



**The economic, social and
environmental analysis of the
beekeeping sector: a case study of
the North West Region of Romania**

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Introduction

The EU Strategy regarding sustainable production and consumption:

brings together the many strands of economic, social and environmental policy under one objective - to continually improve the quality of life and well-being on Earth for present and future generations.



The production and consumption of bee products contributes to human welfare by satisfying two important needs:

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graph TD; A["The production and consumption of bee products contributes to human welfare by satisfying two important needs:"] --> B["FOOD"]; B --> C["HEALTH"];
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FOOD

HEALTH



The present situation of the beekeeping chain

EU level

Decline in many EU countries due to the decrease of agricultural land areas, pesticide use and bee diseases.

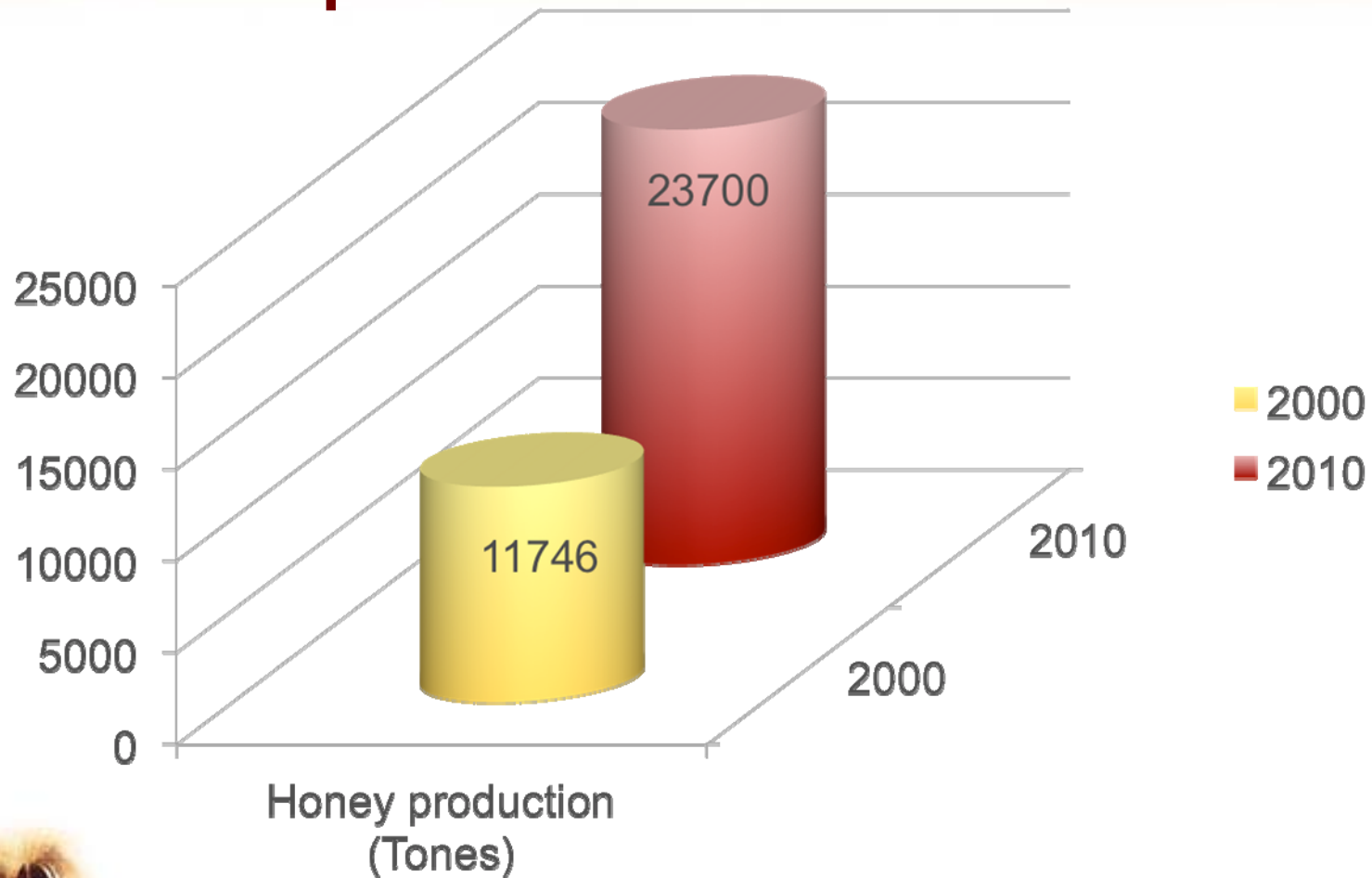
The total production \approx 200 000 tones of honey

Eastern Europe

Increase of production (Romania, Hungary, Poland and Bulgaria).

The accession of Romania and Bulgaria to the EU increased their self-supply with honey from 10% to 60%.

Romania ranks fifth in the top of honey producers at EU level



Source: Romanian Ministry of Agriculture and Rural Development, 2012, www.madr.ro

The Purpose of the research:

To investigate how this development meets the criteria of sustainability



Economic:

- Profitability and sustainability of apiary;
- Quality of products obtained.



