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## **Sustainable policies for the development of beekeeping in Romania**

**Abstract.** The present research aims to achieve a retrospective analysis of sustainable policies for the development of beekeeping in Romania, an important sector that contributes to the development of rural areas. Romanian's objectives regarding the development of this sector are based on the adoption of a clear vision and on the support of state, materialised by the National Beekeeping Program. The assessment of the program implementation reveals the following aspect: in the analyzed period 2008-2010, an improvement of the access to funds can be observed, the level of absorption increasing from 16.8% in 2008 to 99.8% in 2010. The consequences following the funds accession are an increase of associative forms and a restoration of beekeeping exploitations. Nevertheless, there are still problems in the North East regions of the country, due to lack of information regarding the accession to funds. These problems could be solved by creating a platform that should constantly reunite beekeepers, researchers and specialists of the sector that share their experience and skills, establishing a dialogue between all the actors in the beekeeping chain.

**Key words:** policies, beekeeping, Romania, development, European Union.

### **Introduction**

The fundamental directions of the European Union rural policies are based on sustainable rural development, a development that meets present needs without compromising the ability of future generations to meet their own needs. One of the principles of sustainable development is based on the implementation of rural development policies in all European Union rural areas, so that farmers and other rural actors should be able to cope with the current restructuring of agriculture, the CAP reforms and the changing demands in agricultural markets [Merce & Pocol 2009].

In this context, beekeeping becomes an increasingly important sector, as this activity contributes to the development of rural areas by the fact that farmers obtain an alternative income, by the preservation of rural landscape, traditions and regional values [Kárpáti, Csapó & Ványi Árváné 2010]. Despite the fact that during 2003-2007, honey production in the member states of the European Union has slightly decreased, there are countries in Eastern Europe where production is still increasing. Romania, Hungary, Poland and Bulgaria are among the countries whose honey production has increased considerably over the last decade [Pocol & Mărghitaş 2010]. However, these countries are under a permanent pressure of competitors, especially from China and Argentina that offer cheaper honey, but

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of lower quality. The problems that the beekeeping in the Eastern European countries is facing were also pointed out by Hungarian researchers, who believe that maintaining a top position in the ranking of leading producers is possible by improving the quality of bee products and their development [Kárpáti, Csapó & Ványi Árváné 2009].

Romania's objectives regarding the development of the beekeeping sector are based on the adoption of a clear vision, bringing together the interests of all stakeholders of the bee chain: increased product quality (quality control, compliance with the norms, accreditation, promotion), diversification of product use (informing consumers regarding the possibilities of usage, cross-promotion with a complementary product), increased product attractiveness (through better positioning on the retail market) and improving the image of the product (by informing consumers regarding the beneficial properties of honey compared to artificial sweeteners).

All these objectives can be achieved by the support granted to beekeepers from the European Union funds, as well as the national ones. According to the EU Council Regulation no. 1234/2007 establishing a common organization of agricultural markets and on specific provisions for certain agricultural products [Council... 2007], Romania has to establish, for a period of three years, a national program aimed at improving the production and marketing of apiculture products in the European Union.

The main purpose of the National Beekeeping Program is to support the activities of prevention and control of varroasis, the analysis of physico-chemical properties of honey, the acquisition of biological material for the restoration of the bee population that will engender the production of high quality bee products, printing and distributing a guide of good practices in beekeeping as well as the hive acquisition and the administrative-geographical and melliferous inventory of all melliferous regions in Romania, the analysis of county geographical aspects and road infrastructure [Programul... 2011]. The measures provided by and approved in the National Beekeeping Program are funded by the European Union in proportion of 50% and 50% funding from the national budget.

The present research aims at achieving a retrospective analysis of how the funds from the National Beekeeping Program 2008-2010 were absorbed: the statistics of the sector, the degree of absorption of the funds, the statistics of the products purchased by beekeepers and the role of associations in accessing these funds.

## **Material and method**

The assessment of impact following the implementation of the National Beekeeping Program 2008-2010 on the development of the beekeeping sector in Romania was achieved through a system of indicators: the number of colonies of bees, the number of beekeeping

units, the number of associative forms, the structure of the products purchased and the requested and approved funds for maintenance of colonies of bees.

