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CONSUMER VIEWS ON THE FUTURE TREND FOR ORGANIC FOOD PRODUCTION AND ACQUISITION IN CONJUNCTION WITH ENVIRONMENTAL CONSERVATION AND DEVELOPMENT. CASE STUDY: SIBIU

BY

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Abstract. From the literature found in this topic, in Romania, organic farming has developed in recent years.

In this paper, a study was conducted online, a study which seeks to highlight consumer views on the future trend for organic food production and acquisition, in conjunction with environmental conservation and development, in the county of Sibiu.

The aim is to study whether organic food production will have an upward, constant or downward trend, through the needs of consumers in Sibiu, and determine consumer attitudes toward these types of products.

The quantitative analysis realized (survey method) may underlie the disclosure between the producers and the consumer views on the production and purchase of organic food in Sibiu County, with the purpose to increase the production of organic food in the future. This future trend may be related to organic products, consumers' health and a cleaner environment.

Keywords: production; consumption; ecological product; environment; opinions.

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1. Introduction

Product demand is an economic and social phenomenon particularly complex, which has a decisive influence on the activity of any company. We are unable to establish or grow a business if the customer's request is non-existent or insufficient (Diaconescu, 2005, page 23).

In recent years, European consumer demand for organic products has skyrocketed. Sales of organic products have increased by 40% per year. To encourage organic farming, the European Union has developed a set of regulations for this purpose, including regulations that include labeling of these products with the mark "Organic farming" (Boboc, 2006, page 52).

The quality of production reflects the quality processes in the production systems, conceptual business sides, technological and production organization.

Product quality is the ultimate expression of the quality of agricultural production processes. This represents the final effects applied to the technologies of a culture and the one that is printing the product its essential features, making it suitable for use in the applications for which they were created (Constantin, 2007, page 102). In this context, we must insist on some elements of quality:

• quality nutritional aspect: human health conditions, with the main nutrients: protein content, carbohydrates, vitamins;

• sensorial quality: being a function of sensory attributes (organoleptic), such as smell, taste, consistency;

• hygienic quality due to natural toxicity, contamination or chemical pollution and microbiological contamination or other organisms;

• aesthetic quality: i.e. the presentation of products on the market, for the purposes of identifying the qualitative aspects (*e.g*. the packaging) (Chiran *et al*., 2007, page 253).

From the literature on this domain, JM Juran summarizes quality to the measure in which the sum of the product properties corresponds to the properties crucial for the performance of which it was intended, with minimal expenses. Therefore, a great importance is given to factors such as conception, execution and technological improvement, to product properties and its economic efficiency (Constantin, 2007, page103).

In agricultural Marketing of organic food, throughout methods and techniques, organic products are promoted which are considered to be clean. A biological food is considered ecological when it was obtained as a result of practice (or technologies) of clean, nonpolluting farming, which complies with the conditions relating to:

• Prohibition of use of synthetic chemicals (thus ecomarketing promotes and offers environmentally friendly alternatives to pest and disease control in agriculture);

• Using technology to obtain the product protects the environment and animals;

• Acceptance of control forms for clean production conditions;

• Respecting the rules imposed by regulation and standards in the production and distribution of these products.

Hence the concept of organic food = healthy food, which involves the manufacturer, the retailer and the consumer, as these products have influences on the strategy of the trader and on the balance in the agricultural/food sector (Constantin, 2007, pages 575-576).

From the literature it appears that the qualitative attributes of organic products and agricultural food ensure the production process, but they are manifested in the sphere of consumption (productive and non-productive). As such it is necessary to distinguish between the quality of the production process and product quality (Chiran *et al*., 2007, page 253).

Consumers of organic products based their choice on their ability to avoid the risks of illness, on respect for the natural environment, the retrieval of tastes for natural products (Chiran *et al*., 2004, page 25).

It is interesting to point out that, unanimously, researchers in the field of agriculture, which is a biotechnological and ecological-economic system, have been seeking diligently a change in "ideal", fighting for a less polluting and energy intensive ecosystem (Mănescu and Ştefan, 2005, page 15).

In the contemporary era, due to large and varied requirements of food, agriculture was diverted from its organic course.

In modern, intensive, high-yield agriculture, the farmer is taking advanced methods of cultivation of the land, and artificializes the agro system, creating disturbances in the relationship with nature. Therefore, when it is anticipated, the term organic farming/green technology, it should be understood as the resumption of contact with nature, respecting its fundamental laws, but without sacrificing performance in terms of varieties, hybrids, chemical processing and mechanization. Everything contributes to achieving steady, unpolluted yields and every year, it should be promoted, the full balance, without aggressive actions on crops, the environment and the eco-food (Mănescu and Ştefan, 2005, page 25).

