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C O N T E N T S

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THE ROLE OF AN E-LEARNING PLATFORM IN THE SUSTAINABLE DEVELOPMENT OF THE ONLINE LEARNING AT THE UNIVERSITY OF AGRICULTURAL SCIENCES AND VETERINARY MEDICINE , DISTANCE LEARNING DEPARTMENT, BUCHAREST, ROMANIA

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Abstract

In the current continuous dynamic development stage, the organizations which implement the online learning offer the participants to the knowledge activity the possibility to use the change in their benefit.E-Learning is a new method of understanding the learning process in which the basic elements remain the same, but the knowledge exchange and assimilation means are different. The use of an information system for learning also brings new benefits regarding the freedom to learn where and when you want.

Key words*: e-learning, e-learning platform, information system, leraning, sustainable development*

INTRODUCTION

Nowadays, almost all social activities are backed up by electronic presentations, as Internet web pages, multimedia databases, and interactive presentations.

MATERIAL AND METHODS

E-Learning is nothing but a new method of understanding the learning process in which the basic elements remain the same, but the knowledge exchange and assimilation means are different. The use of electronic means for this purpose brings the freedom to learn when and where you want.
e-Learning interactive learning includes several types of activities, such as:
1. Courses represent one of the most important component of e-Learning activity. Course structure involves the use of recent educational materials, grouped in a number of sequences which form a sequence of lessons. Their on-line "transfer" as multimedia files implies the use of various presentation formats: simulations, animations and software examples.
2. Informal education represents one of the most dynamic and mobile components of the e-Learning process. Unfortunately, this feature is not always understood properly, especially by those outside the system. The need to understand and assimilate, as well as the need to confirm the proper understanding and to identify the possibilities to use the new information represent the main drive for students' involvement in the informal training.
3. Indirect education is aimed to strengthen the information sent and absorbed by the students during the lessons or through on-line means. Thus, the indirect training practically occurs involuntary, in the periods of apparent pause, during which the students are stimulated to communicate face-to-face. In the indirect education, the stimulating and moderating role is of the trainer which has to emphasize the so called effect of the social component of the e-Learning process.
4. Integration into community. In order to overcome the challenges faced by the students at their workplace, different perspectives are necessary for to the accurate understanding of the potential solutions and of their implementing environment. This leads to the

permanent training need in which community plays an important part to the implied propagation of knowledge.

5. Knowledge management represents an organizational activity aimed to develop a social environment and a technical infrastructure so that knowledge is obtained, sent and assimilated.

6. Networking education. This process type allows the persons which are involved in networking to develop their abilities in a stable environment known to them as their specialized field.

7. Learning-by-doing. Learning-by-doing systems may use the support of an electronic platform or be actively involved in the student's productive activity and represent the precise transfer of knowledge regarding the maximum necessity areas for the development of the student's skills.

RESULTS AND DISCUSSIONS

An e-Learning platform is a software product with the following minimal set of requirements which offers:

- The assurance of setup, configuration and administration procedures;
- The use of a friendly interface adapted to the dynamics of the learning process;
- The use of an electronic support for synchronous and asynchronous communication;
- Information management and monitoring;
- An accessible management of the learning content;
- The use of various modules to edit the learning content in different formats;
- The facilitation of offline self-assessment through asynchronous procedures and of online assessment through synchronous procedures regarding the assimilated knowledge;
- A continuous learning schedule with partial examinations during the entire learning process;
- Support for users in using the educational software;
- Feedback regarding the quality of the offered educational services, as well as the quality of the learning platform.

In order not to remove or neglect the teacher-student/pupil relation, e-learning may use all the convenient and efficient tools for the teacher and the student/pupil in view of achieving the desired objective, i.e. an as good as possible training of the student. For this, it is necessary to build e-Learning platforms (figure 1).

The course platform and the tools necessary to supply the e-Learning service may be organized according to the complexity of the communication technologies used.

For the e-Learning platform implemented for USAMV-DID Bucharest, the standard users are:

- **Teacher – trainer/tutor** – the main supplier of didactic resources, the intermediary between didactic resources and students and also an assessor of their knowledge. He/she secures subject's integration into the learning process by permanently assisting them, as regards the use of the e-Learning platform and the guidance regarding the paths and capabilities offered by the learning programs;
- **The subject (student/pupil)** – is the direct beneficiary of all platform services, the supplier of information regarding the learning process quality, and of the way in which it answers to his/her needs with procedures and services;
- **Learning program administrator** - secures subjects' integration into the learning process by permanently assisting them, as regards the use of the e-Learning platform and the guidance regarding the paths and capabilities offered by the learning programs;

The Web site contains links to information resources, news and events for the interest groups of the university and access to the course module data base (for consultation, supplementation or change).

