Towards bridging the gap between Common Agriculture Policy implementation and pastures sustainable management: A case study from Tzoumerka, Greece

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Towards bridging the gap between Common Agriculture Policy implementation and pastures sustainable management: A case study from Tzoumerka, Greece

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Abstract. The CAP reform 2014 – 2020 maintains the two pillars and introduces a new architecture of direct payments; better targeted, more equitable and greener, an enhanced safety net and strengthened rural development. In order to highlight the gap between CAP implementation and pastures sustainable management, a case study was done in the area of Tzoumerka Mountain. The present paper, studies the national and European legal frame concerning pastures eligibility criteria for Pillar I payments, the current grasslands management and the main points of agricultural subsidies system relating with grassland management in Greece. The study points out the legal and technical complexity and the partial application of European regulations in pastures sustainable management. It seems that CAP is more an agriculture parcel-oriented policy rather than an intergraded policy sustainable pasture management. Finally, the adoption of a new policy bridging the gap between CAP implementation rules and pasture sustainable management is necessary.

Keywords. Permanent grasslands – Common Agricultural Policy – Sustainable management.

Vers la réduction de l'écart entre la mise en œuvre de la Politique agricole commune et la gestion durable des pâturages: Une étude de cas à Tzoumerka, Grèce.

Résumé. *La réforme de la PAC 2014-2020 maintient les deux piliers et introduit une nouvelle architecture des paiements directs; mieux ciblée, plus équitable et plus verte, avec un filet de sécurité amélioré et renforcé pour le développement rural. Afin de mettre en évidence l'écart entre la mise en œuvre de la PAC et la gestion durable des pâturages, une étude de cas a été faite dans la région des montagnes de Tzoumerka. Le présent document étudie le cadre juridique national et européen concernant les critères d'éligibilité des pâturages pour les paiements du pilier I, la gestion actuelle des prairies et les principaux points du système de subventions agricoles liées à la gestion des prairies en Grèce. L'étude souligne la complexité juridique et technique et l'application partielle de la réglementation européenne dans les pâturages de gestion durable. Il semble que la PAC soit plus orientée vers une politique d'agriculture de parcelles plutôt qu'une politique de gestion intégrée durable des pâturages. Enfin, l'adoption d'une nouvelle politique visant à combler le fossé entre les règles de mise en œuvre de la PAC et la gestion durable des pâturages est nécessaire.*

Mots-clés. *Prairies permanentes – Politique agricole commune – Gestion durable.*

I – Introduction

One of the main aims of Common Agricultural Policy (CAP) 2015 – 2020 is to promote the sustainable development management of natural resources, such as pastures. This policy is achieved by four main Regulations implementation that define the rules should be met by Member States and farmers in order to receive European Communities subsidies. The new CAP maintains the two pillars and both are aimed at meeting all CAP objectives more

effectively, with better targeted instruments of the first pillar complemented by regionally tailor-made and voluntary measures of the second pillar.

In case of pastures, direct payments include the Basic Payment, the green direct payment (an extra payment account for 30% of the basic payment) and possible additional support for Areas of Natural Constraints (ANC). The Greening payment is compulsory and failure to respect the Greening requirements will result in penalties which go beyond the Greening payment. Also, National governments must designate environmentally sensitive permanent grasslands inside or outside Natura 2000 areas. With regard to Greek National decision on greening, only permanent grassland inside Natura 2000 zones is designated as Environmentally Sensitive Permanent Grassland.

The eligibility rules define whether an agriculture area characterized as “permanent grassland” is eligible for Pillar I payments or not. These rules should be designed by Member States. Since 2014, woody vegetation can be eligible for direct payments and should be classified as PG-ELP (permanent grassland with established local practices) on national Land Parcel Identification System (LPIS). But there is a debate about eligibility rules of such areas. In case of arbitrary pasture eligibility system, financial corrections imposed by the Commission on Member States.

The study aims to highlight the gap between CAP implementation and pasture management using data from a representative mountainous and less favorable area (LFA) of Greece.