From the literature in this domain, we find that "for agriculture, the only alternative would be a balanced ecological development, gradually developed and with maximum economic efficiency. The objectives of such agriculture would be the following:

• yield formation based on constant improvement of soil fertility and especially natural mechanisms to stimulate rational crop nutrition;

• registration of chemical control works;

• conservation and soil improvement;

• combating pollution in physical, biological and chemical processes;

• widest use of organic manure and nitrogen fixing plants;

• biological control of plant protection products in the field and in storage;

• modernization of warning and control services using expert models;

• exclude farms that do not comply with environmental programs from the recovery circuit;

• protection of the environment, including particularly labor protection of the cultivator;

• developing ethics and environmental awareness" (Mănescu and Ştefan, 2005, pages 27-28).

By conservation of the environment we understand "all actions of man to preserve ecological balance maintain and improve the quality of the natural, the material and spiritual development, providing better living and working conditions in the present and for future generations" (Drăgan and Jelev, 2007, page 43).

This suggests that the concept of organic food involves both the manufacturer, the retailer and the consumer, as these products have influences on trader's strategy, on the balance in the agricultural/food sector (Constantin, 2007, page 576) and on the environmental conservation and development.

2. Methodology

In this study we investigated consumers' opinions on the future trend for the production and purchase of organic food in conjunction with conservation and environmental development.

The research was conducted based on an online questionnaire. The research included a set of activities as research methodology.

The research area was reported to Sibiu county population of 375, 992 - preliminary data from the 2012 census (*Statistica populaţiei judeţului Sibiu*, 2012). The study was conducted online between 24 of June to 01 September 2014, when the pre-testing was also performed.

2.1. Objectives

The objectives of the research conducted are:

• Establish the consumer's behavior towards organic food in conjunction with conservation and environmental development in Sibiu;

• A study of the level of interest in organic food, based on county population of Sibiu;

• Establish a consumption profile of organic food in order to adapt the offer to the needs of consumers.

2.2. Determination of Sample Size

To determine the sample size, we started from the concept of a ratio that describes the community investigated. The formula used to determine the sample is:

$$n = z^2 * s^2 / e^2,$$

wherein: n – sample size; z – coefficient associated with the probability of guarantee of the research results (confidence level) set by the researcher (its value is taken from statistical tables); s – standard deviation of the sample determined at the level of a certain variable; e – the margin of error.

The probability of guarantee of the research results is 95%, the coefficient associated to the probability of guarantee of the research results is t = 1.96 according to Annex 1 (Cătoiu *et al*., 2009, page 719), and "n" emerged as n = 139 consumers, representing the sample size.

3. Results and Discussion

1. Determination of the number of people who purchase organic food.

The assessment shows that 85 subjects' questioned purchase organic food and 54 subjects do not purchase organic food. The distribution of the percentages of consumers on the purchase of organic food is shown in Fig. 1.

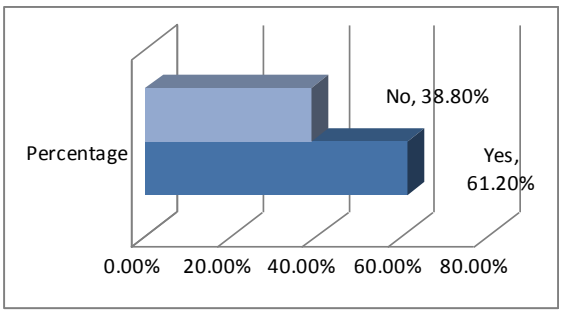

Fig. 1 − Distribution of the percentage of consumers regarding the purchase of organic food.

Fig. 1 shows that 61.20% of respondents purchase organic food. As the percentage of 61.20% is small, perhaps the subjects do not know or cannot see the benefits of purchasing organic food.

2. Investigation of the time allocated by the consumers for purchasing food, in a month time.

39.10% of the subjects interviewed said that several times a month they buy organic food, 31% of respondents purchase organic food every week, 23%

of respondents purchase organic food once a month, 4.60% of respondents purchase products organic food daily, and 2.30% of subjects never bought organic food.

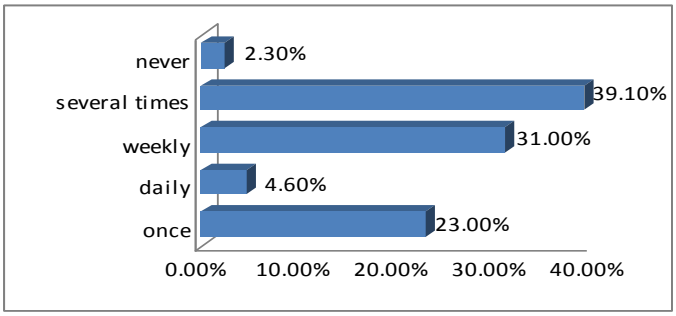

Fig. 2 − Distribution of the percentage of consumers depending on the time of purchase of organic food in a month period.

It may be observed that, if acquiring probably several times a week, the consumers can be better informed and educated regarding this type of products. Also, the distribution of the percentages, 97.7% in case of purchasing options once, several times or more often within a month, show that most people interviewed have knowledge about these products and use them, even if to question number one, the percentage was lower.