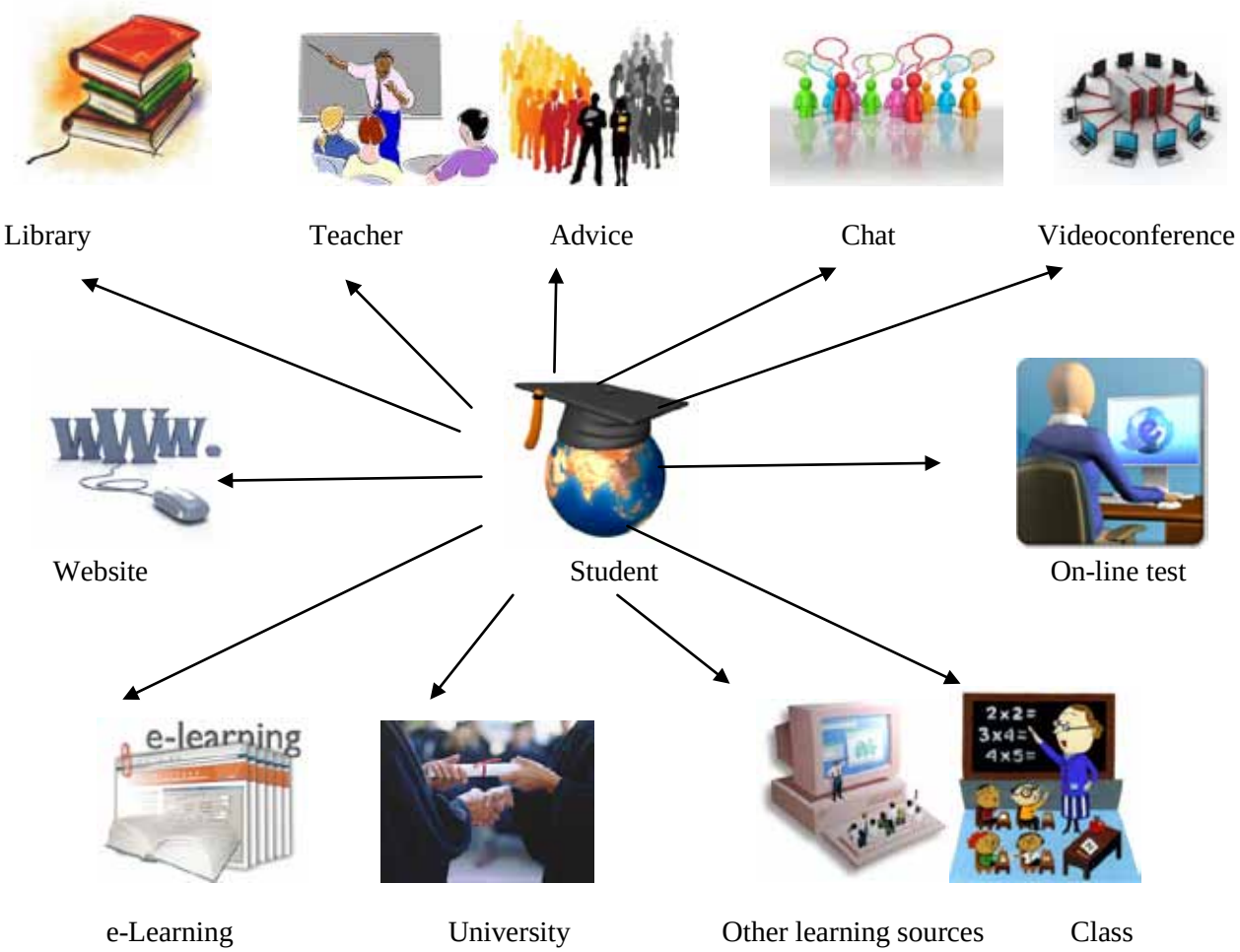

Figure 1 – Graphic representation of e-Learning platforms

This type of implementation offers the possibility to search for the learning modules according to several criteria.

Each course space offers a list of tools which allow the teachers to:

• Describe a course;
• Publish documents in any format (text, PDF, HTML, video...);
• Manage the private and public forum;
• Develop learning methods;
• Create students' groups;
• Prepare online exercises;
• Manage an agenda with tasks and deadlines;
• Publish notifications (also by e-mail);
• Suggest assignments to be delivered online;
• View statistics regarding the users' activity;
• Use wiki (a website which uses the wiki software which allows the easy creation and editing of any number of interconnected Web pages, simplified, by using a markup language) to write collaboration documents.

