

ECONOMIC DIAGNOSIS OF BEEKEEPING IN THE NORTH WEST REGION OF ROMANIA: A CASE STUDY OF CLUJ COUNTY

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Abstract

The economic analysis of beekeeping in Cluj county represents an analytical model meant to achieve the objectives of the research project named: "Techno-economic analysis of beekeeping in the North West of Romania for the ensurance of sustainable development". In order to achieve a complex analysis, at a regional level, the study of beekeeping in Cluj county, from an economic point of view, is a very important tool as it provides important data regarding the number of colonies of bees, the honey production, the evolution of prices and the consumption of honey. The present research emphasizes as well the role of SC APICOLA S.R.L. (Limited Liability Company) in the restoration of hives, in the commercialization of bee products and in the obtaining of the community and national financial support.

Key words: honey, colonies of bees, production, consumption, prices, financing

INTRODUCTION

The great number of studies conducted at an international level regarding the beekeeping field denote the dynamics of this sector, showing the modeling possibilities and the feed-back mechanisms that allow the analysis of the beekeeping sector at a given period of time.

The researches undertaken in Argentina allow the achievement of some quantitative previsions and of scenarios, taking into account some variables: technological, climatic, the evolution of prices, the consumption behavior, the position of the main competitors on the external market (Mogni et al., 2009). The concerns regarding the analysis of the beekeeping chain are multiple, being regularly undertaken by the statistics institutes from some countries (The Statistics Institute, Quebec, 2009). These studies focus on general aspects – number of beekeepers, number of hives, production, the quantity and quality of production and its estimation for the following year. The economic value of beekeeping and its impact on the environment are analysed on the Australian continent as well (Gibbs et al., 1998), the beekeeping analysis taking into consideration the volume of the production, the role of pollination and its economic impact. Numerous studies analyze the practice of beekeeping in underprivileged areas of the globe that have favorable natural resources, especially Africa. These studies demonstrate the economic and social benefits of beekeeping as it is considered to be a means

of obliterating poverty and of raising the standard of living (Mickels, 2006). Honey represents one of the main products of equity trading, the concept emerging from the ambition to build more fair economic relations with producers and artisans from countries belonging to the southern part of the globe, left aside by the international commercial exchanges (Alpha et al., 2007). Recent studies undertaken by researchers from Ethiopia prove the fact that the exchange of information between beekeepers, processors, distributors, suppliers, potential customers, credit industries, research and extension organizations represent the key factor that ensures the success of the beekeeping field (Melaku et al., 2008). The analysis of the beekeeping field can be found in Europe as well, the member states of the European Union being asked to undertake such analysis, with the purpose of improving the conditions regarding the production and commercialization of bee products (Reg. CE nr. 1234/2007). The recommendation of the European Union to diagnose the beekeeping field was adopted by France as well, country that has undertaken two similar analyses, the first one in 1997, and the second in 2005, the update of economic and statistic data being essential in order to measure the favorable and less favorable evolutions that marked the sector in the last years and the economic impact of the financing from the national and from the European Union budget. Following these analyses, France is determined to implement a better organization for the beekeeping field. Other studies undertaken at an international level and published in professional literature refer to the analyses of the profitability of beekeeping farms (Gate, 2001). This is complemented by studies analyzing production costs, estimates of revenue and pricing (Mundy et al., 2008). The beekeeping economic efficiency is also a concern of researchers from Croatia in the context of its accession to the European Union, the economic parameters of the beekeeping production in this country being extremely fragmented (Barlovic et al., 2009). One solution identified by researchers in Budapest in order to increase efficiency in the beekeeping sector is mechanization of honey processing, reducing in this way the labor costs (Nyars, 2003). In addition to the studies regarding the profitability of beekeeping in terms of costs, in the international professional literature we also find studies on marketing and consumption of bee products. If on the American continent, these studies are numerous, in Europe, they are few, or even nonexistent. Referential studies can be found in the paper “National and international tendencies regarding the production and honey consumption” (Pocol and Marghitas, 2010).