3. Determination of subjective opinions on the quality of the organic food purchased.

We determined the importance given to the quality of food products purchased, shown in Fig. 3. The subjects, in the proportion of 18.40% assessed as very good the quality organic food purchased, 63.20% consider it to be of good quality, 6.90% as low quality and 2.30% as being very poor. 9.20% did not know the quality of organic food.

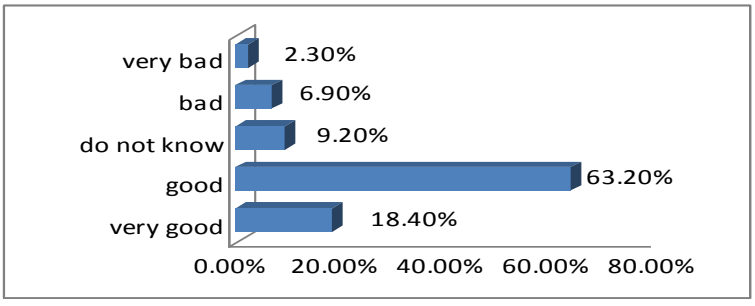

Fig. 3 − Distribution of the percentage of consumers according to the importance given to the quality of organic food purchased.

4. Evaluation of the views of the subjects on the possibility of the organic agricultural sector to develop in the future.

Considered to be the sector with the utmost importance, and evolving, we evaluated the subject's views and opinions and a rate of 84.10% believe that the sector will have a great growth opportunity in the future.

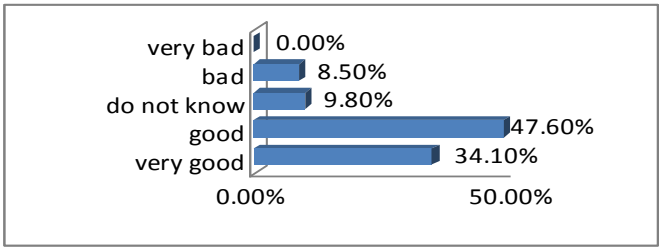

Fig. 4 − Distribution of the percentage of consumers' opinion on the possible development in the future of the organic agricultural sector.

47.60% of respondents consider that the organic agricultural sector has a good growth opportunity, 9.80% of subjects do not know and 8.50% believe that the organic agricultural sector has little growth opportunity in the future. None of the subjects rated the opportunity of development of the organic agricultural sector as very poor.

5. Evaluation of subject's views on the development of organic agricultural sector in full correlation with environmental conservation and development.

Considered to be the sector with the utmost importance, and evolving, we evaluated the subjects' views and opinions and a rate of 39.30% believe that the sector will have a very good opportunity to develop fully correlated with environmental conservation and development and 34.50% of respondents consider that the organic agricultural sector has good growth opportunity in relation with the conservation and development of the environment.

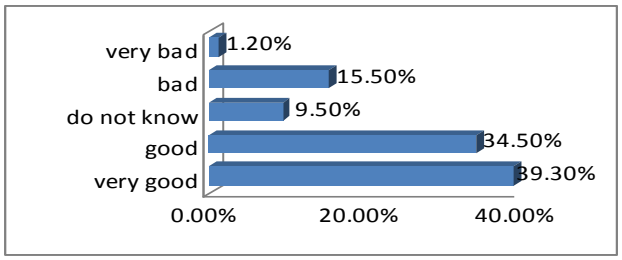

Fig. 5 − Distribution of the percentage of consumers' views on the development of organic farming in full correlation with environmental conservation and development.

9.50% of subjects do not know and only 15.50% of respondents consider that the organic agricultural sector has little opportunity of development in the future, and 1.20% of subjects rated as very poor the development opportunity of the sector in full correlation with environmental conservation and development.

6. Evaluation of subjects' opinion on whether organic agriculture is a profitable activity for the future or not.

Considered to be the sector with the utmost importance, and evolving, we evaluated the subjects' views and opinions and a combined rate of 94.10% appreciate greatly the development of organic agriculture as a profitable activity for the future.

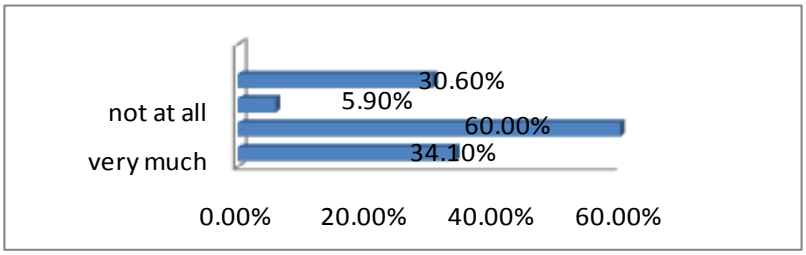

Fig. 6 − Distribution of the percentage of consumers' view on whether organic agriculture is a profitable activity for the future or not.

5.90% of the subjects believe that the development of organic farming is not a profitable activity for the future.

