**–3,15**
TOTALE ITALIA	**15.977,92**	**16.106,41**	**15.021,84**	**14.066,77**	**–**	**–11,96**	**–6,36**

Source: Our processing on Bank of Italy data (DBS), 12/31/2013.

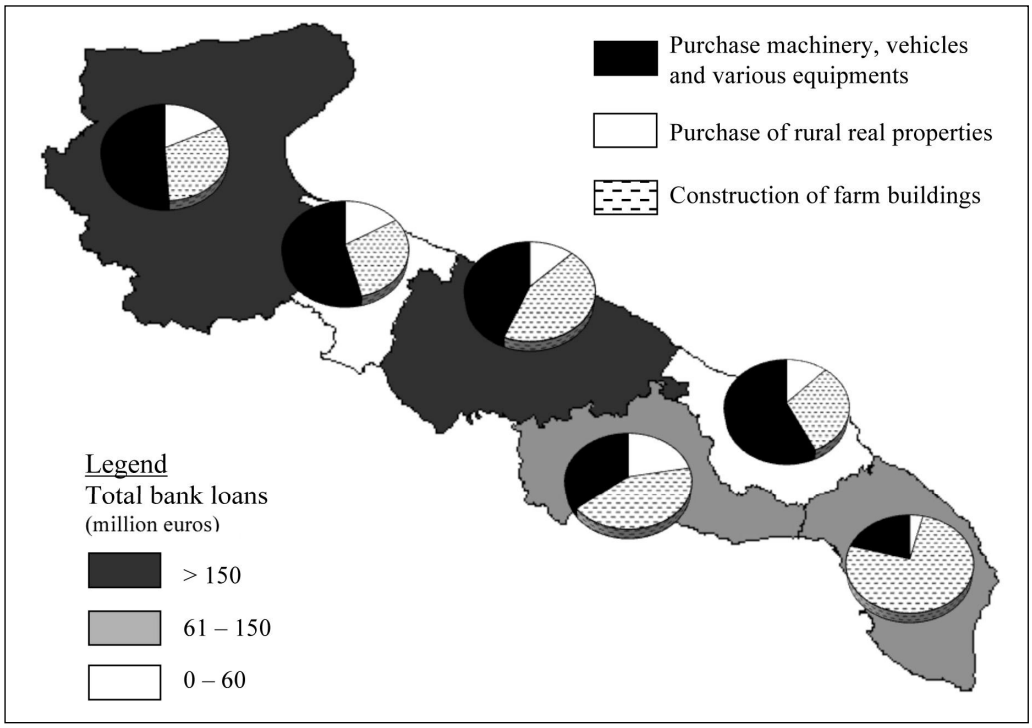


Fig. 3. Bank loans beyond the short-term for investments in agriculture in Apulian provinces, 2010-2013: purchase of rural real property, construction of rural buildings, purchase of machinery, equipment, vehicles, and various rural products (our processing on Bank of Italy data (DBS), 12/31/2013).

financial institutions look at the Apulian agricultural sectors with trust and, at the same time, the agricultural holdings offer the solidity and the guarantees that the banks request. It is however necessary to have a reciprocal commitment: the banks must intervene with measures that give a financial breathing to farms, guaranteeing them the opportunity to invest in research and development by increasing its size, with the objective to make a generalized process of innovation and internationalization; the agricultural enterprises, on the other hand, must acquire that culture of enterprise and management that will favor a better collaboration with the bank world, as suggested by the same Italian Banker's Association (ABI).

The bank system, therefore, "must see itself as a mission for assisting the enterprises, which could allow the crossing of limitations until now evident, transforming the weak points into strong ones, evaluating the opportunities that the territory offers" (Giannelli, 2004, p. 168).

References

Adinolfi F., Capitanio F. (2014), "La nuova struttura delle relazione tra imprenditore agricolo e sistema creditizio: un'analisi sintetica del merito creditizio delle aziende agricole italiane". *Economia e Diritto Agroalimentare*, 29, pp. 141-157.

BANCA D'ITALIA (2014), *Bollettino Statistico*. n. IV, Roma.

BANCA D'ITALIA (2014), *Economie regionali. L'economia della Puglia*. Bari.

Barbi M. (2014), *Il punto di vista del sistema bancario: analisi del contesto, credito all'agricoltura, il rapporto con i Confidi*. ABI, Convegno Agrifidi Uno - Emilia Romagna, Bologna, www.agricoltura.regione.emilia-romagna.it.

Bessant K.C. (2007), "Multiple Discourses on Crisis: Farm, Agricultural, and Rural Policy Implication". *Canadian Journal of Agricultural Economics, 55*, pp. 443-457.

CONFAGRICOLTURA PUGLIA (2012), *Il sistema agricolo pugliese: punti di forza, criticità, prospettive*. Bari.

CONFAGRICOLTURA PUGLIA (2012), *La riforma della PAC "verso il 2020"*. Bari.

CONFINDUSTRIA PUGLIA (2014), *Le agevolazioni per le PMI: la piccola industria di Confindustria Puglia ne parla con la Banca del Mezzogiorno*. Bari.

Del Principe A., Martone C., Muti A., Ulgiati F. (2014), *Rapporto nazionale sull'accesso al credito delle imprese 2013*. Roma.

De Filippis F., Romano D. (Eds.) (2010), *Crisi economica e agricoltura*. Gruppo 2013 Quaderni, Tellus, Roma.

Di Carlo P. (1996), *Puglia*. Collana "Geografia dei Sistemi Agricoli Italiani", Reda, Roma.

Dimitrio A. (2014), "Impatto dell'attuale crisi economica globale sul credito bancario all'agricoltura in Puglia". In M. Fiori, I. Varraso (Eds.), *op. cit.*, pp. 131-146.

Fiori M., Varraso I.(1995), *Agricoltura pugliese tra cambiamento e staticità*. Damiani, Bari.

Fiori M., Varraso I. (2014), *Periferie d'oggi e nuove realtà territoriali. Riflessioni ed esempi*. Wip Ed., Bari.

Giannelli A. (2004), *Geografia del credito: spazio finanziario e comportamenti strategico-territoriali - Un'analisi a scala italiana e pugliese*. Edizioni Scientifiche Italiane, Napoli.
Giannola A. (2013), "Prefazione". In S. Dell'Atti, A. Lopes, G. Tucci (Eds.), *Rapporto SVIMEZ su relazioni banca-impresa e ruolo dei Confidi nel Mezzogiorno. Mercato, regole e prospettive di sviluppo*. Roma, pp. VII-XIV.
Grillotti Di Giacomo M. G. (1992), *Una geografia per l'agricoltura*. Reda, Roma.
Grillotti Di Giacomo M. G. (Ed.) (2000), *Atlante Tematico dell'Agricoltura Italiana*. Società Geografica Italiana, Roma.
Gobbi G. (2010),*Indagine conoscitiva sul sistema di finanziamento delle imprese agricole*. Camera dei Deputati XIII Commissione (Agricoltura), Audizione ABI, Roma.
INEA (2013), *Annuario dell'agricoltura italiana 2012*. Roma.
INEA (2013), *Rapporto sullo stato dell'agricoltura*. Roma.
INEA (2014), *Rapporto sullo stato dell'agricoltura*. Roma.
ISMEA (2007), *Agricoltura e credito: dalla despecializzazione ai nuovi servizi finanziari per l'impresa*. Roma.
ISMEA (2013), *L'accesso al credito delle imprese agricole nel periodo 2007-2012*. Roma.
ISMEA (2014), *Agrosserva: trimestrale di analisi e previsioni per la filiera agroalimentare, I trimestre 2014*. Roma.
ISMEA (2014), *Report - Osservatorio sul credito*. Roma.
ISTAT (2010), *VI Censimento Generale dell'Agricoltura*. Roma.
ISTAT (2014), *Rapporto annuale 2014. La situazione del Paese*. Roma.
Lin J.Y., Martin W. (2010), "The Financial Crisis and its Impacts on Global Agriculture". *Agricultural Economics, Issue Supplement s1*, *41*, pp. 133-144.
Lucia M. G. (2005), *La geografia finanziaria. Mercati e territorio*. Pàtron, Bologna.
NOMISMA (2013), *Motivi della crisi e impatti PAC: luci e ombre sul mercato italiano delle macchine agricole*. Bari.
Petrich M., Kloss M. (2013), "Exposure of EU Farmers to the Financial Crisis". *Choices*, 28, n. 2, pp. 1- 6.
Pouch T. (Ed.) (2012), "Crise en agriculture. Où en sommes nous? - Dossier". *Chambre d'Agriculture France*, n. 1013, Paris, pp. 13-30.
Pollice F. (Ed.) (2012), *Rapporto annuale 2012. I nuovi spazi dell'agricoltura italiana*. Roma, Società Geografica Italiana.
Sabatini G. (2013), *Indagine conoscitiva sul sistema di finanziamento delle imprese agricole*. Camera dei Deputati XIII Commissione (Agricoltura), Audizione ABI, Roma.
Shambaugh J.C. (2012), "The Euro's Three Crises". *Brookings Papers on Economic Activity*, 44, n. 1, pp. 157-231.

Notes

[1] Isabella Varraso is the author of the first three paragraphs; Antonio Dimitrio of the last three paragraphs and figures.

Carmen Silva Castagnoli

The beautiful agricultural landscapes of Molise as a resource for tourism

Abstract

The agricultural landscape of Molise, despite transformations, has preserved particular aspects that should be safeguarded and protected as they represent our identity. I would like, therefore, to propose an itinerary of some agricultural landscapes which are particularly significant and serve as identifiers of the region. The following landscapes have been chosen because they are to be found over a wide area of the territory of Molise and they also represent our economy as well as our past: 1. The mosaic-like landscape of polyculture; 2. Vineyards; 3. The peri-urban gardens; 4. The landscape of karst agriculture; 5. The sheep track landscape.
The disadvantaged areas of Molise will be able to rediscover their identity by transforming weaknesses into strengths through the new rurality which the most recent evolution of CAP (2012-2014) favours by supporting those who focus their attention on the rural-agricultural landscape. The new CAP favours those who choose to differentiate their cultivation and follow biodiversity rather than cultivate vast tracts of land with wheat or corn.
Tourism must take into account the image that is projected to the outside world, "l'espace touristique, c'est avant tout une immagine"; the beautiful agricultural landscape of Molise, might, on the basis of the values it represents, act as a symbol of this image which serves as an identifier and unifies the cultural resources tout court.

Keywords: *Agricultural landscape of Molise, Identity, CAP, Tourism.*

Historical agricultural landscapes and the agricultural policy of the EU

The beautiful agricultural landscape of Italy, praised by poets, writers and artists, immortalised in travellers' descriptions during the Grand Tour, is characterised by a mosaic of complex colours and shapes and distinguished by the variety of its produce. It has undergone a profound transformation, which has risked causing the extinction of the historical landscapes that in many cases have become part of the heritage of humanity (an example being the Cinque Terre of North Western Italy). These landscapes are unique due to the presence of multiple crops and are at risk of disappearing due to both the increase in industrial agriculture that makes the landscape more uniform and the abandonment of the land (from 1920 to the present day, the amount of land cultivated has reduced by 13 million hectares).

These beautiful landscapes conserved their distinctive characteristies up until the middle of the last century, distinctiveness which has been put at risk by new methods of cultivation, by new means of transport and by the development of new types of communical companies alien to the rural environment. However, notwithstanding the dangers, the pace of change has been relatively slow. After the 1950s the massive technological transformations, together with an enlargement of the market, now globalised, and the presence of companies based upon big capital, accelerated the pace of change rapidly. This change has had no precedence in human history. These transformations can be traced back to several processes: the unregulated urbanisation of the agricultural areas around the cities and the homogenisation of the landscape due to the application of rules and regulations alien to the rural world which modified the shape and size of the fields as well as rural infrastructures and crop rotation-all of which altered the relationship between care of the land and respect for natural resources. For many years, the isolated position of the region of Molise and the presence of a predominantly traditional form of agriculture, practised above all in the disadvantaged internal areas, has preserved this landscape from radical transformation. The area has maintained a diversity of shape and colour, a multifaceted use of natural resources and a variety of crop production. The exodus from the agricultural and rural areas has led to depopulation of the internal and mountainous areas of Molise. The development of competitive and highly industrialised agricultural activity over the past decades, in particular in the mountainous areas along the

coast, has altered the distinctive characteristics of the historical landscape of Molise. This change is clearly visible in the abandonment of the lands, in the joining together of old rural properties, in the elimination of hedges and stone walls as the use of the land changed from agricultural to urban use, in the disappearance of gardens which generally indicated proximity to urban centres, the gardens of Venafro, Bojano and Campobasso, being just a few. These gardens are however still present in residual form.

The almost total disappearance of historical agricultural landscapes has been determined not only by changes in cultivation techniques and working of the land, types of crop, rural structures and exodus from the land but above all by the spreading of agricultural models based on competition in terms of quantity not quality. These agricultural models were favoured by the CAP (European Agricultural Policy), a model which was not suitable to the disadvantaged internal country areas of southern central Italy and of Molise. The politics of the CAP worked in favour of the large agricultural companies of central Western Europe, based on single crop farming. The result was an intensification of crop production which exceeded the farming capacity of the land of southern central Italy. In the 1990s a reform of the CAP modified the original objectives. A new model of territorial development was put forward based on an appreciation of the rural landscape of those areas considered at a disadvantage according to Council Regulation (Ec) N. 1257/1999 "Mountain areas shall be those characterised by a considerable limitation of the possibilities for using the land and an appreciable increase in the cost of working it, less-favoured areas which are in danger of abandonment of land-use and where the conservation of the countryside is necessary, in which farming should be continued, where necessary and subject to certain conditions, in order to conserve or improve the environment, maintain the countryside and preserve the tourist potential of the area or in order to protect the coastline".

New ways of using agricultural land should be favoured in these areas. These new ways could include: agritourism, green tourism, organic agriculture, production of quality local products, biodiversity, alternative energy sources, local food crafts, food fairs, festivals, and traditional markets. This new use of agricultural land has been at the centre of regional, national and Community politics (Structural funds, Leader Programs, PAL Local Action Plans and PSR (Rural Development Plans), with the aim of appreciating the rural landscape for its aesthetic and economic ecological value and as an essential sustainable model of development. A re-evaluation of the rural landscape together with its safeguarding and greater fruition, does not imply the transformation of the land into a museum, creating "landscape parks" within which traditional objects and traditions are conserved, but rather offers the opportunity of applying quality agriculture to the greater part of the agricultural land which could be defined as "landscape agriculture" and can be linked to sustainable tourism which respects the environment and does not lead to the abuse of agricultural spaces. The most recent evolution of the CAP, as can be seen in the 2014-2020 draft, concentrates on the rural agricultural landscape. More funds will be available for the preservation of terraces, hedges, ditches, ponds and rows of trees, which caused so much trouble for monoculture farming. Abbot Longano's recommendations in 1790 appear prophetic. In order to improve agricultural practice, he stated:"It might be convenient to impose that the land be bordered with hedges or ditches. Because hedges fertilize the soil with their leaves and the soil of the uncultivated land used for making ditches is of excellent quality, also, both hedges and ditches will prevent the entrance of animals into the fields"(Longano, p. 102). The new CAP favors those who apply biodiversity in crop production rather than immense extensions of wheat or corn fields. Europe is investing in the safeguarding of the landscape. Of note is the attention paid to terracing, which has been of great importance in the mountain areas, both in terms of cultivation and protection of the land. In those areas where terracing has been applied, landslides have been avoided. The recent floods that devastated the region of Liguria have highlighted the fact that, according to a survey of the FAI, only in 5 cases out of 88 has terraced land been affected by flooding. In 95% of the cases, flooding affected those areas where terraced land was abandoned and had been overgrown with trees and shrubs. Care for the aesthetic aspect of the countryside, *venustas, voluptas, delectation*, is as important as the economic aspect, *utilitas*, given that beautiful agricultural landscapes are an important tourist resource. For tourists, who are aware and respectful of both the territory and the traditions and peoples that are hosting them, a "slow tourism" contrasts favourably with the frenetic kind of tourism which, for example, leads to the visiting of three European capitals in three days! Tourists who are more concerned with beautiful landscapes and the cultural, artis-

tic and archaeological heritage of places, would be interested in visiting areas such as Sepino and Pietrabbondante in Molise, whose uniqueness is not only due to their great historical and archaeological value, but to the fact that they are immersed in a stunning agricultural landscape (cfr. Figs. 1 and 3), with arable wooded land, small gardens and cattle track areas etc., a landscape which, even in its simplicity, offers added value. Agricultural landscapes are therefore an important tourist resource. A beautiful countryside conveys a clear message to observers and indicates a society which plans its future and respects its territory and resources.

Today more than ever, agriculture is valued both in terms of culture and economics. Two levels can be noted; the economic and the aesthetic. The latter is not less important than the former and the two aspects can converge to remind us that, in the past, farmers entrusted themselves to the order and regularity of work in the fields, with the hope of overcoming the difficulties presented by the environment as well as by famine. The order and beauty of the cultivated countryside was contrasted with chaos, insecurity and the fear of hunger. Agricultural activity can be seen not only as a search for that which is useful and beautiful but also as an art in which crop rotation creates a variety of different colors for each season. Agricultural activity has shaped the landscape by recovering land from the mountainsides, marshes, rocks and woods, through centuries of human endeavor in line with the times and the places. These agricultural landscapes should not be allowed to die but should be given a second chance without risking losing their distinctive characteristics by using them for purposes other than producing crops, purposes such as quality tourist activity which can revitalize the sector by producing quality products, crops endogenous to the area, educational farms, food and wine tasting tours as well as the reuse of old rural buildings such as farms, mills and pre-industrial structures.

Fig. 1. Fenced cultivated fields in the plain of Sepino. The archaeological site of Saepinum can be seen in the background (*Source*: Photo C.S. Castagnoli).

Fig. 2. The vineyard landscape of Fossalto (*Source*: Photo A. Pietrunti).

The agricultural landscapes of Molise between stagnation and renewal

As has been already stated, the agricultural landscape of Molise has changed but has retained some of its distinctive characteristics, which should be safeguarded and protected, as they represent an artistic heritage worthy of being seen and experienced, given that it is an integral part of its sense of identity. I would like, therefore, to propose an itinerary by making use of images of various agricultural landscapes which are particularly significant as part of the identity of Molise. The itinerary that is being presented is specifically that of agricultural landscapes and not natural landscapes in general, such as woods, beaches and mountains. They show the countryside where nature has been subject to human influence together with a respect for nature and are areas often forgotten by man.

A journey which proposes new forms of "soft" tourism through agricultural landscapes which, if correctly appreciated, might help agriculture stimulate tourism and represent an image of Molise to the outside world similar to the way in which we associate tulips with Holland, lavender with Provence, and the flowering of lentils in Castelluccio (the *Fiorita*), the flowering of cherry trees in Vignola, the vineyards of Valtellina, the rice fields of Piedmont and Lombardy, the terraced landscape of the Cinque Terre, the flowering of almond trees in the Valley of Temples in Sicily, the Arab Gardens of Pantelleria, the orange groves of Conca d'Oro in the valley of Catania, the citrus groves of Amalfi and Sorrento, the stone walls of Puglia and the highlands of Ibleo, and so on. All these are extensively used in advertising and film sets and constitute an extra value for all those other resources, such as art, archaeology, food and wine tours and all those festivals linked to the landscape and its agricultural tradition.

The following have been chosen because they are the most widespread throughout the whole territory of Molise and represent our economy and our history.

The variagated landscape of polyculture

This landscape represents small land holdings, a consequence of fragmentation following the division of the former feudal demesnes upon which the following rights were exercised, "watering rights, the right to rest, the right to cut dry wood, the right to pick acorns, the right to obtain lime, and the right to graze animals in parkland". This fragmentation of land was accentuated between the two wars, due to the greater number of people living on farmland and the custom of dividing the property among all the heirs, giving to each a small part of land as arable land, vineyards, pasture etc. This led to the formation of small land holdings which the toponymy of the area indicates: *Lenze, Pezze, Camere, Quartarello*, es. *Pezza della Signora, Pezzo dell'Aia, Pezzo di Malizia*. These small pieces of land were surrounded by hedges, stone walls (where the stones had been taken from the land) and trees, all set out in a way which indicated the boundaries of the land holding. They could, however, also be found isolated in the middle of a field. It is the landscape typical of small enclosed land holdings' due principally to the necessity of having to set property boundaries but also to "protect the growth of trees and shrubs and stop them from being eaten by animals and the fruit of the trees from being stolen"(Sereni, p. 39). Seen from above, this landscape has the appearance of an enormous jigsaw puzzle, in terms of geometrical shape, colours and variety of crops.

The right of ownership of the land was obtained through great sacrifice and conflict with the excessive power, first of the feudal owners and then of the ruling middle classes. It was the result of hard work and humiliation, in particular of the sacrifice of immigrants, the "so-called Americans", who after years of hard and dangerous work in the mines of Germany, Belgium and the United States of America, invested the little capital they had saved in property in their land of origin. The attachment to the land, as mentioned by Jovine in "Travels in Molise" is in no way exaggerated "… The cultivated land is often the result of the hard work of generations of farmers who tilled, built walls, dug water channels, transported for numerous days (often on their shoulders) the fertile soil … The small plot of land became, from year to year, something which had been nourished through hardship and was finally seen to flourish after long periods of back breaking work. This explains the physical attachment to the land, not any piece of land, but that piece of land which they had worked so hard to make flourish. A small farm, a strip of land, as they say here, has ten different names for each different aspect it reveals, names which are known only to the family that work the land, names such as the song of the pear tree, the broad bean field, the scrubland field and the val-

ley of stones, names which are all mentioned with a tenderness you would normally reserve for a living creature"(Jovine, pp. 86-87). The landscape of the small land holding, while showing signs of abandon, has kept its particular fascination. Fascination determined not only by the alteration of crops, of woods and of colors, but above all by the sentimental tie which the farmer has to the land. This mosaic-shaped landscape is primarily used as arable land, interspersed with other types of crops; wheat and corn were, and are still today, the most widespread types of crops cultivated. They are the most suitable for growing in the clay-like soil. Wheat is grown everywhere, even in steep and inaccessible areas: "Wheat is not a currency, it is the product with which most other values are related. The wheat is valued and is used to pay the professional workers their wages. The land rent is paid with wheat, loans are given to land- workers in wheat and settled in wheat" (Presutti, pp. 99-100). Wheat and corn are the only crops worthy of cultivating. Whenever an alternative forage crop is planted, because the land is fallow, the land is not rented out. Arable land is never without crops and this is the difference with those specialized land areas of the valleys in which different kinds of cultivation are practiced: for example, the planting of trees, olives and oaks. It is the ideal landscape through which to promote the territory and all its local products, together with sport and fitness opportunities, three fundamental aspects of quality tourism.

The vineyard landscape

The vineyard is another typical landscape. The recurrent toponym *pastena* brings to mind the ancient 10th century agricultural contracts *ad pastinandum* which preceded sharecropping. The contract was stipulated between the landowners, the feudal lord or the Abbot and the peasants. These had the obligation of tilling the land, planting vineyards, olive trees and hedges, building walls and reclaiming marshland. The term *pastena* and its derivatives still survives in many areas and reminds us of this ancient form of contract - e.g. *Pastena* a hamlet of Castelpetroso (Isernia). Cultivating vineyards is today almost always a professional activity. It was extremely widespread in the past and present in every farm, no matter how small the land holding was. The vines were grown in the Latin way, i.e. in the same plot of land together with figs, corn, beans, potatoes and fruit trees. R. Pepe mentions its diffusion in the final report he wrote for the Murat survey of 1811:"apart from the mountainous areas where vines do not take root, every township of the district has an area with a vineyard present and this vineyard is so extensive that care is no longer taken in the choice of terrain, in its exposure to the sun or of the vines themselves. All the vineyards are kept low. Only in gardens or pathways are they allowed to grow tall and form arbours which had the function of creating shady areas in summer"(Castagnoli 1998, p.

Fig. 3. At the foot of D'Evoli Castle in Castropignano, the middle part of the Valley of the Biferno river and a landscape of fenced fields. Below, at the foot of the rock "ru cantone de la Fata", and regularly-shaped fenced fields delimited by rows of trees (*Source*: Photo C.S. Castagnoli).

647). Vineyards had for long been cultivated as if they were Mediterranean gardens (cfr. Fig. 2).

With the exception of cereal crops, farmers grew vegetables and pulses in the lower levels, followed by vines, with fruit trees planted higher up. It was an intensive way of using the entire space, a small plot of land made available for the subsistence living of the entire family. These aspects are again mentioned in the description of vineyards given by Presutti at the beginning of the 20th century: "Around each township, and in particular at the slopes of the hill on top of which the village is found, there are large plantations of shrubs and trees, whose beautiful green color is in striking contrast to the surrounding barren countryside. They are the so-called vineyards, belonging both to the farm workers and especially to the principal landowners of the village. In any property, even if of small proportions, there must be a vineyard. The vineyard is not an appropriate term: as all kinds of fruit trees were alsocultivated there, given the families need to be supplied with food: vines were grown... as were also clumps of olive trees" (Presutti, p. 86). A number of projects in different Italian regions are based on an appreciation of countryside tourism, in particular of the vineyards. They are certainly vineyards with a famous public image, due to advertising, and offer an example of a successful integrated relationship between agriculture and tourism which could also be applied in Molise. As an example, some projects of tourist itineraries linked to the discovery of agricultural landscapes can be mentioned. Agricultural landscapes can often be compared, in terms of shape and colours, tho a work of art. In Tuscany, in Tavernelle Val di Pesa (Firenze) and in eight towns of the Chianti area, bicycle tourism and walks through the vineyards to churches and castles are available and in Torgiano (Pg), Umbria, as a result of the project "Torgiano by bike", fifteen kilometres of mountain bike tracks have been created along the route around the village and in the centre. Other projects include routes along the river park of the Tiber. In Montefalco, twenty seven kilometres of tracks for walking, cycling or horse riding have been made available. In Alcamo (Palermo) five different itineraries have been developed and are related to wine tours and the cultural and archaeological heritage of the area. In Ghemme (Novara) the "Itinerary" routes offer forty-five kilometres for bicycle tourism. In Nizza Monferrato, following a regional project, a "green" itinerary for walking or cycling, measuring a total of 87 km between castles and vineyards, has been created. These are all examples of ways in which the agricultural landscape has been effectively used.

Peri-urban gardens

Near the urban centres, in areas where a lot of water was present, vegetable gardens indicated the closeness of inhabited areas. Being vegetation that needed constant attention throughout the entire year, they were not far from inhabited centres. These places survive in towns like Venafro, Bojano and Campobasso. Reference has been made to small family gardens which might develop in the future. The presence of city vegetable gardens is an ancient reality which is also being rediscovered today in Italy (the most famous of these gardens is that of the White House, which is currently being promoted by Michelle Obama). Educational gardens, social gardens, community gardens and therapeutic gardens are all being developed. Different towns are promoting the practice of cultivating vegetable gardens in unused public areas (in 2009, Brescia alone assigned over 120 gardens). The widespread use of vegetable gardens not only favours the production and acquisition of zero kilometre products but also embellishes the landscape. Areas currently uncultivated and unproductive are being replaced by well-cultivated landscapes. In this way, the useful is being combined with the beautiful. Of particular importance in the town of Venafro are the clearly visible Gardens of Christ, in an area close to the Quattro Cannelle fountain, which are part of the history and tradition of Venafro. Vegetables have for centuries been cultivated there as the area is rich in water with a system of irrigation divided into streams and rivulets The remaining vegetable gardens of Campobasso (cfr. Fig. 4) were once famous for their abundance of vegetables.

They occupied the entire area of what is today the Vazzieri neighbourhood (from the word, "verziere", meaning orchards), as well as areas near the city walls in what are today via Petitti and via D'Amato. These are indicated on maps with the name of via Giardini. Another garden area is near the Fota. A "rare" example of this kind of vegetable garden can be seen clearly in the area near to the bus station. Worth noting is the fact that flowers can be found, together with vegetables. The tradition of combining different kinds of crops is well expressed by Michele Cima of the town of Riccia, a poet who writes in dialect and who wrote: "Beans

Fig. 4 - The remaining gardens in Campobasso in the Vazzieri neighbourhood (*Source*: Photo C.S. Castagnoli).

born in the country lane of Pauline are placed in the company of carnations and withered roses".

The vegetable gardens in Campobasso around the Fota, were praised by the poet, doctor and naturalist Altobello: "the door is opened at noon and out she goes jumping to wake up the mills and the millers and dresses the gardens in silver, shimmering between vegetables and spigatelli". Mention should also be made of the area of the vegetable gardens of San Giuliano del Sannio, once used specifically for cultivating vegetables. This is an area rich in water which extends to the valley of Sepino, where, as can be seen from the picture (cfr. Fig. 1) a beautiful agricultural landscape can be admired with fenced fields of the same size which, according to scholars, refer back to the grid system used by the ancient Romans.

The landscape of Karst Agriculture

The landscape of Frosolone and the Matese is typical of the karst mountain areas.

Agricultural activity is carried out in dry sinkholes and in areas of gravel land. They are areas which can be defined as "*delle oasi colturali di alta montagna*" ("cultivated oases of high altitude mountains") (Mario Fondi). The main crops cultivated there are: wheat, potatoes and lentils, and the territory is often characterized by open fields divided into parallel lines or bordered by dry stone walls (macere) which are taken from the land itself. The chromatic effect is beautiful, verdant oases immersed in an expanse of greyish limestone and reddish soil, surrounded by coppice and sparse tufts of grass (cfr. Fig. 5).

Fig. 5 - A landscape showing oases of crop cultivation in the mountain areas of Frosolone. Elongated strips of cultivated fields of reddish color are clearly visible (Source: Photo C.S. Castagnoli).

The landscape of the Cattle-Tracks

Whilst not being an agricultural landscape in the traditional sense of the word, the landscape of the cattle-tracks is a distinctive trait of the territory of Molise. It reflects an intermediate reality - something between a natural and an anthropic environment. With reference to the physical environmental, a variety of turf comes to mind which consists of different species of grasses, legumes, Umbelliferae and Asteraceae, species that re-grow spontaneously without any particular technical-agronomic treatment, but above all it gave milk and its dairy products a pleasant taste and smell. Natural grazing and fertilizing from the passage of the cattle was sufficient to keep the grass short and green, giving it the appearance, even in winter, of a 'lawn.' The cattle-tracks are also an anthropic environment because of human activity: the planning of the cattle track network, the natural boundaries created with bushy hedges, tree plantations or just trees, (commonly called 'monks' because they were cut into the shape of a man's head and also supplied fodder and firewood). The cattle tracks were bordered with stone columns with the letters RT (Regio Tratturo - Royal Cattle Track) and included information on milestones which indicated the will of the authorities to have the borders of the cattle tracks respected. Other human activity involved included the presence of taverns, mills, farm houses, pre-industrial structures, hydroelectric plants, towers, animal pens and temporary shelters, as well as inhabited centers which grew and developed along the route. It constitutes a cultural heritage of humanity which deserves recognition given its widespread presence in the whole of Mediterranean Europe, from Spain to the Carpathians, and as such would merit being included in the World Heritage List.

The cattle track network, whilst not being exclusive to the territory of Molise, is a specific and characteristic aspect of the region. Its uniqueness is not just due to the 450km network of the cattle tracks but also because it has formed a grid upon which the urban and productive system of Molise has developed. At least seventy seven towns are crossed by cattle tracks and numerous are the economic activities developed as a result of transhumance: the working of leather and shoe production, the production and sale of wool products and the production of dairy products, to mention just a few of the most important which were directly related to it. Sheep were not the only animals involved, but also goats, horses, cows and pigs, these last being involved in local transportation. The cattle track network was also used as a normal means of communication. Communication routes were developed at three levels: cattle tracks of no less than 60 Neapolitan steps, equal to 111,60 metres (corresponding to a thousandth of a degree of the equator or of any meridian), tracks 18 to 37 metres wide, and then the offshoots of the cattle tracks (which linked the main routes together) of 8 to 10 metres wide. While the main cattle tracks ran in a North-South direction, the smaller tracks and the offshoots ran from East to West as parallels.

