

Certification of sustainable rangeland management: Socioeconomic consequences. The case of Greece

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JEL classification: Q280, Q290

1. Introduction

Over the last 20 years, some events of great importance have occurred which may be summarized as follows:

At global level: the Uruguay agreement of 1986, favoured the Western developed countries (Europe, USA, Japan, Australia etc.) and caused a plethora of problems for products of the Third World (Africa, Asia, Latin America). These were mainly due to the imposition of quotas on products exported by the Third World, whereas the same products produced in the Western World were favoured through explicit or implicit subsidies. When the poor countries realized this state of affairs, they reacted asking for specific, absolutely justifiable measures in order to protect their own products exported to the West. This reaction became particularly noticeable during the 1999 World Trade Organization (WTO) summit in Seattle, U.S.A.

At European level: as it is known, the agricultural policy in Greece is designed according to the limits set by the Common Agricultural Policy (CAP) of the European Union (EU). In the near future, the Eastern European countries will join the European Union. Consequently, agri-

Abstract

As far as nature protection is concerned, Greece has signed several international treaties (the treaty of Ramsar, the treaty of Rio, etc.) and has therefore to comply with their terms. The most recent ones are the two EU directives for nature preservation: the directive 79/409, also known as Instructions for birds, and the directive 92/43, also known as Instructions for ecotopes (Natura Network 2000). On the other hand, the management of forests and forest areas should be conducted in such a way to achieve the following goals: a) environmental protection, b) social benefit and c) financial viability. In this framework, the exploitation companies and the industries involved in the processing of forest products will be obliged to apply the emerging international institution of certification and labeling of products originating from sustainable management. The same will definitely apply to livestock products, which should similarly derive from rangelands managed in a sustainable manner. This procedure will lead to a series of consequences, mainly from a financial point of view, which will affect all participants in the livestock business and not only. These consequences will be particularly significant in low and semi-mountainous areas, which are subjected to overgrazing.

Résumé

En ce qui concerne la protection de la nature, la Grèce a signé de nombreux traités internationaux (le traité de Ramsar, le traité de Rio, etc.) et elle doit donc se conformer à leurs conditions. Les dernières dispositions découlent de deux directives de la Communauté Européenne concernant la conservation de la nature : la directive n° 79/409, connue comme "instructions pour les oiseaux" et la directive 92/43, connue comme "instructions pour les écotopes" (réseau Natura 2000). Par ailleurs, l'aménagement des forêts et des espaces forestiers devrait être réalisé de manière à assurer a) la protection de l'environnement, b) le profit pour l'ensemble de la société et c) la viabilité financière. Dans ce cadre, les entreprises - exploitations ainsi que les industries de transformation des produits forestiers devront s'engager à appliquer la nouvelle procédure à l'échelle internationale, de la certification et de l'étiquetage des produits obtenus par des méthodes de gestion durable. Cette procédure est destinée à être appliquée aussi aux produits de l'élevage obtenus par des méthodes de gestion durable et indubitablement, elle aura des conséquences importantes, surtout du point de vue financier, pour tous les opérateurs de la filière élevage et d'autres encore. Ces conséquences seront plus évidentes dans les régions en plaine et semi-montagneuses qui sont plus exposées au surpâturage.

cultural problems will become more serious because the agricultural budget, which has remained the same since 1992, will be shared by more countries (Alifakiotis 2002).

Concerning globalisation: globalisation represents an escalating procedure of interdependence and integration of financial/credit market and trade and an accelerating correlation in the course of national economies. The CAP and, consequently, the prices of agricultural products, will not be set by the EU. They will be mainly determined on the basis of discussions, agreements and commitments on an international scale, which will focus on the WTO. Furthermore, in the frame of GATT, protective measures concerning agricultural products will be gradually reduced. This means that product quality and production costs will be the main criteria for international competition. In relation to these constraints, the EU legislation, which prescribes the withdrawal of agricultural lands from cultivation and the imposition of quotas on surplus products, is well-known. Obviously, the abolishment of these protective measures would have negative effects on the survival of Greek stockbreeding (Papanastasis 1995).

Concerning the global interest in environment protection and improvement: the certification of forest products

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which means that they are produced in sustainably managed forest areas – is gradually gaining support. However, this procedure has economic implications because the cost of certified products will increase, while the areas where they will be produced, will be under a state of protection and improvement. The same phenomenon is expected to affect livestock products because rangelands – regulated by the forest law - are acknowledged as forest areas, and any change in their use is prohibited.

2. Material and methods

Data concerning the rangelands, the number of grazing animals and other significant elements were taken from the respective archives of the National Statistical Service of Greece (NSSG). Further qualitative and quantitative scientific conclusions were drawn from scientific Journals and proceedings of scientific meetings. Based on the EU requests and directives, the globalisation process, the conditions and agreements of international trade and especially, the recent procedure of product certification, it was possible to investigate and assess the social and economic implications, in particular for mountainous and semi-mountainous areas, and for the Greek economy as a whole. To complete this research work, a more extensive quantitative assessment was carried out by transforming these implications into monetary units, through economic mathematics and economic analysis rules.