7. Evaluation of subjects' opinions on whether or not the development of ecological agriculture leads to environmental conservation and development and in which sense.

The answers to the open question regarding subjective opinion whether or not the development of the organic agricultural sector leads to environmental conservation state that 28% of respondents feel that it can reduce pollution, 27% indicate that they reduce the use of chemicals, 14% that it can rehabilitate the soil, 10% that is greening the production process, 9% did not respond, 4% felt necessary the use of biodegradable packaging in such processes, 5% stated that the public should be more aware about the ecological and organic products, and 3% felt that it is necessary to increase investments.

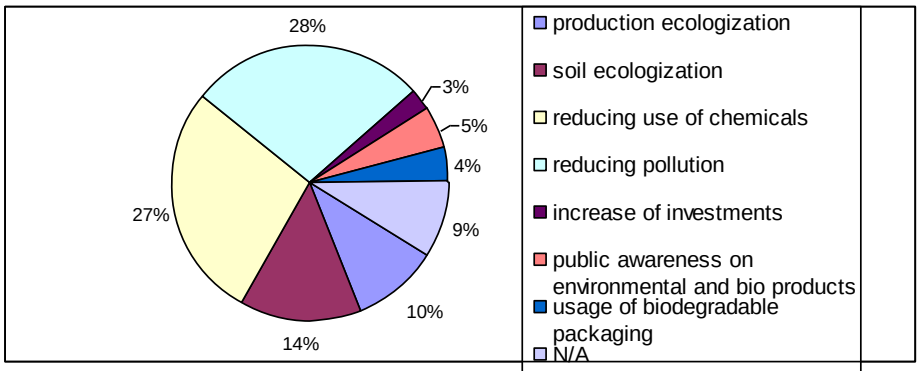

Fig. 7 − Distribution of the percentage of consumers' opinions on weather or not the development of ecological agriculture leads to environmental conservation and development and in which sense.

8. Evaluation of subjects' knowledge on the means to identify organic food.

Identification of organic products is of great importance to the consumer. To this question 43% of respondents stated that they know how to identify the products to a large extent, 42% know little about how to identify this products and 15% do not know how to identify whether a product is organic food or not.

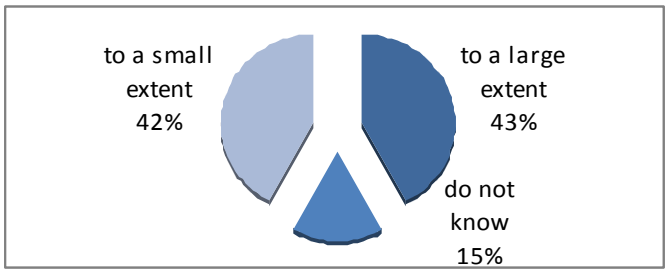

Fig. 8 − Distribution of the percentage of consumers opinions based on wheatear they know how to identify organic products.

9. Evaluation of subjects' acknowledgment of the positive impact of consumption of organic products on their health.

When asked the subjects about assessing whether they realize the positive impact of consumption of organic products on their health and 68% of respondents answered that they realize the positive impact of consumption to a great extent, 26% of respondents are aware of the positive impact to a small extent, and 6% did not know.

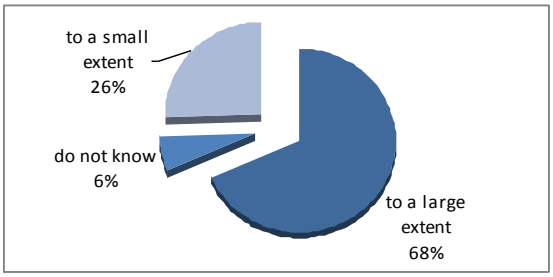

Fig. 9 − Distribution of the percentage of consumers who realize the positive impact of consumption of organic products on their health.

10. Evaluation of subjects' opinions on whether they acknowledge the benefits of producing products ecologically for the preservation of the environment and environmental development.

Subjects' opinions on the advantages of producing organic products not only for consume, but also for environmental conservation and development highlights that they are informed, and that they attribute great importance to organic products.

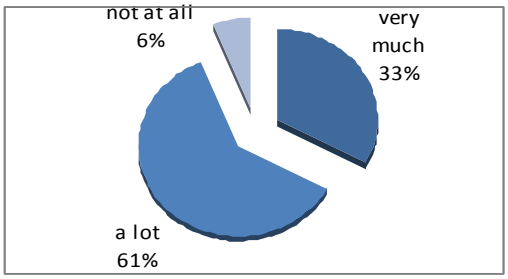

Fig. 10 − Distribution of subjects' opinions on awareness of the advantages of producing organic products for the preservation and development of the environment.

The analysis of the results in Fig. 10 show that only 33% of subjects are very much aware of the advantages of producing organic products for the preservation and development of the environment, 61% of respondents are aware of the advantages of producing organic products for the preservation and development environment, and only 6% of respondents are not aware of this effect.