Social:

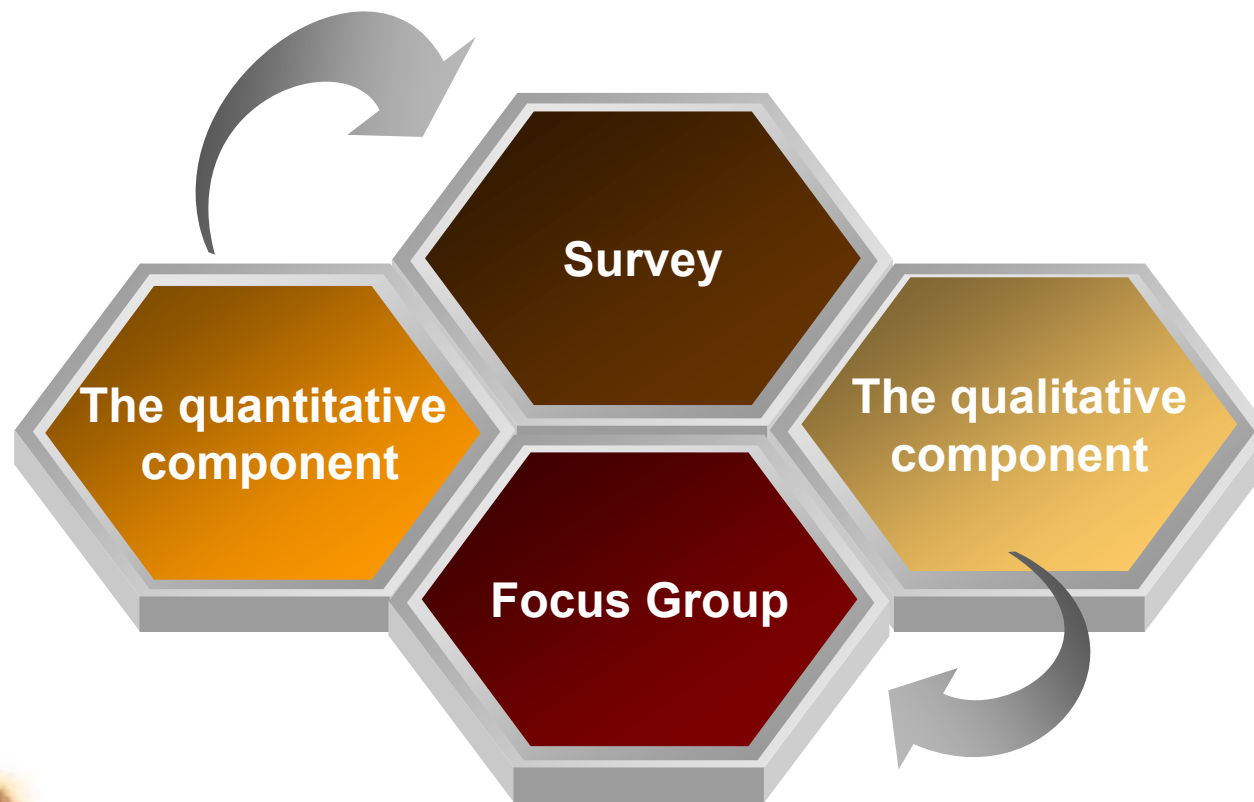
- Beekeepers' welfare, bees' welfare;
- Availability of products for consumers;
- Traceability of bee products;



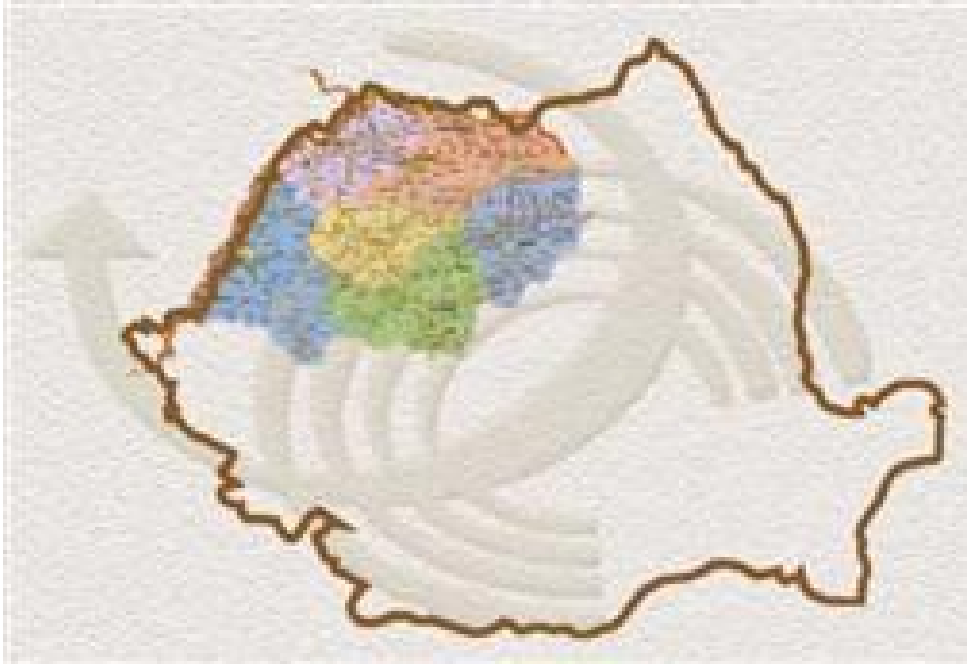
Environment:

- The effects of practicing beekeeping upon the environment.