The research area includes all the melliferous areas of Romania: the area in the southern part of the country, including Dobrudja, the area in the Moldavian Plateau, the area in the Western Plain, the area in the Transylvanian Plateau, the hilly area and the area in the Carpathian Mountains, the Oltenia and Muntenia areas.

The statistical data were provided by the reports of the Ministry of Agriculture and Rural Development of Romania and the National Institute of Statistics.

The stages of the research were the following: statistical observation, data processing, analysis and interpretation of results and dissemination of information. There were two categories of statistical units studied: simple (the beekeeper) and complex (the beekeeping exploitation, the beekeeping association, the economic operator). The statistical variables studied were the characteristics of the association (number of beekeepers and bee colonies), products purchased and the funds requested and approved for maintenance of bee colonies.

## **Results and discussion**

In the analyzed period 2008-2010, due to the support given within the National Beekeeping Program, an improvement of the access to funds can be observed, the level of absorption increasing from 16.8% in 2008 to 99.8% in 2010. In order to qualify for financial support, beekeepers were obliged to a membership in associations, federations, beekeeping unions, cooperative or producer groups recognized under current law. This condition has proved to be a sound strategy for the development of Romanian beekeeping, emphasizing the importance of creating new structures in the future, of an associative type, that should assist beekeepers through training, extension, promotion of honey and other bee products, defending the interests of beekeepers and dissemination of information. Analyzing the distribution of exploitations by the total number of bee colonies existing in Romania at the end of 2009, it can be observed that the largest share is held by small exploitations (between 1 and 50 colonies), with a share of 56.56%, followed by medium exploitations (50-100 colonies) with a share of 23.94% and large exploitations (150 families) with a share of 19.50%. The increase in the number of average size exploitations represents a proof that beekeeping in Romania is evolving from being a hobby to becoming an actual occupation. However, there is a great heterogeneity of the three categories of beekeepers in Romania.

Amateur beekeepers, those who represent more than half of the total, still need a support from local and regional structures to promote their products. The middle category, represented by semi-professional beekeepers, is the most fragile, being the most affected by the current economic crisis. The cooperative form of association represents a real support

for this group of beekeepers. As to those who are professionals, their main objective is to render profitable their beekeeping exploitations and to diversify their production (by obtaining and selling secondary bee products: pollen, propolis, royal jelly, pollination). Commercial initiatives are equally important for this category: they provide supply and demand analysis, processing-conditioning-packaging, export-orientation.

Table 1 presents a dramatic increase in the number of registered beekeepers in an associative form, who have accessed funds, from 3687 in 2008 to 10635 in 2010, and therefore in the number of colonies of bees owned by them. Of the total amount of products purchased, there is a significant annual increase in the acquisition of biological material, necessary for the restoration of the beekeeping exploitations: queens, colonies of bees, swarms on combs and swarms in package.

A lower access to funds is observed regarding the purchase of medicine and nutritional supplements necessary for the treatment of varroasis (Varachet, Mavrirol, Beevital). One explanation would be that beekeepers used other types of medicine and supplements than those approved by the National Beekeeping Program. The data show (Fig. 1) even a decrease in the share of Mavrirol and Varachet purchases per 100 colonies of bees.

Table1. The evolution of the products purchased by beekeepers registered in associative forms during 2008-2010 within the National Beekeeping Program

Sector size and product purchased	Year			Growth (2010/2008)
	2008	2009	2010	
Number of beekeepers registered in the associative form	3.687	5.432	10.635	288%
Total number of bee colonies owned by beekeepers	282.756	349.035	565.526	200%
Queens	7.210	13.243	17.808	246%
Bee colonies	1.134	11.508	43.282	3.816%
Swarms of bees on combs	510	3.405	8.987	1.762%
Swarms in package	494	1.401	1.300	263%
Varachet	20.465	21.013	22.641	110%
Mavrirol	33.206	36.497	40.961	123%
Beevital	2.187	3.804	6.019	275%

Source: own processing of data provided by the Ministry of Agriculture and Rural Development, 2011.

A distribution of the number of units bought per 100 of bee colonies demonstrates once again a dramatic increase in the number of bee colonies purchased through the National Beekeeping Program, from 0.4 to 7.7 per 100 of bees colonies (Fig. 1). This has led to a restocking of the beekeeping exploitations and to an increase in the number of bee colonies within the medium exploitations (50-100 colonies).