Also, the platform provide for the dialogue between student and teacher, tutor respectively which allows the student to be in permanent contact with the study group, to monitor the learning program, to self-assess and to be assessed by the teacher. The final assessment will take place in a secured environment.

The benefits of the e-learning system are:

· Removal of costs and disadvantages represented by the necessity that the trainer and the student to be in the same place
· Web products allow the trainers to update their lessons and materials in the entire network, with the automatic integration of information and of student's access to the newest data
· Increased collaboration and interactivity between the students
· Electronic learning is less stressful than the traditional one

· The technology offers the individual the opportunity to organize the learning method. It is not necessary to participate in the lectures
· Information architecture is modular and allows the progressive learning
· With e-learning, students are easily monitored and they can be offered the help they need
· The internet has a higher storage capacity than the individual hard disks allowing the users to access more products

Therefore, this type of learning is starting to grow. Many universities have already adopted the mandatory existence of courses on the Web. Software products specialized in electronic interactive training have been prepared, are developing and expanding.

Disadvantages of e-Learning are:

• **The access to the e-Learning platform and IT resources is necessary** – the students need a PC, tablet PC, smartphone etc. and internet connection

• **Experience in the use of computers –** the students are requested some knowledge in IT field.

• **Rather high design and maintenance costs** – they include expenses related to technology (hardware and software), sending information on the network, equipment maintenance, creation of the necessary materials. But, compared with the costs of the traditional learning process, they are definitely lower.

Irrespective of these disadvantages or limitations, the experience of the already functional e-Learning platforms has shown that those who participate in learning with the help of new e-Learning technologies become quickly familiarized with the virtual environment and relatively quickly accustomed with the natural pace of sending and respectively receiving knowledge with this modern and efficient type of learning.

CONCLUSIONS

E-learning offers accountability, accessibility and opportunity allowing both the students and the university to keep pace with the global economy which now is developing with the speed of Internet. But, the wider integration of new information and communication technologies in the learning process needs a thorough reassessment of the contemporary didactics because the new available learning methods offered by this new technology differ fundamentally from teaching and learning in a traditional class room.

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IMPORTANCE OF INVESTING IN INNOVATION FOR SUSTAINABLE AGRICULTURE

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Abstract:

Investments in innovations for agriculture and food can be understood as new knowledge and technologies in agricultural and food production, processing, and marketing that are applied in economic and social processes. As a result of such investments, farmers, processors, and traders become more competitive, produce or sell better-quality products, and generate greater profits. Investments in innovation for agriculture relates to new and improved seed varieties, tissue, vaccines, equipment, and cropping and husbandry techniques. It also includes the application of quality protocols, organizational restructuring, improved management, and selling to new markets and buyers. Innovations can lead to improved management of natural and other resources and ultimately generate society wide benefits.

Key words: *innovation, agricultural innovation, organizational restructuring, investments in agricultural innovation*

INTRODUCTION

Agriculture has played a key role in the development of human civilization. Until the Industrial Revolution, the vast majority of the human population labored in agriculture. The type of agriculture they developed was typically subsistence agriculture in which farmers raised most of their crops for consumption on farm, and there was only a small portion left over for the payment of taxes, dues, or trade. In subsistence agriculture cropping decisions are made with an eye to what the family needs for food, and to make clothing, and not the world marketplace. Development of agricultural techniques has steadily increased agricultural productivity, and the widespread diffusion of these techniques during a time period is often called an agricultural revolution. A remarkable shift in agricultural practices has occurred over the past century in response to new technologies, and the development of world markets. This also led to technological improvements in agricultural techniques. [1]

RESULTS AND DISCUSSIONS

Numerous opportunities exist for developing knowledge and technologies that can improve agricultural products, add value, and generate income for local primary producers, processors, and other actors. To identify what innovation is really required, knowledge providers need to take into account the complementary and sometimes competing demands of primary production, processing, agribusiness, and consumers. Suppliers of innovation include not only research organizations, universities, and extension agencies, but also consultants, agro-industry, and farmers and processors themselves. More flexible government funding schemes and more open structures for partnerships between scientists, private knowledge providers, and private users of knowledge will help involve these actors more prominently in the

innovation process. Governments and donors that aim at fostering agricultural innovation may bear in mind that focusing only on public goods and small-scale farming technologies will not bring together enough actors and will not meet the existing demands for innovation. To energize poverty alleviation efforts in developing countries' agriculture, pro-poor technologies need to be complemented with an enhanced focus on the demands of private, small-scale producers.