Materials and Methods



The quantitative component



*The research method used was the **survey** and the working tool was the **questionnaire**.*



The sample

- **Stage 1:** the stratification was made according to the six counties of the region;
- **Stage 2:** the stratification was made according to the number of bee colonies owned by beekeepers:

up to 10 hives,

between 11-50 hives,

between 51-80 hives,

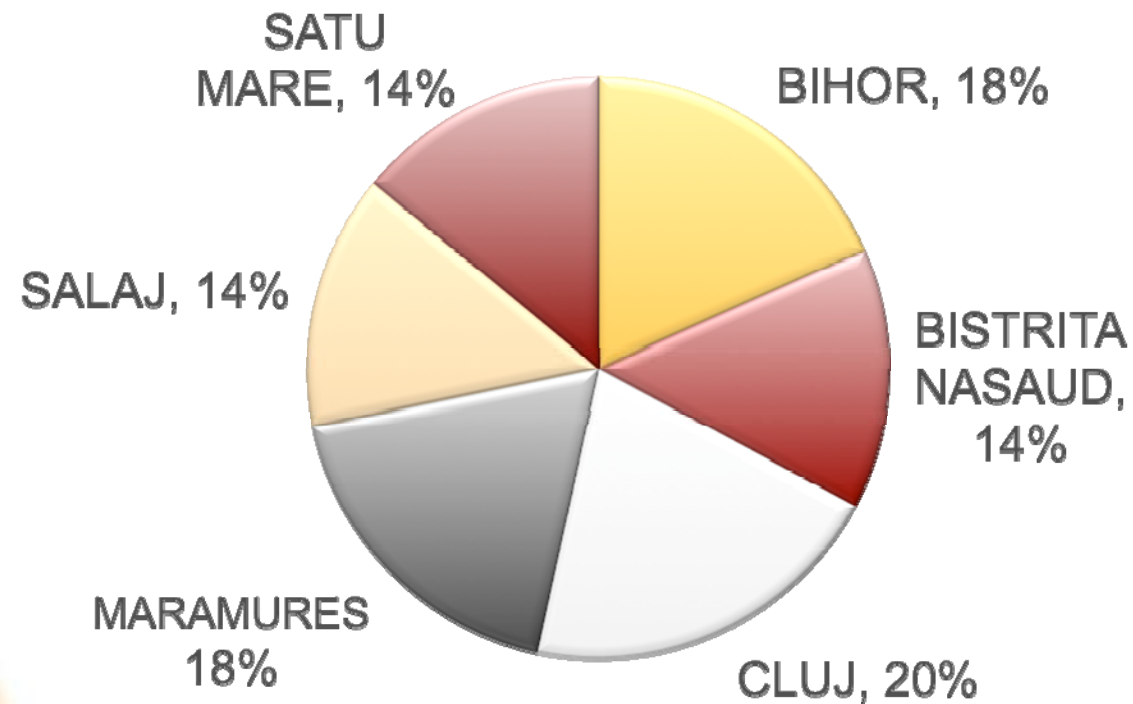
between 81-150 hives,

more than 150 hives.



The share of the investigated beekeepers at county level

- Was balanced, according to their regional distribution:



The interviewing method:

- face-to-face, during meetings with beekeepers 75%;
- by mail (auto-completion) 25%.

The investigation period: the first half of 2011

The average time of application of a questionnaire: 20 minutes

Processing: SPSS software



The qualitative component

Research Method: Focus Group

Objectives: to obtain information that should facilitate the interpretation of the results of quantitative research

Target groups: producers, processors and traders of bee products

Number of focus groups: 6, one in each county of the North West Region

Period for implementing the focus groups: the second half of 2011.



The regional distribution of the focus groups

	Counties	Group composition
Focus grup 1	Cluj	
Focus grup 2	Satu Mare	Producers that practice stationary and pastoral beekeeping,
Focus grup 3	Sălaj	members of at least an association of producers
Focus grup 4	Maramureş	
Focus grup 5	Bihor	Processors and traders of bee products.
Focus grup 6	Bistriţa	