3. Selection of forage production, stockbreeding and environmental goods branches

One should try and understand how two complementary branches in the same area (rangeland) have led to the exhaustion of this resource, thus impairing the good functioning of the two branches themselves. As it is known, complementary branches mutually contribute to their production increase (Ziogas 1995). More specifically, if the forage production branch relies upon a sustainable basis and a strict management plan, it has to lead to the production of a stable or increasing quantity, or even to the improvement of the forage quality. However, the complementary production branch of environmental goods (soil protection, production of drinking or irrigation water etc.) should be characterised by relative stability or improvement of the productive result.

However, this was not always the case. By grazing a number of animals which exceed the grazing capacity, the livestock farmer pursues a short-term economic result, which stems from a distorted no-

tion of financial welfare. In thus doing, this livestock farmer is indifferent towards long-term results and the needs of future generations wishing to use the same resource. Indeed, this situation is the result of competitiveness between the environmental goods production branch and the number of grazing animals. The competitive branches are connected by a substitution relation, that is, the expansion of one branch results from the restriction of the other within the same production period (Ziogas, 1995).

It is therefore essential that the livestock farmer must come up with an optimum combination – optimum in both economic and environmental terms - of branches and their size. In order to achieve this goal, some restrictions should be taken into account, such as:

- Natural (soil, climate, water, etc.)
- Biological
- Technical (existing equipment)
- Subjective
- Economic (market features)
- Forestry legislation
- National commitments towards the EU
- National commitments towards international organizations
- Decisions of environmental organizations

4. Discussion-results

4.1. Concerning animal population and livestock farms

Table 1 indicates that livestock farms tend to decrease between the census of 1999 and 1991. This means a decrease of 46.6%, 20.1% and 32.2% for cattle, sheep and goats respectively.

On the other hand, the animal population generally increases: 9.8% in cattle, 5.7% in sheep and 2.6% in goats.

4.2 Socio-economic consequences

Within the framework of the free-trade agreement and the CAP revision, it will be mandatory for companies and forest product processing industries to apply the new international institution of certification and labeling of products produced by sustainable management. Furthermore, this specific procedure will also apply to livestock products (animals, meat, milk) which are produced on

Table 1. *Animal population census results of the years 1991 and 1999*

Research/ year	Cattle		Sheep		Goats	
	Farms	Number of animals	Farms	Number of animals	Farms	Number of animals
Census 1991	53,070	594,183	160,560	8,269,691	202,720	5,188,044
Census 1999	28,313	652,604	128,235	8,743,366	137,452	5,322,755
% change	-46.6%	9.8%	-20.1%	5.7%	-32.2%	2.6%

Source: National Statistic Service of Greece

Census Year	Number of Municipalities & Communities	Land Morphology	Total Amount of Land	Municipal or Public	Rangelands	
					Private & other	Total
1991	5,921	Total	131,957.4	30,026.1	22,165.4	52,191.5
	2,278	Lowland	37,891.1	4,919.5	4,118.1	9,037.6
	1,505	Semi-Mountainous	38,271.9	8,883.0	7,566.1	16,449.1
	2,138	Mountainous	55,794.5	16,223.6	10,481.1	26,704.7

Source: National Statistic Service of Greece 1995

rangelands. The impact on the whole productive procedure will be related to:

- the number of animals which should graze on each area,
- the economic consequences,
- the local, regional and international market.

Finally, these consequences will involve:

- the reduction of grazing material and hence the reduction of the number of grazing animals,
- the surcharge of the production cost of livestock products,
- the viability of livestock enterprises,
- the size of viable enterprises,
- structural changes linked to the global market of these products,
- the uneven distribution of consequences between the Mediterranean areas and the areas belonging to the Northern temperate zone,
- the kind and amount of the various subsidies,
- the future of private rangelands,
- the surcharge of the existent negative trade balance of livestock products,
- the shift to a different occupation for populations living near forests, and in case of lack of different occupation – which is more than likely in mountainous or semi-mountainous areas – the abandonment of these areas by all human workforce,
- the change-alteration of the existing management plans, or the development of new ones, where they are not available.

More specifically:

- 1) According to Hodgson, healthy stockbreeding must rely by 70% on food deriving from grazing, whereas Likos proposes a minimum of 50% (Ministry of Agriculture, 1981). At the same time, livestock competitiveness has to be based on cheap feedstuffs, such as those that are produced in the rangelands (Nastis, 1995).

Hence, the percentage of 3% by which rangelands contribute to the GNP (Nastis, 1983), or the percentage of 1.45% according to Eleutheriades (1996), will probably be reduced to a great extent if the effects of certification on the quantity of the grazing material are taken

into account. At the same time, if one considers the positive impact of certification on the quality of the environment and its ecological functions – through the determination, quantification and conversion into monetary units – the contribution of rangelands to GNP percentage will significantly increase. In addition, the inclusion of both

positive and/or negative value of environmental goods in the national accounts (green accounting), is the modern tendency on a global scale.