Cattle tracks can best be used today, given their high natural value, as a source of free time activities such as walks or horse riding. This seems to be their most obvious use. However, those activities with which they were linked in the past might also be applicable today. Cattle rearing and all the activities connected with it, agricultural production of typical local foodstuffs, which could have "Typical Local Cattle Track Products" applied as a brand name. All of this could constitute a basis for rural tourism and an experience of a different kind of landscape, both in terms of quality and diversity of products, which vary according to the geographical area. Much has been written on ways of appreciating the cattle-tracks and on the creation of a Cattle-track Park. But still today the cattle-tracks are not used to their full potential, and, despite being protected areas, they continue to lose their identity. Only the presence of a solitary horse-rider or some nostalgic shepherd with his sheep, bring back to mind images of a past long gone. Mention might also be made of other kinds of agricultural landscape: the traditional olive groves, the protected areas, the landscape based on the Agrarian Reform of the Lower Molise Territory, (which, in terms of shape, soil composition and colours of the yellow and sandy clay, is a foretaste of the kind of landscape more typical of the territory of the Capitanata – today part of the district of Foggia in the region of Puglia). Other characteristic areas are the olive plantation landscapes of Venafro in particular, where an Olive Park has recently been created. Then there is the fruit-growing landscape. The apple orchards in particular preserve the ancient variety of endogenous cultivars and maintain the biodiversity of the agriculture of Molise.

Agricultural landscapes and tourism

To conclude this review of the beautiful agricultural landscape of Molise, it is natural to ask

if an acknowledgement of the value of the agricultural landscape is a profitable endeavour and if tourism can benefit from it. We will briefly try to illustrate the various reasons why the link between agricultural landscape and tourism is valid: today, there is an acknowledgement of the value of the agricultural landscape as a profitable enterprise. New funds obtained through the CAP (Common Agricultural Policy) are available for whoever safeguards any complex landscape mosaic, such as that which is characteristic of the Italian rural landscape. Between 2014 and 2020, the CAP will allocate 400 billion Euros to European community agriculture. One billion two hundred million Euros will be allocated to agro-environmental projects, the so-called "greening". One of the most important objectives, which indicates a watershed, is the incentives given for those who diversify the crops cultivated. Agriculture is definitely the activity more closely connected to the land for the production of goods and services which have the characteristics of public goods such as landscapes; common goods such as parks; cultural goods linked to tradition; and goods and services such as handicrafts, tourism, and, in particular, "green" tourism.

Green tourism is connected to the need to escape the city and to come into contact with natural environments of different degrees and kinds. A kind of tourism which could be defined as sustainable and which is, and has been, the main point of discussion of international meetings on tourism. One such meeting in 1995 produced the Lanzarote Charter in which an integration between tourism and environmental sustainability was stated as being the desired goal. Of notable importance in terms of achieving sustainable tourism is the European Charter for Rural Areas of 1996, signed by the members of the EU. This charter indicates three principal functions of rural space: an economic function for the production of goods and services; an ecological function for the safeguarding of the natural heritage; and a social function for the relationships which are formed between people linked by cultural and social ties. Agricultural landscapes are to be safeguarded in the same way as works of art. The European Landscape Convention of 2000 held in Florence was signed by all the members of the EU. It emphasized the safeguarding of every kind of landscape, both those of outstanding beauty as well as everyday areas, even if degraded. The preamble states: "that the landscape is a key element of individual and social well-being and that its protection, management and planning entail rights and responsibilities for everyone". The former President of Italy, Giorgio Napolitano, has stated that The Italian landscape is anunmistakable featureof our national identityand an essential factorof attraction andstrength of Italyin the newinternational context". An acknowledgement of the value of disadvantaged areas offers an excellent opportunity for the spatial redistribution of tourism. Tourism should respect the specific characteristics of local areas as well as the delicate ecological balance distinguishing each area. This entails trying to reduce to a minimum the construction of new structures and infrastructures. An appreciation of endogenous resources, which are a characteristic of agricultural landscapes, the high quality of the resources, and good quality tourism, are all essential elements necessary to stimulate tourism. A solidity has to be given to these ideas as otherwise they will simply remain mere slogans without practical consequences. The claim that local environmental resources are of a high quality does not always correspond to reality since it is a practically a widespread claim. Quality tourism is a chain that starts from the land, and includes structures for accommodation, the transport system and land marketing plans. For Italy, and particularly the Molise, it is indispensible to create a demand for tourism which is non exclusively based on the creation of new structures, but on a cultural policy which places history, art and landscape in a central position, in order to make the country's image more appealing to quality tourism. This is a task for public and private local entrepreneurs. What is required is an efficient advertising campaign which highlights the value of endogenous sources, of which the agricultural landscape is a central feature.

Tourist demand over the past few years seems to be directed towards new forms of tourism, which includes so-called 'niche tourism' (*the multiple tourism of the third millennium*). This requires an active rediscovery of landscape, traditions, rurality, and territorial identity. These together constitute the local resources and are the distinctive characteristics of each specific place. These characteristics include the mountain areas, the land and the climate, ways of working the land and rural tourism. The European Commission has defined this last as that kind of tourism specific to: "agricultural areas in which agriculture itself is the main element of attraction and where the offer is based upon local products, food and wine, the landscape, and on an interest in the customs and traditions of a people".

Following the season of standardised beach

and mountain holidays, which often led to overcrowded for two to four weeks, the tendency today is to satisfy more individual tastes and sensitivities. Interest is being shown in less well known places often ignored by mass tourism, areas which do not possess monuments and art of any great value, but which are characterized by an attractive 'mix' of nature, landscape, architecture, food and wine traditions, local customs and craftsmanship. The post-modern tourist wishes to experience something more natural and less 'artificial', to be a guest and as such 'sacred' (in the sense of being catered for as a unique individual). Often these tourists look for accommodation in old restructured rural buildings which have been given a new lease of life. This is one reason for the success of new forms of hospitality well-represented in Molise in places such as Castropignano, Sepino and other tourist centres, or places like Borgo Albergo of Ripalimolisani.

This kind of tourism does not lead to an aggressive violation of the landscape, as it did in the past, with 'concrete jungles' spreading everywhere. This new tourism is based upon the safeguarding of the landscape and an appreciation of all that which already exists.

The disadvantaged areas of Molise might be able to rediscover their identities by transforming what were once weak points into areas of strength. This can be done by rediscovering and favouring a new form of rurality based upon an agriculture linked to other sectors of the economy, primarily tourism, as well as on the fact of being able to experience living in non-degraded areas. This represents a new model of rurality, not insular as in the past, but open to the rest oh the outside world through the presence of tourism. Tourism cannot do without a positive image presented to the outside world, "*l'espace touristique, c'est avant tout une immagine*" ("*tourism is essentially a question of image*") (Miossec, 1997, p. 41). It is essential to have a strong image based on a sense of identity through bringing together all the cultural resources available to an area. A beautiful agricultural landscape and all the values associated with it might carry out this function.

A 'culture of the land' model based upon rural development, multi-functionality, agriculture and quality sustainable tourism, would certainly prove to be successful, above-all for the currently disadvantaged areas. It requires however, a deep change of attitude on the part of people. The premises for such a change already exist. All that is necessary is to support and strengthen an already-occurring process. This process leads to a different approach towards nature and is based upon coexistence and not exploitation. It is based on an idea of landscapes as aesthetic realities (to be admired) and as ethical realities (to be experienced). Safeguarding the landscape also means safeguarding our own mental and physical health. This however, implies that people are culturally evolved and are aware of the fact that the 'unlimited growth' which we have been applying to date has to stop. An awareness must develop of the fact that our well-being is not tied to consumerism and income, but more fundamentally to the quality of the environment in which we and future generations will live.

References

Altobello G. (1926), *Poesie dialettali campobassane*. Stab. Tip. Ditta G. e N. Colitti, Campobasso.

Castagnoli C. S.(1998), "L'agricoltura nella provincia di Molise attraverso l'inchiesta murattiana del 1811". In M.G. Grillotti Di Giacomo, L. Moretti (Eds.), Atti del Convegno, *I valori dell'agricoltura nel tempo e nello spazio*. Rieti, 1-5 novembre 1995, Brigati, Genova, Vol. II, pp. 629-660.

Castagnoli C. S. (2007), "La récuperation des cultivar locaux pour una agricolture souténable. In C. R. Bryant, M. G. Grillotti Di Giacomo (Eds.), *Quality agriculture: historical heritage and environmental resources for the integrated development of territories"*, Brigati, Genova, pp. 367-382.

Castagnoli C. S. (2006), "Le mele autoctone del Molise e il cavallo Pentro". *Historical heritage and environmental resources for integrated development of territories*, DVD WIP Edizioni Franchetti, Bari.

Castagnoli C. S. (2008), "Prodotti tipici di qualità per un'agricoltura del paesaggio nelle aree svantaggiate". In N. Castiello (Ed.), *Scritti in onore di Carmelo Formica*, Università degli Studi di Napoli Federico II, Napoli, Sezione Scienze Geografiche.

Jovine F. (1976), *Viaggio nel Molise*. Libreria Editrice Marinelli, Isernia.

Longano F. (1988), *Viaggio per lo contado di Molise, nell'ottobre 1786, ovvero descrizione fisica, economica e politica del medesimo* (I edizione, Antonio Settembre, Napoli, 1788). Associazione Culturale P. Vignola, Riccia (CB).

Presutti E. (1985), *Fra il Trigno e il Fortore* (I edizione, Napoli 1907). In R. Colapietra (Ed.), Marinelli, Isernia.

Sereni E. (1974), *Storia del paesaggio agrario italiano*. Laterza, Bari.

Settis S. (2012), "Perché difendere il paesaggio è un gesto etico". *LaRepubblica*, 21 marzo, p. 55.

Liberata Nicoletti

New forms of rurality and agricultural quality products in Apulia

Abstract

Today the rural development is looking for new paths able to promote income growth by means of real occupational perspectives and the enhancement of a better quality of life. This study on "new forms of rurality" in Apulia moves on tangible experiences stimulated by the scheduled and ongoing EU and regional development rural policies (CAP 2014-2020) and faces the theme of higher-value productions. Such productions express strong territorial ties with the human groups and represent fundamental parameters in order to recover the identity of places and to promote the cultural, historic and environmental resources of Apulian rural areas. The territorial characteristics of Apulia (i.e. their peculiar landscapes, the variety of farms, the richness of the historic, cultural and architectural heritage of manor farms, local craftsmanship and so on) offer the ideal conditions to create a relational network able to promote and spread quality agriculture – both in quantitative and qualitative terms – with the aim of fostering local and regional natural and economic resources.

Keywords: *Agriculture, Typical products, Rural development.*

Introduction

The economic development in the latest decades and especially the conversion of the CAP from sectoral to territorial model[1] – together with the proposals of reforming Agenda 2000[2] and the most recent EU and regional rural development policies (scheduled, such as CAP 2014-2020, and/or in progress)[3] – have fostered the spread of a development model mainly based on the increase of agriculture productivity and extension of cultivated areas as well as on competitiveness of firms. Furthermore, all the aforementioned factors have strengthened the integrated development policy by improving the possibility for the first sector to carry out several production, territorial, environmental and social functions in favor of the community.

Therefore, radical changes have occurred both in production relationships among single economic sectors and urban and rural areas because of new and increasing production activities that nowadays are an integral part of the agricultural world. However, these changes have occurred especially because of the way some functions have been incorporated and adapted to the rural environment by changing radically the territorial structure and the characterization of the rural landscape itself.

In this framework, the commitments of the most recent EU agricultural policy reforms have to be taken into consideration. These commitments include reshaping the EU intervention programs in line with the EU-28 sectoral strategic interests. This perspective intends to correct some mistakes of the past by strengthening structural funds policy with the aim to better prepare farmers to face future challenges and give to the primary sector not only the possibility to guarantee production, territorial, environmental, and social agricultural functions, but also to promote the direct local community engagement in search of a development model in balance with the environment and integrated with other economic sectors.

Since the 90's and in conjunction with the success of the structural funds policy, the sectoral development model – based on national and community reforms in support of firm production and competitiveness – experienced a real conversion toward a "territorial model". Specifically, this model aims at discovering the qualities of territories as well as the problematic complexity of their integrated and sustainable development.

For 40 years agricultural policies have focused on subsidies for the competitive production in terms of quantity. On the contrary in the recent years these policies have started to privilege quality rather than quantity as a strategic element, mainly aiming at establishing territorial bonds of human groups and promoting cultural, historical and environmental resources of rural areas.

Therefore, by reconsidering the rural devel-

opment policy on the whole, the new model of territorial development planning is based on the conversion to rural territorial and landscape values with the purpose to determine sustainable and eco-friendly paths and to protect territory, biodiversity and quality of life.

The agricultural world is open to new challenges and introduces a new season for agriculture. Such a season wherein the CAP – that today still oscillates between globalization and regionalization – could connect both the "local" to the "global" and transnational policy to regional level. This is a season which discovers new themes, such as sustainability and food safety, and forces everyone to act with awareness of the past and care for future generations[4].

Furthermore, together with the spread of policies and practices aiming at promoting endogenous resources and alongside the uniformity effects of globalization, changes in lifestyle and food consumption patterns encourage the promotion and fulfilment of economic and territorial development strategies based on the rediscovery of cultural and geographic peculiarities as well as on the traditional local production, with the purpose of fostering a comprehensive rural development policy coherent with the enhancement of product quality, environmental safeguard, real perspective of employment and a better quality of life.

The new season of agriculture in Apulia

These brief introduction has found an applicable context in Apulia, a region in Southern Italy. Despite the wealth and variety of production sectors, which are strictly related to the complex orographic and environmental scenario, agriculture still plays a primary role in Apulia because of the high level of sectoral specialization in this area[5].

The agricultural sector represents 8.1% of the regional GDP and 8.3% of the surplus value of Apulia: both these values are higher than those observed in Southern Italian regions and in Italy as a whole. The incidence of the agricultural sector of Apulia is similarly significant on the national basis and it represents about 8% of the overall Italian agricultural production.

Woody cultivations (47%) are greater than herbaceous cultivations (38%) in Apulia, whereas the number of livestock is very limited (9%).

The agricultural landscape of Apulia is characterized by fruit and vegetables (such as tomatoes and artichoke plants). Furthermore, olive oil and wine are two other crucial sectors for Apulia: indeed, this sectors – by means of the production of high-quality and now world renowned olive oil and wine – are also the symbol of intangible values such as landscape, cultural relationships and territorial identity.

Many important results have been achieved by Apulia: for instance, this region is ranked first in table grapes and olive oil production (two sectors which are respectively 2/3 and more than 1/3 of the overall production in Italy).

Apulia has scored positive results with regards to hard wheat and vegetables production; furthermore, floriculture plays a very important role in this region (11.4% of domestic product).

From the economic-production point of view, Apulia is the region with the highest number of agricultural holdings in Italy (about 17% at national level). The average land area of each holding in Apulia is 4.7 hectares, lower than the average of Southern regions and Italy (ISTAT 2011).

The number of agricultural employees in Apulia is 10% of the overall workers: this figure is significantly higher than the national average (5%).

Despite different levels of balance and integrations within Apulia, rural area of this region are particularly rich of naturalistic, landscape, production, cultural and social resources that are still waiting to be adequately promoted by means of focused strategies and interventions to ensure dynamism to local economies.

In recent years, farmers of Apulia have demonstrated consideration towards those resources and potentialities that brighten up the territory. The aim of these farmers is to strengthen and promote the local economies by means of paths of regionalization linked to agricultural vocations and intervention focused not to single economic sectors, but aiming to achieve quality (i.e. as an instrument for promoting the territory).

Starting from this crucial turning point, which characterizes the evolution from the traditional EU structural policies to the current rural development policies, we are witnessing to the change of both production technologies and species cultivated in the rural areas in Apulia.

In addition, agricultural activities – in the past influenced by the natural environment – today is increasingly influenced by support policies and by the changed political objectives because the competitiveness is no more based on quantity but on quality and the beauty of the landscape.

Agricultural landscapes and their own functions have changed: today not only production efficiency matters, but also aesthetics and historical and cultural memories.

Even the socio-economic context of Apulian rural areas has changed: this lands guarantee a clearly recognizable quality of agriculture based on products that are able to express the local identity and the promotion of cultural heritages by means of the restore of traditional procedures, food habits and typical productions. All these elements allow local population to repossess that historic, artistic and social heritage which has been often neglected and forgotten and that must be promoted and transmitted to posterity.

The new forms of rurality have mainly led to the general expansion of the activities related to multifunctional rural tourism and agritourism[6], which are directly linked to products from biologic cultivations and to the development of local quality food know-how as well as to the rediscovery of genuine food produced by using traditional methods.

By means of these resources, which express the close territorial relationships of human groups, represent the fundamental parameters to start a development process and contribute to the recovery of local identities and to improve the regional attraction, it is possible the activate positive economic circuits.

Agriculture and quality products

By now, the farmers of Apulia are aware that the dynamism of the primary sector depends not only on the production capacity of lands and/or commercialization of products, but especially on multifunctional and competitive agriculture. In this new concept of agriculture, public goods and services (in a social perspective too) are able to successfully contribute to the integrated and sustainable development of rural areas.

The promotion of this broader view of agriculture is based on the concept of sustainable development and on the rediscovery of local resources as well as on the complex dimension of integrated development. This strong promotion supports the mutual compatibility among agriculture, environment and territorial values.

Indeed, themes such as competitiveness, integration and multifunctionality in agriculture are the subject of numerous initiatives launched by the Apulian regional authorities. The combination between agriculture and quality is becoming increasingly important in this region, with the aim of promoting products of excellence. The concept is that these products can become a catalyst for the economic growth not only for the local area, but also for many economic sectors not directly related to the primary sector.

Quality in agriculture[7] is a strategic characterization, fundamental to create territorial quality. By now, it represents an essential condition for Apulia, a region which intends to give answers to those consumers paying increasing attention to food safety, healthiness and nutrition facts.

Apulia regional authorities are engaged in the ambitious objective of reshaping new growth scenarios for agriculture and foods: in this way, the process of modernization in this region crosses with the recovery and promotion of tradition, with the aim of meeting the local demand. The objective of Apulia regional authorities is to compete both on the economic and environmental level in Italy and EU.

The success of products of quality based on eco-friendly production techniques and shared rules and procedures in Apulia is strictly linked to the landscape qualities and the variety of agricultural cultivation in the region. This link creates a virtuous interaction among landscape, production tradition and identity.

Many products contribute to spread the image of Apulia in the world in virtue of their peculiar characteristics and distinctiveness. These products are suitable for spreading the local cultural identity and putting into action important production and occupational niches, as well as for opening the regional economy to broader and richer market segments by combining successfully both local and global needs.

In the overview of the typical products of Apulia there are many higher-value products that are awarded with certification of authenticity and guarantee of origin. All these products are protected by labels that certify the origin of raw materials and/or the authenticity of the production methods. These productions contribute both to fulfill the relationship between natural and social environment and to recover and promote local identities[8].

The 204 traditional products of Apulia represent 6% of the overall 4,000 products included in the National List of Traditional Products.

Furthermore, 16 higher quality certifications for Protected Designation of Origin (PDO) (7.9% of the Italian PDOs), 5 recognitions for Protected Geographical Indication (PGI) (3.8% at national level), provided by the EC regulation 510/06 (see Fig. 3 and Tab. 1) and 2 Traditional Specialties Guaranteed (TSGs) (i.e. Mozzarella and Pizza Napoletana), provided by the EC regulation 509/06 must be added to the products of Apulia included

Tab. 1. Products of quality in Apulia (PDOs and PGIs).

Denomination	Cat.	Typology	EEC/EC/EU Regulations	Published in the GUCE/OJ	Region	Province
Arancia del Gargano	PGI	Fruit, vegetables and cereals	Reg. CE n. 1017 del 30.08.07	GUCE L 227 del 31.08.07	Apulia	Foggia
Caciocavallo Silano	PDO	Cheese	Reg. CE n. 1263 del 01.07.96; Reg. CE n. 1204 del 04.07.03	GUCE L 163 del 02.07.96; GUCE L 168 del 05.97.03	Calabria, Campania, Molise, Apulia, Basilicata	Catanzaro, Cosenza, Avellino, Benevento, Caserta, Napoli, Salerno, Isernia, Campobasso, Foggia, Bari, Taranto, Brindisi, Matera, Potenza
Canestrato Pugliese	PDO	Cheese	Reg. CE n. 1107 del 12.06.96	GUCE L 148 del 21.06.96	Apulia	Foggia, Bari
Carciofo Brindisino	PGI	Fruit, vegetables and cereals	Reg. UE n. 1120 del 31.10.11	GUUE L 289 del 08.11.11	Apulia	Brindisi
Clementine del Golfo di Taranto	PGI	Fruit, vegetables and cereals	Reg. CE n. 1665 del 22.09.03	GUCE L 235 del 23.09.03	Apulia	Taranto
Collina di Brindisi	PDO	Oils and fats	Reg. CE n. 1263 del 01.07.96	GUCE L 163 del 02.07.96	Apulia	Brindisi
Dauno	PDO	Oils and fats	Reg. CE n. 2325 del 24.11.97	GUCE L 322 del 25.11.97	Apulia	Foggia
La Bella della Daunia	PDO	Fruit, vegetables and cereals	Reg. CE n. 1904 del 07.09.00; Reg. CE n. 1067 del 06.11.09	GUCE L 228 del 08.09.00; GUCE L 291 del 07.11.09	Apulia	Foggia
Limone Femminello del Gargano	PGI	Fruit, vegetables and cereals	Reg. CE n. 148 del 15.02.07	GUCE L 46 del 16.02.07	Apulia	Foggia
Mozzarella di Bufala Campana	PDO	Cheese	Reg. CE n. 1107 del 12.06.96; Reg. CE n. 103 del 04.02.08	GUCE L 148 del 21.06.96; GUCE L 31 del 05.02.08	Campania, Lazio, Molise, Apulia	Benevento, Caserta, Naples, Salerno, Frosinone, Latina, Roma, Foggia, Isernia
Pane di Altamura	PDO	Bread and bakery products	Reg. CE n. 1291 del 18.07.03	GUCE L 181 del 19.07.03	Apulia	Bari
Ricotta di Bufala Campana	PDO	Other products of animal origin	Reg. UE n. 634 del 19.07.10	GUUE L 186 del 20.07.10	Campania, Lazio, Molise, Apulia	Benevento, Caserta, Napoli, Salerno, Frosinone, Latina, Roma, Foggia, Isernia
Terra d' Otranto	PDO	Oils and fats	Reg. CE n. 644 del 20.03.98Reg. UE n. 56 del 22.01.14	GUCE L 87 del 21.03.98GUUE L 20 del 23.01.14	Apulia	Taranto, Brindisi, Lecce
Terra di Bari	PDO	Oils and fats	Reg. CE n. 2325 del 24.11.97	GUCE L 322 del 25.11.97	Apulia	Bari
Terre Tarentine	PDO	Oils and fats	Reg. CE n. 1898 del 29.10.04	GUCE L 328 del 30.10.04	Apulia	Taranto
Uva di Puglia	PGI	Fruit, vegetables and cereals	Reg. UE n. 680 del 24.07.12	GUUE L 198 del 25.07.12	Apulia	Bari, Barletta-Andria-Trani, Brindisi, Foggia, Taranto, Lecce

Source: MIPAAF (2014).

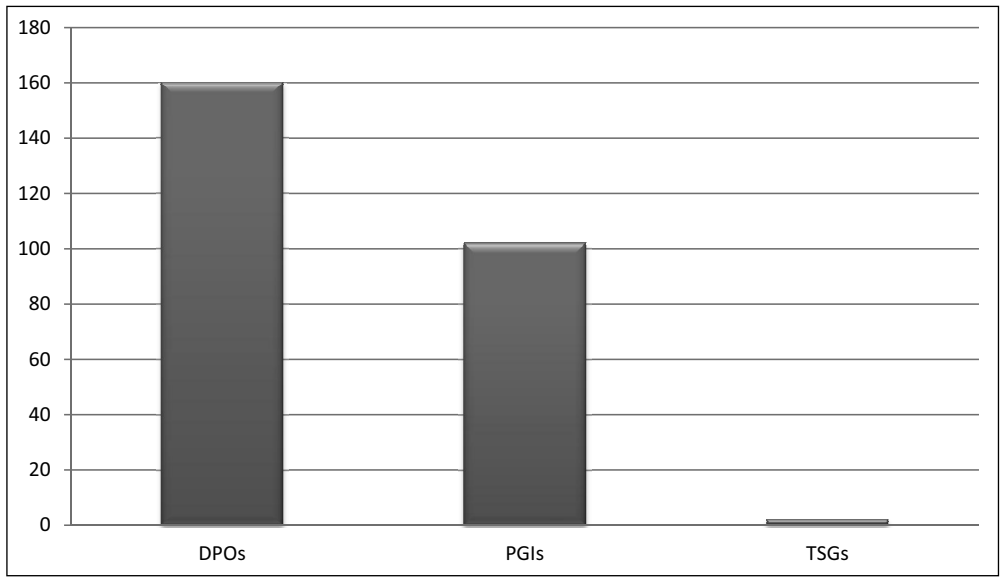


Fig. 1. PDOs, PGIs and TSGs in Italy (*Source*: MIPAAF, 2014).

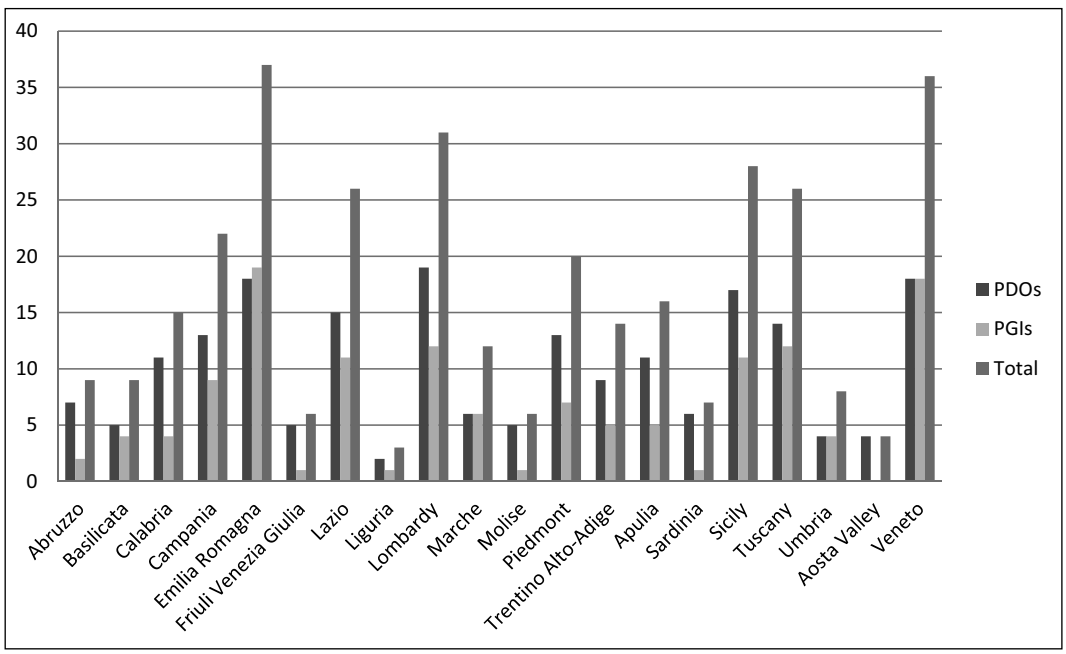


Fig. 2. PDOs and PGIs per region (*Source*: MIPAAF, 2014).

in the National List of Traditional Products.

The wine and olive oil sectors of Apulia have taken on a great importance in agribusiness both at national and international levels.

Apulia region has 109,000 hectares of vineyards: this extent guarantees a considerable wine production amounting to 5,580 hectoliters in recent years. These figures contribute efficaciously to transmit the image of the region and promote landscape, cultural traditions and territorial identity.

For a long time, the must of Apulia has been used to reinforce and improve the wine production of other Italian and European regions. In fact, only recently the wine sector has been profoundly restructured in terms of organization of cultivation, and this has been made possible thanks to a

serious promotion and product tutelage policy. In this way the wine of Apulia has conquered several markets by means of a higher quality production and a good originally monitored qualitative level.

The increased awareness of the need of quality has addressed the oenological objectives towards production improvement. Moreover, this has led to a technological turn in wine industry by means of the insertion of bottling sections and innovative equipment.

Consequently, today the production of blending grapes and lesser quality wine is in constant decline in Apulia and it has been replaced by a more dynamic attitude showing characterized by attention to consumers' taste. On the contrary, the production of DOC wines is the strong point of the whole sector, although it represents only 10% of the overall production. However, these wines have been able to make a name for themselves in the national and international markets thanks their strong identity. This has been achieved by means of the improvement of sales and distribution networks[9] (see Fig. 4).

Apulia is a leading region in Italy also in the olive oil sector. Specifically, Apulia is ranked first in terms of areas suitable for olive cultivation (more than 377.000 hectares, about 32% of the overall areas at national level) and olive for oil extraction and olive oil production (about 35% of the national production). Finally Apulia is ranked second (behind Sicily) as for table olive production in Italy.

From data disaggregation, it has emerged that Bari and Lecce are mainly characterized by a broader surface of olive groves and a bigger production. However, these two provinces

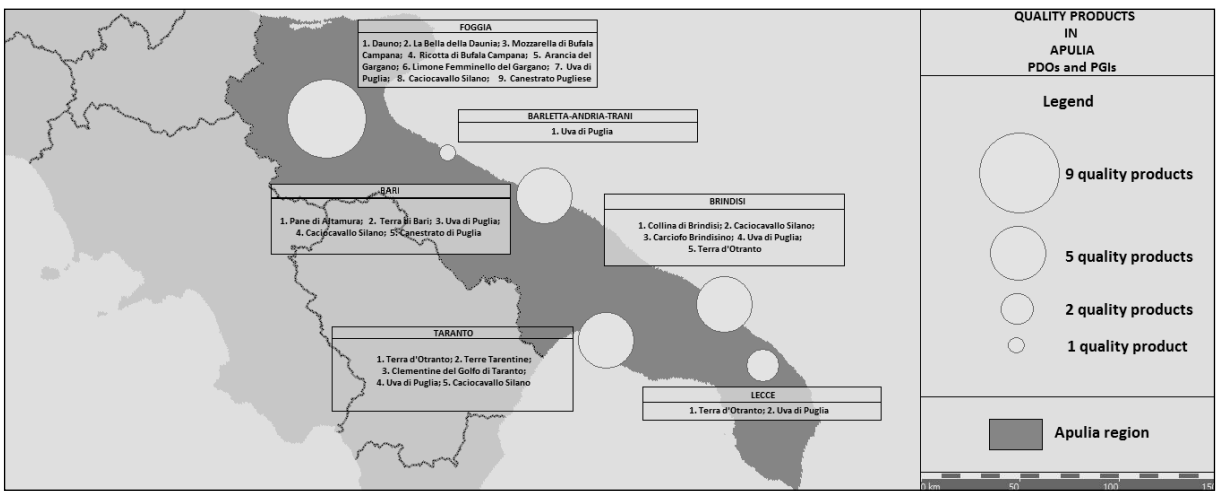


Fig. 3. Diffusion of PDOs and PGIs in Apulia (*Source*: MIPAAF, 2014).