Results and discussion

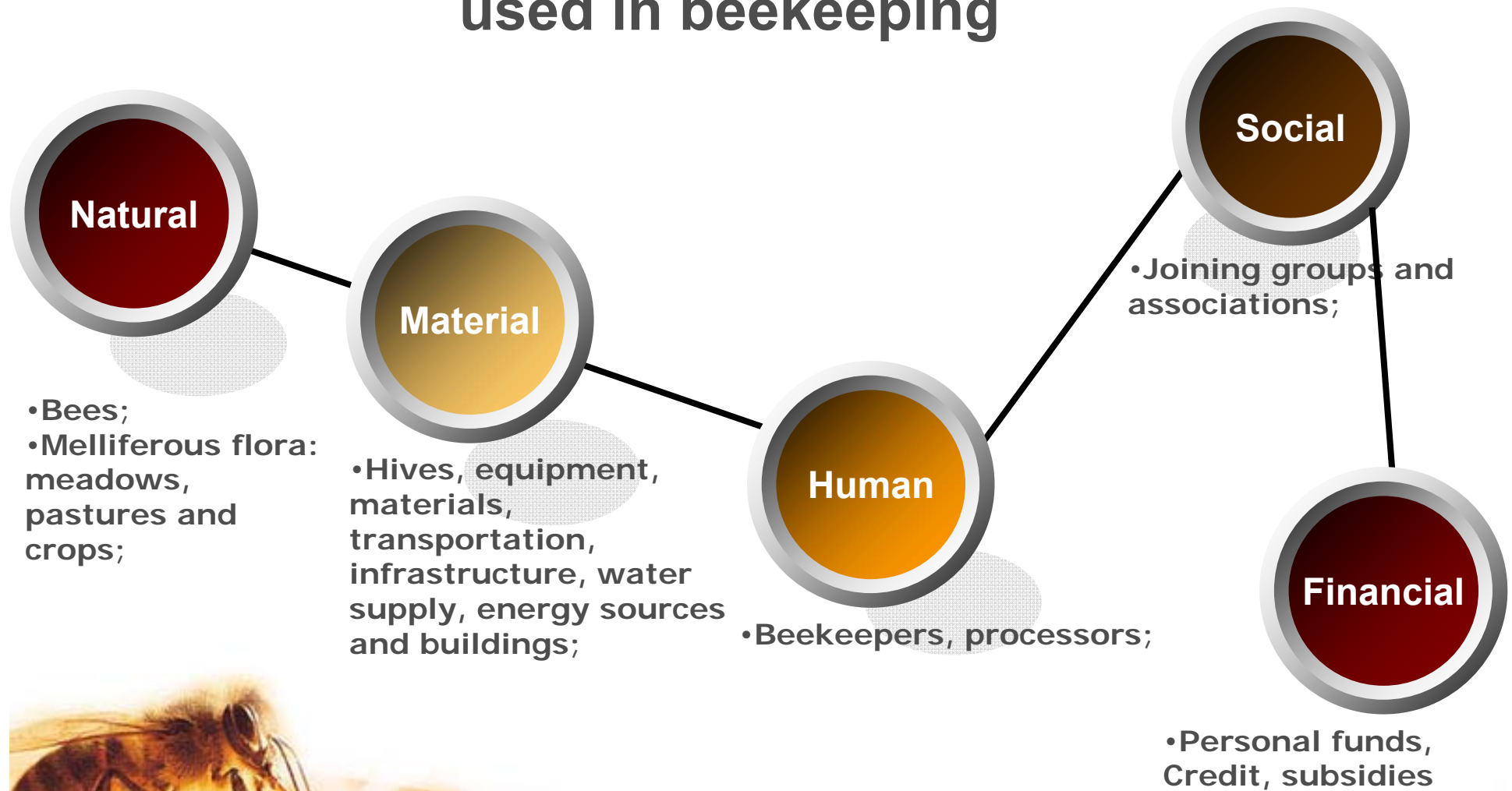
Economic aspects:

Inputs = Resources used

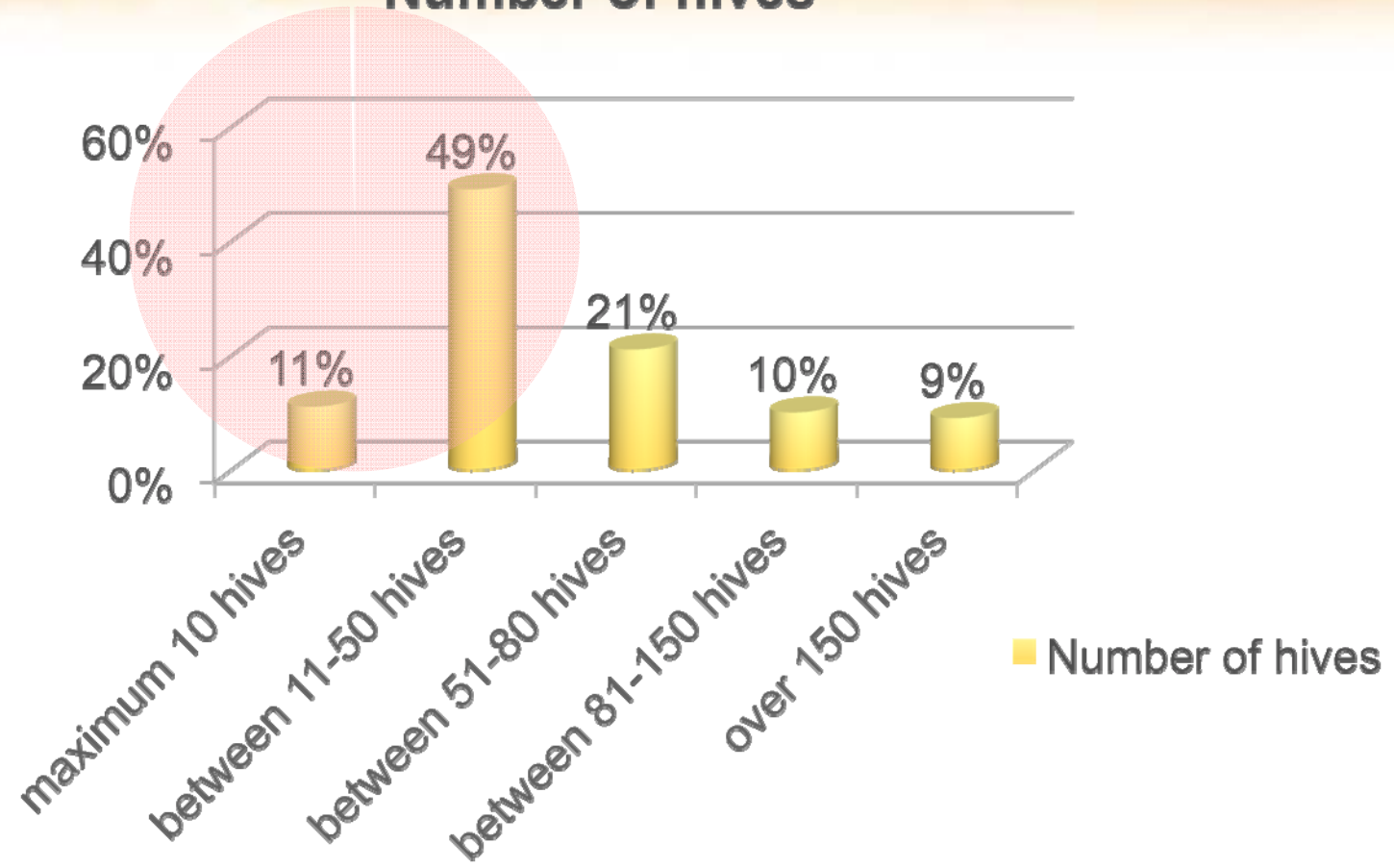
Outputs = Production obtained



Categories of resources used in beekeeping



Number of hives



North West Region

≈ 60% of the apiaries comprise maximum 50 hives.