II – Materials and methods

For the needs of this study, the area of Tzoumerka mountain range in Epirus was selected (Fig. 1). The study area includes 3 Natura 2000 sites and 17 habitat types of Annex I Habitat Directives. The area is important for species associated with alpine and subalpine pastures and due to its characteristic vegetation communities above the timber line in which many Greek endemics as well as rare and threatened plant taxa exist. Although the Tzoumerka mountain range area is known for its traditional extensive livestock raising, it seems that is intensively grazed suffering from high stocking rate values (Roukos *et al.,* 2011). Indeed, the natural grasslands and the shrublands cover 68.4% of the total area and are utilized from 441 livestock farms with 68,000 sheep, 5,800 goats, and 3,600 cattle mainly under pastoralism system.

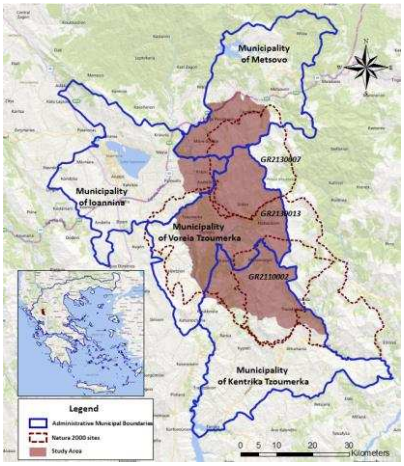

Fig. 1. The study area.

National and European legal frame

The European and Greek Legal Frame concerning Pillar I payments were studied. The main legal framework obtained from the Commission Regulations (EU) No 1307/2013 and (EU) 1306/2013, the Delegated Regulations (EU) 639/2014 and (EU) 640/2014, the Implementing Regulations (EU) 641/2014 and (EU) 804/2014, the Council 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora and EC Directive 79/409 on the Conservation of Wild Birds, theirs latest modifications and theirs incorporation into Greek legislation.

Calculations

Stocking density (the number of grazing animals per unit of land) was calculated according to Holechek *et al.* (2004) taking into account that different kinds of animals utilize different pasture types. Grazing livestock population of the selected area was taken from data provided by Municipalities, in which producers pay for rangeland utilization (graze right) to receive European Communities subsidies. Basic data layers were available from geodata.gov.gr and Ministry of

Rural Development and Food. Grid layers were generated by performing a spatial analysis using the raster calculator of spatial analyst tool of ArcMap software. A digital elevation model based on 50 m contours for the region was available generated for 50 m resolution. Estimated usable area was calculated from total area applying a reduction coefficient in relation to slope as suggested by Holechek *et al*. (2004). The cell size resolution of all interpolated layers was 50 m. The GIS platform used was ArcGIS version 10.

III – Results and discussion

According to the current eligibility system, last updated November 2015, less than one fourth (22%) of total pasture area is considered as eligible for Pilar I payments (Table 1). It is estimated that only 33% of grasslands meet the eligibility rules for Pillar I payments. Although woody pastures, known as permanent grassland under established local practices (PG-ELP), have not yet introduced in the LPIS, 12% of shrublands is currently considering as eligible area.

Table 1. Estimation of eligible area for Pillar I payments and estimated usable area per pasture type in the study area

Pasture type	CORINE Land Cover description		Total Area (ha)	Eligible Area (ha)	Usable Area (ha)	% eligible area to total	% eligible area to usable
Grasslands	321	Natural Grassland	11,983	4,857	6,447	41%	75%
	332	Bare rock	539	12	191	2%	6%
	333	Sparsely vegetated areas	5,620	1,103	2,804	20%	39%
	Total grasslands		**18,142**	**5,972**	9,442	33%	63%
Shrublands	322	Moors and heathland	2,399	321	1.743	13%	18%
	323	Sclerophyllous Vegetation	4,885	925	4.631	19%	20%
	324	Transitional Woodland/Shrub	12,220	1.002	11.535	8%	9%
	Total shrublands		**19,504**	**2,248**	17,908	12%	13%
Grasslands & Shrublands Total			**37,646**	**8,220**	**27,350**	**22%**	30%