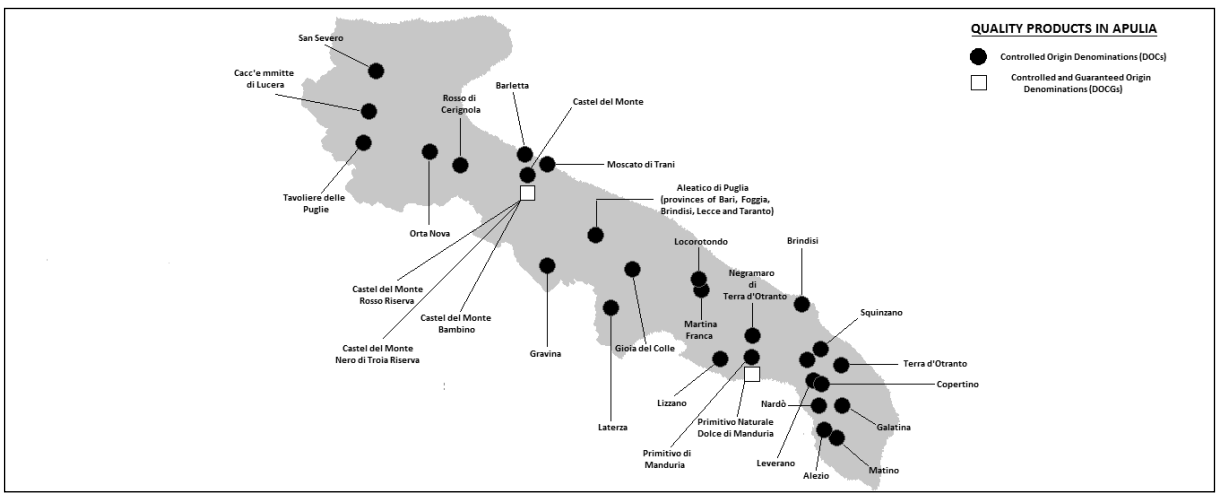


Fig. 4. Wines in Apulia (DOCs and DOCGs) (*Source*: Vini di Puglia, 2014).

show different types of olive growing: the province of Bari is characterized by the presence of more advanced production systems, whereas the Salento area is characterized by smaller companies and more limited results in terms of production.

From the qualitative point of view, the areas in Apulia wherein PDOs and PGIs are produced represent 17% at national level and only 4.3% of olive grove area is suitable to the production of PDO and PGI olive oil.

The quality of olive oil produced in Apulia can grow further: indeed, today in this region there are 5 PDOs (Terra di Bari, Dauno, Collina di Brindisi, Terra d'Otranto e Terre Tarentine) corresponding to more than 40% of certified production in Italy (see Fig. 5).

Apulia regional authorities have carried out specific actions in order to achieve an efficient and well structured agribusiness system aiming to obtain the planned qualitative parameters by enhancing promotion policies for those productions identified and protected by certification labels. All of these actions are included in the Operative Regional Programs (POR) and in the "Agriculture and Quality" Regional Program.

By means of these policies Apulia regional authorities guarantee the consumers by production traceability and also by adequate controls in order to assure origin, quality, authenticity and typicality.

Among several others initiatives, "Prodotti di Puglia" ("Products of Apulia", G.R. 20.04.2004) is a collective community trademark with geographical indication including various types of products and certifications (PDO and PGI), as well as products without any certification, with the aim of promoting the high quality agriculture and food production of Apulia (which EU, national and regional legislations – among which the regional Rural Development Program (PSR 2007/2014) – give prominence to).

Moreover, in June 2012 Apulia Regional authorities applied for registering the label "Prodotti di Qualità Puglia" ("Quality Products of Apulia") to the Office for Harmonization in the Internal Market (OHIM). The aim of this application is to promote agriculture and food quality products approved by the EU and to support the commercial marketing.

Organic agriculture plays an important role within those local planning strategies aiming to define a rural development model based on the protection and promotion of typical regional productions as well as on farm multifunctionality[10]. Organic agriculture is no more a niche segment: indeed, this type of production is gaining a significant role in the production stage and broader segments in agribusiness market. Furthermore, organic agriculture plays a primary role within the quality systems and in high value landscape and environmental areas. The organic agriculture in Apulia shows a great potential and a strong specialization in olive oil sector.

Conclusions

The territory of Apulia is characterized by different landscapes, scents and flavors we can detect in its many quality products resulting from long standing experiences, but also in productions ex-

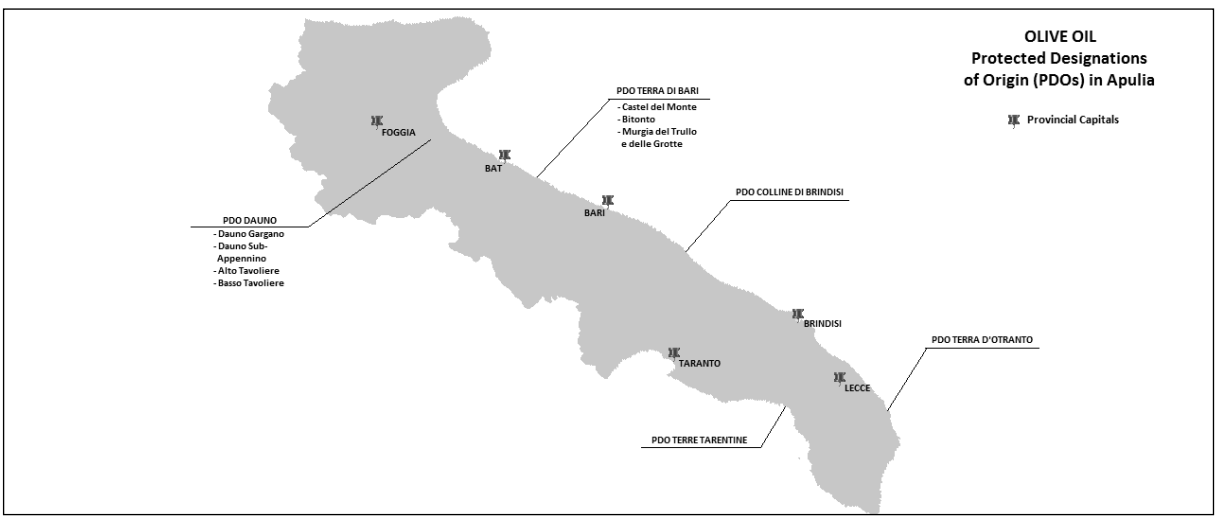


Fig. 5. Olive oil (PDOs in Apulia) (*Source*: Terre Federiciane, Lavinium, 2014).

pressing local values and the complexity of rural environments. All of these products contribute to create the quality of the territory.

Therefore, the current agriculture and food scenario is very varied and complex thanks to the ability of agriculture businesses and traditional productions to take advantage of the peculiar territorial identity.

The close relationship between higher value productions and rural development stimulate the adoption of actions able to systematize the different territorial components in order to create the basic conditions to promote the whole territory and fully express its potentiality.

Coherently with the Italian and EU regulations, as well as with the planning policies adopted so far by the Apulia regional authorities, the new model of rurality is embedded in a broader project of territorial development based on the endogenous potential.

The promotion of culture, history and economy oriented to sustainable development stems from the rediscovery of the rural world (including agriculture techniques, local craftsmanship, agricultural and food productions, rural landscape and so on).

The interdependence between products and territory has given rise to a virtuous cycle which has become the local development booster. However this implies also the necessity of an organized approach on the basis of strategies and procedures stressing the relationship between place and product, with the aim to identify a relationship between qualitative and commercial success and the overall success of the territory.

The current trends of Apulia regarding the quality agriculture determine the increasingly stronger relationships between quality products and rural multifunctionality. Moreover, these trends propose a strong concept of agriculture able to mark the space wherein it operates.

A great attention is paid to peculiarity and originality of places, but a similar interest is oriented towards the creation of a competitive, multifunctional and quality agriculture with the aim to assure a sustainable and integrated development, which is able to give positive answers to the expectations of Apulians and consumers in general, guaranteeing the income of farmers and carrying out actions for the protection and promotion of social and cultural identities of the territory.

The development of Apulia is based on policies promoting quality as an element of identity. This strengthens the sense of belonging and assure the promotion of typical production traditions and the economic territorial revitalization with the purpose of facing the competitive challenge imposed by globalization.

Of course, the process of agriculture modernization in Apulia is not totally completed and agriculture is not completely integrated within various markets yet and neither it is inserted in an economic system that enhances its potentialities. Nevertheless, interesting competitive perspectives are offered mainly by quality and traditional products.

In such a context the future of the Apulian rural world is strictly connected to the production capacity of the territory and to the level of synergic interactions among all of the territorial components. This is necessary in order to develop competitiveness and the new opportunity offered by higher quality productions and to promote the quality of Apulian rural areas. Moreover, the promotion of rurality enhances the rediscovery of local culture, history and economy based on the principles of sustainable development.

References

AA.VV. (2006), *Le politiche comunitarie per lo sviluppo rurale: il quadro degli interventi in Italia*. INEA, Roma.

Anelli G. (2007), *Il turismo enogastronomico. Promozione del territorio attraverso la valorizzazione dei prodotti tipici*. Aracne, Roma.

Casini L., Bernetti I., Menghini S. (2002), *L'agricoltura e lo sviluppo rurale nei nuovi strumenti per il governo del territorio*. Franco Angeli, Milano.

COMMISSIONE EUROPEA (2008), *Libro Verde sulla qualità dei prodotti agricoli: norme di prodotto, requisiti di produzione e sistemi di qualità*. Bruxelles.

De Blasi G., Fucilli V. (2005), "Definizione di ruralità: considerazioni dai Programmi Leader+ regionali in Italia". *Estimo e Territorio*, n. 11.

Della Casa R, Rosati M. E Verrini L. (Eds.) (2010), *Atlante Qualivita. I prodotti agroalimentari italiani DOP IGP STG)*. Qualivita, Siena.

Di Carlo P. (1996), *Puglia*. Collana "*Geografia dei sistemi agricoli italiani*", REDA, Roma.

Fait M. (2008), *Competitività e sviluppo dei territori del vino*. Cacucci ed., Bari.

Fanfani R. (2000), *L'agricoltura in Italia*. Il Mulino, Bologna.

Grillotti Di Giacomo M.G. (2000), *Una geografia per l'agricoltura. Lo sviluppo agricolo nello sviluppo territoriale italiano*. Vol. II, Società Geografica Italiana, Roma.

Grillotti Di Giacomo M.G. (Ed.) (1996), *Geografia e agri-cultura per "seminare meno e arare meglio". Geotema*, anno V, n. 5.

Grillotti Di Giacomo M.G. (2003), "La riscoperta del territorio e della geografia nella più recente evoluzione della politica agricola comunitaria". *Bollettino della Società Geografica Italiana*, Serie XII, Vol. VIII, pp. 626-645.

LAVINIUM, *Dop e Igp Puglia*, http://www.lavinium.com/dop/puglia_dop.shtml, accessed: 25/05/2014.

Nazzaro C. (2008), *Sviluppo rurale, multifunzionalità e diversificazione in agricoltura*. Franco Angeli, Milano.

Nicoletti L. (2003), *L'olivicoltura calabrese tra marginalità e sviluppo*. In M.G. Grillotti Di Giacomo, L. Moretti (Eds.),

Atti del Convegno geografico internazionale "I valori dell'agricoltura nel tempo e nello spazio". Vol. III, Brigati, Genova, pp. 441-464.
Nicoletti L. (2003), *Processi di crescita e organizzazione degli spazi rurali in Calabria*. In "Atti XXVIII Congresso Geografico Italiano", Vol. II, Roma, Edigeo, pp. 1749-1763.
Nicoletti L. (2004), *La nuova ruralità in Calabria fra tradizione e innovazione*. In P. Di Carlo, L. Moretti (a cura di), *Nuove politiche per il mondo agricolo: multifunzionalità e sviluppo integrato del territorio*. Pàtron, Bologna, pp. 433-444.
Nicoletti L. (2008), "La mediazione alimentare come fenomeno geografico. Il pane di Altamura". *Itinerari di ricerca storica*, XX-XXI, Dipartimento di Studi Storici - Università del Salento, Congedo, Galatina, pp. 1175-1185.
Pollice F., (Ed.), (2012), *I nuovi spazi dell'agricoltura italiana*. Rapporto annuale della Società Geografica Italiana, Roma.
Regione Puglia. Area Politiche per lo Sviluppo Rurale (2011), *Atlante dei prodotti tipici agroalimentari di Puglia*. Edir s.r.l., Bari.
Telleschi A., Lemmi E., Siena M. (2007), *Temi di geografia degli spazi rurali*. Seu ed., Pisa.
Terre Federiciane, *Olio Dop di Puglia*, http://www.terrefedericiane.it/puglia/olio-dop.htm, accessed 25/05/2014.
Vini di Puglia, *Docg, Doc e Igt di Puglia*, http://vinidipuglia.com/index.php?option=com_content&view=article&id=966&Itemid=27&lang=it accessed 25/05/2014.

Notes

[1] Since the Treaty of Rome, the Common Agricultural Policy (CAP) has represented one of the main instruments in building the European Union and has carried out a crucial role in the range of the social and economic integration processes within EU countries. Over the years, tasks and functions (and, in some cases, also the architecture) of the CAP have been gradually modified. However, sometimes these changes were slower than the transformation of the objectives to achieve.
Indeed, in the 90s we have witnessed the transition from the sectoral model, based on the extension of cultivated surface areas and on the increase of productivity, to the territorial model, carried out with the structural funds and by means of the LEADER Programs.
This initiative was structured in three phases: the aim of LEADER I (1991-1994) was to promote the rural development by means of an integrated and qualified approach which included new methods to promote the natural and cultural heritages, strengthening the economic framework and creating new jobs in order to improve the production capacity of every single community; the purpose of LEADER II (1994-1999) was to guarantee to each territory the ability to promote and achieve autonomously its development on the basis of its own social and economic strengths and by leaving wide space to the local initiative. Finally, the objective of LEADER + (2000-2006) was to support rural operators in developing and promoting original sustainable and integrated development strategies. This was done in order to improve the territorial arrangement, promote cooperation and guarantee a greater territorial competitiveness.
[2] The reform proposals of AGENDA 2000 (2000-2006) of promoting a multifunctional, sustainable and competitive agriculture aimed at improving the quality of life in developing regions, guaranteeing a reasonable earning to farmers, increasing the production of high quality food and the competitive price of products. These proposals aimed also at bridging the gap in terms of development and quality of life and at guaranteeing better economic outlooks to European citizens.
[3] The aims of rural development policy (2014-2020) have been conceived in order to fulfill the requirements of the different forms of agriculture that characterize the EU-28 area. In line with EUROPE 2020 strategy it identifies at least three strategic objectives, such as the improvement of agricultural competitiveness, the sustainable management of natural resources and global change and the well-balanced development of rural areas. These general objectives have been put into practice by six priority points to manage by means of the Rural Development Programs (RDPs):

1 Fostering knowledge transfer and innovation in agriculture, forestry and rural areas;
2 Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable forest management;
3 Promoting food chain organization, including agricultural product processing and marketing, animal welfare and risk management in agriculture;
4 Restoring, preserving and enhancing ecosystems related to agriculture and forestry;
5 Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors;
6 Promoting social inclusion, poverty reduction and economic development in rural areas.

[4] M.G. Grillotti (2003), *La riscoperta del territorio e della geografia nella più recente evoluzione della politica agricola comunitaria* (in *Boll. S.G.I.*, Serie XII, Vol. VIII, pp. 626-645).
[5] The great variety of production contexts in Apulia is directly linked to territorial differentiations which put in contrast the inland disadvantaged areas in the Appennines, Murgia and Salento with the more advanced areas in Tavoliere di Puglia, Terra di Bari and Ionic areas around Taranto. The total surface of Apulia is 1.936.305 hectares (6.4% at national level) most flat land (53%); 2/3 of hilly areas are located in the inland and 1/3 along the coast representing 45.3% of the overall area; mountains are only 1.5% of the Apulian territory.
[6] From the official Regional List of Agritourism Operators it emerges that the authorized agritourisms in Apulia are 1685. A large part of these are located in the province of Lecce (704 authorizations, 42% of the total) and especially in Otranto (85 authorizations), Nardò (57) and Melendugno (45). Furthermore, Lecce (35) is ranked first among the provincial capitals of Apulia, followed by Andria (24), Brindisi (10), Trani (6), Taranto (5), Barletta (2) and Bari (only 1 authorization).
[7] Quality in agriculture is strictly related to production methods and geographic origin as well as to peculiar soil profile and climatic conditions and human settlements in the territory. In this way, the correspondence of products to planned standards and the guarantee that each stage within the production chain is carefully programmed and carried out are assured. Therefore, quality products have distinctive characteristics and they are the result of the virtuous combination between natural and social environment.
[8] Quality agricultural products are based on several fundamental properties concerning production methods and geographic origin of raw materials. The distinction among typical, local and traditional products is rather difficult to be explained. Within the definition of "typical product" is included the cultural dimension of places where the local product is produced, whereas the definition of "local product" refers to a specific geographical context. "Traditional products" are obtained by long-standing traditional working, conservation and aging methods. The traditional product system is regulated by the D.M. 18.07.2000: a product must have at least 25 years of docu-

mented life to be certified as "traditional".
EU guarantees typical and traditional characteristics of agriculture and food products by means of a series of regulations which discipline the conferment of labels. These labels are bestowed only to those products which can boast detailed production methods and specific geographic origin and production techniques characteristics.
PDO (Protected Denominations of Origin) is an agricultural or food product whose quality and characteristics are primarily or exclusively tied to a specific geographic environment (including natural and human factors). Production, transformation and elaboration of PDOs take place in a delimited geographic area: the whole product cycle must be carried out within the same area and therefore not reproducible elsewhere.
PGI (Protected Geographical Indication) is an agricultural or food product whose qualities and characteristics can be connected to a geographic origin. The PGIs production and transformation have to take place in a specific geographical area. However the PGI certification does not require the production to be necessarily produced in the same site as long as the whole product cycle manages to obtain a product corresponding to production standard requirements.
DOC (Controlled Origin Denomination) guarantees the origin of wines and determine the geographic name of a viticulture area with the aim to mark a quality and well- renowned product. The characteristics of DOC products are tied to both the natural environment and human factors.
IGT (Typical Geographical Indication) determines the geographic name of the area used to define the final product.
TSG (Traditional Specialities Guaranteed) is a product characterized by traditional raw materials, composition or recipe, production methods and transformation without any connection with geographical production areas.

[9] Apulia has 27 DOC wines that are strengts of whole sector: Aleatico di Puglia, Alezio; Barletta; Brindisi; Cacc'è mitte; Castel del Monte; Colline Ionico Tarantine; Copertino; Gioia del Colle, Gravina; Leverano, Lizzano; Locorotondo; Martina Franca; Matino; Moscato di Trani; Nardò; Orta Nova; Ostuni; Primitivo di Manduria; Rosso di Barletta; Rosso di Canosa; Rosso di Cerignola; Salice Salentino; San Severo; Squinzano; Galatina.

[10] Organic agriculture is an alternative production system opposed to the conventional one. Such a system is based on objectives and principles combining "best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of a sector of consumers for products made by using natural substances and processes" (EC Regulation n. 834/07).
The interest in organic agriculture by the Apulian regional authorities has been rapid since the fulfilment of the "Regional Agriculture and Food Program" (PAR) in 1996, which incorporated the EU regulations within the regional ones, Among other actions, Apulian regional authorities grant rewards for those farmers who introduce or maintain organic production methods.
Apulia is specialized in organic olive oil production as well as on organic grains and vegetables.

Kostantina Tatsios

Rural tourism as a form of cultural tourism in Apulia

Abstract

The rural area provides new cultural, tourist and landscaping functions, besides the traditional «four F's» (Food, Feed, Fiber and Fuel) (Sotte, 2008, p. 5-26). The offer is enriched by food and wine experiences, hiking and educational and cultural activities (didactic farms, craft workshops, peasant life museum, etc.). The goal becomes to know the rural culture through its rhythms, activities, places in order to enrich the visitor's experience.

Keywords: *Rural tourism, Cultural tourism, Rural development, Apulia.*

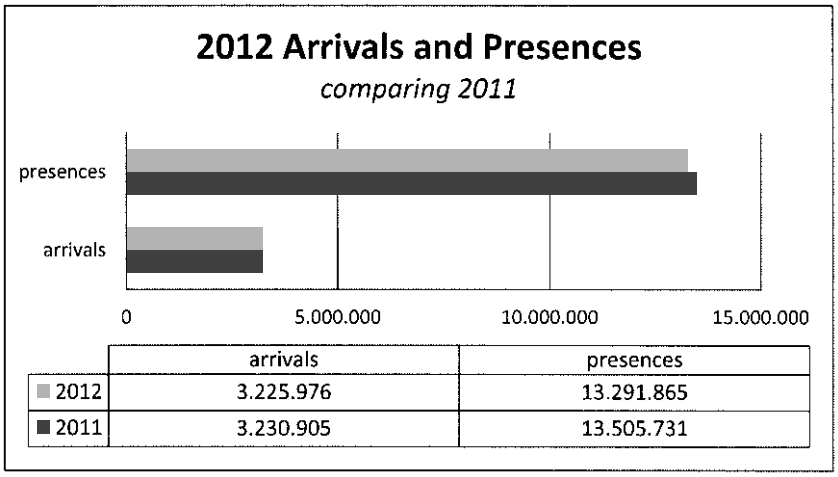
Rural tourism, agritourism and cultural activities

The INEA institution (National Institute of Agricultural EconomicsNational Institute of Agricultural Economics) institution defines rural tourism as «all the tourism activities that are practised with specific themes (trekking, birdwatching, overnight in rural buildings, hiking etc.) and distinguish it from agritourism, which is defined as a form of tourism that has particular organization features, being connected to the farm». Therefore, rural tourism is a form of tourism connected to rural resources and activities in a broad sense (landscape and natural, agricultural and social and cultural ones) that «are not necessarily created by a farmer using his company» (Schifani, 1995; De Luca, Messina, 2012, p. 491). However the borderline is quiet labile and these two terms are often wrongly used as synonyms. Hence rural tourism includes agritourism, ecotourism, farm tourism etc. The agricultural evolution in a multifunctional sense (Legislative Decree 228/2001) contributed to increase the number of activities that could guarantee additional earnings to the operators. Therefore, the activities connected to the agriculture can promote and enhance the value of the reference territorial context, increase the attractiveness of the tourist offer and the possibility of an economic development. For this reason the agritourism includes several activities: farm products sale, didactic activities organization, reception and hospitality services etc. The Law no. 96 of February 20, 2006, controls agritourism in order to support agricolture by «promoting new countryside forms of tourism that can: a) protect, qualify and enhance the value of the specific resources of each territory; b) promote the maintenance of human activities in rural areas; c) to promote the multifunctionality of the agriculture and the differentiation of agricultural incomes; d) to promote initiatives of the farmers in defense of the ground, the territory and the environment by increasing farm incomes and improving the quality of life; e) to recover the rural building heritage protecting the landscape peculiarities; f) to support and increase typical productions, quality productions and the connected food and wine traditions; g) to promote rural culture and food education; h) to promote agricultural and forest development» (Law 96/2006). By the described objectives, it can be seen how agriculture, environment and tourism are fundamental elements for the development of rural areas. According to an ISTAT research (2011), in Italy the current situation of the farm holiday sector is improving a lot. The report published in November 2012 indicates a farms increase of the 56,8% (from 13.000 to over 20.000) in the reference period 2003-2011. Farms authorized to practice farm holidays are 20.413 (2,2% more than the previous year). The greater concentration of agritourisms are noticed in the northern regions (45,6%), followed by the Center (34%) and the South (20,4%).«Agritourism represents a little part» (De Luca, Messina *et Al.*, 2012) of the numerous initiatives by which rural tourism offer is composed: sport, food and wine, and culture above all (natural, social and architectural heritage). These activities can be carried out by farms, in accordance with the observance of some particular obligations. «In the rural sphere, tourists enjoy the use of the territorial resources (parks, rivers, flora and fauna, etc.), but also of the anthropic environments (festivals,

traditions, craft, religious festivals, other popular events, etc.)» (Bencardino, Prezioso, 2007). Sporting activities that can be carried out in the rural area concern, for example, horse-riding, trekking, hiking by mountain bike, canoe, birdwatching, etc. «Wine and food tourism represents one of the various potential shapes that can be assumed by rural tourism when wine and food can induce tourists to see rural places, rather than being promoted by tourism» (Rocca, 2013, p. 441). In order to enhance the value of typical local productions, numerous initiatives, together with the promotion of the territory, have the aim to generate tourist flows in rural areas, have been activated by the operators. One of the activities with the aim to attract tourist (and then, economic) flows in areas considered marginal, such as olive and wine ones, is represented by wine, olive oil and taste routes. The Law of July 27, 1999 no. 268 has officially instituted the wine routes. The same regulations apply to the olive oil, typical products routes and every quality production to enhance their value (Art. 5, Law 268/99). The aim of the law is to promote territories with a wine and food bent, particularly the ones dedicated to typical or quality productions (Law of February 10, 1992, no. 164). All the activities by which the tourist offer is made aim to spread the territorial culture. It is interesting to know all the aspects that characterize the visited place (history, traditions, architectural and artistic heritage, etc.) also for people who is searching for typical local productions. But generally this also applies to every type of tourist visiting places strongly bounded to the traditions, such as the rural one. The agricultural activity is full of an ethnological heritage with a great cultural value: farm machinery, implements, forges, craft workshops, cellars, olive-presses, quarries and architectural elements can be used by the tourist as real social and cultural heritage. There are numerous museums dedicated to peasant life and local traditions, agriculture and craft. Production places become culture places. Therefore rural areas have got elements able to generate knowledge. The environment and all the activities that can be carried out in it (hiking and various sports) can contribute to enrich the native flora and fauna culture, often through dedicated shows and museums, and the knowledge of the landscape typicalnesses. Agricultural activity and wine and food can contribute to make local productions and typical products (tasting), as well as cultivation, harvesting and production techniques (visits to farms) known. Cultural, artistic and architectural heritage, enriching rural areas with rocky churches, monuments, castles, period buildings, etc., enhances the value of the tourist's experience. Another basic component of rural tourism is represented by traditions and local cultures. One of the development factors of rural tourism is the authenticity of the experience entered in the place, without being perceived as calculated (Marzano, 2009). The tourist must feel like a part of the rural reality he's living. He must be involved in the country life activities and manage to deepen the aspects regarding culture and local traditions. As a result, all the events, shows, festivals and religious feasts often carried out in rural areas and involving the visitor in habits and traditions of the visited places are very important.

Tourism and rural development in Apulia

Apulia features a territory with different morphological features that can make it a very attractive tourist destination. The sea has a strong tourist importance. It stands on the region for over 800 kilometers. Another favorable factor is the Mediterranean climate. This could make Apulia a tourist destination all year round. In fact, one of the principal aim is to free the region by a form of tourism decidedly bounded to summer and sea. From this point of view, rural areas of the Apulian inland can offer a richness of environmental, landscaping, cultural, wine and food, folk, sporting etc. elements that if developed and above all correctly promoted can contribute to a seasonal adjustment of tourist flows, as well as a development of the rural area itself. Looking at the most recent data of the tourist flows and the presences in Apulia, according to the «Osservatorio Regionale del Turismo» (http://www.agenziapugliapromozione.it) over 3,2 millions of arrivals and roughly 13,3 millions of tourist presences are reported. These data, if compared with the ones of 2011, show a slight drop in arrivals (–0,1%) and presences (–1,6%) that anyway represent a good result if compared to the national data. Tourism in Apulia has borne the crisis thanks to a significant increase of foreign tourist flows (that is +7% of arrivals and +5% of presences). According to the Osservatorio's Report again, Apulia consolidates its position in some important international markets, such as Germany (+15,7% of arrivals), France (+24,6% of arrivals), Switzerland (+22,8 of arrivals), United Kingdom (+19,5% of arrivals), Belgium (+23% of arrivals) and U.S.A. (+10,4% of arrivals). Due to the crisis, a drop in arrivals and permanences has been noticed in the internal tourist demand, mainly from



	arrivals	presences
2012	3.225.976	13.291.865
2011	3.230.905	13.505.731

Fig. 1. Apulia: tourist arrivals and presences, 2012 (*Source*: Osservatorio Regionale sul Turismo, 2012).

Piemonte, Liguria, Lombardia, Emilia Romagna and Friuli Venezia Giulia. Arrivals and presences flows reported in Trentino Alto Adige and Molise are positive. Domestic tourism grows by 6,4% of arrivals and 4,5% of presences. Proximity tourism is increasing from Calabria, Campania, Abruzzo and Basilicata.

As regards the destination of the tourism flows inside the region, a heavy concentration towards seaside towns is reported. In detail: the Province of Foggia and Lecce gather the 60% of regional arrivals (Osservatorio Regionale sul Turismo, 2012). The data regarding flows towards internal rural areas are promising. In fact, in 2012 a significant increase of arrivals has been registered towns of Valle d'Itria, of Magna Grecia, Murgia and Gravine and of Salento (Osservatorio Regionale sul Turismo, 2012). For Apulia, the tourist activity may represent an important factor of development. In fact, according to an IPRES (Apulian Institute of Economic and Social Research) research, tourism provides an important contribution to the regional GDP, reporting a trend of increase. As regards rural areas, tourism plays a fundamental role in this direction. Therefore for Apulia, rural tourism can represent a strategic means for the tourist offer diversification, through an action centered on protection and increase in value of the rural heritage, in particular of typical agricultural and local craft products, as reports the Regional Law no. 20 of July 22, 1998 that disciplines rural tourism in Apulia. In the EU intervention policies, rural tourism is placed in the rural development model, founded on sustainable management of natural resources and local economy diversification principles. In the regional autonomies outline, the tourist activity is present both in the *Documento Strategico Regionale* (DSR) and in the *Programma di Sviluppo Rurale* (PSR) 2007-2013. The DSR makes provision for three general aims: «1. to enforce the attraction factor of the territory, improving the accessibility; 2. to promote innovation, enterprise and development; 3. to carry out better conditions of settlement. Inside these macroareas, numerous interventions regarding activities of architectural and cultural heritage salvage and reclamation on natural criticalities are reported. These interventions are fundamental for the farms multifunctions increasing and the carrying out of a regional tourist strategy based on the improvement of the offer quality» (DSR, p. 14.944). The PSR is a planning tool of Apulia Region authority, directed to the agricultural and industrial system in order to increase their development potential and make them more competitive. The basic aim is to protect natural spaces, the agricultural ecosystem and the rural landscape. In this direction, interventions are divided into four sections, each of them with a specific aim to be pursued: 1) section I, improving the agricultural and forest sector competitiveness; 2) section II, improving the environment and the rural space; 3) section III, quality of life in rural areas and rural economy diversification; 4) section IV, leader. Section III makes provision for two objectives of utmost importance: the maintenance and the foundation of brand new employment opportunities in rural areas and the improvement of rural territories attraction both for businesses and population. As regards the section III, through the intervention measures no. 311 and 313, the tourist activity is foreseen as a development tool. Tourism must be used for diversifying the local entrepreneurs activity. They can create interrelated services, such as didactic, recreational and receptive (agritourisms) activities.