11. Evaluation of subjects' opinions renouncing regular food in favor of organic food, even if the price is higher.

The evaluation of subjects' opinions renouncing regular food in favor of organic food, even if the price is higher, reveals that 66% of respondents do this

often, 33% of subjects rarely choose eco-products in favor of regular food, and 1% does not choose eco-products at all.

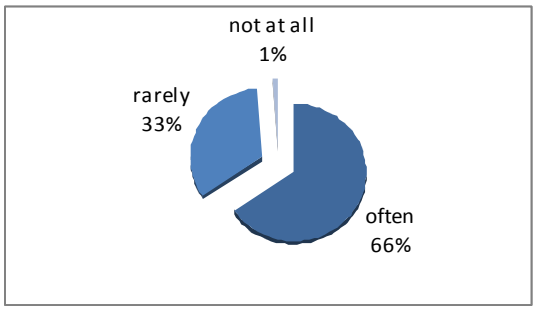

Fig. 11 − Distribution of the percentage of consumers whom favor organic food instead of non-organic food, even if the price is higher.

12. Evaluation of subjects' opinion on the degree of information that they possessed when purchasing organic food.

The opinion of the subjects relating to the purchase organic food, meaning if they felt educated and informed at the time of the purchase, revealed that 50% of subjects considered themselves largely educated and informed, 24% of subjects considered themselves educated and informed to a small extent, and 26% of subjects do not know if they were informed at all.

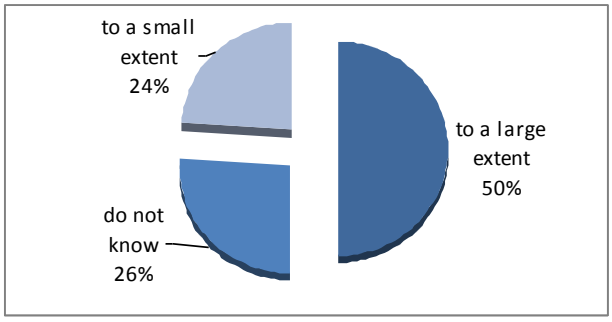

Fig. 12 − Percentage of the distribution of consumers' opinion on whether they considered themselves to be educated and informed when they purchased organic food.

13. Evaluation of subjects views on the reasons that determined them not to buy organic food.

Opinion on not buying organic food subjects revealed that 42% of subjects were considered high price, 19% of respondents indicated a lack of confidence in these products, 17% of respondents did not specify any reason, 11% said lack of organic products market, 7% said that buying organic products

due to lack of information, and 4% of the subjects stated that purchasing organic products because they were accustomed to the organic.

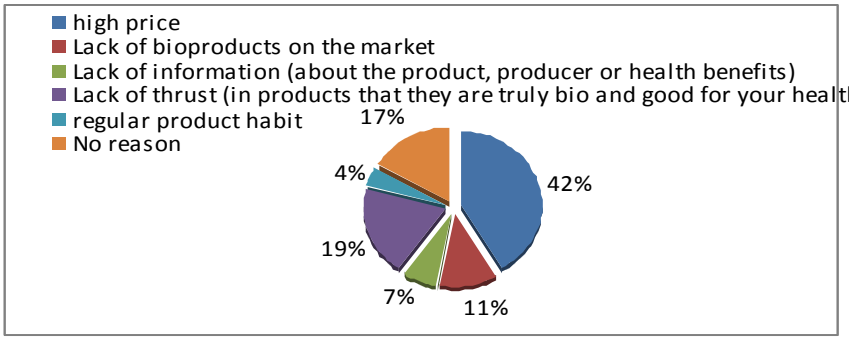

Fig. 13 − Distribution of the percentage of consumers depending on the reason that led them not to buy organic food.

14. Evaluation of subjects' opinion on whether the purchase organic food is influenced by the quality of the information they have.

Subjects opinions on if organic food is influenced by the quality of their information, revealed that 70% of respondents consider that the purchase of organic food is largely influenced by the quality of their information, 17% of respondents consider that the purchase of products organic food is influenced to a small extent by the quality of their information, and 13% of subjects do not know if the purchase organic food is influenced by the quality of their information.

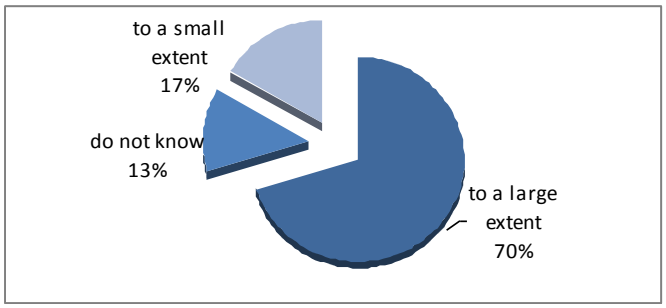

Fig. 14 − Distribution of the percentage of consumers that purchase organic food influenced by the quality of their information.

