

Changes in Euro-Mediterranean pastoralism: which opportunities for rural development and generational renewal?

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Abstract

Mediterranean rural regions represent rich and fragile settings in agro-ecological and socio-economic terms. The region is increasingly beset by growing human presence and climate change dynamics. Agro-pastoral systems are still important activities in terms of employment and income, but also for ecosystem functioning and landscape management. Traditional agro-pastoral systems have gone through important reshaping in recent decades and they have to confront today the dynamics challenging their future. This paper examines how problems and issues in the generational renewal of EU-Mediterranean farms affect their profile and their future roles in the development of the area, in particular in Italy and Greece. Current dynamics seem to indicate that the younger members of livestock farm families often seek alternatives to pastoralism, thus favouring the depopulation of mountain areas and exposing grasslands to problems of abandonment and socio-economic desertification. This context witnesses a growing presence of immigrant shepherds, who reach southern Europe from other pastoral areas in the Mediterranean region, coming to provide skilled labour at a relatively low cost. Their presence enables the pastures of mountainous areas to be maintained and kept productive, reproducing the patterns of generational renewal associated with an ethnic substitution that has characterized Euro-Mediterranean pastoralism in the last century. Women also seem to gain an active role in the family farms once again, as in the past their role had been neglected.

Keywords: farm labour, migrations, small ruminants, multifunctionality, resilience, rural development, sustainability

Agro-pastoralism in Mediterranean rural regions, a key factor for a sustainable development

After the end of the Second World War, many rural Mediterranean areas were described as underdeveloped and not suitable for agricultural modernization. European policies discouraged investments in these areas, where it was difficult to organize forms of intensification of agricultural production; the traditional, peasant agriculture, oriented to self-consumption and livelihood subsistence, was considered inefficient, uncompetitive and backward. Therefore, these regions steadily experienced land abandonment, depopulation and economic decline. The Mediterranean rural areas, in contrast to urban areas, remained trapped by a negative perception.

This situation has become even worse over the past thirty years. Market deregulation and liberalization, and changes in the production systems and policies aimed at rationalizing public expenditure have all contributed to increasing precariousness in these areas and to a growing social vulnerability, which is general to many local groups and various sectors of the local economy (Ascoli and Pavolini, 2015; Kvist, 2013; Matsanganis, 2011; Ranci, 2010). Nonetheless, according to recent studies (Espon, 2014; Crescenzi *et al.*, 2016; Milio *et al.*, 2014a,b) rural areas have demonstrated an unexpected resilience to the recent economic crisis that started in 2008, putting into doubt the 'slogan' that 'rural is linked to backwardness'. Moreover, despite a partial degradation of the ecological quality of the rural landscape due to the abandonment of agricultural activities, employment crisis and depopulation phenomena

(Bertolini *et al.*, 2008; SERA, 2006), the countryside of internal rural areas is less affected by the process of trivialization and environmental standardization related to agricultural modernization techniques (Agnoletti and Emanuelli, 2016).

Within the emerging rural development paradigm (Ploeg *et al.*, 2000), the development trajectories of Mediterranean rural regions are heterogeneous and localized (OECD, 2006). Ongoing research in Greece demonstrates that urban dwellers are more affected by the crisis, while young people tend to 'rediscover' rural areas and farm labour as alternatives to the generalized lack of employment opportunities in other sectors of the economy (Ragkos *et al.*, 2016b). In addition, the Mediterranean countryside is recognized as an expression of the 'historical rural landscape' (Agnoletti, 2013; Antrop, 1997, 2005). It is now evident that Mediterranean rural areas nowadays are invited to play a new role – away from the erroneous perceptions of the past. In comparison with the lowland and coastal areas, these regions represent a differentiated setting with specific agro-ecological characteristics that express intertwined relationships between the environment, the economy and society.

Mediterranean marginal and internal areas are actually in search of a sustainable pattern of development (Mahoney, 2000), where existing activities and know-how could trigger a territorial development process. Within this context, agro-pastoral systems have historically been of central importance in the development of these areas; especially local agriculture and transhumant pastoralism have traditionally been complementary activities (Campbell, 1964; Le Lannou, 1979; Mattone and Simbula, 2011; Meloni, 1984; Pernet and Lenclud, 1977; Ravis-Giordani, 1983). Nowadays, pastoralism – i.e. extensive livestock rearing based on natural grazing – remains a key economic activity for Mediterranean marginal territories; it is a way to sustainably manage resources, and is suitable for preserving and reproducing the various agro-ecological characteristics of the Mediterranean (Meloni and Farinella, 2015). Pastoralism is multifunctional as it produces a wide range of goods and services (cultural features, ecosystem services, landscapes, etc.) jointly with food (milk, meat, dairy products, etc.). It demonstrates high resilience and adaptive capacities through time as well as important potential for further development in terms of income and employment for areas where alternatives and competition for land uses are limited. In this sense, agro-pastoral products – especially dairy – represent strategic resources for the well-being of these areas. Also, the issue of provision of ecosystem services by Mediterranean grasslands (see for instance Varela and Robles-Cruz, 2016) is constantly gaining attention and proposes novel dynamics for the development of agro-pastoral areas. This whole bundle of alternative resources (ecosystem services and unique products) needs to be well embedded in scientific research and governance in order to achieve benefits for Mediterranean territories.

Nowadays, a development pattern based on agro-pastoralism could be pursued in the form of 'social innovation' (Mulgan *et al.*, 2007). This type of innovation stems from actors themselves, as a response to specific socially acknowledged needs; it is not limited to a particular group but rather it can be developed by the vast majority of members of a rural society – the original and localized mixture of human and natural settings expressed the embeddedness of agro-pastoralism in Mediterranean rural communities. Natural biodiversity, landscapes and environment management, historical cultivars, specific foods, craft and tacit knowledge, informal regulation and local codes, local economies based on the self-production, self-consumption, trust and reciprocity's network and the general way of living and building the countryside are part of the 'territorial capital', immaterial patterns able to produce local collective goods (Ostrom, 1990). Recent studies (Barca, 2009; Barca *et al.*, 2014; Mantino and Lucarelli, 2016; Milone *et al.*, 2015) show the efforts of rural areas to activate their intangible and often unrecognized resources and to claim their participatory governance strategies, in order to integrate production of local collective goods. Other research has highlighted the emergence of multifunctional agriculture models to cope with the economic crisis (Ploeg and Roep, 2003; Wilson, 2007), reacting pro-actively to the lack of services

(Cersosimo, 2012; Connor, 2009; Di Iacovo) through combining tourist hospitality to agricultural production (Cawley and Gillmor, 2008; Kinsella *et al.*, 2000).