Measures toward this end include:

- engaging them in generating and expanding technological innovations initiated by public institutions and the commercial sector;
- disseminating and promoting information on providers and clients of knowledge and technology services;
- strengthening competitive grants programs that provide private-sector agencies with access to technological goods and services and foster strategic alliances among users and providers of technologies;
- ceasing government "give-away" programs for technological goods and services that distort competition and discourage small entrepreneurs from investing in innovation;
- promoting opportunities to invest in innovation in the country's agriculture;
- helping producers and their organizations to identify their "real demand" for technological goods and services as part of a business development and management support program;
- and reorienting the role of the national agricultural research organizations away from the exclusive generation of public goods (such as seeds for small-scale farmers) toward the production of appropriate technologies and knowledge that provide innovators with an innovation rent and thus foster innovation—which is a public good in itself. [2]

The importance to investing in innovations for agriculture development has some reasons:

- **Grain inventories are falling.** As result we risk to have rising prices for grains and for the farmland that produces them.
- **Grain consumption is on the rise.** The world consumes, on average, 2,600 bushels of grain crop per second. And that amount could easily double to 5,200 bushels per second over the next 20 years. The amount of pressure on the global food supply network is enormous. You can see the steep downward trend in wheat supply in the chart below.

The big factor here is meat. Hundreds of millions of people in China and India are joining the middle class. As people get wealthier they eat more meat. And more meat requires more grains to feed cattle and hogs. It takes 10 pounds of grain to produce one pound of meat. Because of that, most of the demand growth for coarse grain and oilseed meal will come from livestock in developing economies or the countries feeding them. So long as the middle class expands, you can be sure meat and grain consumption will follow.[3]

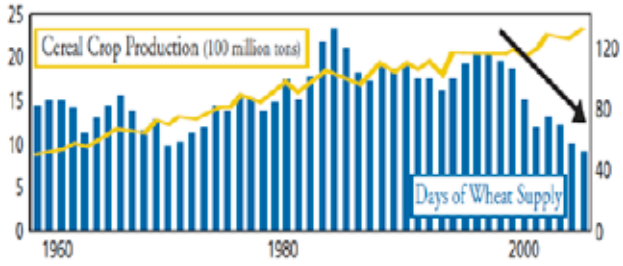

Fig.1. The Boom Has Only Just Begun

- **Arable land per person is falling**

We are losing quality topsoil faster than we are replacing it. Quality soil is loose, clumpy, filled with air pockets and teeming with life. It's a complex micro-ecosystem all its own. On average, the planet has little more than three feet of topsoil spread over its surface. The Seattle Post-Intelligencer calls it the shallow skin of nutrient-rich matter that sustains most of our food. Replacing it isn't easy. It grows back an inch or two over hundreds of years.

We lose topsoil to development, erosion and desertification. Globally, it's clear we are eroding soils at a rate much faster than they can form. Estimates vary, but in the U.S., the National Academy of Sciences says we're losing soil 10 times faster than it's being replaced. The U.N. says that on

a global basis, the rate of loss is 10-100 times faster than that of replacement.

In any case, it seems safe to say that good dirt is in short supply. This ensures a growing scarcity of good farmland, and plenty of countries including Saudi Arabia, China, and South Korea, that will pay for it at any price.

This little graphic below summarizes where we are in terms of arable land per person. [4] For the first time ever we're in danger of slipping below one acre per person:

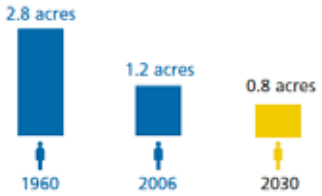

Fig.2. Arable land per person is falling

Of course we don't need 2.8 acres per person anymore, because of advances in agriculture over time. But gains in yield per acre are slowing. Over the last 40 years, we've increased the yield per acre by 2.1% per year. But the pace of those gains is slowing. Since 2000, the increase in yields per acre has averaged less than 1% per year.

We may see new innovations in seeds or other technology that we can scarcely imagine now. But any solution will take time and money to implement. Meanwhile, the world's agriculture markets just get tighter.

- **Low water supplies cut down farm productivity**

China is a biggest to watch when it comes to food supply dynamics. It feeds 20% of the world's population on only 10% of the world's arable land and with only 6% of its water. China's water tables are falling too. In parts of its traditional breadbasket in the north production of wheat and corn is in jeopardy. Chinese officials are well aware of this urgent need.