Rural Tourism and Cultural Activities in Apulia

The Apulian territory is an area with a strong agricultural bent. It has a specific landscape, architectural, manufactured goods and wine and food identity. These elements can set up the premises for the promotion of a tourism directed to know the relationships between agricultural, environmental, craft, social and cultural activities of production. Capabilities to enhance the value of the history and the territorial culture are attributed to rurality, well as capabilities to create employment and income flows. There are many components able to attract tourist flows in rural areas of Apulia: nature and environment, agricultural and wine and food activity, rural and cultural heritage and local traditions and folklore. As regards environment and nature, Apulia features two National Parks, that is to say the Gargano and the Alta Murgia ones. There are also numerous natural parks, nature reserves, protected areas and WWF oasis. Tourists can visit natural areas, naturalistic museums, and carry out numerous activities in touch with nature, discovering the local flora and fauna elements. As regards wine and food, that is strongly connected with the local agricultural activity, tourists can enter wine and food routes appreciating typical local products through the wine, tastes and olive oil routes. According to Agriturist (http://www.agriturist.it/), the olive oil routes in Apulia are: «Strada dell'Olio d'Oliva Antica Terra d'Otranto», «Strada dell'Olio d'Oliva Castel del Monte», «Strada dell'Olio Collina di Brindisi», «Strada dell'Olio Extra Vergine di Oliva DOP Dauno», «Strada dell'Olio Terra d'Ulivi». Wine and food routes try to involve the tourist into direct experiences through visits to olive-presses, oil mills, olive oil museums, ethnographic museums, agricultural and peasant civilization museums, besides promoting typical local products. Therefore numerous farms, agritourisms and large farms, tourist facilities, craft businesses and cultural associations for the popularization of traditions are connected with such routes, in order to enrich the tourist experience and guarantee the services he needs. Didactic farms are included among cultural activities that can be carried out in rural areas and that are about agricultural activities. Law no. 2/2008 makes provision for didactic farms at a regional level. The aim is to spread the knowledge about the activities carried out inside large farms, involve visitors (children and adults) in the creation stage of the typical product or other agricultural activities. Also the rural heritage is included among the components that can enrich the rural tourist offer of Apulia. There are numerous examples of rural architecture on the territory: large farms, farmhouses, '*casedde*', towers, '*iazzi*', underground oil mills, etc. Types vary depending on geographical areas inside the region and identify its landscape and traditions. Numerous buildings have been recovered and re skilled and now have become tourist facilities or museums. Undoubtedly, the '*trullo*' is an architectural element considered the symbol of Apulia, declared humanity heritage by UNESCO in 1996. The «Murgia dei Trulli», subregion among the province of Bari, Brindisi and Taranto, is characterized by the goodly and widespread presence of the *trulli* as rural residences. The area with the highest density of *trulli* is the one including the towns of Locorotondo, Cisternino, Martina Franca and Alberobello (Grillotti Di Giacomo, 2000, p. 387). In the old centre of Alberobello there is the «Trullo Sovrano» a structure built upon two surface areas by a well-off family round about 1780. The «Trullo Sovrano» represents one of the examples of increase in value and reskilling of a rural architectural element. In fact the inside of the trullo has been used as a museum where the tourist can visit the original inhabited rooms, the private chapel, the yard, the stables, the indoor hayloft, the market garden and the garden that give the idea of how a well-off family could live at the time. Examples of this kind of increase in value are present on the whole apulian territory in numerous variations. Past and history are tangible on the territory thanks to the presence of cultural heritage, such as castles and towers, noble palaces, historical buildings, archeological areas and sacred places. The traditional production activities and the folklore are communicated to the tourist also through the various kind of museums large net. They have the fundamental aim to preserve and pass on the aspects of the daily life, production activities, beliefs, and all that represents the tangible and intangible heritage that helped give birth to the territorial and cultural identity of Apulia. One of the numerous examples of this «museum reality» is represented by the ethnological and anthropological town museum of «Trappeto Maratea». The museum is located in the town of Vico del Gargano (province of Foggia), rising at a height of 445 meters, on the northern edges of the «Foresta Umbra», which also belongs to the National Park of the Gargano. Inside the old town, in ancient houses, there are underground spaces going to be oil mills

(underground oil mills) used for olive press. The Trappeto Maratea museum is located just inside a very ancient oil mill dating back to the XIV century. The oil mill is 32,25 meters long and 3,50-5,50 meters wide. It is also subdivided into two areas: in the first one there are the presses, the grinder and the tools for the olive oil production; in the second one there is an area used as show of daily life objects and other tools used in agriculture. The museum aims to enhance the value of the place in order to promote culture and tourism, pass on and reconstruct history, the traditions of local population, and the agricultural and historical model of the Gargano. In the thick net of museums present on the apulian territory, we can find also eco-museums that are defined by the *Carta degli Ecomusei* as «a cultural institution assuring in a permanent way research, preservation and increase in value of a natural and cultural heritage, representative of an environment and a way of life that has succeeded to it, on a given territory and with the participation of the population» (http://www.ecomuseipuglia.net). In Apulia, eco-museums are instituted and disciplined by the Regional Law no. 15 of July 6, 2011, and have the aim to «recover, testify, and enhance the value of historical memory, life, figures and facts, material and immaterial culture, relationships between natural and heavily affected by human activity environment, traditions, activities and the way the traditional settlement has characterized the formation and the evolution of the regional landscape and territory, in order to direct the future sustainable development of the territory» (Regional Law 15/2011). These objectives can be pursued through a series of interventions directed to recover and restore residential, historical and artistic buildings in the selected areas, reconstructing the traditional environment of life and work to guarantee goods and services to tourists; prepare visit itineraries and touristic routes that make the visitor know the local environment and traditions.

In Apulia there are seven eco-museums, one of which is still in a planning stage (Ecomuseo della pietra leccese): 1) «Ecomuseo dei paesaggi di pietra», Acquarica di Lecce (Lecce); 2) «Ecomuseo del poggio delle antiche ville», Mola di Bari (Bari); 3) «Ecomuseo della pietra leccese» (plan), Cursi (Lecce); 4) «Ecomuseo della valle d'Itria», Brindisi; 5) «Ecomuseo della Valle del Carapelle», Carapelle (Foggia); 6) «Ecomuseo delle serre salentine», Neviano, (Lecce); 7) «Ecomuseo urbano di Botrugno», Botrugno (Lecce) (http://www.ecomusei.net/).

Conclusions

The rural development has always been indissolubly connected to agriculture. But recently, through the beginning of modernization processes and a multifunctional approach of the agricultural activity, it can be seen that it is approaching to economic sectors next to it, such as the tourist one. Tourism in rural areas can represent one of the key factors for the economic growth of the territory. Therefore, all tourist operators need a systemic territorial approach involving all the actors and the people interested at a local level, first of all public administrations, in order to carry out their duties in the best way. Efficient transport and infrastructure networks, leisure and entertainment, cultural services, etc. are needed in order to enrich the tourist offer and make the reference rural area attractive. But all these interventions must be carried out with respect for the territory and its identity, minimizing the negative impacts on the environment and local communities. In order to enhance the value of rural areas, culture plays a basic role and represents a resource to invest on. Cultural and rural architectural heritage together with all the initiatives directed to know local traditions, wine and food and culture can become attractive factors for potential visitors and consequently they can represent a resource. But all these elements must be integrated and increased in value within a development process inclusive of the needed investments that must be unique and directed towards the territorial resources. The legislation, from the regional level to the european one, is trying to direct this development process in these terms. The key points about the PAC (Common Agricultural Policy), at Community level, and the PSR, at regional level, concerning common goals to support the competitiveness of agriculture through the promotion of innovation that can improve the management of natural resources and support a balanced territorial development involving the local population. Tourist activity in rural areas is one of the numerous actions that can improve the quality of life and the rural economic diversification through the creation of new figures at the professional level and the implementation of new economic activities respecting the territorial integrity. Very important, then, is the involving of young operators both in agricultural and touristic sector, in order to generate vitality, innovation and new ideas for development.

References

Aboim Iglez S. (1995), "Il Terzo Convegno Mediterraneo di Sociologia del Turismo: le tematiche, lo sviluppo dei lavori, le sintesi degli interventi. Spazio rurale come spazio turistico: il ritorno del mito bucolico". *Sociologia urbana e rurale*, 19, 52/53, pp. 187-205.

Angiolini S. (1995), "Agriturismo, turismo rurale, turismonatura: strumenti per una politica regionale". *La Questione Agraria*, 60, pp. 129-153.

Bencardino F., Prezioso M. (2007), *Geografia del turismo*. The McGraw-Hill Company, Milano.

Bissanti A. A. (1991), *Puglia geografia attiva*. Adda Editore, Bari.

Bottonelli F. (1999), "Agriturismo al centro del turismo rurale". *Agricoltura nuova*, 41, 5, pp. 22-25.

De Luca A., Messina E., Pirilli M., Strano A. (2008). *Le prospettive del turismo rurale*. In Gulisano G., Marcian C. (Eds.), *Sviluppo integrato e sostenibile delle aree marginali in Calabria? Il caso della COMUNITÀ MONTANA VERSANTE TIRRENICO MERIDIONALE*. Kalit, Reggio Calabria, pp. 481-509.

Dewailly J.M., Flament E. (1996), *Geografia del turismo e delle attività ricreative*. CLUEB edizioni, Bologna.

Fauzzi A. (2008), "Il distretto turistico-culturale della Murgia dei Trulli e delle Grotte". *Turistica*, 17, 3 pp. 25-61.

Fiori M. (2012), *Identità territoriale per lo sviluppo e l'imprenditorialità*. WIP Edizioni Scientifiche, Bari.

Formato R. (2000), "Turismo rurale: alla ricerca della qualità". *La Rivista del Turismo*, 2, 1, pp. 50-56.

GAZZETTA UFFICIALE, n. 63, 16 marzo 2006. *Disciplina dell'Agriturismo*. (http://www.camera.it/parlam/leggi/06096l.htm), accessed 17/02/2015.

GAZZETTA UFFICIALE DELL'UNIONE EUROPEA, n. 209/1, 11 agosto 2005, *Finanziamento della politica agricola comune, Regolamento (CE) n. 1290/2005*. (http://www.politicheagricole.it), accessed 17/02/2015.

Gorgitano M., Masci F. (2006), "Valorizzazione dei prodotti tipici e turismo rurale: considerazioni sulle filiere corte". *Agribusiness Paesaggio & Ambiente*, 9, 2, pp. 154-162.

Grillotti Di Giacomo M. G. (2000), *Atlante Tematico dell'Agricoltura Italiana*. Società Geografica Italiana, Roma.

Ievoli C. (2002), *Sviluppo rurale e conoscenze non formalizzate: alla ricerca di approcci e procedure operative non erosive dei contesti*. In E. Basile, D. Romano (Eds.) (2002), *Sviluppo rurale: società, territorio, impresa*, Franco Angeli, Milano.

INEA (2001), "Turismo rurale, agriturismo, prodotti agroalimentari". *Quaderno informativo 4*, (http://www.inea.it/), accessed 17/02/2015.

INEA (2001), *Beni culturali, una risorsa per lo sviluppo rurale*. Working paper, Roma, (http://www.inea.it/), accessed 17/02/2015.

ISTAT (2012), *Report 2011 - Le aziende agrituristiche in Italia*. Archivio Istat, (http://www.istat.it), accessed 17/02/2015.

Lozato-Giotart J.-P. (2008), *Geografia del turismo*. Hoepli, Milano.

Marzano G. (2011), "Il turismo rurale come business eco-compatibile: l'importanza delle culture locali". *Sociologia Urbana e Rurale*, 33, 96, pp. 97- 116.

Marzano G. (2009), "Turismo rurale: l'importanza delle culture locali". *Agribusiness Paesaggio & Ambiente*, 12, 1, pp. 7-15.

Mastronardi L., Cipollina M. (2009), "Una riflessione sulla sostenibilità del turismo rurale alla luce dei legami tra agricoltura, turismo e ambiente". *Rivista di Economia Agraria*, 1-2. pp. 195- 224.

Montanari M. (2004), *Il cibo come cultura*. Laterza, Bari.

Osservatorio Regionale sul Turismo, *Rapporto il turismo in Puglia nel 2012*. (http://www.agenziapugliapromozione.it), accessed 17/02/2015.

Regione Puglia (1998), *Il turismo rurale. Legge regionale n. 20 del 22.07.1998*. Bollettino Ufficiale della Regione Puglia n. 69 del 27 luglio 1998.

Regione Puglia (2006), *Documento Strategico della Regione Puglia 2007-2013*. Bollettino Ufficiale della Regione Puglia n. 102 del 09 agosto 2006.

Regione Puglia (2006), *Programma di sviluppo rurale 2007-2013*. (http://www.svilupporurale.regione.puglia.it), accessed 17/02/2015.

Regione Puglia (2011), *Istituzione degli ecomusei della Puglia. Legge Regionale n. 15 del 06 luglio 2011*. Bollettino Ufficiale della Regione Puglia n. 108 del 08 luglio 2011.

Rocca G. (2013), *Dal prototurismo al turismo globale. Momenti, percorsi di ricerca, casi di studio*. G. Giappichelli Editore, Torino.

Schifani G. (1995), *Aspetti legislativi e strutturali dell'agriturismo in Sicilia: potenzialità e linee di sviluppo*. Bonfardino, Palermo.

Sharpley R. (1996), *Tourism and Leisure in Countryside*. 2nd ed., ELM Pubblication, Huntington.

Sotte F. (2008), "L'evoluzione del rurale. Teoria e politica per lo sviluppo integrato del territorio". *Argomenti*, 2: 5-26.

Websites

http://www.ecomuseipuglia.net/home.php, accessed 17/02/2015

http://www.inea.it/, accessed 17/02/2015

http://www.istat.it/it/archivio/74602, accessed 17/02/2015

http://www.parlamento.it/parlam/leggi/99268l.htm, accessed 17/02/2015

http://www1.inea.it/reteleader/pubblica/working/cultura.PDF, accessed 17/02/2015

http://www.aiig.it/documenti/rivista/2005/n5/n5_69.pdf, accessed 17/02/2015

http://www.agenziapugliapromozione.it, accessed 17/02/2015

http://www.ipres.it/, accessed 17/02/2015

http://www.svilupporurale.regione.puglia.it/, accessed 17/02/2015

http://www.ecomuseipuglia.net, accessed 17/02/2015

http://www.ecomusei.net, accessed 17/02/2015

http://www.areaterritorio.regione.puglia.it, accessed 17/02/2015

http://www.agriturist.it/strade-del-vino-campania-e-puglia/, accessed 17/02/2015

Anna Bozzi

Agriculture and rural life for the protection and the promotion of inland areas: the case of Subapennino Dauno (Apulia)

Abstract

The inland areas, in general, are disadvantaged areas where agricultural activity is functional to the protection and preservation of the natural environment and the socio-economic development.
The case that's going to be studied in this work refers to the sub-region of the Subappennino Dauno (in the province of Foggia - Apulia), fragile from the physical point of view, which is subject to severe and widespread hydrogeological instability, thin from the perspective of anthropogenic, having known massive forms of exodus and emigration of the population, and marginal from an economic point of view.
This is an area where the rural life helps to delineate the identity traits, identified in the heritage of values that human group living in there expresses and hands down, such as: cultural specificity, care of the natural environment and respect for the landscape characteristics.
The analysis of the Subappennino Dauno business characteristics helps to understand the local agricultural system and suggests to look more and more at a multifunctional agriculture that may come into circuits and wider networks to compete on the global market and improve the socio-economic situation of the area.
Farm operators and administrators are promoting initiatives that support the development of the region through the promotion of local identities. They are trying, for instance: to provide food chains, to promote organic farming, to ensure traceability of typical products, to retrieve rural settlements, to promote historical and socio-cultural backgrounds.

Keywords: *Multifunctionality, Local development, Subappennino Dauno (Apulia).*

Agriculture and rural life in the EU's guidelines for the promotion of inland areas

The CAP (Common Agriculture Policy) supports disadvantaged areas within the EU urging mode of multifunctional agriculture that includes and combines attention to the environment and the landscape with the modes of production and services.

In reviewing the most recent major regulatory contributions it can be how the EU's interventions in favor of disadvantaged areas, even inside, have gone from considering initiatives of economic compensation to the disadvantaged areas to encourage the exploitation of local resources and services, focusing first on maintaining a sufficient level of agricultural activity and then on the preservation of natural sites and promotion of rural areas.

In 1988, in fact, in the European Commission's document "The future of the rural world", rural space includes a set of different activities ranging from agriculture to crafts, trade services, such as tourism, for example.

The concept of rurality is stated in Art. 2 of the Charter of European Rural Council (1996) which defines the rural area as "a stretch of inland or coastal countryside destined to different purposes other than agriculture". Its characteristics are listed in later articles:

- the predominance of agricultural act;
- low density of population;
- natural landscape transformed by men's action (world heritage);
- local culture deriving from tradition-based knowledge.

Rural areas perform, therefore, in respect of the human groups who inhabit it, a threefold function: economic, ecological and social.

From the economic point of view, the farms in addition to performing their traditional functions, they can all become producers and providers of services, including tourism for leisure activities. The ecological function of rural areas is realized in the preservation of the environment that promotes, among other things, the sustainable use of natural resources. They are, in fact, the right environment for a number of habitats

favorable to the conservation, reproduction and settlement of wildlife and not the place for conservation of flora and forests. Finally, not be forgotten the social function of rural areas, complementing the needs of the urban population.

These functions are also recognized in the new strategy for the European Union action, whose actions look as differentiated according to the potential of the endogenous development of rural areas and are based on an integrated approach to their development.

It is a "balanced growth of all the activities that insist on a specific area, alongside structural interventions, relating to agricultural, forestry, processing and marketing of agricultural products, measures aimed at the development of rural areas, such as the recovery of the rural villages, the promotion of handicrafts and tourism, environmental protection and the protection of the landscape" (Bencardino, Prezioso, 2006, p. 222).

In Italy, in 2001, the entry into force of the Legislative Decree n. 228 of 2001 (the "Law of orientation for the agricultural sector"), innovates the role of the farmer, recognizing explicitly the possibility to activate new initiatives of a multi-functional for the environment and society. In line with the EU guidelines, it outlines a model of organization of the rural economy of endogenous type, integrated and sustainable.

The legislature indeed "opens new possibilities for the farm, the sale of farm products, the organization of educational activities and the introduction of methods of production and management more responsive to environmental compatibility".

"Broadly speaking, the multifunctionality ... is not new in agriculture, as it has always produced goods and services mainly intended at human nutrition, but also others not recognized by the market and not explicitly valued: for example, a main component of the food consumption is *security* (...). Current efforts to allow the use of *traceability* instruments are designed precisely to make explicit the security component, and thus allow to distinguish safe foods from those anonymous and less secure.

The impacts on the environment, territory and landscape, are another important implicit component of agriculture in any territory; all agricultural enterprises in fact, by definition, play the role – yet unpaid so far – of maintenance and preservation.

Another implicit component is the heritage of values (traditional, cultural, historical, linguistic) that it expresses. The deep roots of the rural population in the land and its history, personal and community solidarity, knowledge and respect for the physical environment, are all qualities that agricultural enterprises translate into everyday practice" (Fiori, 2003, pp. 148-149).

The multi-functionality is expressed also with business strategies of diversification of activities in response to the demand for goods and services expressed by citizens and consumers in relation to the primary sector. A sector that is located in an economic and territorial system more and more opened to a criterion of district that has a diverse heritage (environmental, landscape, tourist, handicraft, agricultural, small business), often rich and highly attractive, that the legislature distinguishes in the art. 13 of Legislative Decree no. 228/2001 in:

- rural districts, local production systems characterized by an homogeneous historical and territorial identity deriving from the integration between agricultural activities and other local activities, as well as the production of goods or services of particular specificity, coherent with the traditions and natural and territorial vocations;
- districts of high quality agriculture and food, local production systems, also interregional, characterized by significant economic presence and by the interrelation between farms and food production, as well as by one or more certified and protected products in accordance with EU standard, or national legislation, or traditional or typical productions;

The territory is not seen as a simple container, but as a subject who is called to search, on the basis of their identity, for coherence between economic activities practiced in it and own traditions and natural and territorial vocations.

The "district" instrument also represents the inversion to counter the characters of marginality of small towns, often located in areas within and outside the large communication networks, which, even if representing a great asset for the quality of life that they offer, thanks to the sense of identity and belonging, to the community values and the feeling of trust in local institutions, to the richness naturalistic-environmental and cultural history, are often affected by the weight of an aging population, a shortage of economic resources, labor supply and adequate services.

In particular, to speak about multifunctionality of inland rural areas means to focus on: the production, even on the net; the recovery and enhancement of the historical and socio-cultural aspects of the area; the environmental and landscape traditions, rural tourism, management and protection of the territory; services to individuals

and businesses in order to promote sustainable economic development that meets the identifying characteristics of specific regions. So:

- encourage the diffusion of quality products linked to the territory, the spread of high quality brands ensures the respect of specific laws and represents a means of preservation and protection of traditional local customs as well as being a means of support to the biodiversity of territory;
- raise the awareness of citizen-consumers in the behavior and purchasing decisions up to mark real consumption patterns (for example, the "*Progetto km 0*" promoted by Coldiretti);
- contribute to (re)value the rural heritage, taking care of preserving the natural, cultural and social issues;
- promote the contact with the rural world, for example, trough the opening of educational farms for recreational, educational, teaching, cultural, hiking activities;
- propose a rural tourism, not only through the provision of accommodation services (such as agritourism, B & B, hotels spread) in small towns, but also to services aimed at promoting awareness of rural culture and cultural traditions, such as eco-museums, where the tourist is accompanied to share life styles and rhythms of the local population;
- support agriculture for social concern, in which the farm is the place to carry out activities of inclusion and service to people in difficulty (through therapeutic activities, job placement, service to the community, productions ethical, educational activities) and where the supreme meeting point between agricultural and social skills.

The case of Subappennino Dauno in the province of Foggia (Apulia)

The environment and landscape

The sub-region of the Subappennino Dauno, in the province of Foggia, is an "edge of the eastern slope of the Appennino Sannita, which falls within the administrative limits of the northwest of Puglia" (Mannella, 1990, p. 12), also known as the Monti Dauni or Appennino di Capitanata, close to the border with Molise and Campania (cf. Fig. 1), between the Fortore and Carapelle rivers.

It is "A natural region, clearly identified in the simultaneous presence of similar lithological and morphological" (Baldacci, 1972, p. 146). Geologically of Miocene origin, consisting of a complex of clay sediments, calcarenite and marl, and characterized by "rounded hills and modest overall, but with very recessed valleys, in which the incision is considerably furrowed river elevation values with variables that extend up to exceed one thousand meters, reaching the maximum altitude in M. Cornacchia (1,151 m s.m.). The nature of the rock formations, the massive deforestation operated by man for his needs, torrential erosion and frequent seismic activity Apennine arc constitute important factors of instability of the soil and therefore of threat to the building structures and production, as well as the communication routes" (Mannella, 1990, p. 14).

The Apennines of Capitanata, always a borderland, were a crossroads of people and trade relations between the sea and the inland territories of the Capitanata, Irpinia and Molise. Inhabited by Dauni since the end of the second millennium BC, during the centuries it underwent control and even cultural influence of the Samnites and Romans, managing to retain its identity as people dedicated to farming and agriculture. It is thanks to Federico II that the first organization of the territory was made; after, there were the dominations of the Norman and Angevin of which important artistic heritage remains; and finally the Aragonese implemented the next economic-pastoral tight integration between upland and lowland that "is realized in the transhumance, in the "Mena delle Pecore" Customs, in the "terre salde" and a progressive deterioration, drawn out until the beginning of the twentieth century "(TCI, 2010, p. 87).

The settlement is mainly concentrated in small rural towns, sprung up mostly in the Middle Ages for defensive reasons. It comprises 28 municipalities, according to the proposal of Bissanti (1991) on the basis of the physical and anthropogenic indicators (cf. Fig. 2), and covers 1884.8 square kilometers, with a resident population of 59,722 inhabitants in 2010 (they were 64,923 in 2001) and a density of just 31.69 inhab./km^2.

Looking at the spatial distribution of the population is detected in Subappennino Dauno the lowest density and the reduction of the population of 8% during the years 2001-2011, in confirmation of the marginal position of the inside area.

The population fabric is sparse, as a result of massive processes of both rural exodus and migration that led to the depopulation of the towns (Varraso, 1990), with significant aging phenomena of residents (24.2% of the population over 65 years and young people aged 15 to 24 years are just 12.2% already to 2001). It appears, in fact, a high index of old age, well above the provincial data (90.31),

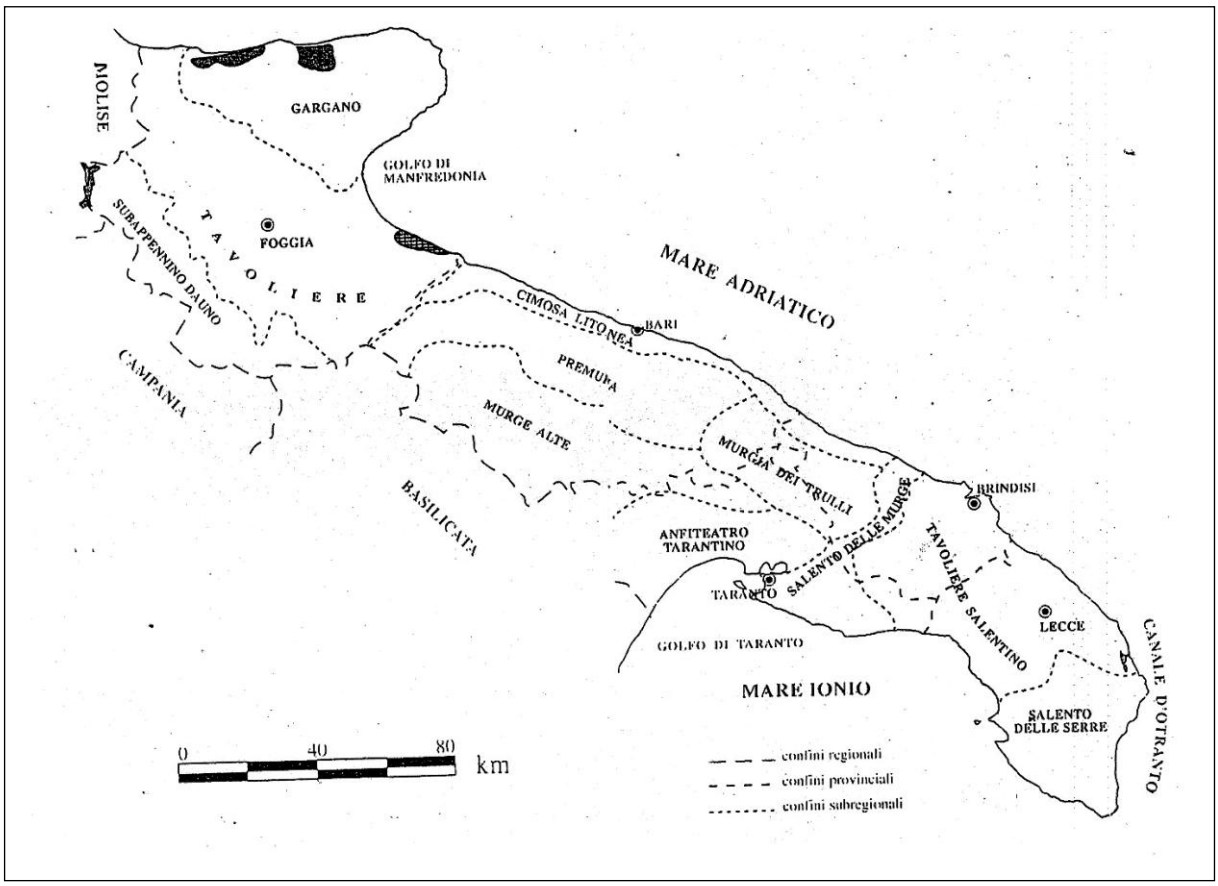


Fig. 1. Apulia region: partition in provinces and sub-regions (*Source*: Bissanti, 1991, p. 12).

which demonstrates the high incidence of the elderly population in the sub-region, the highest values are found in the municipalities of Volturara Appula (541.67) and Celle di San Vito (350).

In 2001 4.3% of the resident population (aged 6 and more) graduated from university, 20.3% graduated from high school, 28.5% graduated from middle school and 25.8% had only primary education, whereas the 16.6% was still illiterate with no qualifications and 4.5% completely illiterate. According to the employment rate, the population of the sub-region was according the provincial data (33.62%), with the exception of the town of Candela in which there was the highest value (40.45%).

The number of employed (2001) was distributed as follows: 24.4% in agriculture, 26.9% in industry, 23.3% in services and 25.4% in other activities. The unemployment rate is lower (compared to the provincial rate of 21.55%) in the majority of centres, with the exception of Celle di San Vito, Motta Montecorvino, Accadia, Carlantino, Bovino, Faeto, Castelnuovo della Daunia.

These towns, which have a resident population of less than 5,000 inhabitants, are mainly centralized settlements: the northern area consists of more numerous little towns, but smaller in magnitude of the population, compared to the southern area. The less populous villages are Faeto, Volturara Appula and Celle di San Vito, which is the smallest town in Puglia. The small towns of Troia and Ascoli Satriano are an exception (in 2011, respectively 7,411 and 6,390 inhabitants). The reason is certainly to be found in their geographical position, the towns located in the mountains are penalized by the morphological and traffic structures, and by the poverty of the economic fabric characterized by inconsistent urban functions (Fiori, 2000), those close to Tavoliere show a significant economic and social vitality.

Regarding the buildings, 86.7% of them are concentrated in urban areas, 2.3% in settlements, 11,0% in scattered houses. 87.2% of the buildings are used as a dwelling and 61.1% of 41,413 dwellings is occupied by residents, mainly in urban areas (56.9%).

As for the roadway, we highlight several critical issues related to the weakness of the links between

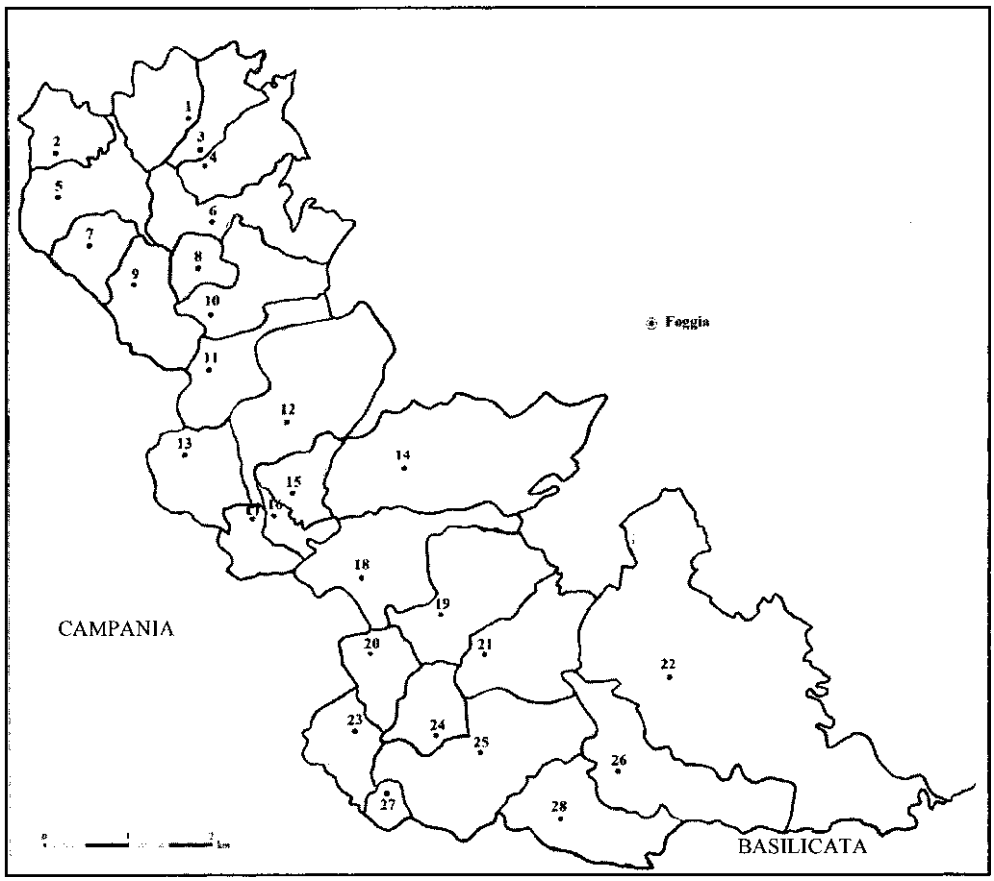


Fig. 2. Administrative map of the Subappennino Dauno:
1. Casalnuovo Monterotaro; 2. Carlantino; 3. Casalvecchio di Puglia; 4. Castelnuovo della Daunia; 5. Celenza Valfortore; 6. Pietramontecorvino; 7. San Marco la Catola; 8. Motta Montecorvino; 9. Volturara Appula; 10. Volturino; 11. Alberona; 12. Biccari; 13. Roseto Valfortore; 14. Troia; 15. Castelluccio Valmaggiore; 16. Celle di San Vito; 17. Faeto; 18. Orsara di Puglia; 19. Bovino; 20. Panni; 21. Deliceto; 22. Ascoli Satriano; 23 Monteleone di Puglia; 24 Accadia; 25 Sant'Agata di Puglia; 26 Candela; 27. Anzano di Puglia; 28. Rocchetta Sant'Antonio.
(*Source*: our elaboration on road map of Province of Foggia, Department of Technical Services - Province of Foggia).

towns, possible only by "a sparse network of narrow and winding secondary roads, accessible with difficulty" due to the lack of care of them, because of continuous landslides related to the clayey nature of the soil.