Under the light of novel approaches of the development of rural areas, this paper examines the prospects of agro-pastoralism in one of the most typical Mediterranean settings – the inland areas of islands. In these areas, the main constraints have to be addressed at local as well as global levels in order to support the development of agro-pastoralism and its potential. This paper provides a general framework on the characteristics of Mediterranean agro-pastoralism, using case studies in Greece and Italy (in particular Sardinia), which are typical of the situation prevailing in rural areas in the Mediterranean. The paper goes on to analyse the main constraints affecting contemporary pastoralism in the region, including generational renewal, and the new, diverse actors that hold a stake in the sector – especially the role of women, the subaltern role of immigrant workers and the limitations set by European policy makers. Finally, through a SWOT analysis, the various aspects and factors influencing Mediterranean agro-pastoralism will be assessed with a view to contributing to the design of efficient policies.

Changes in contemporaneous pastoralism in the Euro-Mediterranean rural region of Italy and Greece

In the Italian case, sheep farming is concentrated mainly in the areas of Central and Southern Italy. In particular, this type of farming is typical of Sardinia, where 43.8% of animals reared in Italy are kept; in 2016 there were 3,153,580 ewes and 11,213 dairy sheep farms in Sardinia (source BZN – date Bank Registry National Animal Husbandry). For this reason the Italian analysis is focused on the Sardinia Region.

Sardinia is the main producer of sheep milk in Italy (65% of Italian production in 2015). Sheep farming in Sardinia was traditionally organized in the form of long and short transhumance from inland to coastal areas with milder climates. At the core of the farm's management was the family. Today, pastoralism has become sedentary along the old ways of transhumance, where the shepherds have acquired the land abandoned by farmers in the fifties, following the crisis of more traditional cereal farming. Sheep farming is based on a semi-extensive system and, in some areas, on an extensive one, totally based on natural pasture grazing. Pasture grazing yields good quality milk – which is the main product of agro-pastoral flocks – due to the variety and richness of natural pastures. In Sardinia, the permanent grassland is the 60% of the arable land (694,760 ha) compared with only 26.9% in Italy (ISTAT – Census of Agriculture, 2010). Generally, the farms maintain this multifunctional character. In 2013, only 39% of farms were specialized only in the ovine sector, while the remaining 61% associated sheep with other types of breeding, in particular pigs, cattle and goats (Elaboration on data from Anagrafe Zootechnica Nazionale, LAORE, 2013). The size of farms has tended to increase in the last 30 years, but farms remain of medium size: only 4% have more than 750 sheep and only 2% have more than 1000. There is a large presence of farms with not more than 100 sheep (70% of the total) (LAORE, 2013). Farms of larger size are situated in the lowlands; they are of entrepreneurial organizations and are more organized in terms of operation and innovation adoption. These breeders are specialized in milk production. However, the main source of weakness is its dependence on a single product of milk that is sold to local processing industries that decide the price. The smaller farms are in the mountainous or hilly areas more suited to extensive grazing; in these areas sheep farming provides complementary incomes to farm families and is combined with other activities to ensure decent living conditions. Despite its extensive organization, the Sardinian dairy sheep system is being increasingly pushed towards an intensification and standardization of production, which is likely to impair its quality and overall resilience. During the last 30 years Sardinia was characterized by a process of concentration and modernization of farms. The number of farms diminished, but the livestock increased and so did the average farm size. Farmers used more grazing land and invested in sheds and milking parlours and other agricultural machinery, with EU funds. Actually,

breeders are very dependent on the industries and the low milk profitability is a key problem of the local dairy chain. The majority do not process milk into cheese, thus providing an important shift from the traditional shepherd labour.

In Greece, the livestock sector contributes 28.3% to the total added value of its primary production and almost 1% to national GDP (ELSTAT, 2015; PASEGES, 2013). Sheep and goat farming is the most important livestock production activity, in a variety of systems, from extensive and semi-extensive – based on grazing and little adoption of innovation – to intensive, which have undertaken large investments in animal capital, buildings and machinery and are based on the provision of feedstuff (Chatziminaoglou, 2001). Most flocks are dual purpose, with milk being the main product and lamb meat being of importance especially during peaks in demand (Easter and Christmas). The actual contribution of livestock systems is very important socially and economically, especially for particular rural areas of the country. Family labour has been the only source of labour for Greek livestock farms for centuries. The unpaid labour of family members allowed family farms to operate as, in difficult times, they resorted to their own resources, and reduced their standards of living and survived until external conditions were better (Holzner, 2008). In this context, which also included the massive migratory movements of the 20th century, small and medium-sized livestock farms prevailed in Greece (see e.g. Kasimis and Papadopoulos, 2013).

Despite the extensive characterisation of pastoralism, pastoral operations have intensified as a result of agricultural restructuring (Meuret, 2010; Nori, 2017), and livestock owners have developed managerial skills in order to comply with a growing administrative, bureaucratic and technical demands and tasks. Shepherds' living and working conditions have hardly improved; most of the time is spent in harsh settings, with limited access to public services, scarce connectivity and few opportunities for leisure and alternative activities. The growing presence of predators and climatic vagaries add further hardening factors. The prices of small ruminants' milk and meat have fluctuated, while production costs have increased constantly (ISMEA, 2010); dependence of Common Agricultural Policy (CAP) schemes and subsidies have grown accordingly, and represent today about 40% of the sector revenue (data from ongoing research projects). Such restructuring has thus contributed to creating unattractive conditions for the new generations, who have often decided not to follow their fathers' footsteps, and to avoid engaging in a profession with uncertain prospects. Through this lens one can understand the crisis of pastoral 'vocation' and the relative problems of generational renewal which is affecting this sector.

Another big constraint for agro-pastoral farmers in Mediterranean rural regions is compliance with regulatory requirements. Numerous policies at various levels (EU/International (CAP), national, regional) affect the operation of these systems. Scientific debate has analysed the governance practices related to local and rural development policies (Barca, 2009; Meloni and Farinella, 2016; OECD, 2006; Ray, 2000, 2006; Shortall, 2008; Storti and Zumparo, 2009), introducing more recently the rural welfare dimension (Bertolini *et al.*, 2008; Di Iacovo and Scarpellini, 2012; Farmer *et al.*, 2010; Fazzi, 2011; Halloran and Calderón, 2005; Tulla *et al.*, 2014; WHO Regional Office for Europe 2010a,b).

The treatment of the specific problems and needs of agro-pastoralists through the CAP (Reg. EC/1307/2013 and Reg. EC/1305/2013) is superficial and farmers fall within the same criteria with conventional intensive or semi-extensive systems. Local/regional legislation regarding quality standards also poses restrictions to agro-pastoral products (e.g. cheese from raw milk) and hinders the expansion of informal marketing networks. Nonetheless, using the 'correct' mixture of policy incentives, the combination of these policies could prove to be a useful tool for territorial development, if the biases against agro-pastoral farmers are efficiently revised.

Generational renewal, female work and the role of immigrants

Women in livestock farming: a 'rediscovery'?

