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in

Kyriazopoulos A.P. (ed.), López-Francos A. (ed.), Porqueddu C. (ed.), Sklavou P. (ed.).
Ecosystem services and socio-economic benefits of Mediterranean grasslands

Zaragoza : CIHEAM

Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 114

2016

pages 447-450

Article available on line / Article disponible en ligne à l'adresse :

<http://om.ciheam.org/article.php?IDPDF=00007564>

To cite this article / Pour citer cet article

Hadjigeorgiou I. **Sheep and goat farming and grasslands conservation: in need of proper policies.** In : Kyriazopoulos A.P. (ed.), López-Francos A. (ed.), Porqueddu C. (ed.), Sklavou P. (ed.). *Ecosystem services and socio-economic benefits of Mediterranean grasslands*. Zaragoza : CIHEAM, 2016. p. 447-450 (Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 114)



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Sheep and goat farming and grasslands conservation: in need of proper policies

I. Hadjigeorgiou

Faculty of Animal Science and Aquaculture, Agricultural University of Athens
75 Iera Odos, 11855 Athens (Greece)
e-mail: ihadjig@aua.gr

Abstract. Mediterranean landscapes have been formed through human activity for millennia, which resulted in a particularly rich and rare biodiversity. Among these activities grazing is the most beneficial on biodiversity. However, the sheep and goat sector is rapidly transforming into sedentary-housed types and pastoral land is abandoned. The Greek example is presented and a range of policies are suggested to halt this trend and conserve pastoral land biodiversity in Mediterranean.

Keywords. Sheep and goats – Pastoral land – Biodiversity – Policies – Greece.

La conservation de l'élevage ovin et caprin et des prairies: besoin de politiques appropriées

Résumé. Paysages méditerranéens ont été formés par l'activité humaine depuis des millénaires, ce qui a entraîné une biodiversité particulièrement riche et rare. Parmi ces activités, le pâturage est le plus bénéfique sur la biodiversité. Toutefois, le secteur ovin et caprin transforme rapidement en types sédentaires-logés et des terres pastorales est abandonné. L'exemple grec est présenté et un éventail de politiques sont proposées pour freiner cette tendance et préserver la biodiversité des terres pastorales en Méditerranée.

Mots-clés. Ovins et caprins – Terre pastorale – La biodiversité – Politiques – Grèce.

I – Current situation

Landscapes surrounding Mediterranean Basin have experienced human impact since millennia. In fact indigenous agriculture and animal husbandry have been practiced there for more than 10,000 years (Le Houerou, 1981). The long history of integration of agriculture and animal husbandry with the natural environment has created a rich and endemic biodiversity. This biodiversity is at risk at present for a variety of reasons, among which most important is the abandonment of traditional practices. Grazed areas present the richest variety of flora and fauna species among other land uses.

Pastoral farming of sheep and goats has been an element of the Greek landscape since ancient times and contributed, through rational management, to the development of an efficient extensive livestock farming sector surviving until today (Hadjigeorgiou, 2011). Evidently, pastoralism, as a socio-economic production system, lies deep in Greek history and survived, mainly as part of the national identity, despite not being at present a competitive production system (Vallerand *et al.*, 2001; Hadjigeorgiou *et al.*, 2002). However, as in other parts of the Mediterranean, pastures have lost their importance in animal farming therefore conservation of grasslands is at danger which subsequently threatens the conservation of biodiversity (Beaufoy and Poux, 2014). This trend is the result of several facts among which some are pragmatic (i.e. the availability of purchased feed and other inputs, the infrastructures available etc) and the other societal preferences (i.e. the modernization mentality, the food hygiene sensitivities and the devaluation of the related profession) (Dover *et al.*, 2011).

To illustrate this trend the example of Greece will be offered, where pastures were a fundamental natural resource of rural areas, supporting the majority of farmed animals until

recently. A report of the Hellenic Ministry of Agriculture, dated in 1958 and titled "Pasture and Grazing Animals", calculated the area of permanent pastures "lowland and mountainous" at 56.5% of the Greek land, while stating that "almost all the land of the country is used to pasture animals". At this time 9,195,000 sheep and 5,010,000 goats were farmed in 502,110 and 387,607 farms respectively. When Greece joined the then E.U., in 1981, sheep farms were down by 57.5% and those of goats by 16.5%, although the respective heads were reduced only by 9.5% and 7.7% respectively (N.S.S.G., 1994). At this time pastoral land, according to the official statistics, was representing 39.5% of the land (i.e. a 31.3% decline). Nevertheless, in the following thirty-five years these figures changed considerably since sheep farms were further reduced by 60.3% and those of goats by 78.5%, while sheep populations increased slightly (about 9.1%) and those of goats decreased slightly (7.8%), due to the intense evolution towards specialization and reorganization of this sector (Hadjigeorgiou, 2011). In addition to that, officially registered pastures were reduced by a further 72.1% following the trend of sheep and goat farms (N.S.S.G., 2009).