- 2) According to the criteria adopted for international certification and labeling of products from sustainable management, there will be significant repercussions on the cost of livestock products and the size and viability of livestock enterprises. As a matter of fact, for most rangelands, in particular the degraded ones, sustainable production and environment protection will entail quantitative constraints of the grazing material. This will immediately result into the drastic reduction of the number of breeding animals. At the same time, the environmental labels (ecolabels) will depend on certification by a specific body or by the enterprise itself. Obviously, the certification by a specific body will be a sort of advertising “certificate” for the enterprise. However, in both cases the final product will be subjected to surcharging.
- 3) The distribution of certified livestock products at high prices, due to the certification procedure, will be related to the application of the new policies and strategies in the free and competitive market. The leading factors of this market will be quality, price, brand name, the livestock enterprise which will be free from governmental protection and subsidies and the livestock farmers’ responsibilities concerning animals and natural environment.
- 4) In Northern countries of the temperate area the forest ecosystems are known to be characterized by great stability and little biodiversity of species and ecosystems, while the hydrologic and anti-erosion activity of forest areas is not so essential as in the Mediterranean region. Thus, concerning certification and labelling of livestock products, some comparative advantages/disadvantages will be generated in different countries and specific rangelands, whose results which have a repercussion on the international competitive market (Stamou 2001).
- 5) Given that the current price status, mainly for beef meat, has not allowed to avoid catastrophic effects (“mad cows”, human diseases, large compensation ex-

penses, etc.), it might be useful to separate the subsidy per animal unit from the subsidy per livestock enterprise. This subsidy should be estimated by taking into account the historical data of every livestock enterprise. As far as Greece is concerned, this would have great effects, firstly, because cattle breeding in Greece has never been intensive and secondly, because the EU policy was mainly against Greece (e.g. quotas in milk).

- 6) The environmental constraints, that the certification of livestock products will involve, will create problems in the profitable or non profitable use of private rangelands. Thus, this will affect the willingness of the owners to sell these areas to the public sector, which is not in tune with the present tendency to the denationalisation of economies.
- 7) As for the aggravation of the trade balance, the imported meat comes in the fourth place, with 4.10%, while petrol comes in the first place, with 9.14%, wood in the second place, with 4.79% and iron in the third place, with 4.32%. However, the variance among meat, iron and wood is so little that it could be stated that on the whole, meat, iron and wood occupy the second place (Christodoulou et al., 1994). This means that if the amount of imported meat (and other related livestock products) increases, following the reduction of domestic production, this will lead to the aggravation of the trade balance and impair the development of the Greek economy as a whole.
- 8) It is well-known that for many decades, due to the specific investment and the general economic policy of Greece, the mountainous and semi-mountainous areas were less favoured than the lowlands and urban areas. On the other hand, in these areas (mountainous and semi-mountainous) the traditional lifestyle is probably part of the past and any revival attempt is an utopia, as the traditional social network does not exist any longer and the relative self-sufficiency, due to the traditional production pattern, can not meet the requirements of the present society (Loizos, 2001). Thus, the social, economic, cultural and environmental problems that these populations have always faced will increase because of certification and the countryside population may even disappear. This process, as unanimously recognised, may bring about more problems both in the abandoned areas and in the urban areas where these populations settle. Moreover, it is necessary to underline that 61.5% of the former municipalities and communities of Greece lie on the mountainous and semi-mountainous areas (Table 2).
- 9) The new planning of rangeland management represents a priority. After analysing the present situation and evaluating the potential of each rangeland, a mandatory management scheme will be developed for livestock farmers. This will be a medium-term and long-term planning activity. However, based on the rangeland status, some areas will be excluded from use, while oth-

ers will be exploited more or less intensively. The number of breeding animals (grazing pressure) will be proportional to the rangeland grazing capacity and not to the needs of every livestock farmer or to the amount of subsidies.

5. Conclusions

The Greek stockbreeding is expected to suffer greatly due to:

- a) its internal weaknesses;
- b) the reduction or the suppression of the EU subsidies under the CAP revision;
- c) the intensive international competition in the free-trade economy;
- d) the certification and labelling of sustainably-produced products;

To face this difficult situation the following actions are recommended:

- a) at the state level, full priority should be given to the need of agriculture modernization in general (Koukiades, 2002);
- b) the responsible authorities should act with two objectives in mind: 1. livestock farmers should be informed on time and properly about the possible problem evolution; 2. the existence of multiple activities in mountainous and semi-mountainous areas should be supported, because these activities are directly related to the sustainable production management (which is the objective of certification) and regional development (Race et al., 1997, Christodoulou, 1998);

In order that these multiple activities might be accepted by the populations concerned and gain the widest possible acceptance, they should be defined based on a procedure of systematic informing – recording opinions and viewpoints of both local communities and modulators-designers of rangeland and forestry policies. In other words, the social research is considered necessary as such to determine the content of the aforesaid multiple activities as well as to promote their Implementation;

- c) stock-breeders should act both theoretically and practically on a medium-term and long-term basis and not only pursue short-term benefits;
- d) universities and the various research centres should investigate problems and find appropriate solutions on a prefecture basis and if possible on a rangeland basis.

References

For technical reasons we are forced not to publish the references. We apologize with the Autor. References are available at the editorial office of New Medit.