Surely, "looking at the road map the influence of old routes on the existing network is clear, often decided by the morphology: the trunk road A90 runs for some distance along the valley of Cervaro and the A16 trunk road along the valley of Calaggio. Also, just because the current provincial roads basically follow a track dating back in the nineteenth century, the connection of all the sub-apennine area with the highway is insufficient" (Varraso 1990, p. 39). The only connections with the administrative centre are the SS16 for the southern Subappennino (which runs northwest-southeast direction, passing within Foggia and Cerignola) and SS90 which extends from east to west and connects Foggia with Campania towards in the direction Ariano Irpino and Grottaminarda, while the northern one, the SS17 in the towards direction of Lucera.

2.2. Characters of the farms of the Subappennino Dauno the Census of Agriculture (2010)

In Subappennino Dauno the primary sector represents an important aspect of the entire regional economy and still constitutes one of the main economic activities.

According to the latest national census of agriculture (2010), analyzed at a municipal level, the S.A.U. employs a total of 71.8% of the entire territory.

The farms represent 57.7% of the entire province (see table 1), they are individual farms (98.9%), usually directly managed by the farmer. The land is usually owned up to 66.3% and it

takes a total of 900,386 working days. The average surface of the company is 12.57 ha, 1.45 larger compared to the province data. Most of the farms, 34.40%, have an average size of 10.23 ha. The data confirm the fragility of the industry concentrated in particular in small family farms.

1.05% of farms (6.63% of those in the province) use the land organically, in Ascoli Satriano there is the greatest number of farms (37) devoted to the cultivation of cereals for the production of grains, the cultivation of olive trees for the production of table olives and oil (27), like Troia where there are 22 farms. 0.91% of farms (7.36% of those in the province) use the land for DOP and/or IGP plantations, in particular for the cultivation of vines for the production of DOC wine grapes in the towns of Sant'Agata di Puglia (22 farms), Casalvecchio di Puglia (10), Castelnuovo della Daunia (9), Ascoli Satriano and Volturino (8 farms), Orsara di Puglia (6), the cultivation of olive trees, in the towns of Ascoli Satriano and Carlantino (4 farms). Finally, it should be noted that 0.18% of these farms are computerized (0.69% of those in the province), in particular in Ascoli Satriano, 3 farms have a website and 5 are engaged in e-commerce for the sale of company products and services, as well as in Bovino and Troia (1 farm).

The dominant farming order is represented by the arable land (see Fig. 3) that involves 84. 5% of the SAT (total agricultural area) and 90,5% of the SAU (utilized agricultural area), dominated by the production of durum wheat in the towns of Ascoli Satriano, Troia, Sant'Agata, Candela and Biccari, whereas that of wheat is concentrated in Ascoli Satriano and Troia. The cultivation of pulses is increasing (4.31% of SAT), particularly

Tab. 1. Subappennino Dauno and province of Foggia: class size and number of farms; farm surface, agricultural area (2010).

CLASS SIZE	FARMS (n.)	SAT (ha)	Farms / Total Farms (%)	Area Farms / Total Area (%)	SAU (ha)	Average Area Farms
0 - 2 ha	3.036	2.953,47	26,77	2.07	3.012,94	0,97
2 - 5 ha	2.318	7.599,55	20,44	5.33	7.606,93	3,28
5- 20 ha	3.901	39.921,91	34,40	28.00	39.292,89	10,23
20-50 ha	1.639	50.350,25	14,45	35.32	48.748,72	30,72
> 50 ha	445	41.734,09	3,92	29.27	34.403,10	93,78
Total Sub-region	**11.339**	**142.559,27**	**100,00**	**100,00**	**133.064,58**	**12,57**
TOTAL OF PROVINCE OF FOGGIA	**19.642**	**282.164,80**	/	/	**26.116,22**	/

Fig. 3. Troia (province of Foggia) countryside: agricultural land, a field of wheat in the foreground (*Photo*: A. Bozzi, 2011).

in the center of Ascoli Satriano, Bovino, Deliceto, Volturara Appula.

The cultivation of olive trees (3.8% of SAT), widespread in most of the sub-region, is prevalent in the municipalities of Troia, Ascoli Satriano, Biccari, Bovino, Orsara di Puglia, Deliceto, Carlantino, Sant'Agata di Puglia, Celenza, Candela, Volturino, Pietramontecorvino, Castelluccio Valmaggiore (eg. see Fig. 4). The cultivation of the vine (0.36% of SAT) is spreading in these last few years, thanks to the recognition of the DOC wine "Nero di Troia" and is concentrated in the towns of Ascoli Satriano, Troia, Castelnuovo della Daunia, Orsara di Puglia, Candela, Accadia.

Among the woody plantations apple trees must also be mentioned, concentrated in the municipality of Candela. 4.3% of the SAT is left to permanent grassland and pasture and 4,21% of the

Fig. 4. Biccari (province of Foggia) countryside: orchards and olive groves (*Photo*: A. Bozzi, 2011).

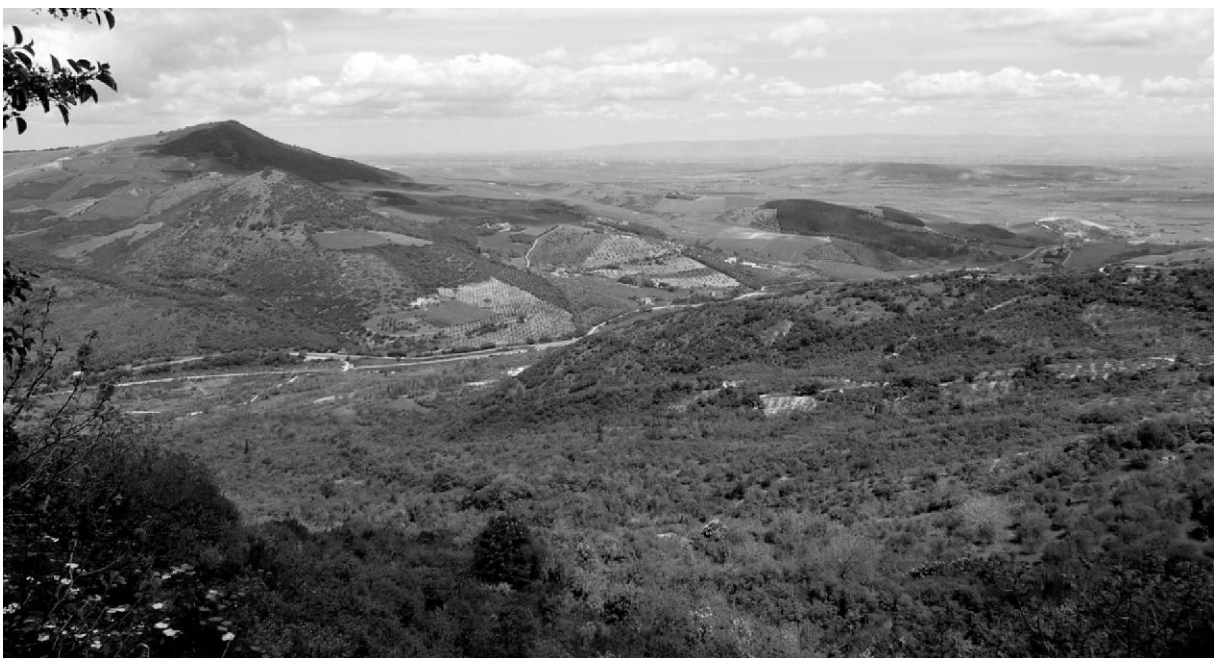


Fig. 5. Bovino Valley: rural landscape with grassland and permanent pasture and woods strips (*Photo*: A. Bozzi, 2011).

SAT is made up of woods attached to farms (see Fig. 5).

The 30.85% of companies are dedicated to breeding, the highest number is found in Monteleone di Puglia, in which 64 companies operate, mainly with sheeps and goats, the largest number of cattle is found in Roseto Valfortore (495), whereas Ascoli Satriano for pigs (1,628), followed by Troia (372) and Faeto (178), and the breeding of sheep and goats (see Fig. 6) is widespread in all towns with a prevalence in the municipalities of Bovino, Accadia, Orsara of Puglia, Troia.

Examples of good actions for rural development in the sub-region

"A new and extremely important element for the management of the territory of the Subappennino Dauno is the attention that local governments are giving to the implementation of policies for the area. It is a growing awareness of the importance of initiatives having their roots in the area and which are not limited at waiting for exogenous interventions that cannot respond adequately to the needs of the area. Sharing a greater confidence placed in local development initiatives led authorities to question more often on the future of their towns and trying to draw lines of conduct by virtue of the true vocation of the territory" (Giannelli, 2007, p. 273).

The establishment and recognition of the Distretto Agroalimentare di Qualità "Terre Federiciane" (DGR n. 2997/2010) is a tangible example which is part of the governance actions aimed at enhancing the value and rural development of the sub-region.

It is a specific geographical area (the provinces of Foggia and Bari), which includes 683 companies to which associations, organizations and research centers are added, and includes:

– the regional agribusiness Capitanata manifacturing district;
– the manifacturing district "Filiera Corta Prodotti di Puglia";
– the manifacturing district agribusiness system Puglia;
– the agribusiness quality extra-virgin olive oil manifacturing district;
– the dairy Puglia manifacturing district;
– the innovative and sustainable enology manifacturing district.

The strategic goals of the district are aimed at:

– promotion of agro-food, agricultural products, by promoting the assembly of enterprises and supply in the context of supply chain;

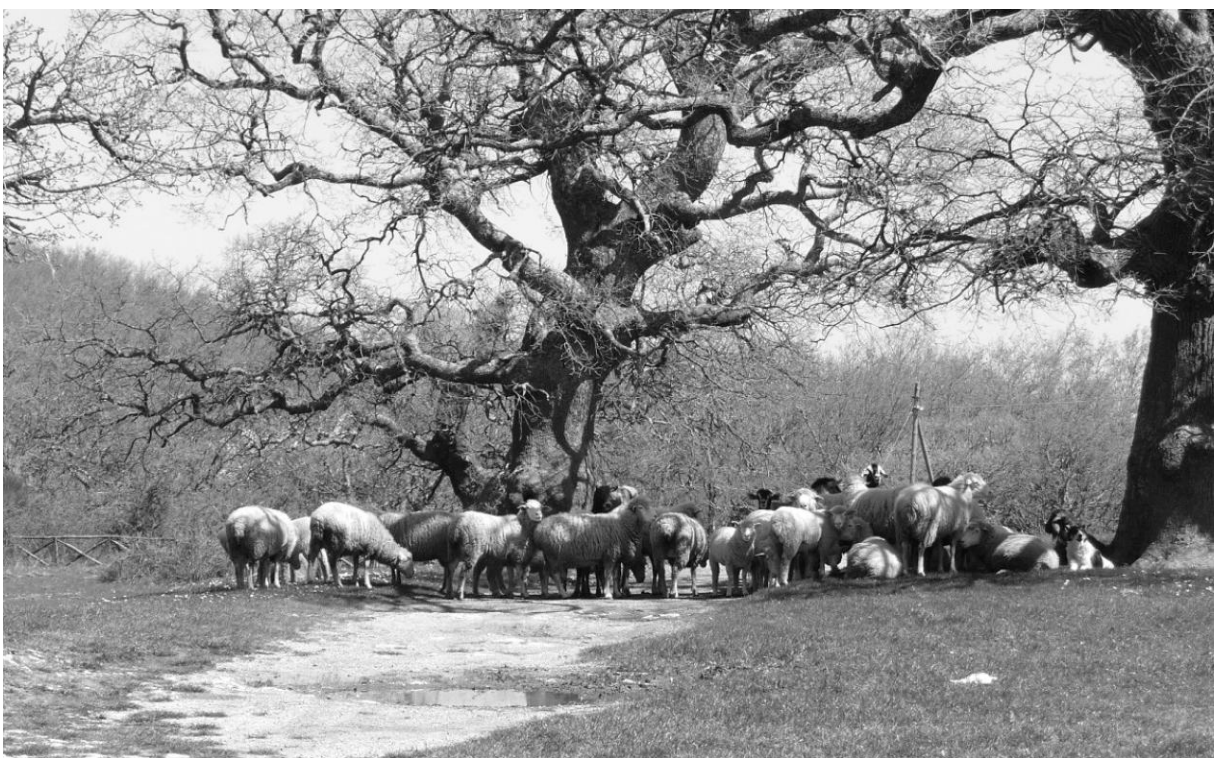


Fig. 6. Accadia (province of Foggia) coutryside: flock of sheep in the Woods Paduli (Photo: A. Bozzi, 2011).

– improving the entrepreneurial and professional capacity of workers in the agricultural, agro-food sectors, in compliance with environmental requirements and safety at work prescribed by the European legislation;
– enhancing, promoting and increasing the attractiveness of local products;
– encouragement of the tourist network of gastronomic enjoyment of the territory;
– activation of media programming and technical assistance support for the grouping of supply and for the sharing of information on the demand;
– provision of services for the rationalization of organizational health-sanitation certifications paths and quality of the products.

Among the projects developed by the district we remember the creation of the "Accademia del gusto e del Vino" based in Troia, which drove to the recognition of DOC to "Nero di Troia", the valorization of agricultural production in the District, with the implementation of the "*Progetto Km 0*", for the short chain; innovative marketing services for the internationalization of PMI in the agri-food sector in Puglia, the establishment of the district D.A.Re. (Distretto Tecnologico Agroalimentare Regionale), diverse organization able to benefit from and exploit economically the knowledge and technological applications in the food industry in order to promote the sustainable development of the territory and the well-being of the social fabric of Puglia, in addition to a wide range of initiatives promoted by local action groups such as the Rete G.A.S. Puglia ("Gruppi di Acquisto Solidale").

Subappennino Dauno is a response to the growing demand for nature and forms of slow tourism the province of Foggia and the Apulia region.

The authenticity of the places is seen in the historical villages, archaeological sites, the quality of the products of the earth, in the itineraries of wine and oil, in the nature trails in the protected areas. The recognition of high quality brands attributed to the small villages qualifies the work of local authorities and local actors. If one recognizes the Bandiera Arancione of the TCI for Alberona Orsara di Puglia, Pietramontecorvino, Rocchetta Sant'Antonio, Sant'Agata di Puglia, then Alberona, Bovino, Pietramontecorvino and Roseto are the most beautiful villages in Italy ("I Borghi più belli d'Italia"), whereas Orsara di Puglia is awarded with the Slow Food brand.

The enhancement of agricultural and forestry activities triggers off eco-friendly development, promoting agriculture that is based on the local food and wine products, many of which are typical, and biological production. At the same time, intangible resources, made of codified knowledge and context, which are the subject of development, become the tool to regain their identity roots projecting though the ancient traditions in the future; the opening of workshops could facilitate, for example, the spreading of a production network of small and medium-sized enterprises efficient in serving tourists the and local community.

A tourist supply that includes 53 accommodating structures for a total of 477 beds in cottages, B&Bs, room renting and hotels, compared to only 13 hotels (APT, 2011), and it is receiving a growing interest in the recent years.

It is a niche tourism that represents a significant development tool focused on the enhancement of local identity. The enhancement of rural culture, marked from the work of the fields to the alternation of the seasons, from rural landscapes, from the customs and traditions, from local, from the crops, from the dishes and traditional products is recognized in the re-enactment of the festivals, in the typical products, often promoted in fairs and festivals, as well as used as a basis in the catering, in the network of educational farms, which represent 34.61% of the entire province (Biccari, Bovino (2), Monteleone di Puglia, Orsara di Puglia (2), San Marco la Catola, Troia).

The valorization of the ancient roads, such as "Via Francigena di Capitanata" and "I tratturi della transumanza", favour the creation of the so-called "green ways" in which the traveler finds a spiritual dimension in the journey, discovers signs of the past and appreciates the values associated with the business of farming.

The Via Francigena di Capitanata, embedded in the Routes of Europe and proposed by "Opera Romana Pellegrinaggi", is a vector of development of the system of local development in general, and in particular of the system of local rural tourism, which aims at combining economics, land, nature, landscape, history and local milieu, as well as at projecting in the Mediterranean and the Middle East. The Regio Tratturo Pescasseroli-Candela, in the past crossroads for the production and trade of livestock products, such as cheese, milk, wool and pelts, and an important point of exchange of culture among the people, today is accessible by its incorporation into the project APE (Appennino Parco d'Europa) - "Le vie materiali e immateriali della transumanza": long the path are organized regularly (every year) sports and cultural tours, such as the path "Settembre andiamo, è tempo di Migrare" organised by the Rome U.S. ACLI in the first

days of September each year. It consists of a horse trekking and mountain biking, divided into seven stages in the regions of Abruzzo, Molise, Campania and Puglia for a total of about 10km run.

The network of visitor centers "Get Local" is a part of the Get Local "Distretto natura", launched in 2005 under the Dauni Mountains Territorial Integrated Programme (PIT n. 10), born from the idea of political, informative, structural and cultural integration, and divided into four possible and thematic routes (the route of the green, the historical-archaeological itinerary of the crafts and products, the journey of flavor), it proposes the development of peasant culture that combines with its food and wine related to the recognition of quality brands (Faeto ham, Canestrato Dauno, Dauno DOP extra virgin oil, Daunia DOC wines), to crops and livestock niche (legumes, saffron, truffles, 'podolica' cows, wild boar, black pig), and the transformation of traditional dairy products, like flour, sausages, conserves and liqueurs, prepared and presented with simplicity respecting the tradition ('pecorino' cheese, 'mozzarella', pasta, biscuits, bread and cakes; brawn, 'mushiska', sausage, 'tocchetto', lard).

Conclusions

This paper has proposed to consider the Subappennino Dauno as an example of a local territorial system that aims at promoting multifunctional agriculture out of the margins established on the market with a unique and compact supply, with diversified products and services, using a shared strategy, through a network of relationships in which local actors are the first protagonists of the development itself.

References

Baldacci O. (1972), *Puglia*, Coll. "Le regioni d'Italia". II Ed., Utet, Torino.

Bencardino F., Prezioso M. (2006), *Geografia economica*. McGraw-Hill, Milano.

Bissanti A. A. (1977), "La Puglia. In *I paesaggi umani*, T.C.I., Milano, pp. 166-178.

Bissanti A. A. (1991), *Puglia geografia attiva*. Adda, Bari.

COMMISSIONE DELLE COMUNITÀ EUROPEE (1988), "Il futuro del mondo rurale". *Bollettino delle Comunità europee,* Supplemento 4/88, Lussemburgo.

COMMISSIONE DELLE COMUNITÀ EUROPEE (1996), *Carta rurale europea del Consiglio d'Europa.*

CITTALIA ANCI RICERCHE (2007), *Una risorsa strategica per lo sviluppo dei piccoli Comuni: il turismo delle identità*. ANCI, Roma, on-line, www.anci.it.

Fiori M. (2003), *Identità territoriale per lo sviluppo e l'imprenditorialità*, Wip, Bari.

Fiori M. (2008), *Itinerari turistici e valorizzazione territoriale. Un procedimento geografico*. In I. Varraso (Ed.) (2008). *op. cit.*, pp. 11-13.

Fiori M. (1990), *Gerarchizzazione urbana nella regione funzionale pugliese: cambiamenti dal 1980 al 1987*. Adriatica, Bari.

Fiori M., Varraso I. (1995), *Agricoltura pugliese tra cambiamento e staticità*. Bari, Damiani.

Fiori M., Varraso I. (2000), *Puglia e Murgia dei Trulli*. In M. G. Grillotti Di Giacomo (Ed.), *Atlante Tematico dell'Agricoltura Italiana*. Società Geografica Italiana, Roma, pp. 345-350; 387-388.

Fiori M., Varraso I. (Eds.) (2000), *Centri e flussi della Daunia una trama che avvolge ma non organizza il territorio*. Wip, Bari.

Giannelli A. (2007), *Competitività e territorio: un'applicazione di marketing territoriale al Subappennino Dauno*. In T. Onesti, N. Angiola (Eds.), *op. cit.*, pp. 265-302.

Grillotti Di Giacomo M. G. (1992), *Una geografia per l'agricoltura*. REDA, Roma.

ISPRA, *Multifunzionalità dell'azienda agricola e sostenibilità ambientale*, Rapporto 128/2010. In http://www.isprambiente.gov.it/.

ISTAT (2001), *5° Censimento dell'agricoltura. 2000 - Foggia*. Roma.

ISTAT (2001), *14° Censimento della Popolazione residente e abitazioni nelle province italiane - Foggia*. Roma.

ISTAT (2011), *6° Censimento dell'agricoltura*, 2011, Roma. In *http://www.censagri.stat.it.*

Mannella S. (1990), *L'ambiente e l'agricoltura*. In S. Mannella, M. Fiori, S. Carparelli, A. Mininno, I. Varraso, *op. cit.*, pp. 9-36.

Mannella S., Fiori M., Carparelli S., Mininno A., Varraso I. (1990), *Scritti geografici sul Subappennino Dauno*. Adriatica Editrice, Bari.

Onesti T., Angiola N. (Eds.) (2007), *La governance dei piccoli comuni*. Franco Angeli, Milano.

REGIONE PUGLIA (2007), Legge Regionale 23/2007.

REGIONE PUGLIA (2010), DGR 2997/2010.

T.C.I. (2010), *Puglia. Il Gargano e le isole Tremiti; il Tavoliere e le Murge; la Valle d'Itria e il Salento*. Milano.

Varraso I. (1990), "L'esile copertura antropica della "montagna" pugliese". In S. Mannella, M. Fiori, S. Carparelli, A. Mininno, I. Varraso, *op. cit.*, pp. 103-126.

Varraso I. (2004), *Turismo e dinamiche territoriali di sviluppo*. E.S.I., Napoli.

Varraso I. (Ed.) (2008), *Sviluppo turistico sostenibile nelle aree interne. Idee e progetti per la Capitanata e il Subappennino Dauno*. RG edizioni Di Brescia Paolo, Foggia.

Varraso I. (2007), "Piccoli comuni: realtà marginali che vogliono guardare al futuro". In T. Onesti, N. Angiola (a cura di), *op. cit.*, pp. 237-263.

Viesti G. (2000), *Come nascono i distretti*. Laterza, Bari.

Websites

http://www.areavasta.montidauni.it, accessed 17/02/2015.

http://www.fg.camcom.it, accessed 17/02/2015.

http://www.montidaunimeridionali.it/, accessed 17/02/2015.

http://www.montidauniturismo.it/, accessed 17/02/2015.

http://www.provincia.foggia.it, accessed 17/02/2015.

http://www.regionepuglia.it, accessed 17/02/2015.

http//www.sistema.puglia.it, accessed 17/02/2015.

http//www.svilupporurale.regionepuglia.it/, accessed 17/02/2015.

http://www.flaipuglia.it/, accessed 17/02/2015.

http://retegaspuglia.blogspot.it/, accessed 17/02/2015.

http://www.svilupporurale.regione.puglia.it/, 2012, accessed 17/02/2015.

Maria Dina Lombardi

Rural landscape and countryside: promotion opportunity and tourism development. An example from Apulia and Basilicata

Abstract

Audiovisual products can be an important mean of communication and territorial promotion. The representation of the localities within the audiovisual products contributes to placing them in the collective imaginary, often loading them with a deep symbolic-emotional significance. It can generate the desire to visit the scene location in the member of the audience, promoting the tourism development of the localities absorbed in the audiovisual project. This share plans to analyse the effects of the audiovisual productions, especially cinematographic ones, on the promotion and the exploitation of the rural areas, and on their transformation into tourist destinations of excellence. It coincides with the recent drift, spreads in the new global economic order, to consider the "soft" territorial elements such as authenticity and local identity, like source of competitive advantage. Although the attention of the audiovisual production towards the country landscape was significant over the years (there are several films of thirties which relate the country landscape in order to spread the Fascist idea of modernization), there isn't a copious literature about the cinematographic use of the rural character and about the effects of this use on the territory, and yet the countryside is the background of many feature films, videos and documentaries. Therefore it can be particularly interesting to analyse some of those audiovisual products, which making the countryside their leit motiv and carrying out precise politics of territorial marketing and systemic strategies of destination management, can contribute or have just made a contribution to promotion and touristic development of the rural areas.

***Keywords**: Rural landscape, Audiovisual products, Tourism development.*

Introduction

Audiovisual products can be considered an important means of publicizing and promoting territories. The modality with which such products represent places, helps place them in the common imagination, often charging them with strong emotive and symbolic value. It generates in the viewer a desire to visit the places in the shots, thus increasing tourism development of the places involved in the audiovisual project.

As pointed out by Butler (1990), using visual media to promote a tourist destination has always been a very common practice that evolved with technological progress. For example, the paintings and the drawings spread during the Grand Tour period, between the seventeenth and the nineteenth centuries, have not only been an important documentary source but, as photographs and postcards, they also contributed to mould and spread the imagines of numerous places. The coming of cinema as well as television have strengthened the promotion of the territory further by the media, thanks to the enormous power of involvement of cinema's language and to the possibility of reaching a vast and heterogeneous audience.

Out of the main tourist routes, rural areas could significantly take advantage of the camera and transform, as has happened in other cases, into "par excellence" tourist destinations thanks to specific territorial marketing and to a strategic and planned tourist offering. In this context, the geographer can play a precious role: through his analytical and interpretative skills, he can effectively identify those territorial elements which, promoted through a film, could make a place more attractive from the tourist point of view. Besides, it is important to stress the centrality held by the landscape, a very important geographic concept, within cinematic productions. It goes further than the simple space or natural set design and, as per Arecco in 2009, "it often becomes the privileged interlocutor and the mirror of the characters, a living and irreplaceable presence in the narrative articulation".

Although the attention of the cinematic eye towards rural life has been significant through-

out the years (for example, there were many films made in the 1930s, which told the story of rural landscapes to transmit their 'Italian-ness' and passed on a message of modernization, as required by fascist propaganda), there is not much literature about cinematic usage of rural settings and its effects on the area, though the countryside and rural spaces are the backgrounds of numerous feature films, TV dramas, video clips and documentaries.

It can turn out to be particularly interesting from the geographical point of view to look into the ways that cinema tells about the landscape and defines the places, paying particular attention to the countryside and the rural landscape. These have always represented a meaningful reality in literature and visual arts in Italy. In order to do so, emphasis will be put on how the representation of the rural territories has changed in the world of cinema, by giving a brief outline of the main films that told the story of the peasant world in the last century. Furthermore, analyzing some recent cinematic cases, it will be shown how films can or have become real tools of territorial promotion.

The country and the peasant culture in twentieth century italian cinema

In the first half of the twentieth century, the peasant world was in the centre of cinematic representations and strongly conditioned by the ideology and the propaganda of the fascist regime. It was aimed at spreading an idyllic image of life in the country, enriched by the most common stereotypes of the rural world. An example is Alessandro Blasetti's "Sole", released in 1929, the first big fascist film centred on land reclamation in Agro Pontino. It was an example of the sort of advertisement of the fascist politics for the recovery of the swampy and malarial areas. Even at that time, when there were no "talkies", Mussolini understood the importance of the image and its capacity to fascinate and condition man. He considered cinema as a powerful medium and defined it as "the most powerful arm of the State".

This sort of mythical image of the countryside, shown in the cinema of the 20s or 30s, is also present in "Terra di nessuno" (1939) by Mario Baffico. This is set in the Tuscan Maremma area and it shows peasants and landowners happily cooperating. It completely ignores the abuses done on labourers and the hard life in the fields.

The realist cinema of the postwar years, on the other hand, moves away once and for all from the sweetened representation of the rural landscape, typical of the regime's cinema which showed an unnatural and unreal image of Italy. According to De Martino (1952), it mainly dwells on the urban space, by telling the stories of the popular classes who lived in the suburbs of the city or the peasant lower bourgeoisie. The trend to tell the Italian reality in a quite documentary style finds its utmost expression in the neorealist films, characterized by the abandonment of the studios in favour of location shots. In films shot on location, there are local non-professional actors everyday life stories are narrated. Film directors like Visconti, De Santis and Lattuada, take interest again in the country life and the main social problems of that age. An important example is "Riso Amaro" (1949) by De Santis, which tells the story of the hard life of the workers in the paddy fields of the great plains of Vercelli. It gives the rural landscape and life a foreground role in the film.

In this film, the rural landscape and agricultural life are undisputed protagonists of the narration in line with the trend spread in the cinema of those years, when the area was given a prominent role. Some examples are "Il grido" (1957) and "L'avventura" (1960) by Michelangelo Antonioni. He turns upside down the traditional relation picture-background, giving great importance to the film space in his films to the detriment of main actors who sometimes end-up getting lost among images of the places.

With the industrialization linked economic boom of the 1960s, the look of the camera turns to urban centres and the peasant world ends-up playing a secondary role in cinema. The only meaningful film works linked to the rural environment, as epic tales of the peasant world are "Novecento" (1976) by Bernardo Bertolucci set in the Emilian lowlands, which recounts the passage from rural society to the modern one, and "L'albero degli Zoccoli" (1978) by Ermanno Olmi. This film shows the life of Bergamo's countryside by making it as real as possible with the use of dialect and a faithful reconstruction of the rural environment of that time. Rural life gets a main role again in some films by the Taviani brothers, like "Padre Padrone" (1977) and "Kaos" (1984), which show Sardinian and Sicilian culture and the rural world. Another film by Taviani, "La notte di San Lorenzo" (1982), tells the story of a group of peasants evicted from their places and puts the Tuscan countryside at the centre of the film.

From the 1980s, films set in the rural environment start disappearing from Italian cinematography and the country, which only appears hastily in

some comedies or in road movies, leaves the protagonist's place to the urban space, which better lends itself to telling stories of contemporary man.

From this short panorama on films with a rural setting, the centrality of relationships between the land and men is evident. The rural landscapes considered are not limited to the physical elements of the land. Rather, it is something more complex that involves geographical and topographic aspects typical of the territory in which the narrative is set. It also shows the social relations and practices (habits, rites, activities) outlining the identity of the human protagonists in the stories told. It is basically a landscape where rurality gets a strongly emotional and often nostalgic treatise. Moreover, rural life and nature, with its wheat fields, the centuries-old olive trees and paddy fields, sometimes gets a positive meaning. This resurrects the image of a healthy and harmonious life, rich in values and traditions, sometimes symbolic of isolation and desolation.

Cinema as a factor of promotion of the rural world

Twentieth century films, which today sort-of represent a collection of "historical documents", contributed, probably subconsciously, to defining and spreading images of the territories and landscapes described. Numerous studies show that cinema contributes to the production of a place's image by exploiting the landscape potential. It can represent a fundamental element in the process of a place's tourist development. In fact, it can act as a motivator and a factor of critical selection in the decision process that makes an individual choose a tourist destination (Beeton 2005; Butler 1990; Gartner 1993; Kim and Richardson 2002).

