

## Explorative study of multifunctional agriculture in a Sicilian inland area

*Emanuele Schimmenti –Università degli Studi di Palermo*

*Giuseppe Daddi – Università degli Studi di Palermo*

*Antonio Ascianto –Università degli Studi di Palermo*

*Valeria Borsellino –Università degli Studi di Palermo*

*Mariarosa Di Gesaro –Università degli Studi di Palermo*

*Marcello D'Acquisto \* –Università degli Studi di Palermo*

*\* Corresponding author: marcello.dacquisto@unipa.it*

### Abstract

The study investigates the agricultural multifunctional activities carried out in a Sicilian typical rural area, the motivations for entrepreneurial choices and the overall level of satisfaction. An exploratory survey was therefore carried out on a selected group of 13 farms localized in 3 Sicilian provinces, with the goal to identify strengths and weaknesses of their multifunctional activities.

From the farm survey, several positive results came to light, among which a wide variety of services and activities, an increase in farm workforce and a high level in communication and Internet services. On the other hand, some criticalities emerged in the transition process, such as heavy delays in the administrative authorizations or in plant construction, as well as long Pay-Back periods, due to both an increased local competition in the supply of multifunctional activities and a generalized financial crisis.

**Keywords:** multifunctionality, services offering, farms, local economic development, Sicily

### Introduction

Multifunctionality has been intensely studied in the last few years, and a considerable literature is available (Idda, 2002; Van Huylenbroeck and Durand, 2003; Casini, 2003 and 2009; Henke, 2004; Velazquez, 2001 and 2004; Wilson, 2007; Aguglia et al., 2008; Nazzaro, 2008; Ascianto et al., 2013; Bartolini et al., 2014). The term has been used in agriculture for the first time in occasion of the United Nations Conference on Environment and Development of Rio de Janeiro (UNCED) in 1992, but it has come to be widely accepted in 1998 during the conference of the Ministers of Agriculture of the Organization for Economic Cooperation and Development (OCSE, 1998).

The most complete definition at the international level has been proposed by the OECD itself. In it we find that "beyond its primary function of supplying food and fibre, agricultural activity can also shape the landscape, provide environmental benefits such as land conservation, the sustainable management of renewable natural resources and the

preservation of biodiversity, and contribute to the socio-economic viability of many rural areas" (OCSE, 2001). In this definition we find a key element of multifunctionality in agriculture, i.e., the existence of a "joint production" of commodity outputs (CO) and non-commodity outputs (NCO), that is non-food goods or goods related to the production of immaterial services that often go unrecognized, and as a consequence are not a source of income (Henke, 2004).

The types of activities related to multifunctionality can be grouped in three main categories (Casini, 2009): economic, that is actual production and the creation of income and employment in the rural areas; environmental, which comprises caring for the quality of the environment, the conservation of the landscape, the hydro geological defence, the preservation of biodiversity and more in general the valorisation of the local natural resources; social, meant as the keeping of the traditions and of the rural social and cultural background, and also as the supplying of recreational, didactic and therapeutic services and of food quality and security.

In Italy, from the normative point of view, multifunctionality in agriculture is defined by the decree entitled "Orientation and modernization of the agricultural sector" (Legislative Decree No. 228 issued on 2001, integrated by the Legislative Decree No. 99 of 2004 in which the Professional Agricultural Entrepreneur, PAE, is defined), which integrates the definition of agricultural entrepreneur found in the article 2135 of the Italian Civil Code. In it, the picture of an entrepreneur projected towards the new possibilities supplied by the various activities connected to agriculture is outlined, thereby allowing the farmer to diversify its activities, better exploiting the market and increasing its source of income.

Within the Common Agricultural Policy (CAP), multifunctionality has taken on a significant role only starting from the 2007-2013 planning period, and has gained further attention in the present planning period (2014-2020), which has faced the theme of the enhancement of the functions that agriculture already performs and of those it may perform.