Taking into consideration these facts, the beekeeping economic and financial analysis of Cluj county at a regional and national context aims to achieve some indicators that illustrate the level of production, of prices, of consumption and to correlate these indicators with certain influential factors.

MATERIAL AND METHODS

The research area was the North West Development Region of Romania. From this region it was chosen the Cluj county. The data sources used were statistical bulletins regarding prices, studies and annual reports of the Romanian National Institute of Statistics, statistical data provided by SC APICOLA SRL. External data sources were also used, namely reports of the Centre for the promotion of imports from developing countries. Data concerning honey consumption was obtained from a quantitative study, from April to May 2010 in Cluj-Napoca. The main objective of the study was not only the investigation of honey consumption in the county of Cluj, but also the performance of a comparative analysis between data obtained in 2010 and 2007.

The research method used was the survey and the work tool was the questionnaire. The sampling was done from a probabilistic manner, in one phase, stratified. The sample was composed of 200 adults resident in Cluj-Napoca. The methodology for the selection of households was "random route" and the selection of respondents was based on the technique "first birthday". The data was processed using SPSS program. Through a comparison with the data observed and collected at a national level, the research intended to capture the specific weather conditions that influenced production, the cultural area and type of county in respect of honey consumption, purchasing power compared to price, emphasizing all variations that emerged in Cluj county, in connection to the regional and national situation.

RESULTS AND DISCUSSION

At present, Romania is among the countries with well developed beekeeping, this situation being a consequence of the significant amount of bee colonies, the quantity of honey obtained (Table 1), the diversification of production and the results of scientific research and training of specialists. The accession of Romania to the European Union transformed Romania into an important competitor for the other developing countries that produce honey. As Romania exports great quantities of honey, the accession to the European Union facilitates the export to the other member states. The opening towards international markets supposes innovation and dynamism, factors that could become vectors of the honey production and consumption, among other factors generally attributed to Romania: the capacity to offer traditional natural products.

Table 1

Evolution of beekeeping sector during the period 2001-2010 in Romania

SPECIFICATION	UM	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Effective	Thousands of families	745	781	840	892	930	975	990	1100	1110	1280
Total production of honey	Thousands of tones	12,6	13,4	17,4	19,0	18	18	19	21	21,5	21,8

Source: own processing after data from the National Institute of Statistics, Romanian Statistical Yearbook

In terms of regional distribution of the number of bee colonies, in the year 2010 in the North-West Region it was recorded a number of 1.812 thousands of bee colonies, of which 182 000 in Cluj.

Table 2

The beekeeping sector in 2010, in the NV Region of Romania

SPECIFICATION	UM	CLUJ	BISTRITA	MARAMURES	BIHOR	SATU MARE	SALAJ	N-W REGION
Effective	Thousands of families	182	372	140	631	257	230	1812
Total production of honey	Thousands of tones	18341	14430	16800	58724	16190	29880	154365

Source: own processing after data from the National Institute of Statistics, Romanian Statistical Yearbook

The estimation of the Romanian honey production is a delicate exercise, since it varies from one year to another, increasing or decreasing depending on weather conditions, the measures taken by the government, the business strategies adopted and the yields obtained by practicing transhumance. According to some experts, the year 2010 was the worst year concerning the honey production in the last 30 years in Transylvania. Taking into account the parameters mentioned above, production varies greatly from one year to another, but ranges roughly between 12.6 thousands of tons in 2001, 21 thousands of tons in 2008 and 21,8 thousands of tons in 2010.