The Mediterranean agro-pastoral farm is based on family work, with a gender division of labour. Although, at least for the case of Sardinia, it is not correct to speak of 'matriarcato', until the 1970s the role of women in the management of household was central, because of the long absence of men engaged in transhumance (Cois, 2015; Da Re, 1982; Meloni, 1984; Murru Corrigan, 1990; Paulis, 2015).

This model change during the post-war period, when women were ruled out of the operation of family farms, as the productivist model led to a 'masculinisation' of farming (Saugeres, 2002). Combined with an abundance of hired labour, women were assigned an auxiliary role and looked for employment in non-farm sectors (Bharadwaj *et al.*, 2013) or remained within their household duties. With women away from the production process, however, it was difficult to continue performing some of the tasks in the same efficient way, as women's labour is endowed with particular emotional elements ... 'which is crucial for the sustainability of rural people and places' (Herron and Skinner, 2012). In this aspect, Trauger (2004) underlined the fact that women are up to three times more likely to be the operators of a farm following a sustainable production pattern, demonstrating their persistence to quality and to the performance of multiple functions – other than production of food and fibre – through their engagement in the primary sector.

Today, a partial return of women in livestock farms is observed. For example, in the case of Sardinia, in the year 2013 around 10% of farms were owned by women (source: elaboration of LAORE on BZN data – Laore, 2013). An important similarity between the Sardinian and the Greek case lies in the – often fallacious – increase of female heads-of-farms. It has been very usual that husbands have passed the farm or part of it to their wives, sisters or mothers for several reasons, including tax alleviation or to access CAP incentives or to increase the income support they get (e.g. for the LFA payments in Greece). Also, some heads-of-farms have passed the farm to other family members in order to be eligible for early retirement; however, they have still a very active role in the farm – or even continue to be heads of farms. In Greece, a survey of collocated farms revealed that the true number of transhumant farms was 22% lower than the officially registered farms; of course, it was found that the average size of the 'true' farms was significantly higher, indicating that these farms were of a more viable size.

An example where women maintain very active roles in livestock production, comes from the extensive production system of Pomaks in the Greek Muslim minority (Ragkos *et al.*, 2016a). Their livestock farms are pastoralist – being heavily dependent on grazing – and small-sized; they rear autochthonous breeds and a significant part of the production is used within the farm household. The wife is involved in farm operation, providing manual labour or becoming the manager of the farm when the husband migrates to work as a sailor or worker. It is the members of the family that run the farm and women have maintained their essential role, demonstrating that the character of the Pomak livestock production system has not been abolished after the crisis.

Not always so for women who actually work on farms. A survey by Ragkos *et al.* (2016b) in North-Eastern Greece (Evros) showed that under the economic crisis, farmers substituted hired labour in order to reduce labour costs. However, intensive farms have high human labour requirements and only males and heads-of-farms were not sufficient. As a result, while in 2010 26% of labour was offered by hired workers, in 2014 this percentage did not exceed 7% and a female member of the family would work regularly or part-time in 36 of the 41 farms. It was found, however, that this strategy increased the marginal product of labour by more than 40 per cent from 2010 (2.27 €/h) to 2014 (3.21€/h). However, during empirical

research in Sardinia (Farinella, 2016), cases of female shepherds were not scarce. Moreover, when women help in administrative issues and are present in the management of the farm, this is most dynamic and innovative in terms of products and markets. This is particularly the case in small farms.

Young farmers in the Mediterranean

The presence of young people in the livestock sector is very important because they demonstrate a big capacity to innovate. Young farmers have been the initiators of collective actions in rural areas; their networks often play important roles to achieve common goals, such as better access to knowledge, diffusion of information and economic performance. Young farmers are expected to play an essential role in the formulation and implementation of modern patterns of rural development – strongly sought by the CAP – which provides incentives to counter-balance the decline of rural youth and the negative perception of agricultural work that affect rural areas.

Today, the low and decreasing percentage of young farmers in EU countries is considered a major problem for the future of agriculture (Zagata and Sutherland, 2015) and is especially of concern for marginal areas. In 2007 in agro-pastoral areas of southern EU it was reported ‘the very high rate of over-55 compared with those under 35 years of age ... and in many areas, the presence of elderly people 10 times more than young ones!’ (Pastomed, 2007:18). In 2013 the European Union farmers under 35 years accounted for 6% of all farmers, while in Greece this was 5.2%, while farmers over 65 years accounted for 31.1 and 31.3%, respectively (Eurostat 2015). Sardinia is indeed one of the regions with the highest ageing index and the lowest birth rate in the world. In 2013, out of a total of 30,260 sheep farmers, over a third of farmers were aged above 60 and over 50% were older than 50, while only 5% were aged less than 30 years. The low (relative) proportion of young farmers over older farmers is considered problematic and is expected to determine to a significant extent the future of European agriculture. Structural consequences are expected including land abandonment, depopulation, and lack of services, which will reduce the attractiveness of rural areas. This presents a serious crisis for the peasant family and its ability to ensure survival. In many cases there is not a son to ensure continuity of activity.

In recent decades different programmes have been applied by EU and national institutions to attract young people to farming, under the overall policy of farm-heads age-renewal. In particular, the CAP has set the generational renewal of agricultural populations as a target. In Italy, the programme is operated by regional governments and provides a grant (not a loan – up to 40,000 Euros) for newly establishing farmers. This project has been in force since the 1990s in Greece – but is operated at the central government level. The results of this policy are controversial, with cases where the funding supports new multifunctional sheep farms, while in other cases it is a way to obtain money by formally sharing the family farm among siblings. A typology of Greek young farmers (Koutsou *et al.*, 2011) revealed that only very few young farmers were actually involved in the farm family business or even lived in the rural community. The majority were only auxiliary workers in the farms or were employed in other sectors and just joined the ‘Young Farmers Installation’ scheme for the funding.

According to a Greek study in 2016 (Koutsou *et al.*, 2016) there are significant differences between the profile of young farmers among Greek prefectures (differences in gender, mean age and education). In remote areas, young people preferred to enrol in the programme as a solution to unemployment, while in a more dynamic lowland area it was found that beneficiaries created farms with high labour requirements. A closer observation of the data shows that the production patterns of the new farms did not change significantly than the general local pattern, but in lowland areas a trend of diversification towards more dynamic sectors was found. Also, according to the results of a typology, there are three distinct types of young farmers: the first includes young people who have lived in the rural community their whole lives and chose to become farmers, the second those who were ‘forced’ to follow the family farm, and the third

those who enrolled to the programme just for funding. The first type is the most innovative and prone to cooperation, while the third type is not interested in innovation – in fact, this type involves mainly women.