In particular, the proposal for the Sicily Rural Development Program (RDP) 2014-2020 (Regione Siciliana, 2014) has 6 Priorities, which substitute the Axes of the past plan, and 18 Focus Areas defined by the Commission Regulation (EU) No. 1305/2014. The multifunctional role of the farms is present, and is variously made explicit, in each of the 6 Priorities, with specific reference to the following functions: environmental defence and the prevention of environmental damage; promotion of biodiversity and of rural civilization; protection, keeping and enhancement of forestry resources; strengthening of the skills and knowledge of agricultural, agro-industry and forestry firms, of small and medium enterprises (SMEs) and of the young farmers; consolidate employment in the rural areas and creation of new jobs; diversification of the agricultural economy; production of renewable energy; realization of inter-connected activities, etc.

The present work examines the multifunctional activities present in a typical internal rural area of Sicily, the motivations for the entrepreneurial choices and the relative degree of satisfaction. To this goal we have pursued an explorative research on a group of 13 firms in three Sicilian provinces, in order to identify the strengths and the critical areas of their multifunctional activities, to the goal of finding elements that may help reflection for the design of development strategies within the new EU planning programmes.

The rural area that is the object of our study presents, besides some tourism and some manufacturing activities (Lanfranchi and Giannetto, 2014), a vocation for agriculture and animal breeding that is very representative of the traditional agriculture of the Sicilian inland, which is also confirmed by the presence of two agri-food districts (Distretto Rurale "Le Vie dei Formaggi" of the Monti Sicani and Distretto Produttivo Siciliano Lattiero Caseario).

## Materials and Methods

The individuation of the farms that supply multifunctional services in the inland areas has been started by means of an explorative study of the web search engines and of specialized sites (among which [www.terranostra.it](http://www.terranostra.it), [www.campagnamica.it](http://www.campagnamica.it), [www.turismoverde.it](http://www.turismoverde.it), [www.agriturismo.it](http://www.agriturismo.it), [www.naturex.it](http://www.naturex.it)), thus operating in the same conditions as those of a potential customer who wishes to obtain certain services but does not know the region or the firms. Later on, with the aid of some organizations of the sector, the original list, made up of around 40 farms, has been slimmed down by picking the farms that we have been advised to be the most successful among those whose multifunctional activity is the direct consequence of primary activities such as agriculture and livestock. In light of the above description of the data collection step, we have not dealt with a sample of farms but rather we have carried out an analysis of a case study consisting in a small group of multifunctional farms operating in an inland area of Sicily. We chose the municipality of Cammarata (part of the province of Agrigento) as a reference area because it is far from the dynamics of the rural zones of the coast; starting from there, we have operated within an area of about 35 Km radius, studying a territory comprised between the provinces of Agrigento, Caltanissetta and Palermo.

The farms we chose presented at least one among the three basic characteristics of **deepening** (deepening and valorisation of agricultural production), **broadening** (widening of the functions of the agricultural firm) and **regrounding** (reallocation of the production factors outside the firm) (Sotte and Finocchio, 2006), thus being capable to increase the sources of income for the agricultural entrepreneur, in particular by means of:

practicing a "quality agriculture" through specific quality labels whose presence in itself guarantees some added value (DOP, IGP, organic, Slow Food, etc);

the production of "clean energy" (photovoltaic, small wind turbines, production of energy from biomasses) in a form capable to generate a potential complementary income to agricultural production, with positive consequences in environmental terms;

the supply of resources and/or services for "rural tourism" linked to accommodation, meal preparation, or knowledge, relax and recreation activities, or the accomplishment of a "social function for agriculture" related to the safeguarding of the environment and the conservation of the landscape, the cohesion of the local communities, or the improvement of the quality of life in the rural areas; as an alternative, we find the supply of didactic-cultural services, also related to employment (for the workers at the margins or outside the labour market), and also therapeutic-rehabilitation;

the "direct sale" of their products at the farm shop level and/or in the farmers' markets, or through e-commerce.

Once individuated the farms, we have contacted the owners or the firm's legal representatives to ask whether they were willing to answer a questionnaire organized in three parts. In the first part questions were formulated to find out the general characteristics of the farm, for the year 2013; the second part concerned the multifunctional characteristics; in the third part questions were asked concerning the income class of the farm, which percentage of it was due to multifunctional activities, the motivations and the level of satisfaction for the choice of multifunctionality.

Before gathering the actual field data we performed a pre-test, proposing the questionnaire to some technical professionals of the sector who operate in the study area; this helped us identify some critical points and simplify some questions that were not clear enough. We then went on with the direct interviews of the owners and of the legal representatives of the selected farms, and to the elaboration of the elements we have found.