15. Evaluation of subjects' opinions about the quality of information received on organic food.

The subjects' opinion on the quality of the information received about ecological products revealed that 16% of them deemed as sufficient that

information, 45% of respondents consider that this information is insufficient, and 39% said that none of the options stated.

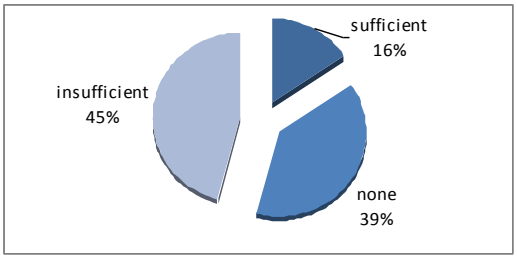

Fig. 15 − Distribution of the percentage of consumers on the quality of the information received on organic food.

16. Evaluation of subjects' opinions about the accuracy of the information on organic food packaging.

The opinion of the subjects on the accuracy of the information on organic food packaging, revealed that it is well appreciated by 42% of respondents, 19% of respondents said it was poorly stated, 5% of respondents said it was very well appreciated, 2% of respondents said it was very poorly appreciated, and 32% of subjects responded indecisively.

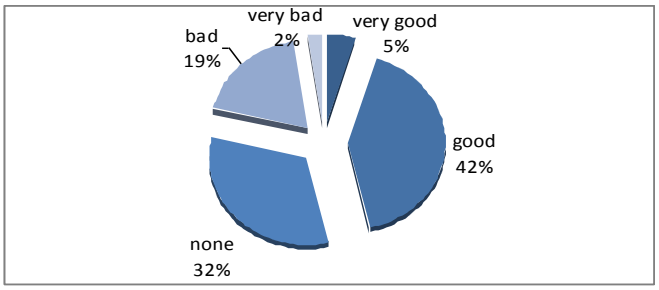

Fig. 16 − Distribution percentage of consumers' opinion on the accuracy of the information on organic food packaging.

17. Evaluation of subjects' opinions about the correlation between the quality of organic food purchased and their manufacturer.

Subjects opinion on the correlation between the quality of organic food purchased and their producer revealed that 60% of respondents considered there is a correlation between the quality of organic food purchased and their producer, 33% of respondents do not know whether there is a correlation between the quality of organic food purchased and their producer, and 7% of respondents believe that there is little correlation between the quality of organic food purchased and their manufacturer.

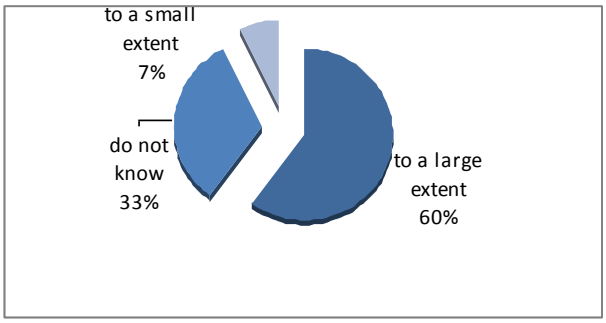

Fig. 17 − Distribution of the percentage of consumers' opinions on the correlation between the quality of organic food purchased and their manufacturer.

18. Assessment of the knowledge of the subjects on green-food producers.

Subjects' opinion is very important in terms of knowledge of the organic food producers in the county of Sibiu, because knowing more about the technology used by the manufacturer may be a prerequisite for the development of the sector, and can be a great source of information for the consumer on the quality of products offered.

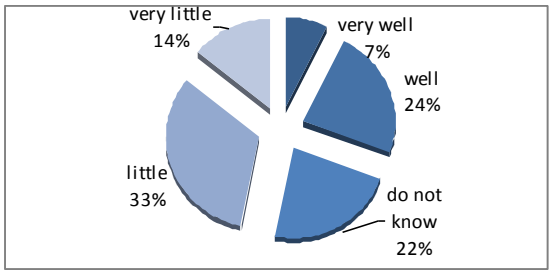

Fig. 18 − Distribution of subjects' knowledge on producers of organic food.

From the analysis of Fig. 18 we see that 33% of respondents know little about organic food producers, 24% stated that they know well the producers of organic food, 22% of respondents do not know anything about organic food producers, 14% of subjects have little knowledge about food producers, and only 7% of respondents are very familiar to ecological food producers line of work.

19. Evaluation of subjects' opinion on the way the producers promote the organic food purchased.

The evaluation of subjects' opinion on the way the producers promote the organic food purchased revealed that 60% of respondents believe that organic food is less promoted than it should be, 20% of respondents considered

that it is sufficiently promoted, and 20% of respondents do not know if the answer to this question.