As the *Financial Times* reports: The country is investing heavily in agriculture. Its agriculture budget increased 27% in 2007, 38% in 2008, and about 20% in 2009. No other big country, barring India, has increased spending on farming so much, says the FT. Still, increasing output will be a challenge.

One British study suggests that if China imports to meet just 5% more of its grain demands, it could swallow all the world's exported grain. In 2007 and 2008, China imported practically zero wheat. However, today imports are on the rise, sometimes increasing over 100% from month to month. Part of that's due to drought, which we can expect a lot more of in China as the years roll on and the water table decreases even more.

It also means that any way to secure better water supplies will be worth its weight in gold. Growing crops and keeping livestock hydrated uses three-quarters of the world's water. That's a lot of water, and China already doesn't have enough.

A United Nations report puts it in stark terms: The population of China, India, Pakistan, and other big Asian countries will grow 1.5 billion by 2050, doubling the continent's food demand. Some of the best returns this decade will come from agriculture investing, and the kinds of companies that keep us supplied with water, food, and energy. Position your portfolio accordingly.

Low and declining investments in agricultural innovation are puzzling given both projections of the need, and estimates of the return on such investments. According to the UN Food and Agricultural Organization, food production will have to increase 70 percent by 2050 to keep up with a global population that is projected to grow from 6 billion to 9 billion (United Nations 2009). Given the physical and environmental constraints on increasing land and water use, productivity will have to increase substantially to meet the demand. Moreover, research suggests that investments to improve agricultural productivity make economic sense. A meta-survey of published rates of return on investments in agricultural R&D and extension services found an overall average return of over 40 percent, though the individual estimates varied widely. The average for investments in sub-Saharan Africa was just below the overall average, in the mid-30s. [5]

CONCLUSIONS

1.Agriculture play a key role in the development of human civilization and its vital needs.
2.The falling of grain inventories, the rise of grain consumption, the rising prices for grains, the low water supplies should make us to think about innovations in agriculture, that become necessary for our future.
3.The development of the innovations in agriculture should raise benefits and performance from this activity.
4.Governments and investors should promote the generation of knowledge and technological innovations that improve farming and plant genetic resources in developing countries.

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MARKETING THE TERRITORIAL PRODUCTS: THE SOAVE WINES DENOMINATION OF ORIGIN AS AN ITALIAN CASE STUDY

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Abstract

The contribution of marketing to enhance typical local products has become essential for wineries and the territorial systems that want to promote their original products. Taking into account the perspective of the "experience economics" proposed by Pine e Gilmore (2000), the paper discuss the role of the Soave Wine Consortium marketing actions in improving the economic values of the local wines. The case study has been carried out via market research interviews with wine and grape producers, the managers of the wine cooperatives, the directors of local bodies and tourist associations who work in the D.O. region of Soave.The results highlight that the Soave Wine Consortium is consider to be a body that works efficiently, promoting the local products and informing the producers of wine legislation. The change in wine Common Market Organisation has made the Consortium anticipate the revolution, helping producers to create a local identity, opening new markets and re-enforce the links between business strategies and territorial marketing communications.

Keywords **:** *marketing, local wines, Consortium, Italy*

INTRODUCTION

The Italian wine market is changing. Over production, the drop in domestic wine consumption and the entrance of multi-national companies from other sectors have increased the competition between wine suppliers.
This situation has lowered farmers incomes and forced the SMEs (that represent the majority of wineries in the Italian wine sector) to find new export markets.
Together with these structural market changes, there are shifts in consumer behavioural trends. Products are considered less tangible than in the past because they represent now symbols of communication. These satisfy desires rather than consumption needs. People, especially the new consumers generation, look for experience and emotions rather than the benefits gained from using a product.
In the ICT society the desires of the consumer are rapidly changing because of the exposure to marketing messages. To attract these new consumers the company brands use a selected marketing communication mix based on emotional design. Other than the emotional desire, all the human senses (poli-sensoriality) are tantalized in order to interact consumers with products.
As a consequence, specially in luxury products and services, it is not only the quality of the products that encourage the consumers to purchase a specific product, but the emotions that are symbolised by the acquisition of that product.
Consumer and business behaviours have changed regarding the marketing of typical territorial products. While in the last two decades the focus of wine marketing has been mainly based on the "intrinsic" quality of the wines (taste, smell, organoleptic characteristics, etc.), now territorial products have to be promoted and marketed giving a

unique experience regarding the whole sensorial assets of the product.
Therefore competition between wine brands has also become a competition between wine collective brands. This implies that communication policy goals have been moved from the need to build a wine brand to valorising territorial products. The activities of the wine consortia can help companies to build a strong image of the denomination of origin (D.O.).
Starting from market research data the paper discuss the contribution of the Soave Wine Consortium's marketing actions in improving the economic values of the local wines.