## **Results of the study**

### *General aspects*

Of the 13 firms we studied, 10 are family capitalist enterprises. The prevalent legal form is sole proprietorship (11 cases).

As to the total agricultural area (TAA), the average area of the farms' group is about 116 hectares, with extremes ranging from the 10 hectares of a citrus fruit and olive firm to the 350 of a hunting warren firm (2/3 of which are forest). Specifically, 11 farms are above the 50 hectares dimension and are prevalently cereals-livestock farms (8 cases), which witness to the type of professional agriculture practised in the area (D'Amico et al., 2013).

Coming to the firms' heads, their age ranges from 28 to 65, with an average of 45 years; 3 declare to hold a university degree, 3 have a compulsory school diploma, while the other (7) hold a high school or similar degree. Given the wide range of entrepreneurs' age, the whole group of farms was then split into 2 sub-sets by entrepreneurs' age (28-40 years and over 40 years old). Nevertheless there are not apparent differences between the two groups in terms of variety and nature of services offered to customers, that is in terms of multifunctionality. From the cross-check of the data concerning the number of services offered, the education level of entrepreneurs and their turnover range, we found out an odd result: the entrepreneurs with the highest education level (academic degree) stated a quite low turnover (<50,000 €) and the average of provided services (3.3 per farm) is far lower than the average of both the overall group (4.23 per farm) and the remaining 10 farms (4.5 per farm). On the whole 7 firms have a turnover above 200,000€ (in 2 cases higher than 500,000€), 2 are comprised between 50,000€ and 200,000€ turnover and 4 have a turnover lower than 50,000€.

The investigated farms carry out 18 different activities within the Van der Ploeg triangle (Van der Ploeg and Roep, 2003): they range from agro-tourism to sub-contracting (apparent examples of broadening activities), to direct sales and to product quality certifications (a typical deepening activity), till the inside/outside farm activities but nevertheless carried out by the farmer's family members, such those ones related to the services of touristic guide or

sports trainer. On the whole, the examined forms provide 84 activities and services. On average (Table 1), farms focus more on deepening (2.92 per farm) and broadening (2.77 per farm) activities rather than on the regrounding ones (0.77), which however are more hardly identified, because they concern also the activities carried out by the family unit. From the analysis of distribution mode, it can be pointed out that deepening strategies are in absolute terms more performed in the Italian farms (Brouwer, 2004), while not all the farms succeed in the enhancement of regrounding strategies.

*Table 1: Farm activities within the Van der Ploeg triangle*

Farm activities	Broadening	Deepening	Regrounding
Total	36	38	10
Mean	2.77	2.92	0.77
Mode	1	3	0

*Source: own elaboration of field data*

It is interesting to notice the widespread tendency towards the use of computers and the net shown by these firms, for this is indispensable in our days in order to be found by the potential customers (Schimmenti et al., 2014a). In particular, 10 firms have their own website in which they make propaganda for their products and services; 2 of these websites are also utilized for on-line sales. Besides the classic marketing forms at the local level, it is interesting to notice that 2 of these farms collaborate with travel and tourism agents, 3 have an active convention with "firms that propose discounts" (Groupon, Groupalia, Buum, etc.) and 9 are present in marketing web portals for travels and restaurant/catering, which goes to show the importance held by these new technologies (Schimmenti et al., 2013).

Another interesting datum is the increase in the "post conversion" workforce. The average increase is 6 units per farm, even though in most cases these are non-permanent positions.

### *"Rural tourism" supply*

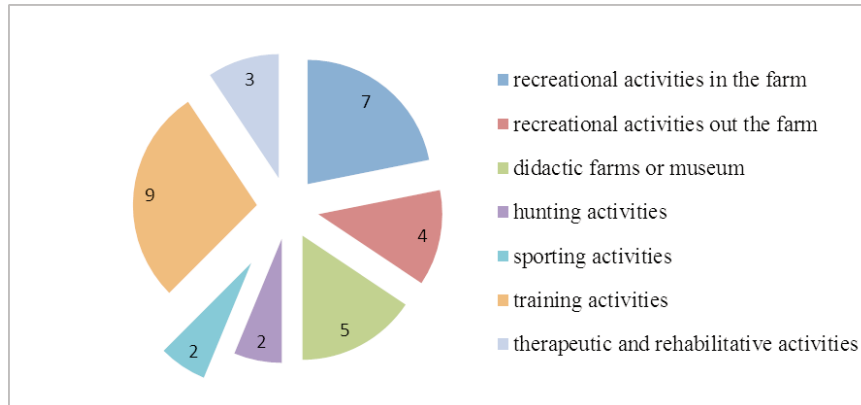
Agritourism activity is perhaps the most important activity in the diversification of agriculture, at least from the point of view of its turnover and it has a noteworthy weight within rural tourism (Asciuto et al., 2013); 5 firms practise it.