As for the North-West Region, the value of the production in 2010 was 154.365 thousands of tons and 18.341 thousands of tons in Cluj county. An important barometer of the growing importance of beekeeping both in the North-West Development Region and in Cluj is the beekeeping fairs organized by the University of Agricultural Sciences and Veterinary Medicine from Cluj-Napoca. Comparing the years 2009, 2010 and 2011 a real explosion of the beekeeping market can be observed, based on the growing number of beekeepers, the interest expressed by them in using new technologies, diversification of production, the possibility of practicing organic beekeeping and exporting the products obtained to EU markets and not only. The development of beekeeping in this area was also supported by the involvement of Professional Associations of beekeepers: The

Association of organic honey producers and The Beekeepers' Association from Romania. Moreover, SC APICOLA S.R.L had also an important role resulted in the technical assistance provided to members, organization of beekeeping courses, shows, as well as purchasing and commercializing of bee products wholesale and retail through its own stores. A very important support granted to beekeepers is the subventions. In this way, SC APICOLA S.R.L centralizes members' documents (invoices, receipts) which represent the proof of eligible expenses - drug treatments in accordance with the schemes, queens, swarms on combs, package swarms, bee colonies. Following the centralization of these documents, SC APICOLA S.R.L develops and sends the payment request to the Agency for Payments and Interventions in Agriculture.

Besides the analysis of the production and number of hives, the present study comprises an analysis of prices. On the international market, prices have fluctuated dramatically since 2003, becoming extremely high, as a result of the embargo on imports of honey from China, which was maintained until 2004. The low demand coupled with good harvests led to lower prices in 2005. Further, the ban on Brazilian honey supplies led to a rise in prices in 2006, this trend being maintained in the following years, 2007 and 2008. Due to adverse climatic conditions and consequently a decrease in production, the prices of bee products increased moderately in Romania as well (Fig. 1). For certain products such as pollen, there was a tripling of prices between 2008 and 2010 and for other products, the domestic production has failed to meet the needs of processors in 2010 (the case of royal jelly). In addition to weather conditions, the other factors that influence price formation represent mainly import bans and bee diseases.

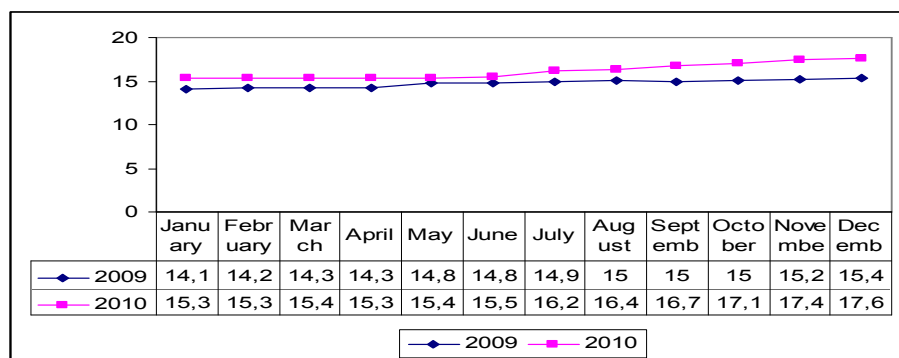


Fig. 1. Evolution of honey price during 2009-2010 periods

Source: own processing after data from the National Institute of Statistics, Romanian Statistical Yearbook

Table 3

Evolution of the price of honey (lei/kg) between 2007-2010, in the North-West Region

	Cluj	Bistrita	Maramures	Bihor	Satu Mare	Salaj	Regiunea NV
2007	11,10	12,50	11,82	13,67	13,30	10,97	12,23
2008	14,30	14,95	14,08	13,67	14,97	12,64	14,10
2009	20,52	15,23	17,10	14,88	15,70	13,70	16,19
2010	25,00	17,00	17,57	16,00	16,59	16,71	18,14

Source: own processing after data from the National Institute of Statistics, Romanian Statistical Yearbook

In the North-West Development Region, namely in the Cluj county, between 2007-2010, the price of honey recorded oscillations from 11 lei/kg in 2007 to an average level of 25 lei/kg in 2010. Values are shown in Table 3.