What is said above is particularly true in the new global economic setting spurted by the ongoing economic crisis, through which rural areas should have important development opportunities through audiovisual products. They would make for their own landscape and territories elements which stand them out, such as local identities, authenticity and traditions, which can represent important attractive factors. The audiovisual production sector seems to have grasped this potential, considering the newly-born attention that the cinematic eye has turned towards rural realities over the last few years, making the country the main focus of numerous feature films, documentaries, TV films and musical videos. Moreover, this sector is becoming increasingly a pre-selected and privileged interlocutor of the territories, thanks to the intervention of the film commissions, institutions born to attract cinematic productions through activities of territorial promotion, by giving them technical and organizational support, services and in some cases, financial support for the realization of a film. Among these, even rural areas are acquiring the awareness of the enormous potential within their own landscapes and are starting-up a series of marketing drives, in a systematic and integrated manner intended to promote their territories and transform them into tourist destinations.

This is well demonstrated by what happened to the growing and wine producing and processing part of the Californian landscape, which became protagonist of the Oscar winning film "Sideways", by the American director Alexander Payne. Released in America in 2004, it is considered one of the most interesting of cinetourist successes in the world. The film is an out-and-out film of travelling, which gained huge success among audiences and critics; it tells the story of two forty-year-olds, Jack and Miles, who travel in the county of Santa Barbara in California in the run-up to a wedding. They travel along the "route of wine", characterized by rows of vines and bunches of grapes, cellars rich with wooden casks and companies producing black Pinot wine. The film is an example of how the synergy between rural landscapes, local institutions and cinematic productions can generate a unique occasion for development and enhancement of an area. All the actors involved in the film project, in fact, have been able to seize, from the beginning, the potential of film to promote tourist development in the rural area where the film is set.

The promotion of the territory has not only taken place through the images, but through the contents of the screenplay as well. These have tried to respect the local identity as much as possible and mostly use the actual places of the story, engaging many residents in order to make the images as accurate as possible. Even the film's release, the Film Commission and the Conference and Visitors Bureau of Santa Barbara (the former is interested in attracting TV and cinematic productions to the territory and the latter deals with tourism and congresses) undertook a series of actions intended to promote the film and to generate curiosity among viewers, the media and sector operators. There were, for example, articles in the national and international print which reached a potential audience of over 25 million people, meetings with the local Chambers of Commerce and the projection of the film preview at the fair of "World Travel Market", dedicated to tourist industry.

Within days of the film's release, when early

box office figures foretold the huge success that the film would have had at international level, there was a creation of the "Sideways map". This geographic map plotted the eighteen places mentioned in the film, distributed on paper and online, downloadable from the website www.santabarbara.com. Enjoyed immediate success.

Moreover, a tourist route of the protagonists' tracks was suggested, involving the food-and-wine operators present in the production. A website dedicated to the film was created, where a stay at the film's locations and local wines mentioned by the protagonists could be bought.

Although economic investment in the activities of film promotion have been minimal, a little more than $23,000 dollars, the international success of "Sideways", generated a significant economic spin-off for the rural areas involved in the shots. In the 12-18 months following the release of the film, there was a 15% increase in the total tourism related earnings in the County of Santa Barbara that is about $202 million dollars per year (Rocco, 2006) and the creation of over 50 different tourist packages.

Actually, the majority of initiatives put to use before and after the release of the film, aimed at promoting the Californian wine region's tourism potential, turned-out to be particularly effective. They addressed a specific audience: over 30-years-of age, with medium to high level of cultural literacy and connoisseurs of wine. Studies have shown that, depending on the narrative structure and the setting of the film, it is possible to make a selection of the viewers that will affect the process of the formation of a tourist destination.

Also, we must not forget that, even in this case, the film ended up affecting the perception of the image of the wine area of Santa Barbara. It is now synonymous with a healthy lifestyle, marked by the slow rhythm of nature and high quality food, but also by the whole of California, which has appeared far from the stereotyped image of long and busy beaches and violent cities, shown through numerous films.

The choice of extolling and promoting the rural landscape and the typical European model of peasant life through cinema, versus the urban one, was already shown in the film "Under the Tuscan Sun", directed by Audrey Wells in 2003. The film, set mainly in the city of Cortona, in the province of Arezzo, tells the story of an American writer who, having arrived in Italy after parting from her husband, is fascinated by the beauty of the Tuscan countryside and decides to completely change her life and buy an old farmhouse. The feature film, even if dripped with numerous clichés about Italy, has represented an effective tool of promotion of the rural landscape of Tuscany and Italy in general, especially in the United States, thanks to the contribution of the numerous articles appeared in the foreign print media, which extolled the postcard image of the Tuscan countryside and that showed how the vision of the film encouraged to book a trip to Italy immediately.

In the Italian film industry of the mid 1990s, areas were shown in the film exclusively for script purposes, having little impact on tourism. They were produced in a spontaneous and uncontrolled way. On the other hand, frequent are the cases where rural areas play a proactive role in the creation of TV and cinema works. They became part of the film project. In fact, films within rural environment have proliferated since then. An example is the film "Come le formiche - wine and kisses", by the young Neapolitan director Ilaria Borrelli, released in June 2007. The film, almost entirely shot in the frame of the Todini Relais, situated in an estate of over 1,300 hectares at 6 km away from Todi, tells the story of two sisters who, in order to rescue the heavily indebted family-run business, decide to produce the Rubro again, a wine made with an ancient vine. This film is interesting for this analysis because it was born from the spur of local authorities and some economic entrepreneurs who wanted a cinematic work which could show the beauty of the rural landscape of Umbria, with its villages on knolls, terraced olive groves, tidy rows of vines, which could promote the Rubro local wine and a castle of 1300.

The will and the engagement of the Region of Umbria to promote and enhance its own rural territory through audiovisuals, is further shown by a documentary called "Brufa – La campagna scolpita" ("Brufa – the carved countryside"), which shows the integration between characters of the Umbrian countryside and contemporary art. This meeting started in 1987, the year when the show of "Scultori a Brufa" ("Sculptors in Brufa") was conceived. Director Giovanni Pulcioni's camera documents the "aesthetic" transformation of the landscape of Brufa, hamlet of the Council of Torgiano, a world famous old fortified medieval village and a wine centre following the installation of famous contemporary sculptors and through interviews of the village's inhabitants, tells how they accepted those sculptures.

In order to attract a larger number of visitors, apart from the documentary, a route to follow on foot or by bicycle has been created. It is called "La

Strada del Vino e dell'Arte" ("The Road of Wine and Art"), which, among sinuous hills covered in vines or olive groves, it leads to the discovery of one of the most original landscapes and the artistic experiences in the world and it celebrates wine as an element of continuity with the traditional culture.

An example from Apulia and Basilicata

Apulia, for its scenic beauty and the heterogeneity of its landscape and for its artistic and architectural excellence, can easily be the ideal natural setting for cinematography. In recent years, the Apulia Film Commission, founded in 2007, took numerous initiatives to attract film productions in the Apulian territory. This has reinforced Apulia's role of undisputed leader in the cinema sector.

In particular, the rural landscape of south-central Apulia, with its red land, the centuries-old olive groves, the dry-stone walls which mark the plots of land, the old farms and the "trulli" (typical rural houses of Alberobello, a village in Apulia), is immediately recognizable in many successful films and ended up identifying, even if erroneously, the whole Apulian rural landscape, by attracting a growing number of tourists, especially foreigners. It is in this wonderful rural environment that, for example, some of the most famous scenes of the Italian record box office successful film "Che bella giornata" (2011) by the Apulian comic actor Checco Zalone were shot. He has further contributed to reinforce the role of the "trulli", ancient stone constructions mainly concentrated in the area of Valle d'Itria, as icons of the Apulian landscape.

Alberobello's historic centre, in the province of Bari and registered as a Unesco World Heritage site in 1996, has been the background of some scenes of the famous soap opera "The Bold and the Beautiful". Last year, some episodes were set there, between the coast and the Apulian countryside, particularly in a manor farm situated in the territory of Fasano, in the province of Brindisi. This represented a very important promotion of the area and appreciation of the tourist image of Apulia in the world, considering the fact that the soap opera is broadcast in over a hundred countries and is watched by over 300 million viewers.

Among the endless wheat expanses which characterize the "Tavoliere" area in the northern part of the region, in the province of Foggia, some of the famous film scenes of "Io non ho paura" (2003) by Gabriele Salvatores were shot. It is set between Apulia and Basilicata, between the valley of the Ofanto river and the Vulture range, characterized by wheat expanses and ancient manors, testimony of the rural culture. Borgo Segezia, one of the most well-preserved rural villages in Italy, founded in the fascist era to transform the local labourers into State peasants, has hosted the shooting of "Mio fratello è figlio unico" (2007) by Daniele Lucchetti.

These films focused on the rich and varied Apulian rural landscape, along with its people's traditions helped promote the region as a tourist destination. The Apulia Film Commission, created in 2008, a cinema tourist guide called "Effetto Puglia ("Apulia Effect"). A cinetourist guide for a region worth it to travel around", where ten tourist itineraries are presented. They cover the whole Apulian territory from the north to the south, along the tracks of the famous films shot in these places and that was also presented at the Cannes film Festival meeting with outstanding success.

At the sixty-fifth International Cinema Festival of Berlin, which took place in 2015, in the section called "Panorama Special", the preview of the feature film by the Apulian director Edoardo Winspeare named "In grazia di Dio", was presented to much critical acclaim. The film, entirely shot in the Salento area, in the area of Giuliano di Lecce and Tricase, tells the story of four brave women, who face a moment of economic crisis which affected their family who moved to the country to work the land and live on bartering of their products. The narration is immersed in an authentic rural setting, made up of red land, ancient olive-groves, manors with dry-stone walls, as Salvatrice, the eldest of the women, says, they were built stone by stone. It is pronounced by the sounds and the time of nature, without the need to use music or artificial lights. Country life is represented in all its own difficulty: the four protagonists are willing to injure themselves and sweat, to use the plough or the spade to look for the fruits of the land. They are willing to ruin their femininity, to stink of horse manure, as long as they live as the title of the film suggests "by the grace of God".

Even the region of Basilicata has decided to take its chances with cinema, in order to promote its internal rural areas. This has been, in fact, one of the objectives of the successful film "Basilicata coast to coast" (2010) by the actor-director Rocco Papaleo, who tells the trip of four friends in Lucania, along 233 km leaving from Maratea (on the Tyrrhenian slope) to reach Scanzano on foot (on the Ionian slope of the region).

Certainly, it seems and is oversimplified con-

sidering "Basilicata coast to coast" as exclusively a tool of territorial and tourist promotion of Basilicata. However, it is true that the film puts the region not only at the centre of the screenplay, but the stories of the protagonists and the narrative plots have the function of giving visibility to the Lucania landscape.

The choice of using the region's name in the title of the film creates an inseparable link between the narrative and the area, which is not limited to being a background and setting, but it carries precise values. The choice of giving precise geographical names at the beginning of the film has been very important. Supplying precise geographical indications and toponymy related to this region, which was not always known, by focusing its position on a geographical map of Italy, underlined what Papaleo said "… Basilicata exists ...".

From the cinema tourist point of view, the intention was to promote the image of Basilicata, extolling its authentic life, the importance of the human relationships and the old values. Films were not set in the most famous places of the region, like Matera, already protagonist of successful films such as "The Passion", by Mel Gibson, but in the internal rural areas, in the councils of Craco, Lauria and Aliano, which have a low tourist visibility both at local and international level.

Even in this case, the synergy between cinematic production and local institutions has been fundamental. The Gal institutions (Groups of Local Actions) have a common objective: to promote an image. Basilicata can be characterized by its alternative lifestyle. Tourists should be able to appreciate its slow pace of life and the nuances of its rural setting. Moreover, we must point out that the representation of Basilicata in the film is perfectly inline with the strategy of the Company of Lucania tourist promotion, interested in promoting high quality rural tourism linked to its landscape, food and wine.

The impact that the film has had in terms of visibility and of exhibition of Basilicata has been very important, because the film has been among the first twenty films with box office success in 2010 and at an international level, it participated to numerous Festivals, gaining important accolades, such as the "Silver Ribbon" and the "Donatello's David". The promotion of the film has continued even after the release and the highly successful agreement reached with Alitalia to show the film during some of its flights as part of a season of "Made in Italy" films. Meetings were organized with journalists from the main travel and tourism magazines aimed at advertising the internal Lucanian areas. Moreover, the protagonists' itinerary for the film spurred several ad-hoc tourist itineraries. These cater for those who wish to live the emotion aroused while watching the film.

"Basilicata coast to coast" certainly addresses niche and responsible tourism. It is for those aware of the beauty and uncontaminated landscapes, the authenticity of the places and environmental sustainability. This is expanding continually and can represent the reference target for Lucanian tourism, as it opens new markets. It is difficult to measure the impact of a cinematic film on tourism. According to a survey commissioned by the Eni Enrico Mattei Foundation on the opportunities of the movie-induced tourism in Basilicata, 50% of the questioned tourist related businesses registered increased activity after the release of the film. These mainly included hotels, restaurants and farm holiday sites, which represent around ninety percent of those who said they have had economic advantages from Papaleo's film.

Conclusions

From the brief analysis carried-out on some of the most significant audiovisual products with a rural setting, there appears a dual use of the rural landscape in a film project. On the one hand, it can have an accessory role, representing the background in which stories take place and making a sort of an illustrative frame. From another point of view, it can become the absolute narrative protagonist, with a dramaturgic value. From images of the films studied, it emerges that in the majority of the cases, the rural landscape is not only a physical land element or a geographical or toponymical aspects typical of the given narrative setting, but includes the inseparable relationship between the land and the man, those relationships and those typical social practices of rural life that identify the human protagonists of the stories. Recently, films have contributed to imbibe a positive image of the rural landscape and the country, very distant from the vision spread between the 1960s and the end of the 1980s, the time of the economic boom that has considered rural life as a symbol of isolation and desolation. The rural landscape, with its cultivated fields, the century-old olive groves and the rows of vines, the paddy fields, the old manors and the slow rhythms of nature, remind the image of a healthy and harmonious life, rich in values, traditions and authenticity.

The same rural areas are acknowledging the enormous potential of their landscapes and, in

some cases, have taken marketing actions to promote their area and turn it into 'par excellence' tourist destination, having a proactive role in the creation of TV and cinematographic works.

Transformation of a successful film into a promotional tool is not an automatic or spontaneous phenomenon, but it requires the cooperation of multiple stakeholders. Institutions, tour operators, film producers and regional experts, among others, need to work together in a systematic way with common objectives. This is particularly so for rural areas, which are often little known to the greater audience but have enormous tourist potential. Movie-induced tourism and film setting could represent a development occasion for the areas involved. Handled correctly, this could result not just in occasional tourism, but as something lasting, organized and sustainable for the territory.

References

AA.VV. (2012), *Effetto Puglia. Guida cineturistica a una regione tutta da girare*. Editori Laterza, Roma-Bari.

AA.VV. (2011), *Le opportunità del cineturismo in Basilicata: dal successo di Basilicata Coast to Coast alla nascita di una Film Commission Lucana*. Fondazione Eni Enrico Mattei (www.feem.it), accessed 15/02/15.

Arecco S. (2009), *Cinema e paesaggio. Dizionario critico da Accattone a Volver*. Le Mani, Genova.

Beeton S. (2005), *Film-Induced Tourism*, Channel View Publications, Clevedon.

Beeton S. (2007), "Set & turismo. Un matrimonio da sostenere". *Luoghi & Location*, pp. 187-196.

Bernardi S. (2002), *Il paesaggio nel cinema Italiano*, Marsilio Editore Venezia.

Butler R.W. (1990), "The Influence of the Media in Shaping International Tourist Patterns". *Tourism Recreation Research*, 15, pp. 46-53.

Connel J. (2012), "Film Tourism. Evolution, Progress and Prospects". *Tourism Management*, 33, pp. 1007-1029.

Dell'Agnese E., Rondinone A. (Eds.) (2011), *Cinema, ambiente e territorio*, Unicopli, Milano.

De Martino E. (1952), "Realismo e folklore nel cinema italiano". *Filmcritica*, 19, pp. 183-185.

De Falco C. (2007), "La promozione del territorio tramite i media: il successo del cinetursimo a Matera", *IV convegno annuale della Società Italiana Marketing* ROMA, 5 e 6 ottobre 2007, http://www.simktg.it/sp/convegno-2007.3sp, accessed 15/02/15.

Di Cesare F., Rech G. (2007), *Le produzioni cinematografiche, il turismo, il territorio*, Carocci, Roma.

Fagiani M. L. (2009), *L'immagine dei territori. Cineturismo e altri percorsi*, Centro Editoriale e Librario, Cosenza.

Gartner W.C. (1993), "Image Formation Process". *Journal of Travel and Tourism Marketing*, 2, pp. 191-215.

Guerra M. (2010), *Gli ultimi fuochi: cinema italiano e mondo contadino dal fascismo agli anni Settanta*, Bulzoni Editore, Roma.

Ischia Film Festival (2006), III Convegno sul Cineturismo, *La valorizzazione del territorio attraverso l'industria cinematografica: analisi e strumenti*. Ischia, www.cineturismo.it, accessed 15/02/2015.

Kim H., Richardson S. (2002), "Motion Picture Impacts on Destination Images". *Annals of Tourism Research*, 30, pp. 216-237.

Kim S. (2012), "Audience Involvement and Film Tourism Experiences: Emotional Places, Emotional Experiences". *Tourism Management*, 33, pp. 387-396.

McHugh K. (2009), "Movement, Memory, Landscape: an Excursion in Non-Representational Thought". *Geojournal*, 74, pp. 209-218.

Magariello G. (2005), "Placement territoriale volano tra industria cinematografica e turistica". *I quaderni del cineturismo*, IV convegno, www.cineturismo.it, accessed 15/02/15.

Messina E. (2006), "Ciak si viaggia: quando un film fa turismo". *La Rivista del Turismo*, 1, pp. 14-20.

Provenzano R.C. (Ed.) (2007), *Al cinema con la valigia. I film di viaggio e il cineturismo*. Franco Angeli, Milano.

Riley R., Baker D., Van Doren C. (1998), "Movie Induced Tourism". *Annals of Tourism Research*, 25, pp. 919-935.

Rocco A. (2006), "Da location a destination, ecco i casi di successo". *La Rivista del Turismo*, 1, pp. 15-17.

Terrone E. (2010), "Cinema e Geografia: un territorio da esplorare". *Ambiente Società Territorio*, 6, pp. 14-17.

Giuseppe Calignano

An assessment of agritourism in Salento (Apulia) in the era of the internet

Abstract

Apulia is the region with the highest overall growth rate of agritourism units in Italy in the period 2008-2012. This article aims at analysing and assessing the prospective demand, dynamics, evolution and number of these specific rural facilities in Salento – a sub-region of Apulia formed by the provinces of Lecce, Brindisi and Taranto – in the so-called "era of the internet". By using quantitative and qualitative techniques it has been able to determine that Lecce is the leading province in Salento and in Apulia in terms of number and diffusion of agritourism facilities. Furthermore, the findings of this study suggest that the possibilities offered by the internet and the new media are not sufficiently used by agritourism operators in Salento and in other areas – like in Tuscany and Trentino-Alto Adige, where agritourism activities boast a long tradition – to promote their services and products they offer.

Keywords: *Agritourism, Salento, Internet.*

Introduction

Throughout history tourism has been strongly influenced and sometimes determined by changes which have marked paths and evolution of various societies. Several socioeconomic, cultural and technological factors have led to the gradual transition from the so-called "proto-tourism" – an expression including leisure and travel activities carried out from the classical antiquity till the end of 1700s – to the forms of tourism, created during the Industrial Revolution and precursors of other several tourism experiences, which are named "modern" as a whole. Later, the success of social tourism (beginning of 1900s), mass tourism (1950s) and global tourism (1990s and 2000s) have represented the most significant stages of the recent history of tourism.

In modern tourism all these stages have had in common a consistent differentiation of the supply. Indeed, since the mid-1800s new and varied forms of tourism consumption – such as mountain, lake and, although only later, seaside tourism – have been added to more traditional and already successful forms of tourism (i.e. thermal, cultural and religious).

Therefore, on the basis of these assumptions we should use the plural when we refer to tourism, since many other further subcategories (i.e. cycling holidays, wine and food tasting tourism, rural tourism, green tourism) have been added to the aforementioned "tourisms"[1].

All of these subcategories – equally included in the concept of global tourism – have been created with the aim of satisfying an increasingly demanding clientele. However, these "tourisms" can take credit for having led to rediscover values such as environmental safeguard and sustainability.

The purpose of these "tourisms" is to be responsible and alternative to other forms of tourism which are characterized by a strong human impact: agritourism is included among these ones.

Agritourism can be defined as the ensemble of those «*tourism hospitality activities carried out by farmers* […] *by using their rural facilities and combining tourism with farming, forestry and livestock activities*»[2].

The first agritourism facilities in Italy date back to mid-1960s, but only recently – and specifically in the last decade – their growth has been substantial (ISTAT, 2013).

Starting from these considerations and taking into consideration the crucial role which the internet plays in supply and enjoyment of tourism services (i.e. communication and marketing strategies, use and characteristics of media, target market of tourists, information and booking systems), this article aims at analysing and assessing the prospective demand, dynamics, evolution and number of rural facilities in Salento – a sub-region of Apulia formed by the provinces of Lecce, Brindisi and Taranto – in the so-called "era of the internet".

This study has been carried out by using quantitative and qualitative techniques and secondary data or sources (official national statistics, national and regional regulations, previous literature on the topic, Google tools such as "Trend" and "Adwords", analysis of social media).

The article is organised as follows: section 2 defines the geographical, historical and cultural framework of Salento; section 3 determines the diffusion and the evolution of agritourism accommodations in Italy, Apulia and Salento; section 4 (divided in several subparagraphs) detects the number of agritourism facilities in Salento on the internet and analyse the potential demand of this services in a comparative perspective by means of several techniques and methodologies which will be explained exhaustively later; finally, section 5 summarizes the contents of the previous sections and presents the conclusions.

Geographical, historical and cultural characteristics of Salento

Historically and culturally speaking, Salento is an interprovincial sub-region in Apulia including the province of Lecce and part of the provinces of Brindisi and Taranto. However, for an easier comparative analysis, in this work Salento has been identified with the whole provinces of Lecce, Brindisi and Taranto.

The two coastlines of Salento (Adriatic Sea and Ionian Sea) are extremely fascinating and characterized by both wide beaches and cliffs full of splendid grottoes. Furthermore, as the sea is considered one of the most beautiful in Italy, seaside tourism has been extremely successful.

However, there are several natural reserves and areas of great interest, where many habitats and species (especially flora) of "Community Importance" coexist. Furthermore, Salento is full of cultural, historical and architecture attractions.

The province of Taranto is characterized by some important towns and popular tourist resources along the Ionic coast (i.e. the provincial capital and Pulsano), stone age sites (especially in the Murge), examples of ancient Grecian and Messapian cultures, extensive olive groves and vineyards, very interesting archaeological parks and natural reserves.

The province of Brindisi is characterized by the tracks of Norman-Swabian and Angevin cultures on the inland (i.e. the castles of Mesagne, Oria and Ceglie Messapica); Roman archaeological areas (Egnazia); several remains of the Messapian civilization; luxuriant vegetation, olive groves, vineyards, typical manor farms (called "masserie", often converted in agritourism) and "trulli" in the Itria Valley; important natural reserves along the Adriatic coast.

Finally, the province of Lecce is characterized by the sandy and rocky shores of the Adriatic and Ionian coastal areas; the fascinating and peculiar Baroque style especially in cities like Lecce and Nardò; the area named Grecìa Salentina where the Greek culture and a language called "griko" (already spoken in Magna Graecia) survive; and several musical and cultural events such as "La Notte della Taranta", an itinerant musical festival ending with a final concert in Melpignano (Grecìa Salentina) (Viaggiare in Puglia, 2014). "La Notte della Taranta" is a very popular event held since 1998 which gathers hundreds of thousands of people each year coming from Italy and abroad.

The flows of tourism in Salento continue to be mostly concentrated in the summer period, although the regional and local authorities have tried to increase these flows in the low season by diversifying tourist activities and attractions both on the coasts and the inland.

The evolution of agritourism supply at national and regional level

The first agritourism facilities in Italy date back to the 1960s and were created by a group of farmers who created also a still important and renowned association named "Agriturist". This association took its first steps in a period when most Italians were abandoning the rural areas because modern urban lifestyle was considered more convenient and rewarding.

Henceforth, agritourism in Italy has experienced at least four different development phases (Rocca, 2013):

- the "cultural awareness" period (1965-1975) when the promoters of the first agritourism facilities tried to make the public opinion aware of the perspectives of agritourism supply;
- the "experimentation" period (1975-1985), when other important associations and guidebooks specifically concerning agritourism were created. In this period, the growth of agritourism was significant: indeed, there were 80 facilities with about 500 beds in 1975 and 1,500 facilities with more than 14.500 beds in 1985;
- in the third phase, defined as the "adjustement" period (1985-1992), agritourism doubled amounting to 3,000 units. The phenomenon

was by now widespread in Italy and involved also Apulia and the coastal areas of Salento.
– in the latest phase (1992-2008) a new substantial growth of agritourism was ascertained: in 2008 there were 14,480 units even if their geographical distribution was extremely diversified at national level compared with the previous period. Indeed, almost 58% of Italian agritourism were located in only 5 regions (Tuscany, Trentino-Alto Adige, Veneto, Lombardy and Umbria) (ISTAT, 2009).

Finally, in the period 2008-2012 there was a further growth of agritourism facilities in Italy, which today are more than 20,000 (ISTAT, 2013).

Quantitative Analysis: agritourism in Italian regions

Deepening the previous analysis relative to 2008-2012 and taking into consideration the regional level, it emerges how the 5 aforementioned regions (Tuscany, Trentino-Alto Adige, Veneto, Lombardy and Umbria) held again the first positions as for the overall number of agritourism units per region. However, other two regions (Piedmont and Emilia Romagna) exceeded 1,000 agritourism units.

The thematic map in Fig. 1 shows the quantitative changes occurred between 2008 and 2012 concerning the number of agritourism units at regional level.

From the official data shared by the ISTAT (2009, 2013) and pictured in Fig. 1 it emerges that the number of agritourism units increased in 18 regions out of 20, even if the variation is sometimes very different.

Probably the low growth in some regions (especially Tuscany and Trentino-Alto Adige, respectively +2% and +4%) can be ascribed to the fact that in these areas the phenomenon of agritourism has started and developed far in advance and it is by now well-established (Rocca, 2013). Consequently, these regions have strengthened their leading position over the decades and for this reason their growth is slow today.

On the contrary, in other regions the growth rate is far higher because in these areas the phenomenon of agritourism is still in an expansive phase.

In particular, Apulia – the region where Salento is located – is the region with the highest overall growth rate in Italy in the period 2008-2012: agritourism units here increased from 270 to 366 (+36%).

Agritourism in Apulia and Salento

Until December 2013 the agritourism activity in Apulia was regulated by a specific Regional Law approved in 1985 (L.R. 22 maggio 1985, n. 34) by which the Regional Authorities aimed at promoting and incentivizing «*agritourism activities with the purpose of fostering territorial development and equilibration, support the permanence of farmers in rural areas by means of the integration of incomes support and the improvement of their life conditions, optimizing the existing buildings and natural rural heritage (also for tourist interests), promoting typical products and local traditions, creating a harmonious relationship between urban and rural areas, orienting tourist flows*».

According to this Regional Law, agritourism meant «*hospitality and promotion activity carried out by the agricultural operators* […] *by means of company and inter-company activities, whose main productive role is agriculture*».

The new Regional Law approved in December

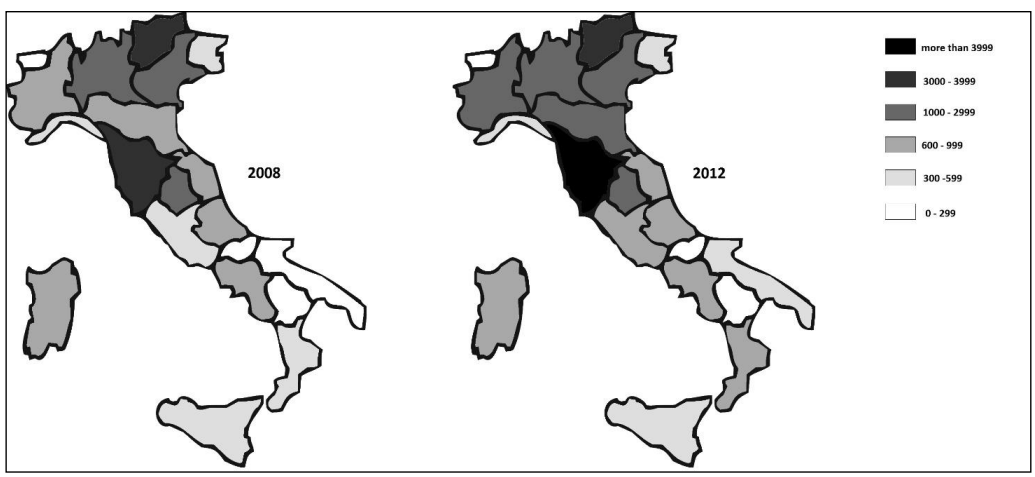


Fig. 1. Agritourism units in the Italian regions, 2008 and 2012 (*Source*: ISTAT, 2009, 2013).

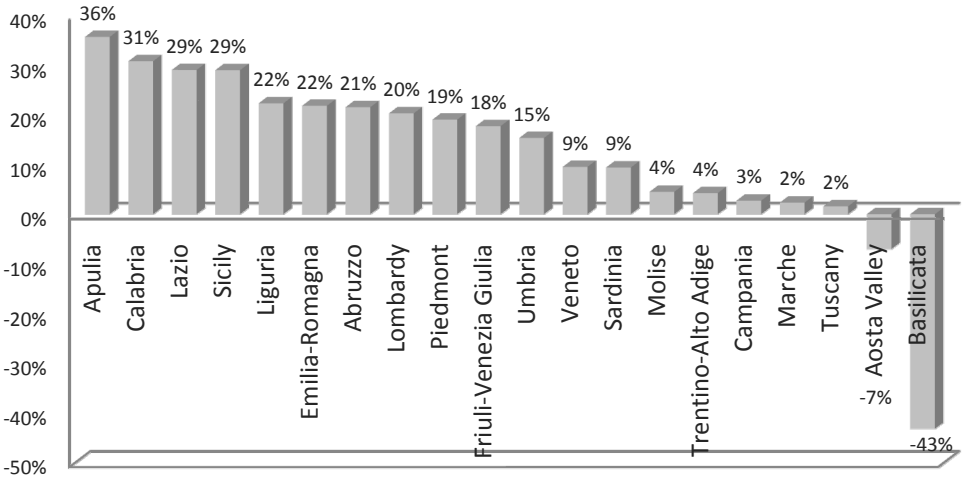


Fig. 2. Variation of agritourism units in Italian regions, 2008-2012 (*Source*: ISTAT, 2009, 2013).

2013 (Legge Regionale 13 dicembre 2013 n. 43) introduced several changes regarding especially the definition and purposes of agritourism.

In addition to the previous objectives, the new Regional Law includes the following aims: recovery and promotion of rural, natural and architectural heritage; support to environment preservation and protection; promotion of traditional regional products of high quality; tutelage and promotion of local traditions; support to cultural initiatives linked to the rural world; support to nutritional education; boost of relationships between urban and rural areas.

Several changes concerned also a thorough definition of "agritourism activities". According to the new Regional Law, the definition of agritourism includes «*accommodating campers in specifically equipped open spaces; serving mainly farm raised food and beverages or produced in other farms within the same province, including alcoholic beverages and spirits by promoting traditional regional agriculture and food, Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and "Prodotti di Puglia" products*[3]; *organising leisure time, cultural, agricultural and food, educational and sport activities as well as excursions and horse riding tourism, within and outside the farmers' property, also by means of agreements with local authorities aiming at promoting the territory and the rural heritage*».

Therefore, the new Law approved in 2013 drew on, expanded and updated several concepts contained in the previous one taking advantage of the renewed interest in the environment protection and peculiarities of each territory (i.e. history, culture, landscape, nature, food and wine, local tradition and so on) which has emerged in almost 30 years since the previous Regional Law.