It can be observed that for taxation and organizational reasons the farms use very few permanent workers (2 units in the average), and prefer to use non-permanent workers (an average of 6.6 units) who work mainly in the week-ends. The average yearly number of clients for these agritourisms is about 3,300 (for restaurant and catering activities). They come above all (75%) from the municipalities of the 3 provinces where the farms are situated. This figure raises to more than 87% when we consider also those customers coming from the other provinces of Sicily. Accommodation activity is almost exclusively what the rest of the customers (13%) require. These last are tourists who come from the rest of Italy and even from foreign countries. More than half of the "habitual" clients of these agritourisms is composed by families.

The modal class in terms of total income of the farms is that in between 200,000€ and 500,000€. The influence of agritourism activities on the total turnover is estimated by those who answered the questionnaire to be about 42% in the average.

Another key factor for the firms is, besides the production of renewable energy and the direct sale of products, the wide supply of services and activities represented by: didactic farms or art museums, recreational activities in the farm or out of it, therapeutic and rehabilitative activities, training activities, and hunting and sporting activities (Figure 1).

Figure 1: Services and activities supplied (no. of firms)



Source: own elaboration of field data

Although several firms supply a guided visit service, only 5 are officially accredited as didactic farms (2 more have started the accreditation procedure), employing in this activity 2 qualified operators in the average. Programmes are offered for schools of various types, mainly kindergarten and primary, and also associations that take care of the disabled, give psychological assistance, and similar; the firms in the average receive more than 700 visitors per year, individually variable from a few hundreds, for those who have started this activity recently, to beyond 2,000 persons per year for those who have started a few years ago. One of these firms, besides the didactic farm programmes, has its own arts museum and an open air theatre.

Because of the present-day fierce competition in the rural areas, which a number of interviewees has pointed out to be a limiting factor, in order to increase their competitiveness the farms seek to diversify and widen as much as they can their recreation services supply (in 7 cases in the farm and in 4 out of it). Some have started commercial relationships with tourist agents to offer to their customers tours in the neighbouring municipalities with specialized guides; similar initiatives have been taken for naturalistic tours, done with the help of non-farm guides. Such strategies can allow the farm to intercept both the normal tourists and the hikers; these last have a different type of expectations and preferences (Lanfranchi et al, 2014a). Some entrepreneurs have acquired *ad hoc* implements and use the farm structures to create gyms or relax zones, or even a swimming pool where to impart lessons of fitness and swimming. 2 farms have horse riding facilities for their customers, and one of these also organizes horse riding courses in collaboration with the Federazione Italiana Sport Equestri (FISE).

Also therapy activities are offered to disabled persons attended by some assistant centres; in particular, in 2 farms donkey assisted therapy is performed with specialized personnel from outside the farm. In others, rehabilitation therapies in the swimming pool are offered.

Another important activity we have found is hunting and sporting; 2 farms, in fact, offer the chance to hunt, recreational fishing in the farm dams, and sports such as clay pigeon shooting and electrocibles (accredited with Federazione Italiana Tiro Al Volo, FITAV), and even organize dog-training courses. Each of these farms has an average number of customers per year, for such activities, of 150 units.

Among the investigated farms, 9 give the possibility to perform educational and training services, among which courses for farm manager and technical manager, in collaboration with associations, schools or the regional Operational Sections for Technical Assistance in agriculture (SOAT).

#### *Production of clean energy from renewable sources*

Only 4 farms in the group have already invested in renewable energy. Of these, one utilizes a solar-thermic plant to supply sanitary hot water, and a biomass plant to heat the restaurant hall and the rooms; 2 more have a photovoltaic plant of 70-100 Kw, while the last has a biomass plant in which it uses olive pomace as combustible.