Migrant labour in EU-Mediterranean agro-pastoralism

The growth of migrant labour in agriculture is associated with the lack of young people in the countryside, and the depressive demographic dynamic, together with the difficulty to obtain a right, fair remuneration and income. As a result, agricultural activities in Europe are increasingly carried out by foreigners, often involved in low-skilled activities. Today more than a third of the officially employed agricultural workforce in Italy, Spain and Greece is of foreign origin (Caruso and Corrado, 2015; Collantes *et al.*, 2014; Kasimis *et al.*, 2010; Nori, 2017) (see also Table 1). Immigrant communities play though a relevant role also in specialized agricultural sectors; this is the case in livestock farming, where the presence of the foreign workforce is increasing, in both quantitative and qualitative terms. However, in Greece the reduced profitability of farms during the economic crisis brought about a decrease in migrant labour: from 2009 to 2013 a 4.6% reduction has been witnessed in the number of permanent hired workers and a 13.6% reduction in seasonal hired labour in the Greek primary sector, although opposite patterns are being reported for other Southern European countries, e.g. Italy (Caruso and Corrado, 2015).

No matter the entrepreneurial trajectory pursued to cope with and adapt to the sector restructuring, immigrant shepherds have provided a quite skilled labour force at a relatively low cost. Without foreign workers, many pastoral farms would face today great difficulty in pursuing their activities. Immigrants in rural areas not only participate in productive agro-silvo-pastoral activities, but represent as well an overall strategic resource for the sustainability of mountain societies, providing a critical contribution to repopulate remote villages and most marginal communities – such as the cases where local shepherds married foreign women, so that people mobility enhances family and community demography and dynamics (INEA, 2009; Kasimis, 2010; Osti and Ventura, 2012). However, several studies have analysed the exploitation of migrants in the intensive agricultural system as a negative effect of global market price competition in the agri-food chain (Corrado *et al.*, 2016; Ortiz-Miranda *et al.*, 2013; Pugliese, 2011). The salary and the quality of life are not very good and the immigrants do not have great opportunities to improve their conditions and they thus leave the sector as soon as better options arise. An on-site survey by Nori and Ragkos (2017) discerned two types of migrant workers in agro-pastoral farms of Central Greece; the first includes migrants aged over 40 who had grown up in their countries of origin, while the second involves younger workers who have lived most of their lives in Greece. In-depth discussions with these workers showed that the former mainly undertake this job to earn their living without considering professional changes while most of the latter find themselves temporarily working in farms due to lack of other opportunities.

The typical profile of the immigrant who works as a salaried shepherd is that of a man between 25 and 40, native of a country of the Mediterranean region (predominantly from Romania, Morocco, FYROM or Albania) but recently also from Asia (e.g. Pakistan, India) and sub-Saharan Africa (e.g. Ghana, Senegal), often with previous, direct exposure to animal breeding, although at different scales. Workers with

Table 1. Recent demographic trends in Euro-Mediterranean countryside (Caruso and Corrado, 2015; Eurostat, 2008).

Spain	France	Italy	Greece	
9.8	4.8	7.9	20.8	% rural/active population in 2008
56.4	41.9	62.2	57.2	% older >55 years 2008
19.1	–	19.4	17	% immigrants in labour force in 2008
24	–	37	>50	% immigrants in labour force in 2013

previous experience and specific skills are highly welcomed, but a significant part of migrants come from urban settings with little previous exposure to livestock production. Immigrant shepherds are appreciated for their endurance, flexibility and adaptability (Nori and Ragkos, 2017); concern has been raised by some breeders concerning socio-cultural attitudes and technical gaps on certain aspects related to the adequate management of forestry resources, wildlife presence and relationships with farming as well as with protected areas.

In Greece, the massive influx of labour migrants in Greek rural areas in the 1990s was a factor that helped ensuring the reproduction of Greek family farms (Papadopoulou and Roumpakis, 2009), leading to the formation of large intensive livestock farms (Karanikolas and Martinos, 2012). The dairy cattle sector is an example of this sort. According to a survey in Northern Greece (Ragkos *et al.*, 2015) the large specialized dairy farms that appeared after 2003 resorted to hired labour, because family labour was not enough for such intensive production patterns. The labour requirements of the 39 sampled dairy cattle farms were covered almost equally by family members and hired workers. The employment of even more immigrant workers did not seriously affect the cost structure of the farms, as the labour costs do not exceed 8.4% of the total costs. However, these farms have maintained their predominantly family character. A recent example was pointed out by Ragkos *et al.* (2016b) in Northern Evros, Greece, where large, modern, entrepreneurial, innovative farms emerged as a result of CAP changes in 2006. They relied on hired labour, mainly migrants, as spouses remained in charge of their farm household duties and younger family members looked for off-farm jobs or left their homes to study in other parts of the country. Concerning agro-pastoral transhumant farms in Central Greece (Thessaly), here the farms operate under a rather traditional pattern and labour expenses account for more than 25% for the average farm. Despite the undeniable family character of the farms, almost 25% of the total labour requirements are still covered by hired migrants. The analysis of the economic performance of these farms demonstrated that large farms use hired labour more efficiently (Ragkos *et al.*, 2014).

In Italy, the presence of migrants covers a large part of the salaried shepherd workforce (Nori, 2015). Apart from the better-known case of the Parmesan (Lum, 2011), immigrants play as well a strategic contribution in the value chains of Fontina and Pecorino cheeses, which are issues from pastoral settings (Nori and de Marchi, 2015). In Sardinia (Italy), the use of a foreign cheap workforce (in particular Romanians) reflects the structural problems of the Sardinian sheep dairy system (low milk profitability and dependence on Pecorino Romano, a low-cost cheese, subject to price volatility), as well as the difficulty of recruiting local people willing to live and work in the countryside. Romanians work in medium-sized sheep farms (more than 500 sheep and with intensive milk production), they get an accommodation on the farm and accept working conditions and salaries usually rejected by the local people. Their aim is to earn money and return to Romania, with a clearly temporary migrant project (Farinella and Mannia, 2016, 2017). The vast majority, in fact, are not thinking about remaining in this sector, neither in the country of destination, specifically mentioning limitations in accessing land and/or credit. However, especially among Romanians, some invest in the purchase of family land and livestock in their home communities – so that this migratory phenomenon contributes in some way to pastoralism within the framework of the EU (Nori, 2017). Overall, the impact in terms of generational renewal is very limited; the transition from manual labour to entrepreneurship and livestock ownership in this sector shows very low rates for migrants, and this undermines the ability of the incoming population to contribute to the future of this sector. Cases through cases exist where immigrant shepherds look into opportunities to set up their own flocks, and/or cooperate amongst themselves or with local ones in sharing land, subsidy or credit assets.