However, going beyond the merely legislative aspect and the purposes of the Regional Law, it must be stressed how the phenomenon of agritourism in Apulia is peculiar at a regional level and apt to combine at least two different typologies of agritourism. The resources of several agritourism units in Apulia are linked to the sea, like other Southern regions (Calabria, Sardinia and Sicily). However, agritourism in Apulia is also characterized by many rural areas (Rocca, 2013).

As highlighted above, Apulia is the region which scored the highest increase of agritourism units in the period 2008-2012. However, significant differences have been observed in the concentration of agritourism facilities within each province in the region.

The three provinces of Lecce, Brindisi and Taranto have a considerable importance from the numerical point of view at regional level. On the basis of the "Regional List of the Agritourism Operators" (Elenco Regionale degli Operatori Agrituristici, Regione Puglia, forthcoming) it emerges how there are 1,685 subjects authorized to carry out agritourism activities in Apulia[4]. Most of these are located in the province of Lecce (704 authorizations), whereas the two other provinces scored a very similar result (154 authorizations in Brindisi and 147 in Taranto). These figures relative to the provinces of Brindisi and Taranto are lower than the ones of Foggia and Bari (the regional capital of Apulia), but higher than Barletta-Andria-Trani. In the provinces of Salento (Lecce, Brindisi and Taranto) is located 60% of the subjects authorized to carry out agritourism activities in Apulia.

Going into details, it must be noted as the first

three towns with the highest number of authorizations in Salento are located in the province of Lecce: respectively Otranto (Adriatic coast, 85 authorizations); Nardò (Ionic coast, 57) and Melendugno (Adriatic coast, 45).

The localities with the highest number of agritourism units in the other two provinces are respectively Fasano (Brindisi, 41 authorizations) and Martina Franca (Taranto, 40): these two municipalities are ranked 4th and 5th at regional level behind the three aforementioned centres located in the province of Lecce (see Fig 4).

After this preliminary analysis, the standard deviation has been applied in order to understand how the data were scattered around the index of central tendency[5]. This measure of dispersion has been calculated on the whole population of subjects authorized to carry out agritourism activities in Apulia: the results of Lecce and Brindisi are similar (respectively 12.8 and 11.4) whereas the dispersion in the province of Taranto is lower (8.6).

The provinces of Lecce, Brindisi and Taranto are characterized by three different gradations (from white to dark-grey). The dimension of the spheres represents the number of authorizations in each municipality.

The highest concentration of authorizations in the province of Lecce emerges clearly. However, it must be noted also how the number of authorizations is well-balanced between coastal and inland areas in Lecce (even if the first three towns with the highest number of agritourism units are

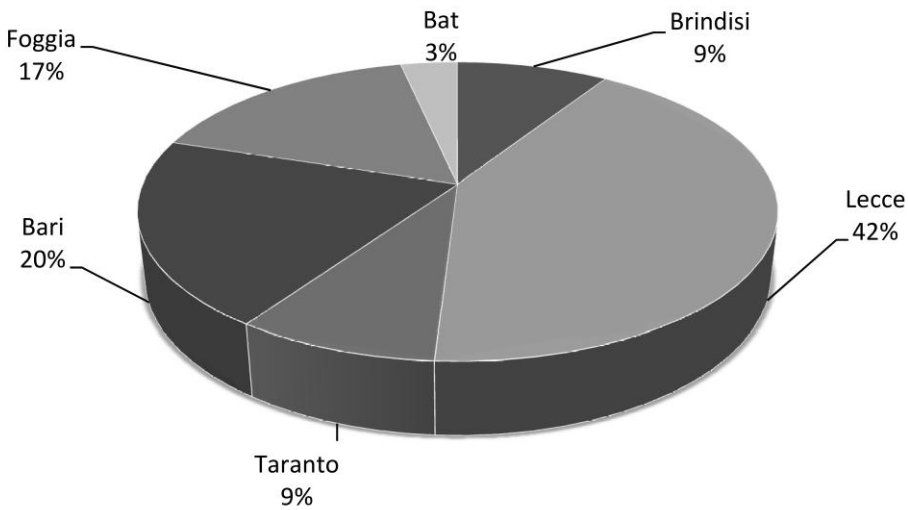


Fig. 3. Authorizations to carry out agritourism activities in Apulia (*Source*: Regione Puglia, forthcoming).

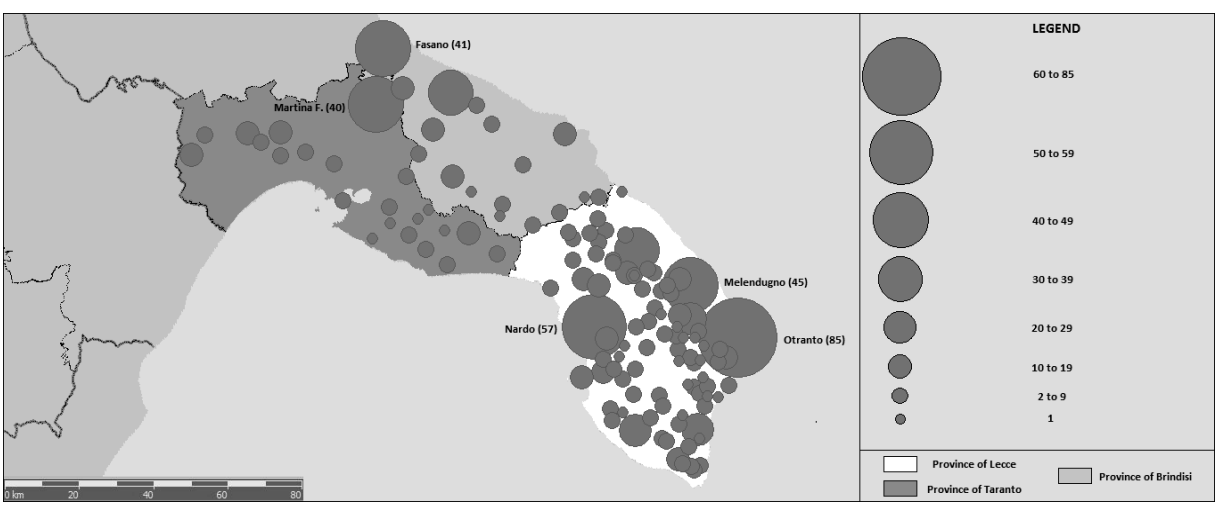


Fig. 4. Authorizations to carry out agritourism activities in the provinces of Lecce, Brindisi and Taranto, 2013 (*Source*: Regione Puglia, forthcoming).

located along the coasts) and how these authorizations are mainly located in inland areas in the provinces of Brindisi and Taranto.

Finally, taking into consideration only the provincial capitals, Lecce has a significant number of authorizations (35), whereas the presence of prospective agritourism operators is extremely limited in Brindisi (10) and Taranto (5).

Tourism and the internet: the case of agritourism in Salento

According to the appraisal of the Polytechnic University of Milan, the trade of Italian websites grew of 17% in 2013, with a sales volume of about 11.2 billion euros. Tourism is includes among the sectors where the growth was higher (13%): such a sector is ranked 4th behind clothing (27%), information technology (24%) and grocery (18%) (Netcomm, ContactLab, 2013).

Furthermore, according to the E-Commerce Consumer Behavior, in 2010 the purchase of vacations on-line was the main driver of the e-commerce sector in Italy, with a high percentage of tourists (equal to 88%) who have purchased their vacation entirely on-line. Furthermore, the same report highlighted how the consumers who purchase their own vacations on the internet is usually more "advanced" and less influenced by the "price barriers" (Netcomm, ContactLab, 2010). This figure relative to the price of vacation is very interesting and it is stringently related to the behaviour of the "cultural tourist" (in a broad sense): in 2004 the average expenditure of a "cultural tourist" was 101 euros per day, whereas the expenditure of a "general tourist" was 67 euros (Grossi, 2004). Although this figure is not particularly new, it seems to be significant because of the high difference observed between these two typologies of tourists.

The spending power of tourists is a crucial point inasmuch it leads to higher profits for tourists businesses, to a lower environmental impact (the criterion of sustainability) and to a decrease in the costs deriving from the human impact caused by mass tourism.

Furthermore, it must be stressed that according to a recent survey those tourists who choose and book their vacation on the internet have different motivations as opposed to mere saving (which is ranked at the bottom of the list with only 23% of the answers). These motivations include "looking for a beautiful place where to spend the vacation" (54%), "paying attention to logistics information" (52%), "looking for places able to satisfy personal (41%) or family and travel companions (30%) aesthetic taste", "find incentives and ideas about the place to visit" (35%).

A crucial factor must be added to these motivations: more and more frequently the "on-line" tourist chooses to "deseasonalize" its vacation (i.e. low season booking). Indeed, this issue has motivated 12% of those who decided to take a vacation in the low season in 2010, whereas they were only 2% in 2009 (Netcomm, ContactLab, 2010).

Agritourism facilities in Salento on the internet

In the first phase of the analysis of the number of agritourism units in Salento on the internet, a research was carried out on the Google search engine by using the keywords "agriturismo lecce", "agriturismo brindisi" and "agriturismo Taranto"[6]. Later on, such a research has been repeated for all the Italian provinces with the aim of creating a ranking of keywords (and territories) in a comparative perspective. The tab. 1 shows the first 10 positions of the ranking concerning the webpages for each aforementioned couple of keywords (namely "agriturismo + name of the province").

Before analysing in detail tab. 1, it must be taken into consideration that the overall number of webpages is influenced by several factors. One of these is the absolute popularity of Milan, Venice and Rome – but also Naples and Palermo – which are big cities and internationally renowned tourist destinations. A second factor is linked to the homonymy of certain terms: this is the case of "Prato", a town next to Florence, whose name in Italian is written in the same way as "meadow". Furthermore, also the level of activity on the internet of each area may influence the overall number of webpages. Finally, it must be highlighted how the aforementioned ranking changes radically by inserting different keywords or carrying out an advanced search[7].

Apart from the necessary explanation about the limits of the data-set pictured in tab. 1, it is evident that the first 10 positions of this ranking do not represent faithfully the quantitative analysis carried out above concerning the overall number of agritourism units in the various Italian region (compare to 3.1 and Fig. 1).

The second position held by Piacenza (Emilia Romagna), just behind Milan, is surprising. In terms of webpages, the province of this small city has exceeded those of bigger cities and re-

Tab. 1. Number of webpages; Keywords: "agriturismo+name of the province".

Position	Province	Region	Internet pages
1	Milano	Lombardy	50.800.000
2	Piacenza	Emilia-Romagna	44.500.000
3	Venezia	Veneto	39.200.000
4	Roma	Lazio	34.200.000
5	Napoli	Campania	27.100.000
6	Perugia	Umbria	23.700.000
7	Palermo	Sicily	21.200.000
8	Trieste	Friuli Venezia Giulia	14.100.000
9	Prato	Tuscany	14.100.000
10	Brescia	Lombardy	12.700.000
22	Lecce	Apulia	4.490.000
58	Brindisi	Apulia	1.580.000
85	Taranto	Apulia	625.000

Source: Google (2014).

nowned tourist destinations (i.e. Venice, Rome and Naples, which are ranked respectively 3th, 4th and 5th) as well as centres traditionally linked to rural tourism and agritourism such as Perugia in Umbria.

Another interesting figure is the presence in this ranking of regions like Lazio (driven by Rome) and Friuli Venezia Giulia, two areas which are not particular renowned for the high number of agritourism units.

The province of Florence, one of the most famous and appreciated destination abroad, stays out from the first 10 positions and holds only the 11th position (unexpectedly also behind the province of Brescia) with a number of webpages which is not so high (12.2 million pages) if compared with the fame and importance of the Tuscan city.

Lecce, Brindisi and Taranto stay out from the first 10 positions: the province of Lecce has scored the best result (about 4.5 million pages, 22nd position at national level, 1st position at regional level). Brindisi (1.85 million pages, 58th position at national level) and Taranto (650 hundred pages, 85th position at national level) occupies respectively the intermediate and the low side of the overall ranking.

Search trends and overall number of visualization of webpages regarding agritourism

The previous analysis on the number of webpages regarding agritourism in each province must be deepened by adopting a different perspective (i.e. from the point of view of the potential demand) by means of the use of two free Google tools.

The first one is Google Trend, a tool which compares the results of various keywords (up to a maximum of 5) and georeferences in an aggregate form the search coming from foreign countries.

The second one is Adwords, a Google free tool which is used by professionals to address their advertising to a targeted audience. Among the various options, Adwords shows the monthly overall number of visualizations for one or more keywords.

Search trend on the web regarding agritourism in Salento

The first analysis on the search trend has been carried out taking into consideration only the term "agriturismo", without any other geographic reference.

The figure 5 shows how the interest for the topic "agritourism" has progressively decreased after the peak in April 2006. The overall amount of searches in April 2014 was almost 50% lesser than 8 years earlier. Furthermore, such decrease in the interest about the topic agritourism involve all the Italian regions.

In the framework of a general decrease of interest in agritourism on the internet, it is Lecce again the province with the highest number of searches on the internet in the period 2004-2014. The peak of interest was in March 2004 (result equal to 100), whereas the lowest result was in February 2010 (result equal to 20). Furthermore, in Fig. 6 it can be observed how the interest of Google users towards the two provinces of Brindisi and Taranto is almost equivalent and how in winter the gap

among the three provinces is lower whereas it is higher in the spring and in the summer.

After having determined which is the province in Salento with the best trend on the internet in the period 2004-2014, the performances of the province of Lecce have been compared with those of some provinces in Tuscany (Siena and Arezzo) and in Trentino-Alto Adige (Trento and Bolzano)[8].

In this case, the province of Siena has scored the best trend in the period 2004-2014 regarding the keyword "agriturismo", followed by the provinces of Arezzo, Lecce, Bolzano and Trento.

The result of Lecce is very interesting inasmuch it is better than the provinces of Trentino-Alto Adige and is not very different from the result of Arezzo (which is considered one of the most renowned areas because of its long tradition).

Average of the monthly search of the webpages regarding agritourism in Salento

The monthly average search analysis regarding agritourism in Salento has been carried out by us-

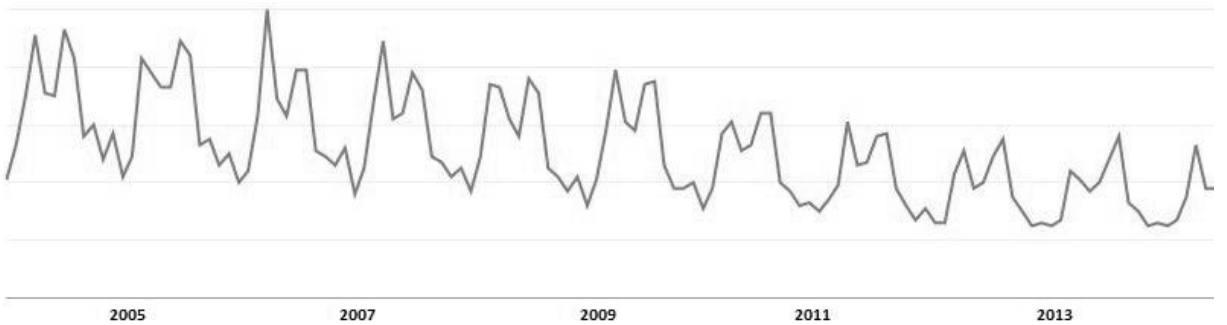


Fig. 5. Trend of the keyword "agriturismo", 2004-2014 (*Source*: Google Trend, 2014).

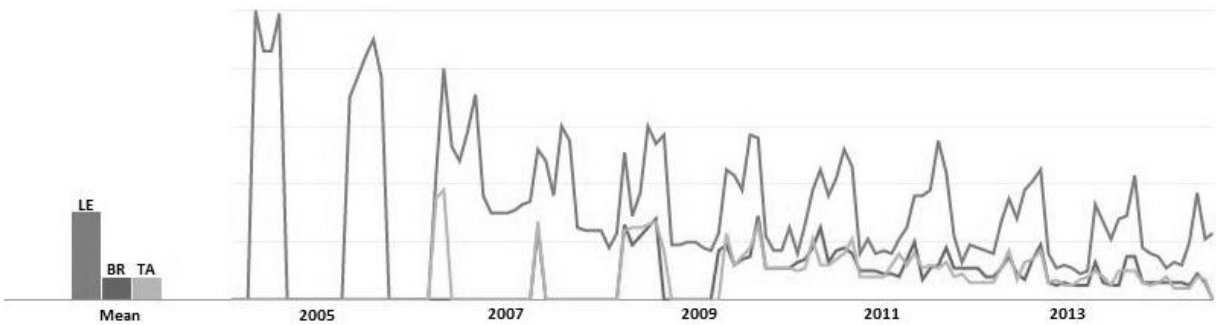


Fig. 6. Trend of the keyword "agriturismo + province", Lecce, Brindisi, Taranto; 2004-2014 (*Source*: Google Trend, 2014).

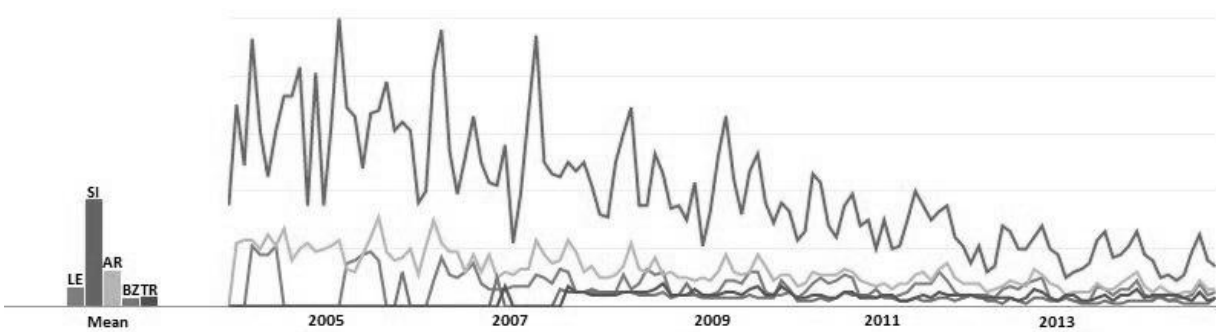
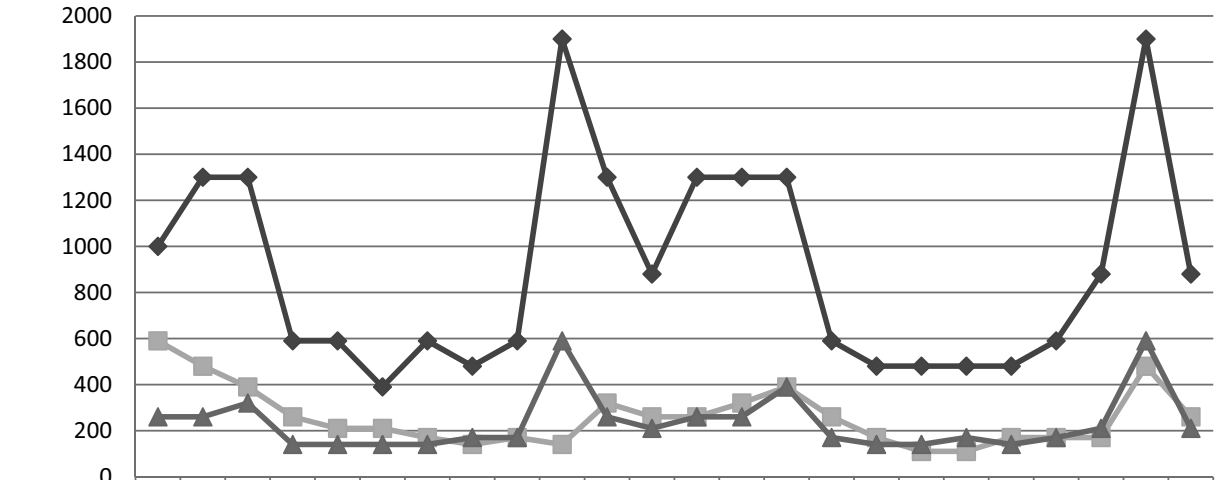


Fig. 7. Trend of the keyword "agriturismo + province" Siena, Arezzo, Lecce, Trento, Bolzano; 2004-2014. (*Source*: Google Trend, 2014).

ing Google Adwords, an internet tool which compares such averages in a two-year period (in this case, June 2012-May 2014).

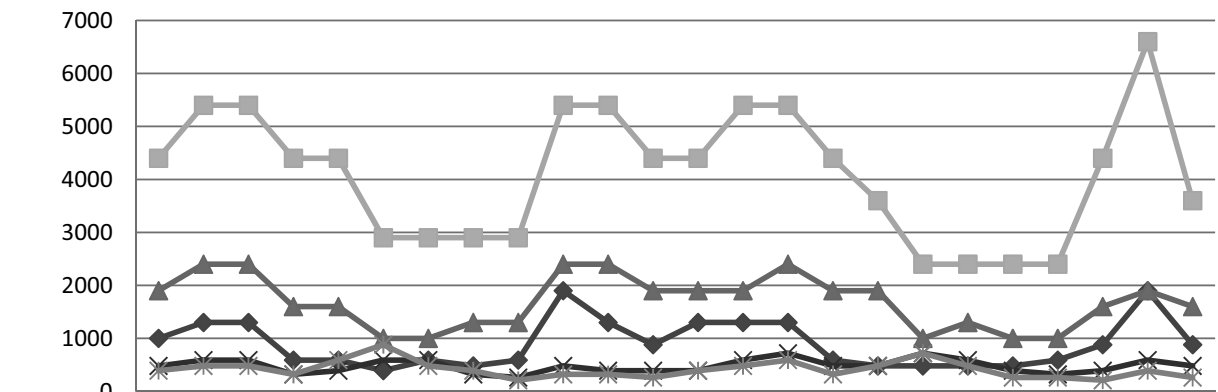
In the first phase of this empirical research the figures have been obtained by inserting the keyword "agriturismo + province of Salento".

Fig. 8 shows clearly as the average monthly searches of agritourism in the province of Lecce are far higher than those of the provinces of Brindisi and Taranto. The overall average for the province of Lecce is 898,75 searches, whereas the average for the province of Brindisi is 258,75 and for the province of Taranto is 235,42.



	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014
Lecce	1000	1300	1300	590	590	390	590	480	590	1900	1300	880	1300	1300	1300	590	480	480	480	480	590	880	1900	880
Brindisi	590	480	390	260	210	210	170	140	170	140	320	260	260	320	390	260	170	110	110	170	170	170	480	260
Taranto	260	260	320	140	140	140	140	170	170	590	260	210	260	260	390	170	140	140	170	140	170	210	590	210

Fig. 8. Monthly average searches for the keyword "agriturismo + province", Lecce, Brindisi and Taranto, 2012-2014 (*Source*: Google Adwords, 2014).



	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014
Lecce	1000	1300	1300	590	590	390	590	480	590	1900	1300	880	1300	1300	1300	590	480	480	480	480	590	880	1900	880
Siena	4400	5400	5400	4400	4400	2900	2900	2900	2900	5400	5400	4400	4400	5400	5400	4400	3600	2400	2400	2400	2400	4400	6600	3600
Arezzo	1900	2400	2400	1600	1600	1000	1000	1300	1300	2400	2400	1900	1900	1900	2400	1900	1900	1000	1300	1000	1000	1600	1900	1600
Trento	480	590	590	320	390	590	590	320	260	480	390	390	390	590	720	480	480	720	590	390	320	390	590	480
Bolzano	390	480	480	320	590	880	480	390	210	320	320	260	390	480	590	320	480	720	480	260	260	210	390	260

Fig. 9. Monthly average searches for the keyword "agriturismo + province", Siena, Arezzo, Lecce, Trento and Bolzano, 2012-2014 (*Source*: Google Adwords, 2014).

The peak in the province of Lecce was in March 2013 and April 2014 (1900 searches); in the province of Brindisi it was in June 2013 (590); in the province of Taranto in March 2013 and April 2014 (the same as Lecce) and it was 590.

In a second stage, the monthly average searches regarding agritourism in the province of Lecce (the one with the highest score) has been compared with those of Siena, Arezzo, Trento and Bolzano. Also in this case the comparison has been carried out by using the keyword "agriturismo + province".

First of all, this new comparison has confirmed the results of the search trend (see 4.2.2); furthermore, it has assessed precisely that the monthly average searches are far higher for agritourism in the province of Siena (4092), followed by Arezzo (about 1692), Lecce (almost 899), Trento (about 481) and Bolzano (415).

Going beyond the merely numeric figures, the major differences in this comparison regard the seasonal peaks in each province. Such a peak took place in April 2014 in Siena; in July and August 2012, in March, April and August 2013 in Arezzo (2013); in August and November 2013 in Trento (720); in November 2012 in Bolzano (880). As it was explained previously, the peaks in Lecce were in March 2013 and April 2014 (in these months the searches of agritourism facilities were the same as in Arezzo, i.e. 1900).

Qualitative analysis of the diffusion of agritourism units on the internet

After checking the number of webpages regarding agritourism facilities in each Italian province, the search trend and the overall number of keywords (in a comparative perspective), an analysis of the each agritourism website in the province of Lecce was carried out.

The reason why only Lecce was taken into consideration to carry out this analysis is that its province numbers most agritourism units and is the most requested by web users.

A comparative approach has been used also to carry out the qualitative analysis of the agritourism websites. The websites in the province of Lecce were compared with the one in the provinces of Arezzo and Trento.

Such a comparison has been carried out on the basis of the layout and the contents of the sites and the presence on the main social media (Facebook, Twitter and Youtube).

All the agritourism websites in the provinces of Lecce, Arezzo and Trento found on the site of Agriturist were analysed as well as the first agritourism on the portal TripAdvisor (up to a maximum of 5) and the first 5 websites found using the keyword "agriturismo + province".

Only the first three pages available on the search engine have been analised[9].

Fig. 10. Some pictures on the homepage of websites of agritourism units in province of Lecce (*Source*: various internet websites, 2014).

Agritourism in Salento: the layout of their website and their presence on the social media[10]

The layouts of websites on agritourism of province of Lecce is not particularly innovative. The homepage of most sites (16 out of 19) shows big pictures or photogalleries usually placed in the middle or in the upper part of the page. Beside the usual pictures aiming to show the outside, the interior, the rooms and the green areas, these photogalleries include mainly some characteristics shots of the countryside, especially olive groves. Nevertheless, in the webpages of agritourism facilities located near the coast, photos of the marine landscapes (not significantly local) can be found, together with stretches of coast photographs from the sky.

Olive trees and olives are the most frequent items, whereas only few agritourism websites show in the homepage subjects such as oranges and lemons, vines, cactus and wisteria. Occasionally the homepage shows typical products on sale (mostly olive oil, sometimes wine) and food cooked and served in the facility. Sometimes episodes of rural life and farming are shown.

Most agritourism websites are translated in many languages: some are written in Italian and in English, others in German as well. Few are translated into French, Spanish, Russian, Dutch, Swedish and Chinese.

Most agritourism units appear only on Facebook, where 15 units out of 19 can be found. Most of them do not have their page but only a personal profile. The five agritourism units owning a page on Facebook have respectively 0, 3, 56, 209, 359, 592 and 707 fans. It must be added that only the Facebook page of the last agritourism unit is really active on the social network. Actually, no posts appear in the first two pages (0 and 3 fans), whereas in the page with 56 fans the latest post dates back to 5th July 2013; page with 209 fans has not been updated since 29th April 2014; the one with 359 fans has not been updated since 8th April 2014 and the one with 592 fans was updated the 7th April 2014 (the previous post dates back to the 9th November 2013).

The performance of the agritourism units owning a personal profile on Facebook is more intense as these profiles are updated quite regularly, even if the interaction (with the friends) is minimal.

The presence on the other social media is next to nothing[11].

3 agritourism units have a profile on Twitter, but only 2 are active. They have also their page on Facebook and can rely on the highest number of "I Like". Furthermore, the two Twitter profiles which are regularly updated correspond to the ones of the agritourism units most active on Facebook.

As for Twitter, the fisrt unit has 202 tweets and 530 followers, whereas the second one has 388 tweets and 81 followers.

3 agritourism units have a Youtube channel. The uploaded videos are few (3, 4 and 5 for each agritourism units) and the views are only a few hundreds.

Comparisons with the agritourism units in the provinces of Arezzo and Bolzano

The websites in the province of Arezzo do not have a layout more original than the one of the websites in the province of Lecce. Their homepages show an obsolete layout both because of a surplus of photos of the facilities (aereal views, interiors and outside of the facilities) and the green areas around them.

Only 2 units out of 24 have texts written only in Italian: the other 22 are written also in English, Italian and German and few also in French, Spanish, Dutch and Russian.

The same qualitative analysis has been carried out on the websites of 11 units in the province of Trento. Also their layouts are quite obsolete, except two sites whose layouts are quite original and whose photogalleries show beautiful interiors and outsides and green areas and the mountains surrounding the facilities. Most agritourism units show the most renowned local products (apples) and the logo of important fruit companies or associations. Pictures of snowy landscapes can be found next to shots of sunny spring days.

6 sites are written in Italian, English and German, 1 in Italian and English, 1 in Italian, English, German and Dutch, and 3 only in Italian.

As far as the social media are concerned, the situation of agritourism units in Arezzo and Trento is similar and sometimes worse than the ones in the province of Lecce.

In the province of Arezzo too the most used social media is Facebook, whereas Facebook is the only social media used in the province of Trento.

Most specifically, 17 agritourism units, out of the 24, which were analyzed in the province of Arezzo have an account on Facebook. Most have a whole Facebook page (14 units); 2 units have a personal profile and only 1 has a group page. The diffusion and the interaction of these units are poor. Many pages have a limited number of fans (a few dozens or little more than 100 users) and most are rarely updated or are not active at all, except few units having between 200 and 800

fans. Only 1 unit has more than 1,000 fans, it is updated regularly and can rely on a quite frequent interaction with the users.

As for Trento, 10 units out of 11 are on Facebook, but the interaction with the users is minimal. The highest number of "I Like" is 297.

The diffusion of agritourism units in Arezzo on Twitter is higher than Lecce: there are 6 units but only 3 can rely on a good number of tweets (respectively 1346, 312 and 115) and followers (672, 519 and 83). No agritourism units in the province of Trento is on Twitter.

As for Youtube, Arezzo and Lecce are similar: few facilities have their own channel (only 3). The videos are scarce (maximum 4), the views are a few hundred (except one video posted by a unit in the province of Arezzo with 11,500 views, but it is a 1 minute video showing typical Tuscan ballets with no link to the core activity).

No facilities in the province of Trento appear on Youtube.

Discussion about the results and conclusions

This study has shown that Apulia has scored the most relevant increase as for agritourism facilities in the period 2008-2012 (+36%, ISTAT, 2009, 2013). In spite of that, Apulia is still in a backward position as for the total number of agritourism units (366 in 2012, 17th position at national level). Furthermore, the geographic distribution of agritourism in Apulia has been assessed together with a deeper analysis of the situation in Salento.

It has been ascertained that the geographical distribution of the agritourim activities units in Salento is not homogenous as most can be found in the province of Lecce, where the authorization are 704 (i.e. 70% of Salento and 42% of Apulia).

The discussion about the diffusion and the behavior of the operators from Salento on the internet leads to compare with the situation in Tuscany and Trentino-Alto Adige, where agritourism boast a long tradition. The number of webpages of the agritourism units in Salento is just acceptable in Lecce (22nd position at national level) and inadequate for Brindisi and Taranto (respectively 58th and 85th position).

In any case, it is evident that the province of Lecce is the most searched on the web. Both the analysis of the search trend and the overall number of monthly searches plays Lecce in a intermediate position between the provinces of Siena and Arezzo in Tuscany and Trento and Bolzano in Trentino-Alto Adige.

It is worthwhile noticing the poor attention agritourism units in the province of Lecce pay to the internet and social media, an attitude that Lecce has in common with provinces of Arezzo and Trento. The layouts of the websites is poorly looked after and not very original. They are scarcely present on the social media (mainly on Facebook) and their interaction with the users is extremely limited. Such are the characteristics of the agritourism websites in the province of Lecce on the web.