The majority of the remaining farms has applied for the creation of renewable energy plants, for they deem that this may represent "*an important opportunity to differentiate their activity, widening their perspectives and the firm scenarios*" (Gaviglio et al., 2014). In particular, almost all intend to realize photovoltaic or solar-thermic energy; only 2 firms declare their intention to realize small wind turbines or a biomass plant.

Of the 7 motivations proposed in the questionnaire for what pushed them to invest or to plan further investments in renewable energy plants, the following have been indicated: respect for the environment (10 choices), economic convenience (9), energetic independence (3).

#### *Labels and marketing multifunctional channels*

Within the group of farms, 3 have acquired the organic certification for their productions (wine, oil, meat/beef), while 2 have joined Slow Food; finally, 7 firms belong to the "Le vie dei formaggi" project.

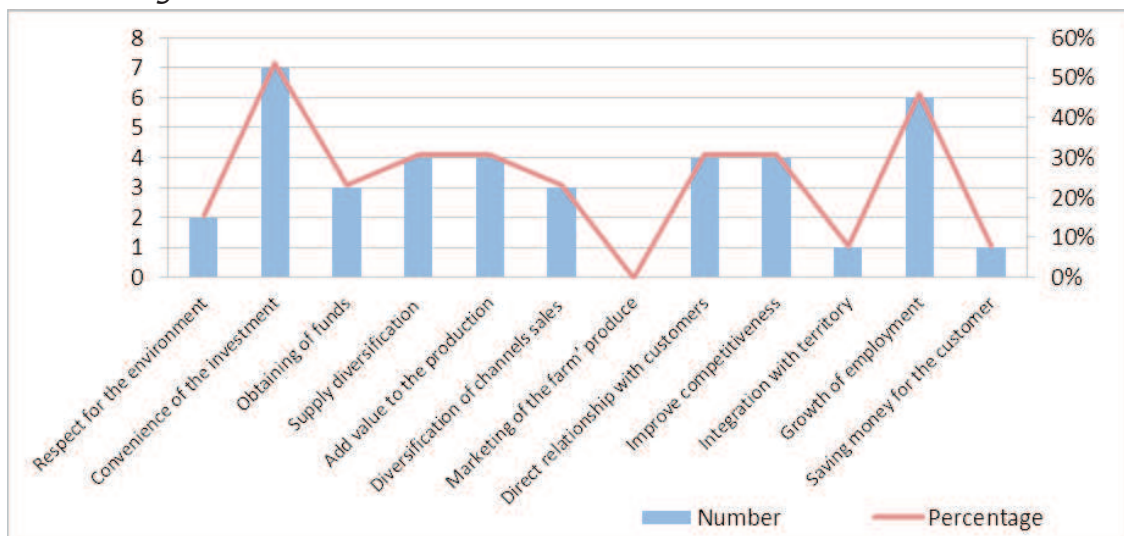
One of the factors that the farmers indicate as crucial for the structuring and stabilization of their income is the diversification of the marketing channels. In the average in order to trade their produce each firm uses 3-4 channels simultaneously. Processed products such as cheese, bottled and canned food, oil and wine are often traded through their own point of sale, the local markets and fairs; meat and beef are almost always sold to wholesalers, and are only in part processed in the farm, as well as fruits and vegetables, which mainly go to wholesalers or to the farm point of sale. The online sale of the produce concerns only 5-10% of the main productions (oil and wine) of 2 firms. A few firms have direct channels with the large-scale retail trade, for this requires large volumes of production and precise delivery

times. Some have commercial relationships with a corner shop at the local level. It is worth noticing that one farm has its own automatic milk vending machine in a town centre. From the analysis of the results emerges that 10 firms have their own point of sale, and 6 actively participate in farmers' markets, Campagna Amica or fairs. Such channels help limiting the "fixed price" effect imposed by the market or by the intermediaries (Lanfranchi et al., 2014b). Operating this way the firms increase the family income, because the management activity is prevalently performed by components of the family. The average number of customers that go to the farm point of sale is higher than 550 units/year and, like for the case of agritourism, the habitual customers are mainly families (more than 72% of the customers).