Assessing strengths and weaknesses of Euro-Mediterranean pastoralism

In order to better comprehend the dynamics of Euro-Mediterranean agro-pastoralism a SWOT analysis was undertaken. This method enables the detection of advantages and disadvantage, as well as

opportunities and barriers in the internal and external environment respectively. Empirical evidence, published data and survey results from different case studies in the Mediterranean regions (Cois, 2015; Farinella *et al.*, 2013; Galanopoulos *et al.*, 2011; Hadjigeorgiou, 2011; Mannia, 2013; 2014; Meloni and Farinella, 2015a,b; Pastomed, 2007; Piteris *et al.*, 2015; Ragkos *et al.*, 2014) were combined in order to produce Table 2. This schematic presentation enables us to detect specific development resources and to pinpoint policy priorities, as the information included here depicts the situation in the agro-pastoral sector of rural areas of the EU Mediterranean.

The SWOT analysis (Table 2) demonstrated that the strengths of the system are connected to its multifunctional character. The provision of ecosystem services is very important; in addition marketing prospects for local dairy products are vast, as they are of very high quality, especially considering the 'story behind' them: intangible cultural heritage (ICH), tacit knowledge, folklore festivals and an alternative way of life in general. The main weakness of Mediterranean agro-pastoralism involves the low productivity of animals, due to the rearing of autochthonous breeds, slow adoption of new technologies, traditional practices and limited access to feedstuff. A particular disadvantage involves the lack of skilled labour; the sector is sometimes unattractive for new generations, who often decide to avoid a profession with uncertain prospects. Immigrant labour has contributed in many cases to revert this depopulation trend, which can be considered as an opportunity rather than a weakness.

In the external environment, numerous opportunities are detected mainly in tourism-related activities. Actually, low-fare tourist packages call for industrial products, which are cheaper but of inferior quality compared with agro-pastoral ones; hence the integration of agro-pastoralism could ensure mutual benefits. Also, the various virtues of agro-pastoral products pertain highly to niche markets of consumers who are particularly aware of food quality and safety. Regarding the key threats, agro-pastoral systems

Table 2. SWOT analysis of Euro Mediterranean agro-pastoralism in rural areas.

Strengths

- High resilience and high farmer commitment
- High quality dairy products often certificated as PDO/IGP (i.e. Halloumi in Cyprus, Graviera in Crete, Fiore Sardo dei Pastori in Sardinia, etc.)
- Provision of ecosystem services from the use of grasslands
- Intangible cultural heritage (festivals, music, tacit knowledge, habits, architecture)

Weaknesses

- Low productivity (rearing of autochthonous breeds, high prices of purchased inputs)
- Slow adoption of technological innovation
- Lack of skilled labour (migrant workers?)
- Poor generational renewal and concentration of production

Opportunities

- Tourism and other related activities
- Changing trends in food consumption and distribution patterns (Mediterranean diets animal welfare, sustainable use of natural resources)
- Pluriactivity (e.g. agro-pastoralism and silvopastoralism combined with olive production and agrotourism)
- Migrant labour force
- Specific capabilities of female family members
- Return of rural youth due to unemployment in other sectors

Threats

- Economic crisis (reduced liquidity and profitability; high production costs)
- Climate change and desertification
- Competition with other activities (intensive systems, alternative energy sources, crop production, tourism, industry, etc.)
- Exodus of rural youth due to unemployment

are exposed to climate change, which directly influences the productivity of flocks and the quality of their products. The primary sector suffers also from increasing competition from numerous activities but also from the effects of the economic crisis, which heavily intensifies existing problems related to efficiency and profitability. The economic crisis, and especially its effects on employment, constitutes an opportunity – as farm employment attracts young people unable to find jobs in other sectors – but also a threat, where farm labour is under rewarded and family members are unable to fill in the gap in generational renewal.

Conclusions

Modern pastoralism in the Mediterranean faces various degrees of unpredictability and risks that relate not only to ecological and climatic factors but also (more and more) to those originating in the political, commercial and administrative spheres. Paradoxically, modern society is increasingly appreciating the products and services of pastoralism (quality proteins, organic production, biodiversity, ecosystem services, landscape and culture, etc.), but flocks and shepherds are decreasing all over the countryside (Nori, 2017). In order to guarantee the sustainability and the development of pastoralism, it is nevertheless necessary to ensure decent living and working conditions for extensive breeders and shepherds (foreign and local) alike, and to provide a perspective of upgrading in social as well as economic terms (Eychenne, 2011).

Drawing on the SWOT analysis, important policy guidelines can be proposed. First and foremost, agro-pastoral farmers should be targeted as a specific group with particular needs, which are often different than the ones of other livestock farmers. Strategic design is essential to integrate agro-pastoral products – and possibly also ecosystem services and ICH – to the tourism industry of coastal areas in order to revert asymmetric development. Policy measures should be especially designed to provide motives and funding to agro-pastoral-related entrepreneurial skills and activities. In particular, opportunities for young people and newcomers could be pursued accordingly to tackle the problems of generational renewal of inland areas. Specific promotion activities should be supported for short supply chains, including brand names, visitable farms, ICT applications, etc. Such improvements could be achieved through the support of collective actions and networks which bring together the different islands' development actors – producers, manufacturers, public services, local authorities, associations, traders, tourism agencies and operators, etc. Last but not least, specific measures should be targeted to the protection of local biodiversity.

The large presence of foreigners in pastoralism is a clear indicator of the importance of the migrant workforce for a sector that is strategic for keeping mountain territories alive and productive, as well as for managing natural resources and protecting the population against natural risks. Immigrants only represent though one of the options to revive the sector and buffer its declining trends. Opportunities to enhance the attractiveness of this sector amongst local youth should also be pursued – as experience of 'neo-ruralism' in certain areas seems to attest. Another strategic asset for this sector is the sophisticated knowledge that is critical to manage such rich but fragile territories in the face of the important socio-political and ecological changes affecting the region; a number of schools exist in France and Spain accordingly, while similar opportunities are discussed as well in Italy.

Sustainable pastoralism will therefore be the result not only of a system of aid and subsidies, but rather it requires the articulation of an enabling political framework, including a review of agriculture, professional and migration policies, together with ad-hoc initiatives and investments, all of which will support efforts aimed at recognizing and appreciating this profession. A more effective policy framework that properly translates EU-CAP policy principles into effective actions in support of the pastoral economy and society could consider, amongst others, regulating pastoral products value chains, efforts aimed at

recognising and appreciating this profession, implementation of schemes aimed at attracting rural youth and integrating the migrant workforce through CAP subsidy schemes, land banks and credit facilities.