≈ 21% of the apiaries comprise between 51 and 80 hives.



≈ 19% of the apiaries comprise more than 80 hives.

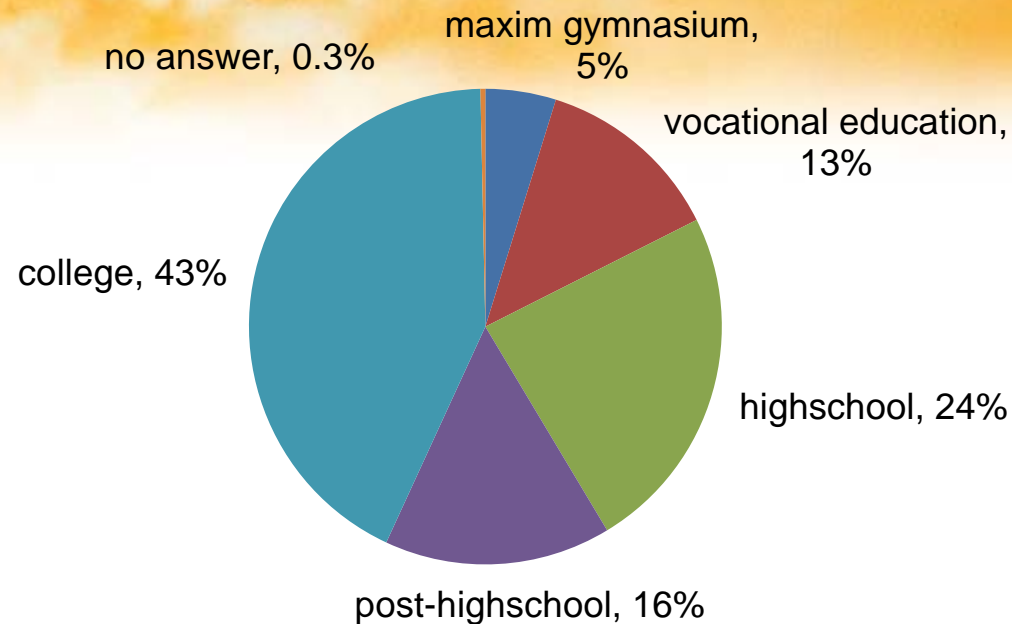


Other research

In **Argentina** ≈ 70% of beekeepers practice this activity at low to medium level.



In **Hungary** ≈ 65% of the apiaries are of small and medium dimensions.

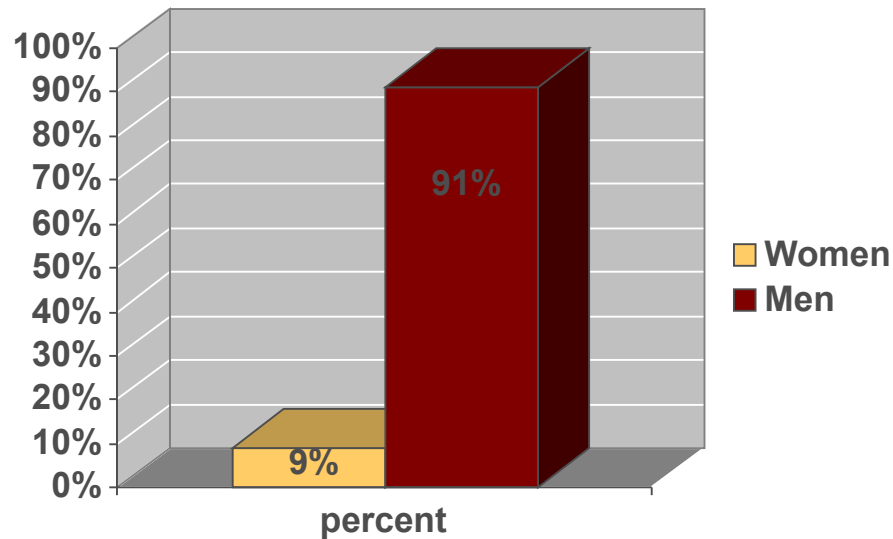


- *Over 40% of the subjects interviewed completed a higher education programme;*
- *Nearly 40% completed a secondary education;*
- *About 18% completed only elementary school;*

Beekeeping become a source of employment for the majority of the household's members. Only 1%-3% of the apiaries have an employee external to the household.



Demographic, educational and experiential characteristics of beekeepers



The average age of beekeepers is **48 years**;

The average age of women practicing beekeeping is **39 years**;

The share of young beekeepers is small, about **15%**.

77% of beekeepers state that are members of a beekeeping association.