*Motivations and satisfaction for multifunctionality*

In figure 2 the statistics concerning the motivations (with a maximum of 3 answers) that have driven the entrepreneurs to diversify the farm' activities are shown. The first reason, picked by 54% of the interviewees is the economic convenience of the investment, followed by the possibility to be among the promoters of a growth of employment (46% of the answers). We have found a very low interest in the possibility for customers to spare money (8%) and for the integration with the territory (8%) and nothing concerning the marketing of the farm' produce.

*Figure 2: Motivations for the conversion to multifunctional activities*



*Source: own elaboration of field data*

We have also sought to ascertain the degree of satisfaction of the entrepreneurs about the farm's multifunctional activities. To this goal we have formulated 4 questions, leaving the possibility of a negative answer. We have found out that all the entrepreneurs have deemed positive the investment for the "conversion" of their farm to increase the range of services offered. 12 of them have stated that they would do the same thing again; only one said that, despite being satisfied with the way things are at present, he would not start the conversion



now, due to the bureaucratic and administrative problems involved. All of them stated that they have had positive reactions to the multifunctional services of the farm from the customers. Finally, most of the entrepreneurs claim that the investment have not fully paid back yet; in particular, 8 of them deem that the timing has been much longer than they envisaged at the beginning, due to the growing local competition on the one hand and, on the other hand, to the economic crisis of these last few years.

## Conclusions

The present paper has examined the agricultural multifunctional supply that is found in some internal areas of Sicily, which intercept a significant part of the regional territorial area but a modest part of the population. Because of the social, economic and infrastructural problems we find in such areas (abandonment of agriculture, de-population of the young part of the population, low per capita incomes, etc.), the chance of survival and the desirable development of agricultural firms depend upon the quality of the produce, the diversification of supply and of the marketing channels, the range of services made available to the customers, communication, and also on the efficient and effective utilization of the financial resources offered by the CAP with the 2014-2020 programme.

The present study, which has an explorative nature, shows that farms invest on communication and internet services, differently from what the 6th General Census of Agriculture (Istat, 2012) shows for the agricultural firms of the region (in this last, 98.31% of the farms in Sicily appear not to make use of "informatics").

The results the farms in our study have obtained by means of agritourism, educational and recreational activities, and the production of renewable energy have been judged positive by the people we have interviewed. These last also think that the supply of didactic services such as the didactic farm, or of therapies such as donkey assisted therapy, are true social functions that serve the local community and in general anybody who can use them.

The organic productions, and the participation in the *Slow Food* or *Vie del Gusto* initiatives have helped emphasize the quality of the farms' productions. Simultaneously, the diversification of the marketing channels, with a significant presence of direct sales (at the farm level, or in farmers' market, with the frequent employment of the components of the family) has determined on the one hand an increase of the family income, and on the other the creation of a direct relationship with the customers based on trust.

The entrepreneurs have generally claimed to be satisfied with the conversion of their farms to a multifunctional vision. Nonetheless, they have pointed out various obstructions – above all of an administrative nature – that they have had to face during the transition process, usually represented by delays in conceding authorizations (for didactic farms) or in the construction of plants (renewable energies). In this regard it is desirable, also basing upon a former study on the young entrepreneurs in Sicily (Schimmenti et al., 2014b), that in the new planning such difficulties are eliminated or at least reduced to a minimum.

Other problems are to be attributed to the timing recovery of the investment outlays, that have proved longer than expected because of the growing local competition by other multifunctional activities and the economic and financial crisis of the last few years.

In conclusion a multifunctional farm offers various services to the rural community, contributing to the preservation and consolidation of the agricultural activities and to the human presence on the territory. We deem that multifunctional activities will be able to contribute to the development of the study area and in general of the large internal areas of Sicily, on the condition that they are adequately supported and regulated.

Considering the explorative nature of the present study and of the imminent beginning of the 2014-2020 planning period, we think it would be useful in the near future to update and validate these results by carrying out a sample survey, in order to be able to conduct statistical inference on the reference population of multifunctional farms.

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### **Sitography**

Terranostra: <http://www.terranostra.it/it/home>

Campagnamica: <http://www.campagnamica.it/Pagine/default.aspx>

Turismoverde: <http://www.turismoverde.it/index.php>

Agriturismo.it: <http://www.agriturismo.it/>

NaturaExpress: <http://www.naturex.it/index.php>