References

- Agnoletti M. (ed) (2013) *Italian historical rural landscapes. Cultural values for the environment and rural development*. Springer, Dordrecht, the Netherlands.
- Agnoletti M. and Emanuelli F. (eds.) (2016) *Biocultural diversity in Europe*. Springer, Berlin, Germany.
- Antrop M (1997) The concept of traditional landscapes as a base for landscape evaluation and planning. The example of Flanders region, *Landscape and Urban Planning* 38, 105-117.
- Antrop M. (2005) Why landscapes of the past are important for the future. *Landscape and Urban Planning* 70, 21-34.
- Ascoli U. and Pavolini E. (eds.) (2015) *The Italian Welfare State in a European Perspective. A comparative analysis*. Policy Press, Bristol, UK.
- Barca F. (2009) *An agenda for a reformed cohesion policy: a place-based approach to meeting European Union challenges and expectations*, Independent Report prepared at the request of Danuta Hübner, Commissioner for Regional Policy. Available at: <http://tinyurl.com/jog2kp5>.
- Barca F., Casavola P, Lucatelli S. (eds.) (2014) *A Strategy for Inner Areas in Italy: Definition, Objectives, Tools and Governance*, Materiali Uval n. 31, <http://www.agenziacoesione.gov.it/it/arint/index.html>.
- Bertolini, P., Montanari M. and Peragine V. (2008) *Poverty and Social Exclusion in Rural Areas*, Fondazione Giacomo Brodolini, European Communities.
- Bharadwaj, L., Findeis, J.L., and Chintawar, S. (2013) Motivations to work off-farm among US farm women. *Journal of Socio-Economics* 45, 71-77.
- Braudel, F. (1985) *La Méditerranée*. Arthaud-Flammarion, Paris, France.
- Campbell J.K. (1964) *Honour, family and patronage. a study of institutions and moral values in a Greek mountain community*. Clarendon, Oxford, UK.
- Caruso F. and Corrado A. (2015) Migrazioni e lavoro agricolo: un confronto tra Italia e Spagna in tempi di crisi. In: Colucci M. and Gallo S. (eds.) *Tempo di cambiare. Rapporto sulle migrazioni interne in Italia*. Donzelli, Rome, Italy.
- Cawley M. and Gillmor T.D. (2008) Integrated rural tourism: concepts and practice. *Annals of Tourism Research* 35, 316-337.
- Cersosimo D. (2012) *Tracce di futuro. Un'indagine esplorativa sui giovani Coldiretti*. Donzelli, Rome, Italy.
- Chatziminaoglou I. (2001) *Sheep and goats in Greece and internationally*. Giahoudi, Giapouli, Thessaloniki, Greece. (In Greek)
- Cois E. (2015) 'Mio padre un falco, mia madre un pagliaio'. Famiglie di pastori tra continuità e mutamento. In: Saderi A. (ed.), *Formaggio e pastorale in Sardegna. Storia, cultura, tradizione e innovazione*, Illisso, Nuoro, Italy.
- Collantes F. and Pinilla V. (2011) *Peaceful surrender: the depopulation of rural Spain in the twentieth century*. Cambridge Scholars Publishing, Newcastle-upon-Tyne, UK.
- Collantes F., Pinilla V., Sàez L.A. and Silvestre J. (2014) Reducing depopulation in rural Spain. *Population, Space and Place* 20, 606-621.
- Corrado A., de Castro C. and Perrotta D. (2016) *Migration and agriculture: mobility and change in the Mediterranean area*. Routledge, London, UK.
- Crescenzi R., Luca D. and Milio S. (2016) The geography of the economic crisis in Europe: national macroeconomic conditions, regional structural factors and short-term economic performance. *Cambridge Journal of Regions, Economy and Society* 9, 13-32.
- Da Re G. (1982) La donna, la casa, il campo. In: Manconi F. and Angioni G. (eds.) *Le opere e i giorni: contadini e pastori nella Sardegna tradizionale*, Silvana Editore, Milan, Italy.
- Di Iacovo F. and O' Connor D. (eds.) (2009) *Supporting policies for social farming in Europe: Progressing multifunctionality in responsive rural areas*, LTD, Firenze, Italy.
- Di Iacovo F. and Scarpellini P. (eds.) (2012) *L'Innovazione dei servizi sociali nelle aree rurali: lezioni e casi dall'applicazione del Piano di Sviluppo Rurale 2000/06 in Toscana*. Quaderni Sismondi, n. 17, 20 luglio.
- ELSTAT Greek Statistical Authority (2015) Available at: <http://tinyurl.com/jejuhgs>.
- ESPON (2014) *Territorial dynamics in Europe economic crisis and the resilience of regions*, Territorial Observation No. 12.
- Eurostat (2015) Agriculture, forestry and fishery statistics, 2015 edition. Available at: <http://tinyurl.com/hqk9gtq>.