The decline in farm numbers was accompanied by a respective increase to the average number of sheep and goat heads per farm, guided by the high productivity model in the development of animal husbandry, as it was in most sectors of agriculture in recent decades. However, bigger farms were easier managed when animals were housed, particularly on the Greek terrain. Furthermore, there was relocation from higher altitude areas (mountainous and semi-mountainous) to the lowland areas and closer to the civil centres (Dover *et al.*, 2011). At the same time, the conversion of pastoral land to arable farming in the lowlands, the general absence of an official grazing land registry (the grazing areas are not delimited relative to forest areas) and the use of pastoral land as opportunity land for other activities, prevent the application of effective long-term management actions. All the above changes brought abandonment of pastures and have tremendous effects on the status of rural societies and on the environment as well (Beaufoy and Poux, 2014).

II – Policies to remediate the trend

Pastoral systems around the world are facing demographic, economic, socio-political and climatic pressures which are driving many pastoralists into non-livestock based livelihood strategies or housed systems (de Rancourt *et al.*, 2006; Ayantunde *et al.*, 2011). Since sustainability of a system is not static, its conformation depends on the present and future needs of society, which are constantly changing. The continuity of pastoral and livestock farming activity does not seem to be threatened purely by product devaluation, high input prices and farm structural or economic restrictions. It is very clear that social factors, related to the absence of farmer successors, social devaluation of the pastoral profession, institutional obstacles, absence of interest for the sector by the State and the high opportunity cost of labour are certainly obstacles to pastoral farming in the future (Tzanopoulos *et al.*, 2011). Some policies at the State level and that of EU, to reverse this trend or slow down this evolution might be:

Support and progress toward enhanced technical, economic and environmental efficiency in sheep and goat farms

- A ewe and goat premium conditional upon commitments towards enhanced production efficiency and product quality such as:
- Commitment to training and follow-up by peer groups of the technical and economic performances in the farm.
- Better use of genetics (use of adapted highly performing indigenous breeds, artificial insemination or rams registered as improvers, subscription to performance recording and audit systems).

- Improvement of the flock sanitary management (use of genotypes resistant to genetically controlled diseases, prevention plans for zoonoses, global application of vaccination, specific training, etc.).
- Participation to a cluster involving animal farmers, inputs suppliers and raw product processors and proper use of communal resources.
- Securing a minimum of infrastructures, for S&G farmers in the more vulnerable LFAs, to prevent abandonment of these areas due to primitive conditions, etc.

Support to the organisation of the industry and rationalizing its functioning

- Legal support and simplification of the process leading to the merger of commercial structures.
- Set up an Agency at European level for proper use of grazing resources for «small ruminants», with human resources and a centre for documentation and exchange of experiences.
- Develop communication campaigns that will inform on the occupation as sheep farmer and butcher (both meat processing plants and retailers), targeting the youth, and insisting on the possibilities of evolution and income.

Support to the promotion of the EU S&G standards of production and a labelling for that

- Introduction of a mandatory labelling for all the different types of distribution, in both sheep and goat production industries.
- PGI/DOP (and other prime line products like “organic”, “mountain” or “island” product) common promotion campaigns from different EU countries in targeted markets.
- A pluriannual generic promotion campaign for sheep and goat products produced in the EU, insisting both on their production standards and on their intrinsic qualities.
- Local promotion of farm products both from individual farms and small farm groups. A European resource centre could be set up specifically dedicated to supporting local projects and support exchanges between producers with similar experiences.
- Support on research of qualitative properties of sheep and goat products (dairy and meat) and their association to human health issues.
- Support research on laboratory verification of product geographical origin.

Support for innovation

- A European Agency for innovation in the « small ruminant » industry could be set up, with human resources and a centre for documentation and exchange of experiences. This agency would work both on technical innovation for farms and product innovation regarding meat and cheese and also the fifth quarter.
- A specific support for genetic improvement and performance recording and audit.

Better efficiency in the management of sanitary risks

- Provide assistance for the creation of regional peer observatories of small ruminants' diseases (alert-vigilance and prioritization of risks), throughout Europe.
- Encourage the creation of sanitary defence associations, specialized in the training of producers and prevention.
- A working group including the national veterinary authorities, the veterinary industry (IFAH) and the European experts of the sector, could determine rapidly the procedures allowing simplified marketing authorizations at a European level, for medicinal products for small ruminants.

- Mobilization of R&D funds through the European platform for animal health (ETPGAH) to design and circulate kits for rapid detection of pathogens in raw milk and thus reduce the sanitary risks and the costs of rejection of milk that is not in conformity.
- Work on the re-opening of certain markets closed to EU exportations for sanitary reasons.

III – Conclusions

The sheep and goat farming sector is transforming rapidly into forms independent of grazing, thus leading to abandonment of pastoral land with an immediate threat to biodiversity. Proper policies are required to be designed and implemented in order to halt this trend and some examples are proposed.

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