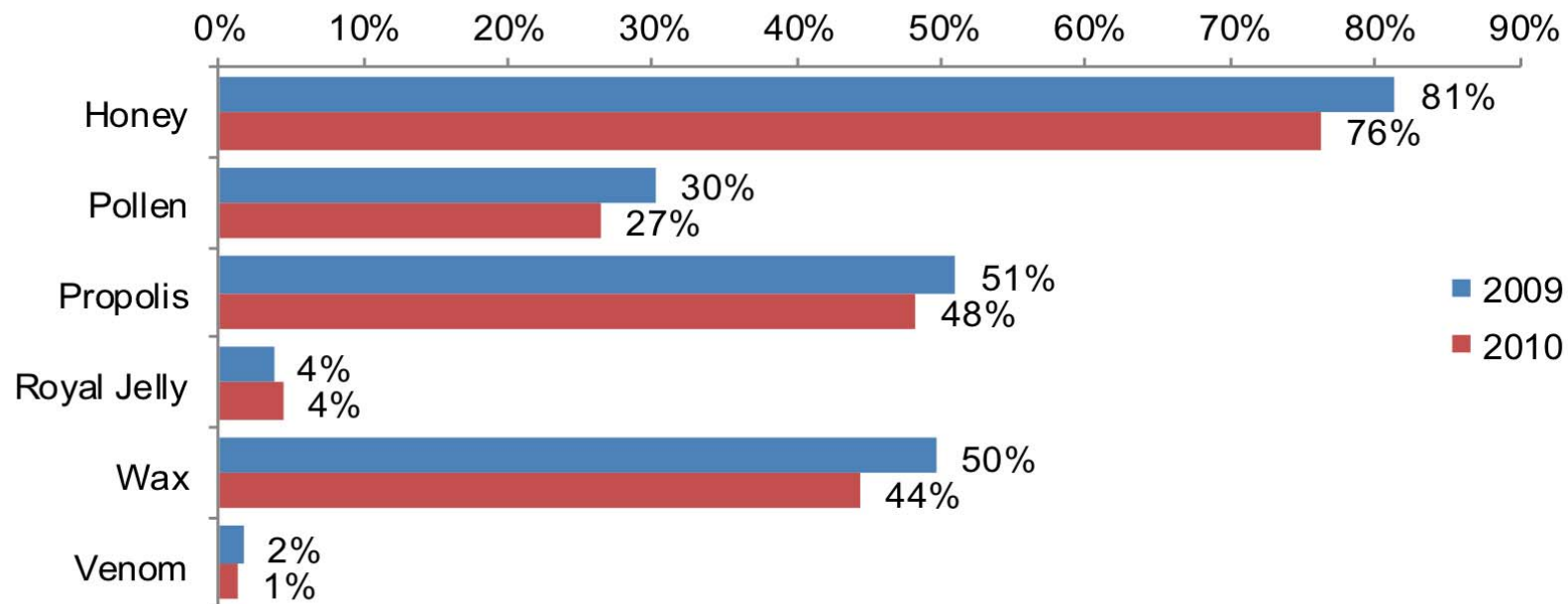


Financial aspects:

- only 4% of beekeepers obtained a **credit** for their apiaries during the period 2008-2010.
- regarding **subsidies**, the data indicate a major decrease of the beekeepers who received the direct subsidy through the Paying Agency. If in 2009, 22% of beekeepers received this subsidy, in 2010, only 7% received the subsidy directly.
- generally, the funding of the beekeepers' activity is based on their **own savings**.