- Eychenne C. (2011) Estives et alpages des montagnes françaises: une ressource complexe à réinventer. In: Antoine J.M. and Milian J. (eds.) *La ressource montagne. entre potentialités et contraintes*, L'Harmattan.
- Farinella D. (2016) *Pastoralismo e filiera lattiero casearia tra continuità e innovazione: alcune implicazioni progettuali*, Paper presented at Conferenza Nazionale AIS Territorio, Università di Torino, 1-2 Dec 2016.
- Farinella D. and Mannia S. (2016) *Migrants and Pastoralism: the case of the Romanian salaried shepherds in the Sardinian countryside*. Paper presented at VI Ethnography and Qualitative Research Conference, University of Bergamo (Italy), 8-11 June 2016.
- Farinella D. and Mannia S. (2017) Migranti e pastoralismo. Il caso dei servi pastori romeni nelle campagne sarde. *Meridiana* (in press).
- Farinella D., Meloni B., Locci M., Salis M. (2013) Sheep breeding in Oristano: a resource for quality supply chains. In: *Rural resilience and vulnerability: The rural as locus of solidarity and conflict in times of crisis – XXVth Congress of the European Society for Rural Sociology*. Pisa, Laboratorio di studi rurali Sismondi, pp. 297-298.
- Farmer, J., Philip L., King G., Farrington J. and MacLeod M. (2010) Territorial tensions: Misaligned management and community perspectives on health services for older people in remote rural areas. *Health and Place* 16, 275-283.
- Fazzi, L. (2011) Social co-operatives and social farming in Italy. *Sociologia Ruralis* 51, 119-136.
- Galanopoulos, K., Abas, Z., Laga, V., Hatziminaoglou, I. and Boyazoglu, J. (2011) The technical efficiency of transhumance sheep and goat farms and the effect of EU subsidies: Do small farms benefit more than large farms? *Small Ruminant Research* 100, 1-7.
- Hadjigeorgiou, I. (2011) Past, present and future of pastoralism in Greece. *Pastoralism: Research, Policy and Practice* 1, 24.
- Halloran J. and Calderón Vera K. (2005) *Basic social services in rural settlements – Village and remote homestead community care-giving*. Peer Review in the Field of Social Inclusion Policies: Hungary 2005, European Commission DG Employment, Social Affairs and Equal Opportunities.
- Herron R.V. and Skinner M.W. (2012) Farmwomen's emotional geographies of care: a view from rural Ontario. *Gender, Place and Culture* 19, 232-248.
- Holzner B.M. (2008) Agrarian restructuring and gender – designing family farms in Central and Eastern Europe. *Gender, Place and Culture* 15, 431-443.
- INEA (2009) *Indagine sull'impiego degli immigrati in Agricoltura in Italia*. Istituto Nazionale Economia Agraria. Rome, Italy.
- ISMEA (2010) *Check up competitività della filiera ovis-caprina*. Istituto di Servizi per il Mercato Agricolo Alimentare, Nuoro, Italy.
- ISTAT (2010) Census of Agriculture, Available at: <http://dati-censimentoagricoltura.istat.it/Index.aspx>.
- Karanikolas P. and Martinos N. (2012) Greek agriculture facing crisis: Problems and prospects. Available at: <http://ardinixi.gr/archives/3811>.
- Kasimis C. (2010) Demographic trends in rural Europe and migration to rural areas. *AgriRegioniEuropa* 6/21.
- Kasimis C. and Papadopoulos A.G. (2013) Rural transformations and family farming in contemporary Greece. Agriculture in Mediterranean Europe: between old and new paradigms. *Research in Rural Sociology and Development* 19, 263-294.
- Kasimis C., Papadopoulos A.G. and Pappas C. (2010) Gaining from rural migrants: migrant employment strategies and socioeconomic implications for rural labour markets. *Sociologia Ruralis* 50, 258-276.
- Kinsella J., Wilson S., De Jong F. and Renting H. (2000) Pluriactivity as a livelihood strategy in Irish farm households and its role in rural development. *Sociologia Ruralis* 40, 481-496.
- Koutsou S., Partalidou M. and Petrou S. (2011) Present or absent farm heads? A contemporary reading of family farming in Greece. *Sociologia Ruralis* 51, 404-419.
- Koutsou S., Partalidou M. and Ragkos A. (2014) Young farmers' social capital in Greece. Trust levels and collective actions. *Journal of Rural Studies* 34, 204-211.
- Koutsou S., Ragkos A. and Botsiou (2016) Installation of young farmers: Profile, motivation, innovation: An empirical assessment. In: 14th Pan-Hellenic Conference of Agricultural Economics *New CAP and restructuring of agricultural economy*, 20-21 October 2016, Volos, Greece (in Greek).
- Kvist J. (2013) The post-crisis European social model: developing or dismantling social investments? *Journal of International and Comparative Social Policy* 29, 91-107.
- LAORE (2013) *Comparto ovi-caprino e zootecnia regionale, dati strutturali*, Laore Sardegna – Dipartimento delle produzioni zootecniche, Servizio produzioni zootecniche – Ufficio dell'Osservatorio della filiera ovis-caprina. Available at: www.sardegnaagricoltura.it.
- Le Lannou M. (1979) *Pastori e contadini di Sardegna*, Edizioni della Torre, Cagliari, Italy.

- Lum K.D. (2011) *The Quiet Indian Revolution in Italy's Dairy Industry*. European University Institute, Firenze, Italy.
- Mahoney J. (2000) Path dependence in historical sociology. *Theory and Society* 29, 507-548.
- Mannia S. (2013) *Il Pastoralismo in Sicilia: uno sguardo antropologico*, Officine Medievali, Palermo, Italy.
- Mannia S. (2014) *In tramuta. Antropologia del pastoralismo in Sardegna*. Il Maestrale, Nuoro, Italy.
- Mantino F. and Lucatelli S. (2016) Aree interne, *Agriregionieuropa n.45* numero monografico.
- Matsaganis M. (2011) The welfare state and the crisis: the case of Greece. *Journal of European Social Policy* 21, 501-512.
- Mattone A. and Simbula P. (eds.) (2011) *La pastorizia mediterranea Storia e diritto (secoli XI-XX)*, Carocci, Rome, Italy.
- Meloni B. (1984) *Famiglie di pastori: continuità e mutamenti in una comunità della Sardegna Centrale 1950-1970*, Rosenberg and Sellier, Torino, Italy.
- Meloni B. and Farinella D. (2015a) L'evoluzione dei modelli pastorali in Sardegna dagli anni cinquanta ad oggi. In: Marrocu L., Bachis F. and Deplano V. (eds.) *La Sardegna contemporanea*, Donzelli, Rome, Italy, pp. 447-473.
- Meloni B. and Farinella D. (2015b) Pastoralismo e filiera lattiero casearia, tra continuità ed innovazione: un'analisi di caso. *Meridiana* 84, 1-26.
- Meloni B. and Farinella D. (eds.) (2016) *Valutare per apprendere. Esperienza Leader 2007-2013*, Rosenberg and Sellier, Torino, Italy.
- Meloni B., Farinella D. and Cois E. (2015) Food and territory: local strategies of the Sardinian family farms in the dairy and wine sectors. In: XXVIth Congress of the European Society for Rural Sociology, *Places of Possibility? Rural Societies in a Neoliberal World*. James Hutton Institute, Aberdeen, UK, pp. 45-46.
- Meuret M. (2010) *Un savoir-faire de bergers*. Editions Quæ Beaux livres, Versailles, France.
- Milio S., Crescenzi R., Schelkle W., Durazzi N., Garnizova E., Pawel J., Olechnicka A., Wojtowicz D., Luca D. and Fossarello M. (2014a) *Impact of the economic crisis on social, economic and territorial cohesion of the European Union Regional Development*, Study Vol. 1. European Parliament, Brussels, Belgium.
- Milio S., Durazzi N., Garnizova E., Pawel J., Olechnicka A. and Wojtowicz D. (2014b) *Impact of the economic crisis on social, economic and territorial cohesion of the European Union Regional Development*, Study Vol. 2. European Parliament, Brussels, Belgium.
- Milone P., Ventura F. and Ye J. (eds.) (2015) *Constructing a new framework for Rural Development*. Emerald Press, Bingley, UK.
- Mulgan G., Tucker S., Ali R. and Sanders B. (2007) *Social innovation: what it is, why it matters and how it can be accelerated*, Skoll centre for social entrepreneurship.
- Murru Corriga G. (1990) *Dalla montagna ai Campidani. Famiglie e mutamento in una comunità di pastori*, Edes, Sassari, Italy.
- Napier R., Sidle C. and Sanaghan P. (1997) *High impact tools and activities for strategic planning: creative techniques for facilitating your organization's planning process*. McGraw-Hill, New York, USA.
- Nori M. (2015) *Pastori a colori*. Agri Regioni Europa 11/43. <http://tinyurl.com/zl7s9q2>.
- Nori M. (2016) *Shifting Transhumances: Migrations patterns in Mediterranean Pastoralism*. Watch Letter 36. CIHEAM 'Crisis et résilience en la Méditerranée'. Montpellier Available at: http://www.iamb.it/share/integra_files_lib/files/WL36.pdf.
- Nori M. (2017) Migrant shepherds: opportunities and challenges for Mediterranean pastoralism. *Journal of Alpine Research* 105-4.
- Nori M. and de Marchi V. (2015) Pastorizia, biodiversità e la sfida dell'immigrazione: il caso del Triveneto. *Culture della sostenibilità* VIII 15/2015.
- Nori, M. and Ragkos, A. (2017) Migrant shepherds and their role for sustainable pastoralism in Greece. *6th Pan-Hellenic Conference of Animal Production Technology*, 3 February 2017, Thessaloniki, Greece, pp. 115-117.
- OECD (2006) *The New Rural Paradigm: Policies and Governance*. OECD publishing, Paris, France.
- Ortiz-Miranda D., Arnalte Alegre E.V., Moragues Faus A.M. (eds.) (2013) *Agriculture in Mediterranean Europe. Between Old and New Paradigms. Research in Rural Sociology and Development* 19.
- Osti G. and Ventura F. (eds.) (2012) *Vivere da stranieri in aree fragili*. Liguori, Naples, Italy.
- Ostrom E. (1990) *Governing the Commons*. Cambridge University Press, New York, USA.
- Papadopoulos, T. and Roumpakis, A. (2009) *Familistic welfare capitalism in crisis: the case of Greece*. ERI Working Paper Series, WP-09-14, ERI, University of Bath, UK.
- PASEGES (2013) *Πρόσφατες Εξελίξεις στην Αγροτική Οικονομία της Ελλάδας [Recent Developments in the Agricultural Economy of Greece]*, Athens, Greece.
- Pastomed (2007) *Le pastoralisme méditerranéen, la situation et les perspectives. Modernité du pastoralisme méditerranéen*. Rapport final pour le programme Interreg III PastoMED.