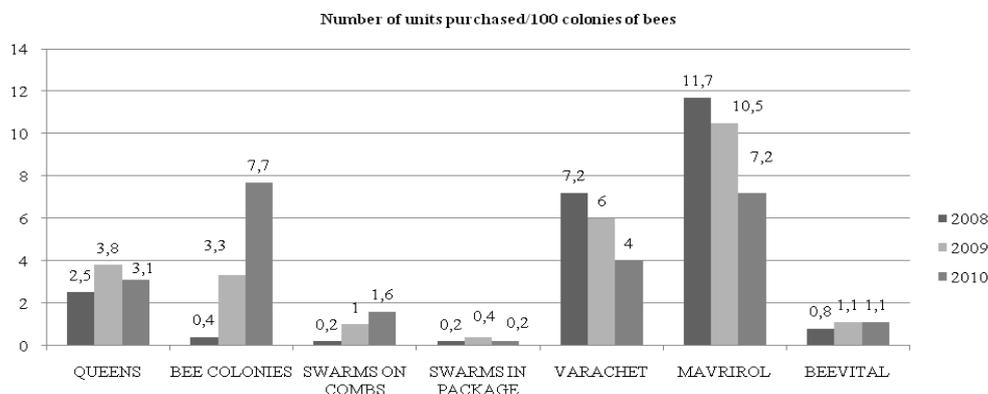


Fig. 1: Number of units purchased per 100 colonies of bees during 2008-2010

Source: as in Table 1.

The situation described above is reflected in the support requested and approved to combat varroasis and restocking of the beekeeping exploitations. If in the case of varroasis the increase, compared to 2008, was 209% for the amounts approved, for the restocking of the beekeeping exploitations the increase was 855%.

Table 2: The evolution of the sums requested by beekeepers registered in associative forms and granted during 2008-2010 within the National Beekeeping Program 2008-2013, euro

Value	Year		Growth (2010/2008)
	2008	2010	
Amount requested for varroasis treatment	298.834	572.695	192%
Amount requested for the restocking of the beekeeping exploitations	414.831	6.617.188	1.595%
Amount granted for varroasis treatment	271.955	569.413	209%
Amount granted for the restocking of the beekeeping exploitations	394.956	3.376.453	855%
Total amount granted	666.911	3.945.866	592%

Source: as in Table 1.

A distribution of the amounts requested by beekeepers and granted per 100 colonies of bees shows once more that, of the total amount granted of 698 euros per 100 colonies of bees, 597 euros represents the amount granted for restocking of the beekeeping exploitations and only 101 euros for the acquisition of medicine and nutritional supplements (Fig. 2).

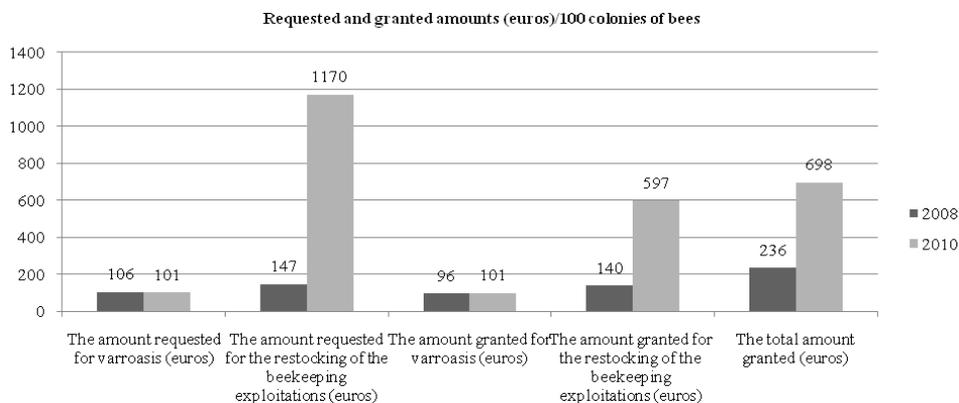


Fig. 2: Support amounts requested and granted per 100 colonies of bees during 2008-2010 within the National Beekeeping Program 2008-2013

Source: as in Table 1.

By centralizing the data regarding the regional distribution of the support amounts requested and granted by beekeepers registered in associative forms, the six melliferous areas of Romania were grouped into three historical regions of the country: Transylvania, southern part of the country and Moldavia. It is noted that the highest number of beekeepers who have requested support is represented by the Transylvanians and the south of the country. This is thoroughly reflected in the amounts requested for restocking the beekeeping exploitations and control of varroasis (Table 3).