Outputs = Production



Bee products obtained in 2009 and 2010

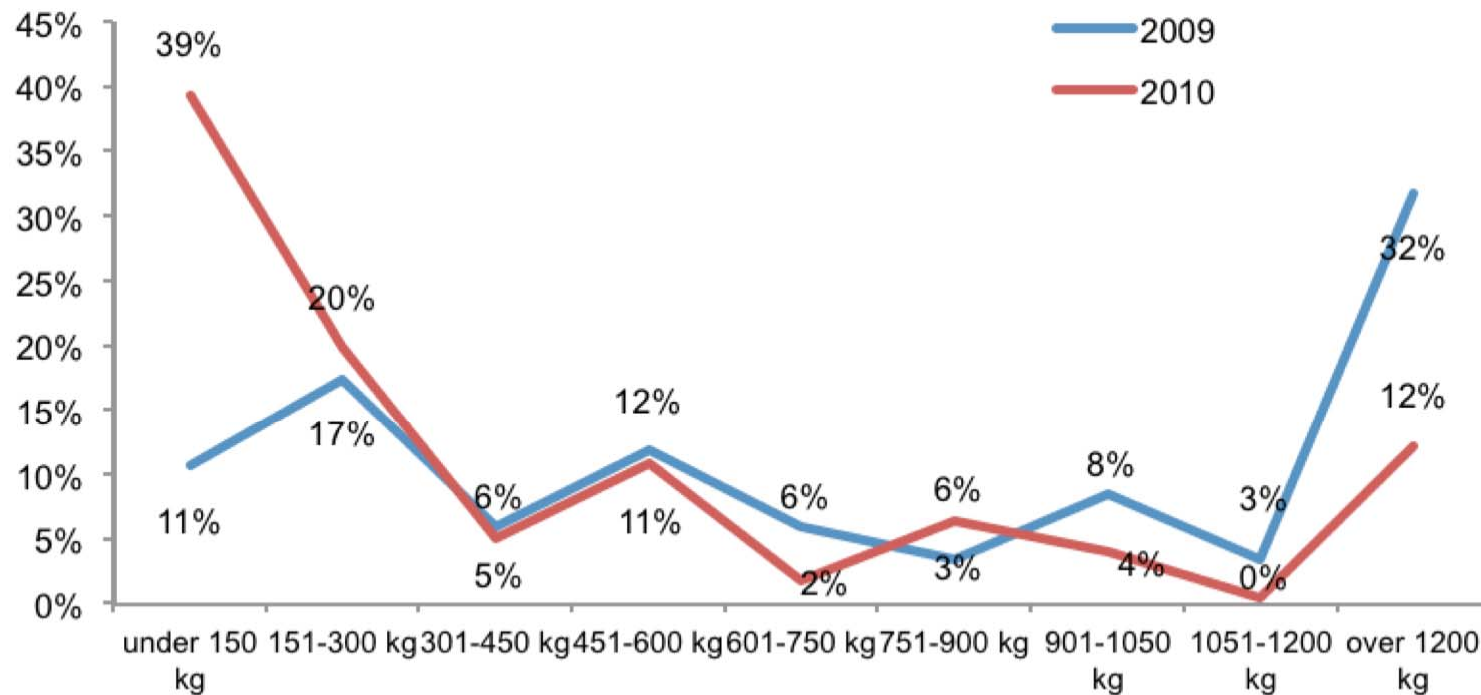


Average production / apiary in 2009 and 2010 (* - few cases, the values should be treated with caution)

	2009	2010
Honey (kg)	1043	467
Pollen (kg)	115	101
Propolis (g)	2492	2102
Royal jelly (kg)	1,62*	3,17*
Wax (kg)	29	25
Venom (g)	41*	33*

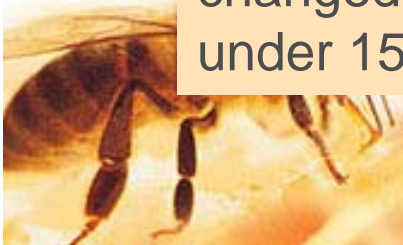
Analyzing the decline of the average production for all bee products in 2010, compared to 2009, there is a significant decrease of honey production, over 50%. The largest decrease in honey production was recorded in the case of elderly beekeepers (71 years and over).





Distribution of apiaries according to the quantity of honey produced in 2009 and 2010

The greatest differences are recorded at the extreme scales. If in 2009, over one third of beekeepers produced over 1200 kg of honey and only 11% produced less than 150 kg, in 2010 the situation changed, only 12% producing over 1200 kg and 39% produced under 150 kg.



The most significant costs:

- 21% - the food for bees;
- 20% - the fuel used to transport hives;
- 38% - the additional material necessary for the maintenance of the apiary, the depreciation of fixed assets, treatments and biological material

Production Costs

Sales


The decrease in sales of bee products in 2010 compared with 2009:

- the average price of honey increased from 12 to 16 lei (from 3 euros to 4 euros/kg)
- The quantity sold decreased on average by 60%.



The distribution channels

- The direct commercialization in the market place: 30%
- The intermediaries: 45%
- The Beekeepers' Associations: 5%
- **Export: 1%**
- Other methods

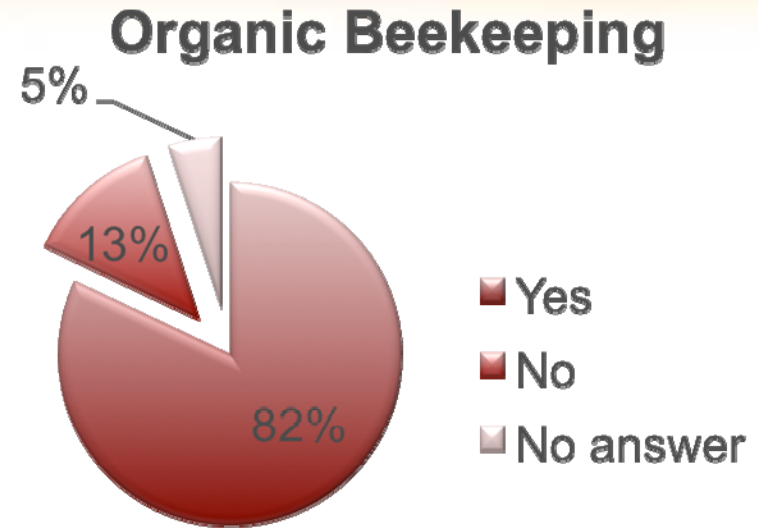


Comparably to similar research conducted in Argentina, several similarities can be observed: the reduced capacity to promote and sell bee products for export. Honey is exported mostly by intermediaries, packed in large quantities.