MATERIAL AND METHODS

The search for experience and emotions has stimulated in the scientific literature the development of a new marketing approach called "experiential marketing" [1].
The experiential marketing goal is to define, through the use of new market research and other instruments (sensorial, relationship, visual, etc.), the consumer language and the social-cultural context where the product is consumed [2].
Despite of traditional marketing concept that is based on the characteristics and benefits of a product, the experiential marketing concept is based on client attention in order to encourage the buyers to improve their: i) lifestyle; ii) consumption emotions; iii) expectations in purchasing a specific product.
Pine and Gilmore in 1999 wrote the first paper on the economics of experiences [3]. They suggested that the progression of economic value forms an economic pyramid, viewed as successive offerings built on top of the ones below (Fig. 1). According to this model, products and services demand of a specific typology become saturated by an increased supply at lower costs. At a later moment a new demand experience is created. They also noted that the economy is entering into a new phase "the economics of experience", where the experience is the new way to generate values for a specific product both for brands and the consumers.
A relevant pillar of this approach regards the differences between services and experiences (before their work the concept of experience was included in the service concept). Firstly services are tailored to meet the individual consumer requirements. Experience is created through different stimulation and can not be segmented. Secondly in the concept of services consumers are considered as clients, while in the experience concept they are viewed as guests. Thirdly the action of giving a service finishes with the consumption, whilst experience continues in the memory of the consumers.
Experience does not represent the final step of the economic value progression. This point is represented by the transformation concept that relates to the fact that all people that live an experience want to transform (become different) through the experience.

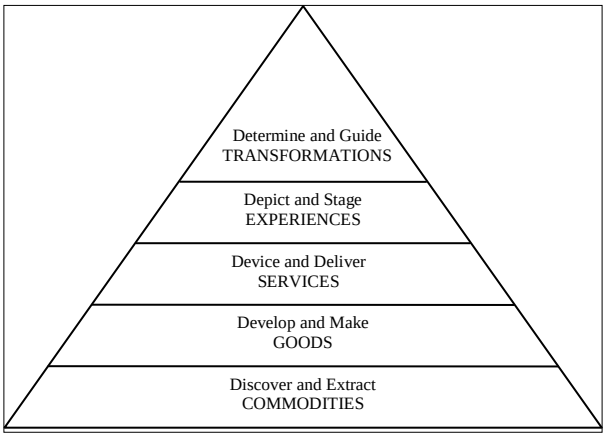


Fig.1. The economic pyramid (Pine and Gilmore, 1999)

The economic pyramid of Pine and Gilmore is useful to illustrate the way that businesses together with D.O. wine consortia have changed the way of marketing typical territorial products. While in the last two decades the focus of wine marketing has been based mainly on the "intrinsic" quality of the wines (taste, smell, organoleptic characteristics, etc.) [4], now territorial products have to be promoted and marketed giving a unique experience regarding the whole sensorial asset of the product [5]. Some technical aspects emerge: i) pricing policies take into account the capacity of the consumers to pay for living this unique experience in the local territory; ii)

communication policy goals have been moved from the need to develop a wine brand to valorising territorial products; iii) distribution policies are changing from the sales through traditional market distribution channels toward approaches that combine the unique characteristics of the individual territories.

The Wine Common Market Organisation (C.M.O.) legislation gives to the inter-professional organisations (as the wine consortiums in Italy) a different role compared to that which they have been carrying out over the last decades [6]. They are now actors dedicated to the promotion of the local products and the producers information concerning the wine legislation [7]. This is because product and territorial promotion play an important central role in investments planning for European wines.

The breaking point with the past is that the D.O. wine control plans carried out to prevent fraud has passed from the hands of the consortiums to independent certification associations. The positive issue is that this redefinition is less impartial in the controls because the controlling bodies are now third parties (before the members of the consortium controlled themselves). The advantage is that both the producers and consumers have more safeguards. The negative aspect for consortia is that they have lost the main financial source for supporting their own activities.

As a consequence the consortia play an even more important role in the Italian wine industry. They have been instructed to create a strong image of the D.O. and they are now more involved with exporting, market analysis and company growth dynamics [8].