Another aspect taken into discussion by the present research is the investigation of honey consumption. This stage of research was meant to identify trends in honey consumption in this region, as well as highlighting the causal links between variables of honey consumption and socio-demographic characteristics of the respondents that were part of the sample. The purpose of this phase of the research was to obtain general information about the honey consumers from Cluj (quantity, frequency, reasons why honey is appreciated, the place from where the honey is bought, reasons why people do not buy honey anymore).

Honey is appreciated by the population of Cluj primarily because it is a natural product (42%). The results show that there is an approximately uniform distribution in terms of this assessment for all age groups. However, young people aged 18-35 years, appreciate more the fact that honey is a natural product (at a rate of 48%) than more mature people (36-55 years, at a rate of 35%). Secondary reasons for which people from Cluj appreciate honey are its sweet taste (16%) and its use as medicine. In relation to this last point, the elderly population (over 55) appreciates mainly the curative properties of honey, a natural phenomenon among these consumers, who, along with age, place a greater emphasis on consumption of products that positively influence their health. Compared with the situation at a national level, people from Cluj favor at a greater extent the natural character of the product and less the product's usefulness (the use as medicine).

The frequency of honey consumption is another important issue for the configuration of the honey consumption in Cluj-Napoca. 18% of respondents consume honey daily, 20% consume it 3-4 times a week and at the opposite end are those who never consume honey, a much smaller segment (1%). The data indicate that approximately 80% of adults from Cluj consume honey at least monthly. Unlike the situation in Romania, in Cluj-

Napoca the share of those who consume honey is almost double (18% vs. 10%) and, in general, all high and medium frequency categories are better represented quantitatively (80% of the people from Cluj consume honey monthly, while only 55% of Romanians act similarly).

The amount of honey consumed annually differs significantly among the population, with a consume peak for the category 250-500 g (23%). 17% of the respondents consume more than 2 kg of honey annually, a percentage quite close to those who consume annually between 1-2 kg (16%). Although people from Cluj consume honey more often than the national population, they do not consume large quantities, being rather moderate honey consumers. The percentage of those who consume more than 2 kg of honey per year is 17% while at the national level it is 22%.

Regarding the place from where they purchase honey, people from Cluj said they bought the largest amount of honey from the market (33%), and then from another part (23%). The smallest amount of honey is purchased by respondents from the stands on the roads (1%). Supermarkets and kiosks are chosen by people from Cluj as where to buy honey in proportion of 16%, and stores specializing in natural and bee products in proportion of 13%. In relation to the national situation, naturally, the share of those who buy from stores is higher (26% versus 14%), due to the accessibility of these acquisition locations. Basically, similar situations can be found at the national level, in terms of procurement methods and motivation for choosing a provider. Starting from the very characteristic of the product as natural food, individuals look for a supplier who can offer them the least "altered" product by the synthesis or processing industries. The main reason cited by the population from Cluj to justify the fact that they did not buy honey in the last year is mainly occasional consumption (39%). This reinforces the image of the Cluj-consumer of honey as being "light". 4% of the respondents perceive honey as being expensive and the same percent (4%) are discouraged to buy honey as it crystallizes quickly.

CONCLUSIONS

By comparison with the data observed and collected at the national level, it was observed in the North-West Development Region, the Cluj county respectively, the fact that the production of honey varies from year to year, depending on weather conditions, the measures taken by the Government, the business strategies adopted and the yields obtained through the practice of transhumance. Price formation was related mainly to weather conditions, import bans and bee diseases. The decreasing of the purchasing power did not lead to lower demand or to lower prices implicitly. Price increase did not result in a decrease of the demand of honey on the market.

Regarding the amount of honey consumed, certainly, cultural and residential influences have their say regarding the consumption of honey, at a global level. Doubled by individual motivations, such as choosing a healthy lifestyle, they lead to significant changes in terms of the honey consumption market. Regional analysis of the honey market is beneficial not only in terms of updating technical and economic data, but also for the identification of solutions that emphasize opportunities for the development of the beekeeping sector and the promotion of consumption.

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