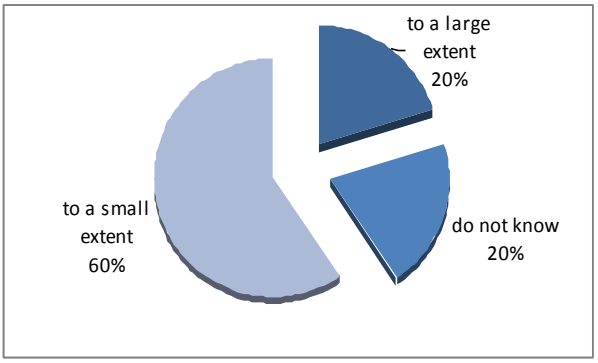

Fig. 19 − Distribution of the percentage of subjects' opinion on the way the producers promote the organic food purchased.

20. Evaluation of subjects' views on the factors which determine the purchase of organic food.

Although organic foods are more expensive, however the analyses of the responses of the subjects show that there are other factors that they follow when purchasing organic food.

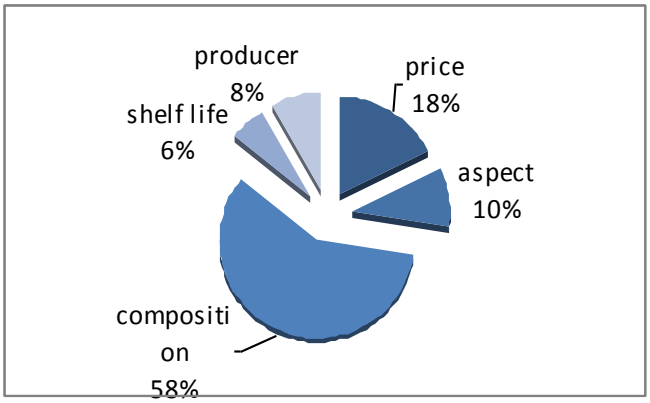

Fig. 20 − Distribution of subjects' views on the factors which determine the purchase of organic food.

The analysis of Fig. 20, reveal that the factors determining the purchase of organic food are: composition of the product (58%), price (18%), appearance (10%), manufacturer or producer (8%) and 6% the term of validity.

21. Evaluation of subjects' views on increasing the production of organic food

When processing the open questions, a total of 85 respondents have given various answers. In order to be processed, these responses have been synthesized and grouped, and the result is shown in Fig. 21.

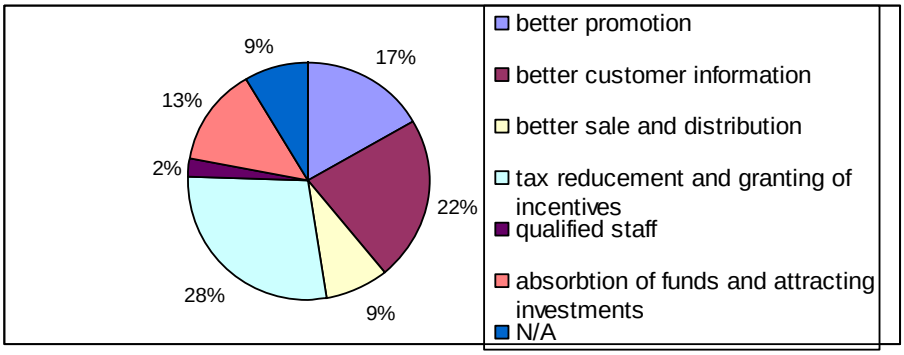

Fig. 21 − Distribution of subjects views on increasing the production of organic food.

28.04% of respondents believe that low taxes and incentives granted to producers may stimulate the increase in production, 21.95% of respondents wish to receive better information in order to stimulate the production, 17.07% of respondents consider that a better promotion of such products should be done, 13.41% of subjects deemed to be motivated to attract and access funds, 2.43% of the subjects stated that there must be qualified personnel in production processes, 8.53% of the respondents consider that there must be a better sale and distribution done in this field, and 8.53% did not answer this question.

22. Evaluation of subjects' opinions on the definition of organic food in terms of its relationship with the possibility of environmental conservation and development.

Subjects opinion on the definition of organic food in terms of its relationship with the possibility of environmental conservation and development revealed the following: 34% did not answer, 17.46% have defined it in terms of greening, 15.87% believe that its main characteristic is having a natural composition, 12.69% considered that it improves health, 9.52% consider that its production process and its packaging is environmental friendly, 7.93% consider that it reduces the use of chemicals, and 1.58% consider that the production of such products leads to environmental development in the long term.

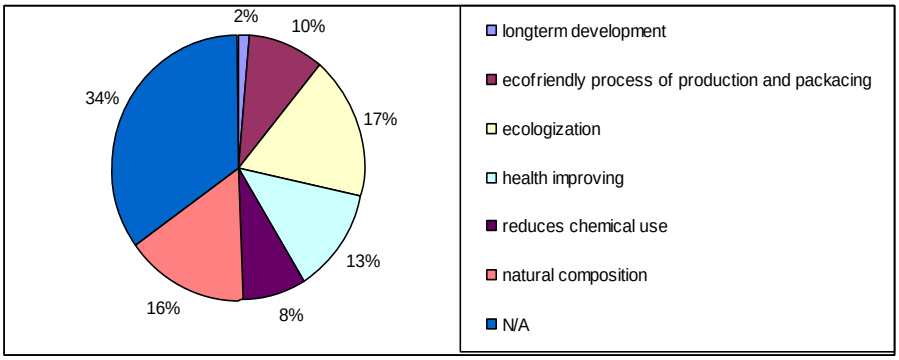

Fig. 22 − Distribution of the percentage of consumers' answers regarding the definition of organic food in terms of its relationship with the possibility of environmental conservation and development.