The Soave Wines Consortium has been chosen as a case study for the following reasons: i) it operates in the province of Verona (Fig. 2) which is one of the biggest wine producing areas in Italy (the Soave D.O. wines represent 5% of the total national wine production); ii) more than 90% of the wine produced in the area is sold with the D.O. label (the average in Italy of D.O. wine is about 35%); iii) it has a wide product portfolio (the D.O. quality pyramid is composed by Soave Superiore and Recioto of Soave at the top, Soave Classico at the middle, Soave at the lowest level).

Fig.2. The Soave D.O. wines geographical position

The aim of the paper is to see if the activities of the Soave Wines Consortium can help the SMEs to develop their brands in improving the economic values of the local wines.

Research data has been taken via market research interviews with wine and grape producers, the managers of the wine cooperatives, the directors of local bodies and the tourist associations who work in the D.O. region of Soave. Both questionnaire and focus group data collecting instruments have been used.

RESULTS AND DISCUSSIONS

In this section is presented a synthesis of the research information gathered by research concerning focus groups, questionnaires and qualitative regional database analysis.

The data has been processed into three topical graphs concerning members expectations in relationship to consortium services (Fig. 3), members evaluations in relation to effectiveness of the consortium services (Fig. 4) and the contribution of some elements in the creation of business wine brands (Fig. 5).

The first graph shows the expectations of the members of the consortium in relation to four

kinds of services offered to them by the consortium (Fig. 3). Among the services have been considered:

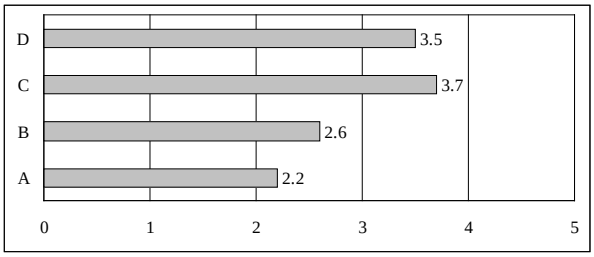
- technical consultancy (A), which concerns the support activities to the wineries in the fields of agronomic and oenological techniques;
- market research (B), which concerns the market analysis and administrative activities carried out before opening new markets;
- promotional activities (C), which concerns the marketing and communication activities used to promote Soave wines D.O.;
- D.O. brand management (D), which concerns the administrative and legal activities required for the protection of the collective brand.

These services, listed in the y axis, have been graded on an expectation scale of 1 to 5 in the x axis. The score has been defined considering 1 = poor, 2 = inadequate, 3 = adequate, 4 = good, 5 = excellent.

The highest score was given to promotional activities (C = 3.7) followed by D.O. brand management (D = 3.5), market research (B = 2.6) and technical consultancy (A = 2.2).

To understand the ranking we must consider that the answers of the entrepreneurs interviewed were mainly oriented by the potential development connected to the services. For this reason, promotional activities and D.O. brand management have higher grades because there are much higher improvement expectation for these fields. These results highlight that the business entrepreneurs understand the need to focus on the intangible assets of the territorial products to give the consumers an enjoyable experience related to the products.

At the same time, the low score associated with technical consultancy is because the products have already been improved to a very high standard.



A = technical consultancy; B = market research; C = promotional activities: D = D.O. brand management

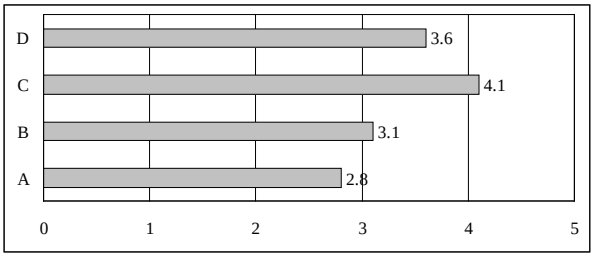
Fig.3. Members expectations in relationship to consortium services

The second graph shows the members evaluations in relation to the effectiveness of the consortium services (Fig. 4). The services are the same that have been considered in Fig. 3. They have been listed in the y axis, while in the x axis they have been graded on an effectiveness scale of 1 to 5. The score has been defined considering 1 = poor, 2 = inadequate, 3 = adequate, 4 = good, 5 = excellent.

The highest score was given to promotional activities (C = 4.1) followed by D.O. brand management (D = 3.6), market research (B = 3.1) and technical consultancy (A = 2.8).

The fact that promotional activities and D.O. brand management have taken the higher effectiveness rates among the services considered, highlights the work carried out by the consortium to develop the territorial brand and its willingness to help and support the SMEs of the D.O. This situation is not only coherent with the CMO in the wine reform, but represents the clear proof of the future job of inter-professional organisations in the wine sector imagined by the EU legislator.