Internet and the new media have become fundamental to promote tourism also for the characteristics of the people choosing and booking the vacation on the web. Generally speaking, they are better clients, not afraid of high prices and who prefer to "deseasonalise" their vacation (Netcomm, ContactLab, 2010).

All these considerations suggest that the possibilities offered by the internet and the new media are not sufficiently used by agritourism operators in Italy to promote their services and products they offer.

References

Bellencin Meneghel G. (Ed.) (1991), *Agriturismo in Italia*. Pàtron, Bologna.

Celant A., Magni C. (Eds.) (2001), *Sviluppo rurale e agriturismo di qualità nel Mezzogiorno. Il caso delle regioni Campania Puglia Sardegna e Sicilia*. Pàtron, Bologna.

Grossi R. (Ed.) (2004), *Politiche, strategie e strumenti per la cultura. Secondo Rapporto Annuale Federculture 2004*. Umberto Allemandi & Co., Torino.

ISTAT (2009), *Le aziende agrituristiche inItalia2008*. http://www.Istat.it/it/files/2011/02/testointegrale20091113.pdf?title=Le+aziende+agrituristiche+in+Italia+-+13%2Fnov%2F2009+-+testointegrale20091113.pdf, accessed 30/05/2014.

ISTAT (2010), *Le aziende agrituristiche inItalia2009. http://www3.Istat.it/salastampa/comunicati/non_calendario/20101112_00/testointegrale20101112.pdf*, accessed 30/05/2014.

ISTAT (2012), *Le aziende agrituristiche inItalia2010. http://www.Istat.it/it/archivio/51069*, accessed 30/05/2014.

ISTAT (2012), *Le aziende agrituristiche inItalia2011. http://www.Istat.it/it/archivio/74602*, accessed 30/05/2014.

ISTAT (2013), *Le aziende agrituristiche inItalia2012.http://www.Istat.it/it/archivio/103202*, accessed 30/05/2014.

NETCOMM, CONTACTLAB (2010), *E-Commerce Consumer Behavior*. http://www.primaonline.it/wp-content/uploads/allegati/1285232585Report-Web-Vacanze_ABSTRACT.doc, accessed 30/05/2014.

NETCOMM, CONTACTLAB (2013), Ecommerce un volano per la ripresa del Made in Italy. http://www.consorzionetcomm.it/ImagePub.aspx?id=125130, accessed 30/05/2014.

Regione Puglia (forthcoming), *Elenco Regionale degli Operatori Agrituristici*.

Rocca G. (2013), *Dal prototurismo al turismo globale. Momenti, percorsi di ricerca, casi di studio*. Giappichelli, Torino.

Notes

[1] For a broad historical and geographical survey of agritourism and the different types of tourism, see, among the others, Bellencini Meneghel (1991) and Rocca (2013).

[2] Legge 20 febbraio 2006, n. 96 - Disciplina dell'agriturismo.

[3] "Prodotti di Puglia", "Products of Apulia", is a collective label for identifying regional products.

[4] The number is quite different from the one shown previously (ISTAT, 2013) because the ISTAT data refer to active agritourism facilities, whereas in this case we take into consideration the number of subjects authorized to work as agritourism operators without considering if they actually perform (Regione Puglia, forthcoming). The comparison among the provinces in Apulia and in Salento has been made on the basis of the Regional List of the Agritourism Operators because it permits to disaggregate the operators at provincial level, whereas the ISTAT data are available on a regional scale.

[5] The standard deviation is a statistical index to measure the dispersion of single observations around the arithmetical average.

[6] All the searches on the internet have been carried out using Italian words as the use of the same words in English has not given any significant result.

[7] The research about the number of webpages has been repeated with other similar keywords and has sometimes produced very different results. For instance, if the keywords ["agriturismo" and "name of the province"] are used the result shown in tab. 1 is challenged and Lecce holds 8th at national level (about 7 million searches). Nevertheless, the keyword "agritourismo + name of the province" has been used to compare the different provinces because it is likely to be the most used.

[8] We have taken into consideration the two regions with the longest tradition in agritourism (Tuscany and Trentino-Alto Adige) and the provinces within Tuscany with the number of webpages more similar to the one of Lecce.

[9] The methodology we have explained shows why in this case the agritourism units in the province of Siena and Bolzano have not been used in this comparison. In both cases, the differences with the province of Lecce were too strong to make a good comparison: in the province of Siena the number of agritourism units was far higher, whereas in the province of Bolzano it was far lower than Lecce.

[10] The comparison of the qualitative diffusion of the agritourism units in the provinces of Lecce, Arezzo and Trento on the social media was made from 26th May to 2nd June 2014.

11. It was not possible to count the actual number of friendships as the profiles are blocked and do not show any information.

Rosanna Russo

From the farm to the fork: food security as a fundamental purpose. The case of Capitanata (Apulia)

Abstract

The globalization has taken on our tables many food products of which has become increasingly difficult to establish both the origin, and the quality and healthiness, therefore scandals and food frauds have become so widespread that must immediately stopped. Traceability of products and of raw material and importance of "km 0" are two of the key weapons to defend from above problems and they act like a certain base for making food security, the analysis of which will be limited in this contribution to the territory of Capitanata (the province of Foggia, Apulia).

Keywords: *Food security, Traceability of products and of raw material, Capitanata.*

Introduction

The phenomenon of globalization has brought on our tables products whereof it is becoming increasingly difficult to determine both the origin and characteristics related to quality and security. Precisely for this reason the topic of food security has recently become more and more important, leading geographers to deal with multi-sectoral issues and surveys, and legislators, both at a national and EU level, to enact specific laws to curb the numerous food scandals and frauds occurred so far.

The profound changes which affected agriculture over time, the centrality of rurality in the European integration process, the overwhelming role of industry at the expense of agricultural smaller realities, led to reflect on issues rather delicate including: the protection of health and consumers, the protection of the quality and typicality of the products; placing on the market exclusively of safe and wholesome food in accordance with the guidelines; the protection of agriculture and food products, witnesses of an agricultural biodiversity; the relationship between food business and farms, the relationship between food security, farms and local crafts, the relationship between supply chain, tracking and tracing, examining the role of food security and food security in search of a truly sustainable agriculture.

Food security: a multidimensional and varied concept

Food security is a varied concept, namely that lends itself to having different forms of interpretation, so its analysis is necessary in order to bring order into this conceptual chaos.

Food security is not just limited to people, but it is also for animals and plants, both because of the diseases of plants and animals which can be transmitted or generate toxic effects for the human being, and of the direct and indirect economic damages that these diseases cause.

Actually, «food security exists when every individual, at all times, has access to an amount of sufficient, safe and nutritious food, in order to meet dietary needs and food preferences to ensure a healthy and active life» (Sassi, 2006).

Food security can be also defined «as an assurance that food will not cause harm to the consumer at the time of preparation and/or consumption, depending on its purpose» (Raspor, 2007). Quality assurance is the guarantee of compliance with the default specific conditions of production (Holleran *et Al.*, 1999) and its purpose is to prevent the occurrence of problems, to identify them in case they arise, to identify the causes, to find a remedy and to prevent its recurrence. Basically, the more high quality there is in a food product, the safer it is, therefore we can consider security as a component of quality, particularly and concretely related to the characteristics of the food that can potentially generate or transmit diseases to the consumer. Some of the most important features of the product, associated to the concepts of quality and security by consumers, are actually attributes of trust. This means that consumers need to trust the information on the label, i.e. origin,

composition, chemicals used and production technology. One should consider that the toxicity of food can cause serious consequences for the entire population of large areas, giving rise to a community health problem, whereof authorities are concerned. However, in the organizational structure of most national public administrations, responsibilities for quality and security fall on different authorities and ministries – the first ones concern agriculture and the latter ones concern health. Providing food quality and security normally requires government intervention.

From these first two meanings, fundamental definitions of food security are emerging: the quantitative one, which guarantees access to a "quantity" of sufficient food to each individual, and the qualitative one, which is precisely ensuring the consumer the "quality" of the food, respecting a whole series of specific default conditions of production that lead to the achievement of satisfactory nutritional levels as well as sanitation ones.

Nevertheless, we have to clarify that, in the context of food security, the quantity/quality dividing line is very thin, because it depends on many variables concerning the dynamics of agricultural production and food consumption including climatic variations, crop diversification from food ones to energy ones, changes in income, etc.

In this regard it is useful to note that the industrialized countries are interested in both the quantitative and qualitative aspects of food security, although with a greater interest in the quality, whereas in the countries of the developing world, where destitution is widespread and food policies have the availability, the access and the utilization of food over time as their main purposes, the focus is more on quantity.

In addition, in order to better understand the concept of food security it is advisable to compare it with the opposite concept of food insecurity, regarding the data of hunger and malnutrition. The data show that global food insecurity and malnutrition mainly afflict the rural areas[1] of sub-Saharan Africa and, to a lesser extent, the urbanized areas, where poor people take refuge in the countryside in search of food and work.

During the World Food Summit, held in Rome in 1996, one hundred eighty six countries had established an overall goal of halving the number of undernourished people by 2015 and to get it to about 410 million. Studies on food security in developing countries are often aimed at analyzing the vulnerabilities[2], to assess the risk factors[3] and the ability to adapt and recover a system subjected to shocks, as well as to monitor and prevent food crises.

Food security also presents various dimensions, which make it multi-dimensional, they and can be summarized as: availability of food in sufficient quantities, sufficient and secure access to food, usage of food and continued stability of availability, access and usage of food over time.

In turn, the dimensions of food security are characterized by four institutional levels: international/national, EU/ local, family and individual.

These levels interact in the variables of production, distribution and availability of food, the functioning of the internal, regional and international market, and the means/skills of people to access food in sufficient quantity and quality.

It is possible to specify the level of food security in the set of relationships among variables, dimensions and institutional levels that make up the different phases of the "food chain" (from the access to the resources and means of production to the preparation and consumption of food).

In addition, the multidimensionality of food security connects the macro levels with the micro ones, including the eating behaviour of individuals and groups, the distribution of resources within households and the conditions of sanitation.

The paradox of food security is that a better access to food and a satisfactory nutritional status of the population do not always correspond to greater agricultural production, which is why many countries are often forced to trade with foreign countries that act as an additional source of products availability and make food security structured in an open model unlike food self-sufficiency, aimed at measuring resources and means of a country in terms of national production, intended as the production of sufficient quantities to meet food needs.

From the farm to the fork and vice versa: food security between supply chain, tracking and traceability

It is a common opinion that the issue of food security has captured the attention of government authorities of the market through the occurrence of incidents of food contamination of broad reach, such as the BSE, dioxin-contaminated chickens and mercury into fishes, as well as even before that, of serious incidents of food adulteration such as aniline oil and methanol wine: in fact, the episodes mentioned above are nothing more than a demonstration of a situation of frequent attacks on human health, which, as already mentioned, there have been also in the past.

The inseparable link between the ground and food and the awareness that we are what we eat has made the link between diet and health even more evident, confirming the Hippocratic theory according to which the food must be the medicine of men.

Often we are led to believe that in the past there was a greater food security, but actually the occurrence of a number of health food crisis[4] has denied this widespread belief. However consumers then felt a greater confidence in the security of food than what we currently have, since the path of most of the consumed food was well known, it was possible to perfectly reconstruct each step of their production. The problem of traceability did not exist at all, as the consumption was linked to a local market level. The so-called short supply chain, in which there are only two main characters, i.e. the producer and the consumer, was once a widespread reality, which guaranteed genuine and affordable products. In modern agro-industrial systems, however, the short supply chain has been replaced by increasingly longer and more complex supply chains, across a range of economic and institutional figures which take part in the various stages that lead from the production to the consumption.

Moreover, since the extension of the agro-food chain and the internationalization of markets have led to the increase of the distance between farmer and consumer, it is extremely important today to integrate the product certification system with the certification of the chain, which has the essential task of ensuring traceability and tracking of the product, in the plurality of its constituents and the various stages of the production process.

It should be noted that the concepts of traceability and tracking refer to two different moments: traceability is the mechanism that allows us to travel back along the history of the product and trace the starting point; and it is designed to enable risk management and retirement of the defective product, allowing the production of agricultural products out of obscurity and assigning responsibility to the actual producers, processors and distributors, therefore, it is a tool that the EU legislature uses to pursue a high level of protection of human health and interests of consumers and to ensure the effective functioning of the internal market; tracking is useful for traceability, because it is the mechanism through which we trace the history of the product and follow it.

We have also noted that as the gap between producer and consumer in the path of the supply chains has increased, even the food legislation has increased in quantity and variety. We know that the bulk of the normative references in that field is very impressive and difficult to summarize, but the real turning point came in 2000 with the publication of the White Paper on food security by the European Commission, which «committed to face the food issue in a global way, by establishing a common strategy for all EU countries to provide consumers with products that are safe and to try to cover all the elements of the food chain as a whole and, therefore, the entire production food process (i.e. from farm to table)».

The White Paper paves the way to a complete review of EU legislation on food hygiene. In fact, in 2002, the so-called General Food Law was enacted (Regulation EC 178/2002) and the «Hygiene Package» in 2004 (which entered into force in 2006), a set of rules that must be applied at every stage of the food chain. The main pillars of the EC Regulation 178/2002 are:

- the creation of the European Food Security Authority (then established in Parma, Italy);
- the definition of the general principles of food law;
- establishing procedures related to food security, including the mandatory traceability and accurate information on the origin of the products.

The issue of food security therefore takes on new aspects: the traditional one of food security, meant as a guarantee of supply, is now coupled with that of food *safety*, namely the safety and hygiene of food, «from the farm to the fork».

The characters involved in this delicate process are both public and private, farmers and food industries, large-scale distribution, consumer and companies, the latter ones obliged to produce keeping into consideration a huge load of rules that must be followed, and which are subjected to constant inspections, witness of an articulated traceability system aimed at protecting our health.

Food security in Capitanata

The entire province of Foggia – the Capitanata – holds numerous points of excellence now recognised both nationally and internationally. Its territorial peculiarity, the strategic geographic position, the strong agro-industrial production witnessed by the significant contribution and both theoretical and applied experimentation in the field of cereal, forage and industrial crops of tomato, sugar beet, asparagus and artichoke, intensive livestock, wine and oil sectors, as well as giving rise to major production clusters and numerous active

and functional research centres, the presence of the University, led the city of Foggia to be nominated natural home to the National Agency for food Safety.

Well known are the sad vicissitudes of this ambitious project started in 2005 and that in 2006, with the Minister of Agriculture and Forestry of that period Paolo De Castro, was made official that there without the implementing decrees. In 2007 the city was designated as the seat of the National Committee for Food Safety, composed of eighteen members, who took office in February 2008. In 2009, after a further attempt to get the much-needed implementing decrees, the Agency was included in the list of useless bodies to be abolished and the dream of Foggia to raise, through this failure, the role not only of the Capitanata and Puglia, but also of the entire Southern Italy, and to become the national benchmark for food safety and quality, was thus broken. Basically it is a missed opportunity to "export" the Capitanata out of the provincial and regional borders.

In fact, the greatest paradox is that Italy is the only nation devoid of such an agency, and that the European Food Safety Authority (EFSA), based in Parma, works together with other authorities present in all EU countries except ours, which does not have one. Foggia was thus denied of the opportunity to become the only representative of EFSA in Italy, namely, as the then Minister De Castro said, «the representative that must create the coordination between all institutions, both of the Department of Health and the Ministry of Agriculture to carry out the proper role of the General Secretariat that other European countries have already and that Italy is going to have».

The city of Foggia, however, did not give up and continued, despite the disappointment, to engage in food security, promoting a range of initiatives to bring on the tables safe and guaranteed products directly from the producer to increase the awareness on the part of the citizens and the institutions that the safeguard of landscape, biodiversity, together with originality, creativity and common sense of local producers are tangible and intangible goods on which to focus in order to defend our productions, as they represent that unique added value, and which cannot be relocated: the Made in Italy food.

The commitment towards food safety carried out by Coldiretti, in general, and the provincial Federation of Foggia, in particular, deserves to be mentioned, enacted through the project «Campagna Amica», a trademark to protect the consumers, makes available sales points, markets and shops, which are real shops where you can find the best of Italian agriculture directly from the farm to the table, showing that through the direct relationship between producer and consumer are the full respect for tracking is possible, assuring consumers fresh, wholesome and healthy products at the right price.

Other initiatives to safeguard food security are carried out by the Istituto Sperimentale per la Cerealicoltura (ISC) of Foggia, today also Research Centre[5], chasing the dream of making so-called "perfect" pasta.

After about a century since the invention of the Senatore Cappelli wheat, a durum wheat variety created in Foggia in the then Masseria Manfredini[6], the researchers are able to track the area of cultivation of a product starting from molecules[7], through sophisticated instruments that allow tracing its lineage, to reconstruct the metabolic profile until you discover the land from which it comes. If Foggia became seat of the Agency for Food Safety, just to go back to what has been said earlier, this Centre could take care of molecular diagnostics and traceability. Thanks to the presence of sophisticated pilot plants for pasta analysis reaches up to the transformation process of the product, to study the nutritional quality and organoleptic properties. Here in this centre, in addition to pursuing quality, there is also environmental sustainability involved: reduction of energy inputs, production in conditions of nitrogen-reduced fertilization, climate change, etc. The genetic improvement program is carried out between the laboratory and the fields, with the aim of cultivating them at the best, consuming less energy, less diesel fuel for tractors, smaller amounts of nitrogen released into the environment, less pesticides and fertilizers and a better ability to adaptation to environmental stresses. All this would also result in lower costs of processing. Moreover, thanks to the PLASS project (AGROFOOD PLATFORM FOR SCIENCE AND SAFETY), in association with the University of Foggia, related to issues concerning the relationship between health and food, metabolomics platform has been implemented, allowing Foggia to be home to one of the most important platforms in Italy and with instrumentation that allows advanced chemistry to quickly analyze all the metabolic components of a given tissue. This means that we can obtain an analysis of the whole composition and all the molecules present. All this can be very useful for traceability and we might get to create a mapping, which is a kind of product certification. Also in laboratories researchers are also trying to develop

a patent of an innovative system of sowing for the biological sector.

Finally we should not forget the contributions of other companies, institutions, organizations and associations, of which for the sake of brevity it is impossible to mention here, but which perform an important action in the field of food security: the 'Laboratorio polifunzionale delle imprese' (Lachimer), the former Faculty of Agriculture of University of Foggia, now Department of Agriculture, Food and Environment and its Interdepartmental Research Centre 'Bioagromed', the ASL FG/3 with the Servizio Igiene degli Alimenti e della Nutrizione (SIAN), the company Rasa Realtur, the Associazione degli Industriali di Capitanata, etc., that were and still are organizing several training courses on issues concerning the enterprise management systems related to the concept of food security, not least the one that will take place in September 2013, in collaboration with the CSAD (Centro Studi Ambientali e Direzionali).

The above-mentioned initiatives in favour of food security in the Capitanata not only represent a growth factor in geographical and economic terms, but also in terms development and promotion of local products.

References

Amadei G., Segrè A. (2007), *Il libro nero dell'agricoltura italiana. Cinque anni di politica agraria italiana, europea ed internazionale*. Franco Angeli, Milano.

Capelli F., Klaus B., Silano V. (2006), *Nuova disciplina del settore alimentare e autorità europea per la sicurezza alimentare*. Giuffrè, Milano.

Ciancio M., Miletti A. (Eds.) (2009), *Impresa agricola e sicurezza alimentare. Esperienze e regole*. "Collana del Dipartimento di Diritto dell'Economia dell'Università di Napoli Federico II", 21, Edizioni Scientifiche Italiane, Napoli.

Germanò A., Rook Basile E. (2005), *Il diritto alimentare tra comunicazione e sicurezza dei prodotti*. Giappichelli, Torino.

Grazia C., Green R., Hammoudi A. (Eds.) (2008), *Qualità e sicurezza degli alimenti. Una rivoluzione nel cuore del sistema agroalimentare*. Franco Angeli, Milano.

Holleran E., Bredahl M. E., Zaibet L. (1999), "Private incentives for adopting food safety and quality assurance". *Food Policy*, 24: pp. 669-683.

Jannarelli A. (2001), *Il diritto agrario nell'era della globalizzazione*. Cacucci, Bari.

Manzone G. (2003), *La nuova sicurezza alimentare. Dal sistema HACCP alla rintracciabilità di prodotto e di filiera. Aspetti cogenti e volontari*. M&M Associati srl, Catania.

Ranieri R., Pascale M., Arlotti G., Visconti A. (Eds.) (2007), *Sicurezza alimentare della filiera del grano duro*, Piano Operativo Nazionale 2000-2006. Progetto MIUR n. 12792, Grafiche STEP, Parma.

Raspor P. (2007), "Total food chain safety: how good practices can contribute?". *Trends in Food Science & Technology*, XX: 1-8.

Sassi M. (2006), *An introduction to food security issues and short term responses*. Aracne, Roma.

Segrè A. (2008), *Politiche per lo sviluppo agricolo e la sicurezza alimentare*. Carocci, Roma.

Zicari G. (2003), *Gestione della sicurezza alimentare*. Gruppo editoriale Esselibri - Simone, Napoli.

Websites

http://agricoltura.puntopartenza.it/, accessed 16/02/2015.
http://europa.eu.int/eur-lex, accessed 16/02/2015.
http://safetynet.edulife.com, accessed 16/02/2015.
www.ambientesicurezza.ilsole24ore.com, accessed 16/02/2015.
www.bioagromed.unifg.it, accessed 16/02/2015.
www.cia.it, accessed 16/02/2015.
www.coldiretti.it, accessed 16/02/2015.
www.confagricoltura.it, accessed 16/02/2015.
www.eccellenzeitaliane.com, accessed 16/02/2015.
www.lachimer.it, accessed 16/02/2015.
www.politicheagricole.it, accessed 16/02/2015.
www.siafoggia.it, accessed 16/02/2015.

Notes

[1] Still three-quarters of the world population live in rural areas, drawing subsistence from agriculture mainly characterized by low levels of productivity and exposed to the risks of natural and/or human disasters. On the one hand agricultural production and the stock of commodities quantify the availability of food in a geographic area, on the other hand the demand for and access to food indicate the well-being and nutritional status of people.

[2] Vulnerability refers to people and environmental contexts. A person is considered vulnerable to food insecurity when he/she cannot access the food sufficiently and safely. The environment may become vulnerable when subjected to phenomena that alter the balance, such as desertification, flooding, soil erosion, etc. The analysis on food insecurity are meant to correlate the various aspects of vulnerability, namely that one related to people with the one related to the environment, to try to identify the causes and what and how many vulnerable groups are.

[3] Rural communities, living in subsistence economies, are exposed to a number of risks, some of which are controllable because depending by human actions, and others are uncontrollable because depending on exogenous factors like the climate. In addition to the natural and environmental risks, there are also risks depending on human action in the social and political, economic and health fields.

[4] In the past toxic infections were widespread especially for the products of animal origin and for the frequently inadequate techniques of storage and processing.

[5] With an EEC funding in 1998 the 'Centro di Collegamento Ricerca Divulgazione' was carried out in the ISC (CCRD), where there are technical meetings, refresher courses and training, conferences, seminars, internships. Among the research programs those of toxicity, immunogenicity and safety of use of food grains and similar can be distinguished. The Institute has agreements with the University of Bari, Bologna, Foggia, Lecce and Udine, as well as collaborations with Italian and non-Italian research institutes.

[6] In 1919, by acquiring the Masseria Manfredini, the 'Istituto Nazionale di Genetica per la Ceralicoltura' formed the 'Stazione di Fitotecnica per la Puglia', which, through the DPR (De-

creto del Presidente della Repubblica) 1318/1967, became 'Sezione Operativa Periferica' with tasks related to the genetic improvement of durum wheat, barley, sorghum, oats and corn, and the experimental activity for updating cereal cultivation techniques. In 1975 the current site of 145 hectares was built, of which 20,500 square meters of facilities used as offices, laboratories and administrative offices of various types that operate for genetic transformation of wheat, for technical and commercial analysis of seed and genetic improvement.

[7] Researchers are trying to identify useful genes for genetic improvement through non-GMO techniques, a molecular kind, to make it more effective and faster in terms of classic goals, such as quality. For durum wheat, quality is meant as proteins, gluten and colour.

Bozzi Anna - PhD, University of Bari (Italy)

Calignano Giuseppe - Post-doc, University of Stavanger (Norway)

Castagnoli Carmen Silva - Geographer, GecoAgri-LandItaly

Chuluunbaatar Delgermaa - Research and Extension Unit, FAO, Rome (Italy)

De Felice Pierluigi - PhD, University Campus Biomedico, Rome (Italy)

de Marcos Valeria - Professor, University of São Paulo (Brazil)

Dimitrio Antonio - PhD, University of Bari (Italy)

Fiori Maria - Full Professor, University of Bari (Italy)

Grillotti Di Giacomo Maria Gemma - Full Professor, University Campus Biomedico, Rome (Italy)

Lombardi Maria Dina - PhD, University of Bari (Italy)

Marino Maria Patrizia - PhD, University of Bari and University of Helsinki

Nicoletti Liberata - Associated Professor, University of Salento (Italy)

Riggio Andrea - Full Professor, University of Cassino and of Southern Lazio (Italy)

Ruane John - Research and Extension Unit, FAO, Rome (Italy)

Russo Rosanna - Researcher, University of Foggia (Italy)

Sonnino Andrea - Research and Extension Unit, FAO, Rome (Italy)

Tatsios Kostantina, PhD, University of Bari (Italy)

Varraso Isabella - Full Professor, University of Foggia (Italy)

ELENCO DEI FASCICOLI PUBBLICATI

Geotema 1, *L'officina geografica teorie e metodi tra moderno e postmoderno*
a cura di F. Farinelli - pagine 156 (*esaurito*)
Geotema 2, *Territori industriali: imprese e sistemi locali*
a cura di S. Conti - pagine 110 (*esaurito*)
Geotema 3, *Le vie dell'ambiente tra geografia politica ed economica*
a cura di U. Leone - pagine 104 (*esaurito*)
Geotema 4, *Geografia e beni culturali*
a cura di C. Caldo - pagine 152
Geotema 5, *Geografia e agri-cultura per seminare meno e arare meglio*
a cura di M. G. Grillotti - pagine 92
Geotema 6, *Realtà virtuali: nuove dimensioni dell'immaginazione geografica*
a cura di V. Guarrasi - pagine 102
Geotema 7, *L'"invenzione della Montagna". Per la ricomposizione di una realtà sistemica*
a cura di R. Bernardi - pagine 140 (*esaurito*)
Geotema 8, *Il viaggio come fonte di conoscenze geografiche*
a cura di I. Luzzana Caraci - pagine 198
Geotema 9, *La nuova regionalità*
a cura di G. Campione - pagine 118
Geotema 10, *Le aree interne nelle strategie di rivalorizzazione territoriale del Mezzogiorno*
a cura di P. Coppola e R. Sommella - pagine 148
Geotema 11, *Spazio periurbano in evoluzione*
a cura di M. L. Gentileschi - pagine 88
Geotema 12, *Il Mediterraneo*
a cura di G. Campione - pagine 176 (*esaurito*)
Geotema 13, *I vuoti del passato nella città del futuro*
a cura di U. Leone - pagine 120
Geotema 14, *Vivere la città del domani*
a cura di C. Santoro - pagine 102
Geotema 15, *Turismo, ambiente e parchi naturali*
a cura di I. Gambino - pagine 190
Geotema 16, *L'immigrazione in carte. Per un'analisi a scala regionale dell'Italia*
a cura di L. Cassi e M. Meini - pagine 96
Geotema 17, *La Geografia all'Università. Ricerca Didattica Formazione*
a cura di G. De Vecchis - pagine 128
Geotema 18, *Geografia e religione. Una lettura alternativa del territorio*
a cura di G. Galliano - pagine 110
Geotema 19, *2004 Anno Internazionale del Riso*
a cura di C. Brusa - pagine 108
Geotema 20, *Parchi letterari e professionalità geografica: il territorio tra trasfigurazione e trasposizione utilitaristica*
a cura di P. Persi - pagine 144
Geotema 21, *Orizzonti spirituali e itinerari terrestri*
a cura di G. Galliano - pagine 140

Geotema 22, *Conflict and globalization*
a cura di E. Biagini - pagine 160
Geotema 23, *L'immigrazione straniera in Italia. Casi, metodi e modelli*
a cura di P. Nodari - pagine 214
Geotema 24, *Territorio, attori, progetti. Verso una geografia comparata dello sviluppo*
a cura di P. P. Faggi - pagine 168
Geotema 25, *Lotta alla siccità e alla desertificazione*
a cura di P. Gagliardo - pagine 136
Geotema 26, *Geografia e sviluppo locale tra dinamiche territoriali e processi di istituzionalizzazione*
a cura di E. Dansero e F. Governa - pagine 112
Geotema 27, *Itineraria, Carte, Mappe: dal reale al virtuale. Dai viaggi del passato la conoscenza dell'oggi*
a cura di S. Conti - pagine 240
Geotema 28, *Dai luoghi termali ai sistemi locali di turismo integrato*
a cura di G. Rocca - pagine 182 (*esaurito*)
Geotema 29, *Paesaggi terrazzati*
a cura di G. Scaramellini e D. Trischitta - pagine 184
Geotema 30, *Territori tradizioni oggi*
a cura di G. Botta - pagine 158
Geotema 31-32, *Competitività in sostenibilità: la dimensione territoriale nell'attuazione dei processi di Lisbona/ Gothenburg nelle regioni e nelle province italiane*
a cura di M. Prezioso - pagine 158
Geotema 33, *Luoghi e identità di genere*
a cura di G. Cortesi - pagine 136
Geotema 34, *Geografia e nomi di luogo*
a cura di V. Aversano e L. Cassi - pagine 116
Geotema 35-36, *2009 Anno Internazionale delle Fibre Naturali*
a cura di C. Brusa, - pagine 184
Geotema 37, *Identità territoriali. Riflessioni in prospettiva interdisciplinare*
a cura di T. Banini - pagine 86
Geotema 38, *I luoghi del commercio fra tradizione e innovazione*
a cura di C. Cirelli - pagine 144
Geotema 39, *Dal turismo termale al turismo della salute: i poli e i sistemi locali di qualità*
a cura di G. Rocca - pagine 166
Geotema 40, *Porti, trasporti marittimi, città portuali*
a cura di S. Soriani - pagine 144
Geotema 41, *La ricerca empirica nel lavoro del geografo*
a cura di M. Loda - pagine 114
Geotema 42, *Geografie d'Italia e d'Europa: invito alla ricerca*
a cura di M. Prezioso - pagine 148
Geotema 43-44-45, *Immigrazione e processi di interazione culturale*
a cura di C. Brusa - pagine 286
Geotema 46, *Luoghi termali della memoria, luoghi turistico-termali di consolidata tradizione e sistemi turistici locali wellness-oriented*
a cura di G. Rocca - pagine 170
Geotema 47, *Pianificare la configurativà territoriale: literacy, conflitto, partecipazione*
a cura di M. Maggioli e C. Arbore - pagine 106
Geotema 48, *Esplorazioni per la cooperazione allo sviluppo: il contributo del sapere geografico*
a cura di E. Bignante, E. Dansero, M. Loda - pagine 158
Geotema 49, *Aree naturali protette, turismo e sviluppo locale sostenibile*
a cura di B. Cardinale, R. Scarlata, - pagine 210
Geotema 50, *L'esperienza migratoria e la cultura popolare: passaggi, costruzioni identitarie, alterità*
a cura di F. Amato, E. dell'Agnese - pagine 118
Geotema 51, *Le nuove nuove geografie del consumo tra crisi e resilienza*
a cura di C. Cirelli - pagine 156
Geotema 52, *Common Agricultural Policy role and value in a changing world. Food-Agriculture-Environment as Edited factors in order to get through the current global economic crisis*
edit by A. Riggio, I. Varraso - pagine 152