23. Evaluation of subjects' opinion on whether the production of organic food may be a prerequisite for sustainable development of the environment in Sibiu.

The opinion of the subjects on whether organic food production may be a prerequisite for sustainable development of the environment in Sibiu, revealed that 71% of subjects appreciate this to be true, 25% of the respondents believe this statement to a small extent, and 3% of respondents do not know.

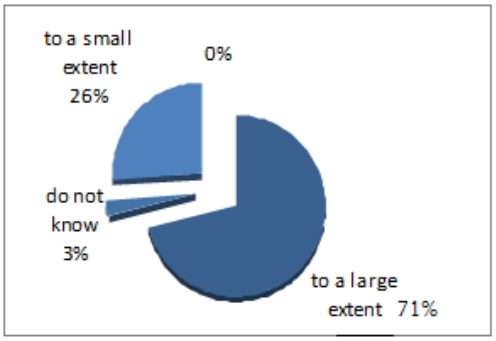

Fig. 23 − Distribution of the percentage of consumers' opinion on whether the production of organic food may be a prerequisite for sustainable development of the environment in Sibiu.

This marketing research, using online questionnaires, was conducted to highlight the consumer's opinion regarding the intention to purchase organic food, in the county of Sibiu. One of the essential conditions for development of organic farming is to promote the organic farming concept to raise the consumer's awareness on the benefits of eating organic foods, so they are willing to offer a higher price for cleaner products whose quality is guaranteed

by a system of inspections and certifications. Also, by using this quantitative method, we attempted to highlight whether the consumers of organic food in Sibiu County consider themselves as being informed and educated in this domain and the study shows that only 50% of subjects believe that they are sufficiently informed. The conclusion would be, reporting on the premise that consumers are taught and informed in order to consume organic food, that even if these products are more expensive, they will determine the conservation and development of the environment in the future, and contribute to developing a positive attitude towards organic food and the general health of the population.

4. Proposals

As proposals, following the study conducted, we can mention:

• Consumers should be more informed about organic food.

• Also to be informed on the relationship between organic food and environmental preservation and development.

• Raise awareness about how organic agriculture and consummation of eco-products has a positive effect on consumers' health.

• Development of organic food market in Sibiu County.

• More information on the manufacturer of such products in appropriate packaging and include information on ingredients and the manufacturing process and the environmental impact.

The study conducted points out that, although people surveyed do not know well enough the manufacturer, do not know the effects that the consumption of such products has on their health, nor have sufficient information on their contents, are aware of the positive impact that such products they have upon environment. They would be willing to purchase such products if they were better informed. Manufacturing companies can take advantage of this; there is a potential market outlet for this kind of products. However, it appears that there is a predisposition of the population of Sibiu county, population analyzed in this research, to purchase such products, healthier and with natural ingredients.

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OPINIILE CONSUMATORILOR PRIVIND TENDINŢA VIITOARE PENTRU PRODUCEREA ŞI ACHIZIŢIONAREA PRODUSELOR ALIMENTARE ECOLOGICE ÎN CORELAŢIE CU CONSERVAREA ŞI DEZVOLTAREA MEDIULUI. STUDIU DE CAZ: JUDEŢUL SIBIU

(Rezumat)

Din literatura de specialitate rezultă că, în România, agricultura ecologică s-a dezvoltat în ultimii ani.

În cadrul acestei lucrări, s-a realizat un studiu online, care îşi propune să scoată în evidenţă opiniile consumatorilor privind tendinţa viitoare pentru producerea şi achiziţionarea produselor alimentare ecologice, în corelaţie cu conservarea şi dezvoltarea mediului, la nivelul judeţului Sibiu.

Scopul este de a studia dacă producerea produselor alimentare ecologice va avea o evoluţie ascendentă, constantă sau descendentă prin prisma nevoilor consumatorilor din judeţul Sibiu, dar şi determinarea atitudinii consumatorilor faţă de aceste produse.

Analiza cantitativă (prin metoda chestionarului) poate sta la baza aducerii la cunoştinţă producătorilor despre opiniile consumatorilor cu privire la producerea şi achiziţionarea produselor alimentare ecologice, la nivelul judeţului Sibiu, cu scop de a creşte producţia de produse alimentare ecologice, în viitor. Tendinţa de viitor poate fi raportată la produse ecologice, consumatori sănătoşi şi un mediu curat.