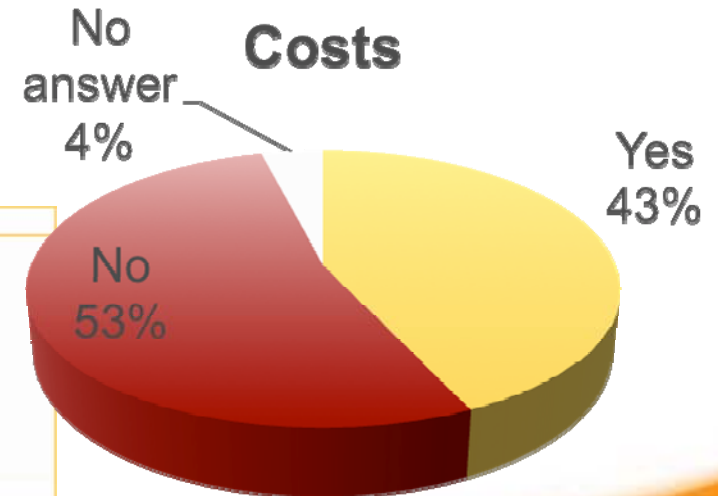


The organic beekeeping

82% of the beekeepers agree with the organic way of producing honey

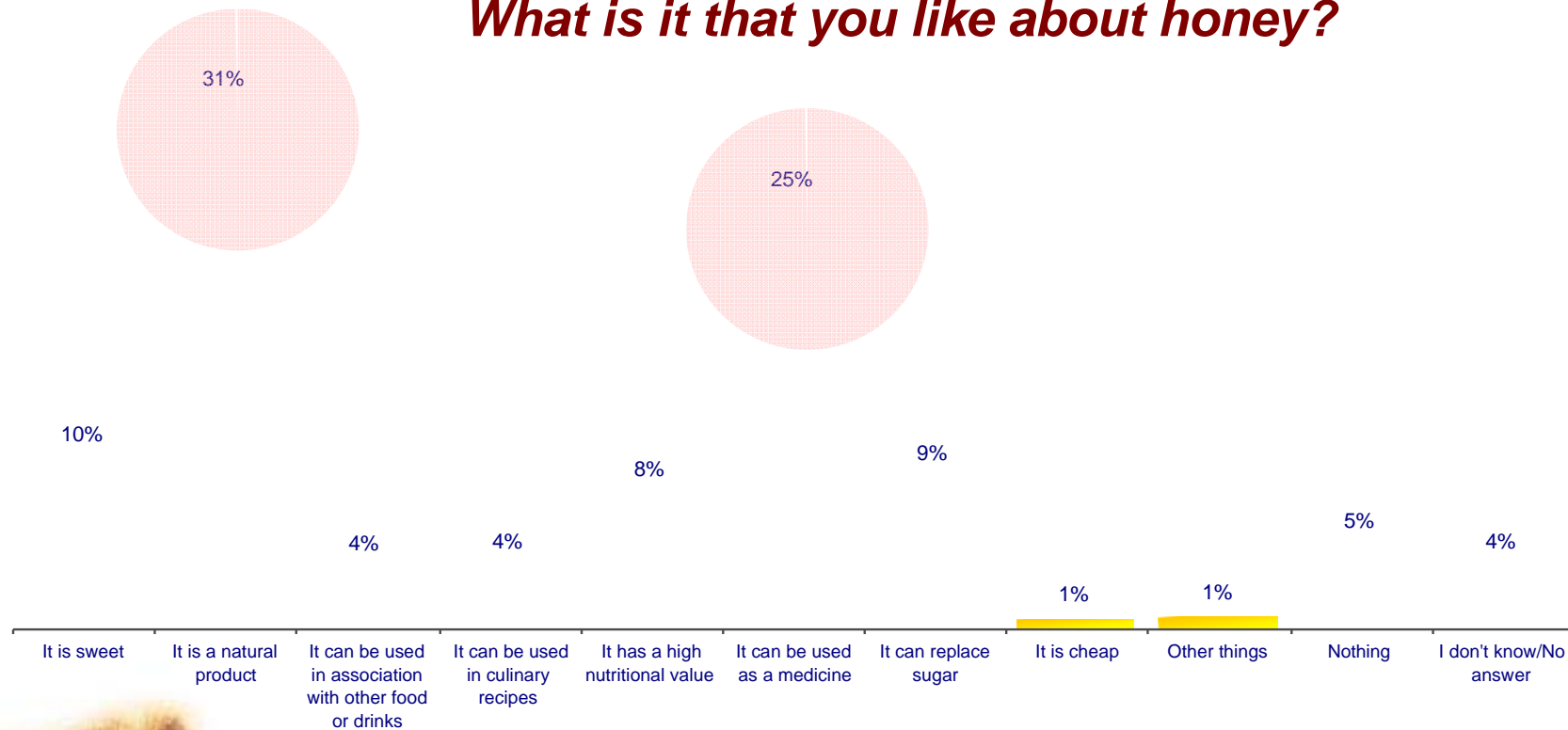


Less than half of respondents (43%) admit that they know the costs involved in organic beekeeping



Social aspects

What is it that you like about honey?



Source: Pocol C., 2011



Comparison with other studies

- **Argentina:** honey is often associated to medicine;
- **Hungary:** honey is more connected to health than diseases (prevention rather than treatment);
- **Australia:** honey is consumed primarily as food and not as medicine.





Positive aspects

The superior quality of bee products

Certification as traditional products

The creation of social enterprises (example: Barcău Valley, Salaj County): obtaining a local brand and create employment for vulnerable groups.



Negative aspects

Deficiencies regarding the labeling of bee products - misinformation

The imported honey, of questionable quality

The lack of knowledge regarding the concept of traceability

Environmental aspects:

- Carbon emission;
- The use of certain beekeeping practices and their impact on the wellbeing of bee colonies and biodiversity;
- Packaging;
- Pollination services;
- The use of pesticide.





Positive aspects

The transport of hives does not affect the environment through carbon emissions

20% of the surveyed beekeepers practice pastoral beekeeping (the average distance is about 145 km and the average number of colonies of bees transported is 53)

The glass jars are the most popular and most used packages.



Negative aspects

The use of medicine for the treatment of bee diseases and the artificial feeding during winter can determine a drop in the number of colonies of bees.

The use of pesticides in intensive farming could determine the phenomenon of depopulation and mortality of bees (It was only isolated in the region).

CONCLUSIONS

1

ECONOMIC:

Beekeeping is a profitable activity but...

It is dependent on climatic conditions.

The income obtained by beekeepers assures them a decent living and independence.

2

SOCIAL:

Beekeeping represents a means to create jobs and to support vulnerable groups in rural areas.

From the consumers' perspective, they can enjoy a variety of bee products of high quality and which are affordable.

3

ENVIRONMENTAL:

The practice of beekeeping has no negative implications upon the environment.

There are many positive aspects due to the pollination services, with a positive impact on maintaining biodiversity in the region.

THANK YOU!