- Paulis S. (2015) Il ruolo della donna nel mondo pastorale della Sardegna tradizionale. Pratiche, simbologie e identità di genere. In: Saderi A. (ed.) *Formaggio e pastoralismo in Sardegna. Storia, cultura, tradizione e innovazione*. Ilisso, Nuoro, Italy, pp. 599-611.
- Pecqueur, B. (2013) Territorial development. A new approach to development processes for the economies of the developing countries. *Revista Internacional Interdisciplinar INTERthesis* 10, 8-32.
- Pernet F. and Lenclud G. (1977) *Berger en corse: essais sur la question pastorale*, PUG, Grenoble, France.
- Piteris, C. Ragkos, A. and Lagka, V. (2015) Sheep and goat transhumance in Crete. In: *5th Panhellenic Conference on Animal Production Technology, 30 January 2015, Thessaloniki*, pp. 55-56.
- Pugliese E. (2011) Il modello mediterraneo dell'immigrazione. In: Miranda A. and Signorelli A. (eds.) *Pensare e ripensare le migrazioni*, Sellerio, Palermo, Italy.
- Ragkos A., Koutsou S., Tsivara T. and Manousidis T. (2016a) The operation of Pomak livestock farms in Northern Evros, Greece. *Options Mediterraneennes, Serie A: Mediterranean Seminars*, 341-344.
- Ragkos A., Siasiou A., Galanopoulos K. and Lagka V. (2014) Mountainous grasslands sustaining traditional livestock systems: the economic performance of sheep and goat transhumance in Greece. *Options Mediterraneennes* 109, 575-579.
- Ragkos A., Theodoridis A., Fachouridis A. and Batzios C. (2015) Dairy farmers' strategies against the crisis and the economic performance of farms. *Procedia Economics and Finance* 33, 518-527.
- Ragkos A., Koutsou S. and Manousidis T. (2016b) In search of strategies to face the economic crisis: Evidence from Greek farms. *South European Society and Politics* 21, 319-337.
- Ranci C. (ed.) (2010) *Social vulnerability in Europe, the new configuration of social risks*, Palgrave Macmillan.
- Ravis-Giordani G. (1983) *Bergers Corses. Les communautés rurales du Niolu*, Edisud, Marseille, France.
- Ray C. (2000) The EU LEADER programme: rural development laboratory. *Sociologia Ruralis* 40, 163-171.
- Ray C. (2006) Neo-endogenous rural development in the EU. In: Cloke P., Marsden T. and Mooney P. (eds.) *Handbook of Rural Studies*, Sage, London, UK, pp. 278-291.
- Saugeres, L. (2002) Of tractors and men: Masculinity, technology and power in a French farming community. *Sociologia Ruralis* 42, 143-159.
- SERA (2006) *Study on Employment in Rural Areas*. Brussels: European Commission, DG Agriculture and Rural Development.
- Shortall S. (2008) Are rural development programmes socially inclusive? Social inclusion, civic engagement, participation, and social capital: exploring the differences. *Journal of Rural Studies* 24, 450-457.
- Storti D. and Zumpano C. (eds.) (2009) *Le politiche comunitarie per lo sviluppo rurale. il quadro degli interventi in Italia*. INEA, Osservatorio Politiche Strutturali.
- Trauger A. (2004) 'Because they can do the work': women farmers in sustainable agriculture in Pennsylvania, USA. *Gender, Place and Culture: A Journal of Feminist Geography*, 11:2, 289-307.
- Tulla A.F., Vera A., Badia A., Guirado C. and Valldeperas N. (2014) Rural and regional development policies in Europe: social farming in the common strategic framework (HORIZON 2020). *Journal of Urban and Regional Analysis* VI, 35-52.
- Van der Ploeg J.D. and Roep D. (2003) Multifunctionality and rural development: the actual situation in Europe. In: Van Huylenbroeck G. and Durand G. (eds.) *Multifunctional Agriculture. A new paradigm for European agriculture and Rural Development*. Ashgate, Aldershot, UK.
- Van der Ploeg J.D., Renting H., Brunori G., Knickel K., Mannion J., Marsden T., Roest K., Sevilla-Guzmán E. and Ventura F. (2000) Rural development: from practices and policies towards theory. *Sociologia Ruralis* 40, 391-408.
- Varela E. and Robles-Cruz A.B. (2016) Ecosystem services and socio-economic benefits of Mediterranean grasslands. *Options Mediterraneennes, Serie A: Mediterranean Seminars* 114, 13-27.
- WHO Regional Office for Europe (2010a) Rural poverty and health systems in the WHO European Region. WHO Regional Office for Europe, Copenhagen, Denmark.
- WHO Regional Office for Europe (2010b) Poverty and social exclusion in the WHO European Region: health systems respond. WHO Regional Office for Europe, Copenhagen, Denmark.
- Wilson G.A. (2007) *Multifunctional agriculture. A transition theory perspective*. Cromwell Press, Trowbridge, UK.
- Zagata L. and Sutherland L-A. (2015) Deconstructing the 'young farmer problem in Europe': towards a research agenda. *Journal of Rural Studies* 38, 39-51.