The distribution of the number of beekeepers who requested support in the three cultural areas of Romania indicates the fact that there are statistically significant differences between the beekeeper profile from Transylvania and the southern part of the country, compared to that of Moldavia. The explanation may come from the fact that the developing regions from Moldavia are the least developed economically, which is reflected in high unemployment and high poverty rates, the practice of beekeeping being sometimes undertaken only for subsistence purposes. Another possible explanation could be the high level of rurality in the region, over 50%, fact that hinders the access to information and communication technology and thus the participation in various forms of beekeeping associations and the access to funds.

Solving these problems would be possible by creating a platform that should constantly reunite beekeepers, researchers and specialists from the sector to share their experience and skills, to establish a dialogue between all the actors of the beekeeping chain. This dialogue should focus on one hand on the dissemination of information related to ways of increasing production (optimal size of the apiary, the practice of pastoral intensive beekeeping, maintenance of strong colonies, the control of diseases and pests, the use of bee technology) and on the other hand it should focus on identifying solutions for more efficient commercialization of the products obtained.

Table 3: Distribution by regions of the support amounts requested and granted to beekeepers registered in associative forms during 2008-2010 within the National Beekeeping Program 2008-2013

Size of beekeeping sector and support	Region		
	Transylvania	South	Moldavia
Number of beekeepers registered in the associative form	7.976	7801	3977
Number of bee colonies owned by beekeepers	476.604	474.835	245.878
Amount requested for varroasis treatment, euro	327.199	417.818	126.512
Amount requested for the restocking of the beekeeping exploitations, euro	3.044.273	3.297.704	690.042
Amount granted for varroasis treatment, euro	319.671	406.616	115.081
Amount granted for the restocking of the beekeeping exploitations, euro	1.541.110	1.831.729	398.570
Total amount granted, euro	1.860.781	2.238.345	513.651
Amount requested for varroasis treatment per 100 bee colonies, euros	69	88	51
Amount requested for the restocking of the beekeeping exploitations per 100 bee colonies, euro	639	694	281
Amount granted for varroasis per 100 bee colonies, euro	67	86	47
Amount granted for the restocking of the beekeeping exploitations per 100 bee colonies, euro	323	386	162
Total amount granted per 100 bee colonies, euro	390	471	209

Source: as in Table 1.

## Conclusions

In the context of agri-food chains, the beekeeping chain is very complex and its analysis is being a part of European Union's intentions to improve the production and marketing standards concerning bee products. The study of the national honey market, as an integrating part of the EU, is beneficial not only by upgrading the technical and economical data, but also by identifying solutions to enhance the development of this sector. One of the solutions identified is the support for beekeepers with the purpose of establishing associative forms and accessing funds. The National Beekeeping Program 2008-2010 had a positive impact on the development of the sector, particularly through the restocking of the beekeeping exploitations that led to replacement of bee colonies according to beekeeping practices and thus to creation of strong, healthy and productive beekeeping exploitations. Due to the acquisition of biological material by beekeepers, beekeeping multiplication farms were developed, satisfying the demand for such products.

The real problems that Romanian beekeepers face are not related to the lack of financial support through national programs, but the lack of a dialogue between the actors of the beekeeping chain. Whether they are beginners or experienced, beekeepers focus very much on production, their purpose being to obtain high yields and high productivity. This focus on production is beneficial, but without efficient sale of the products obtained, the activity becomes unprofitable. In this respect, it is necessary to develop marketing plans

that include defining the customers, defining the message, product definition, right price calculation, defining the packaging and product promotion.

During 2011-2013, a new Beekeeping Program will be implemented. Its success will depend on the elaboration of a development plan of the beekeeping sector, bringing together the efforts of all local, national and international partners in a complementary vision. These efforts could lead to the certification of Romanian bee products as traditional products, a modernization of the technology of conditioning and extraction of honey, an openness to external markets and the creation of regional networks of beekeepers, and lead towards an active participation in the national development strategy of the beekeeping sector.

## Acknowledgement

This study was a part of a research project supported by a grant from CNCIS, PN II. Romania. The title of the research project is 'A technical and economic analysis of the beekeeping in the North West Region of Romania in order to ensure the sustainable development of the beekeeping chain', Contract no. 149/2010.

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