Table 2. Stocking densities per pasture type in the study area

Pasture type	Animal Units (AUs)	Stocking density (AU/ha)		
		Total Area (ha)	Eligible for direct payments Area (ha)	Usable Area (ha)
Grasslands	13,536	0.746	2.267	1.434
Shrublands	853	0.044	0.379	0.048
Total	14,389	0.382	1.750	0.526

Grasslands and shrublands are utilized by 13.526 and 853 AUs, respectively (Table 2). Stocking density values reflect the number of animals per unit of area. As a result, stocking density shows great variations in relation to base – area it's calculated. In grasslands, stocking densities exceed the minimum requirement of 0.7 AU/ha set by the Greek Ministry (1584/66059/2015 Ministerial Decision) as the minimum activity for pastures that are currently grazed and can be kept suitable for grazing. More intensively managed grazing systems are typically correlated with higher stocking densities. Increased stocking density coupled with a five-months grazing period length is possible to result in over-grazing (Holechek *et al.,* 2004). On the other hand, stocking density values in shrublands are lower than required threshold (Table 2). As a result, a gradual spread of shrub vegetation is expected at lower zones and a high risk of pastures degradation occurs at the area above the timber line due to high stocking density and lack of a proper grazing system (Holechek *et al.,* 2004). Furthermore, there is another point of concern: farmers receive direct payments under the Pillar I, should fulfil the

obligation to maintain the herbaceous vegetation at a maximum height of 70 cm by cutting and removal of vegetation. They can activate their payment entitlements with eligible pasture area even if it does not grazed by animals.

Additionally, without direct payment, ineligible pasture areas will be abandoned. The absence of grazing both in eligible and ineligible pasture areas leads to shrub encroachment in grasslands (Zarovali *et al.,* 2007). As dense shrubs and trees considered as ineligible elements for Pillar I payments, eligible area will be decreased as a result of the new policy implementation. Although grazing exclusion can temporally have beneficial effect as a restoration technique in degraded mountainous grasslands (Yan and Lu, 2015), grazing plays a key-role in long-term pasture restoration program and its sustainability (Lunt *et al.,* 2007). In mountainous areas where pastures include priority grasslands habitat types, a more intergraded approach of the sustainable grasslands utilization is essential to be applied (Roukos *et al.,* 2013). Fig. 2 shows the areas that are estimated to be eligible for Pillar I payments. A spatial mosaic of eligible areas inside ineligible areas, and vice versa, is formulated. Given the evidence, the pasture sustainability keeps policymakers puzzled.

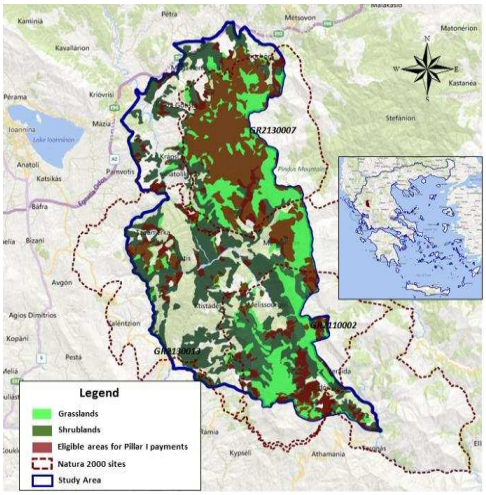

Fig. 2. Estimated eligible areas for Pillar I payments of grasslands and shrublands of the study area.

IV – Conclusions

It seems that the current CAP implementation for pastures is an agricultural parcel-oriented policy paying attention entirely to eligibility rules, as another bureaucratic layer. In the case of maintain pasture sustainability, it can be claimed that CAP "cannot see the wood for the trees". In order to promote pastures sustainability in mountainous areas, a new policy should be applied based on an intergraded approach of pastures management ensuring efficient and targeted use of CAP funds.

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