Comparing the expectations (Fig. 3) with the effectiveness evaluations (Fig. 4) we can see that the services are ranked in the same order and the effectiveness scores are higher than the expectation scores in all the cases. The fact that the service quality offered by the consortium has been valuated better than expectation before using it, does not mean that there are not margins for improvement. Even the promotional activities, although they have been scaled as having good effectiveness (4.1 score), are quite far from the excellent score (5). Significant improvements could be carried out in the D.O brand management (3.6) and market research services (3.1).



A = technical consultancy; B = market research; C = promotional activities: D = D.O. brand management

Fig.4. Members evaluations in relation to the effectiveness of the consortium services

While the first one could take advantage of a better information system among the members, the second one suffers the negative trend in the international wine market. As for the case of members expectations, the low score associated with technical consultancy services (2.8) is connected to the high product technical knowledge already acquired by the wine makers, rather than the capabilities offered by the consortium.

The services effectiveness scores, the higher they are, represent a lever to increase entrepreneurial expectations. The services effectiveness scores, the higher they are, represent a lever to increase entrepreneurial expectations.

The normalised effective index measures the quality of the services offered by the consortium compared to the expectation of the wineries. The percentage index is calculated by dividing the score of effectiveness (Fig. 4) with the expectations score (Fig. 3). This is then multiplied by 100. Also in this case can be seen that D.O. brand management (D), promotional activities (C), market research (B) have increasing positive values but show a relative lower trend compared to technical consultancy (A). This confirms the potentialities to improve the quality of these services.

Table 1. The normalised effectiveness index of the services

Services	Normalised effectiveness index (%)
technical consultancy (A)	127.3
market research (B)	119.2
promotional activities (C)	110.8
brand management (D)	102.9

The third graph concerns the contribution of some elements in the creation winery brands (Fig. 5). Eight different elements have been considered:

- consortium membership (A), which represents the competitive advantage related to be part of the collective brand;
- quality-price index (B), which represents the positioning of D.O. wines in relation to price and quality attributes;
- agronomical and oenological innovations (C), which concerns the level of technical knowledge reached in the D.O.;
- cru and quality segmentation (D), which represents the process of products segmentation carried out by the wine makers in the D.O.;
- winery history (E), which represents the brand image of the winery in the international market;
- biodiversity and eco-friendly techniques (F), which concerns the level of countryside protection reached in the D.O.;
- history, traditions and local culture (G), which represents the competitive advantage related to the terroir of Soave D.O.;
- community relations with public bodies and institutions (H), which represents the competitive advantage related to being part of formal and informal networks working in the D.O.

These elements, listed in the y axis, have been graded on a contribution scale of 1 to 5 in the x axis. The score has been defined considering 1 = not important, 2 = less important, 3 = quite important, 4 = important, 5 = very important.

The highest score was given to quality-price index (B = 4.7) followed by winery history (E = 4.3), history, traditions and local culture (G = 4.1), cru and quality segmentation (D = 3.9), consortium membership (A = 3.8), agronomical and oenological innovations (C = 3.7), community relations with public bodies and institutions (H = 3.7), biodiversity and eco-friendly techniques (F = 3.1).

Some observations emerge from the data analysis.

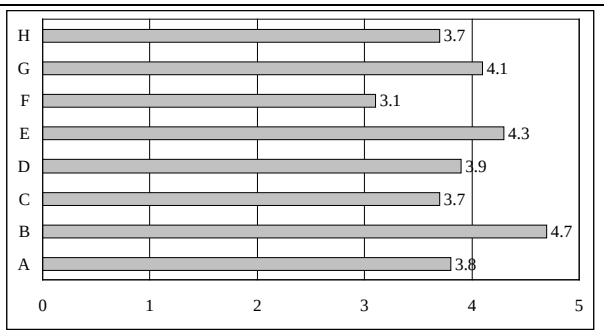
The first one concerns the strategic role of the Soave D.O. wines market positioning in the creation of wine brands. This is suggested by the high relevance given to quality-price index (score of 4.7 that is the highest in the sample survey) and cru and quality segmentation element (3.9).

The second is related to the importance of the winery brand image to compete in the market (4.3). In this context the rising trends in consumers behaviours, marketing management and local development models are highlighted.

The third is that a slightly lower importance than the previous elements have been given to two indicators that are connected to the historical and cultural assets of the territory. Both traditions and local culture (4.1) and community relations with public bodies and institutions (3.7) scores confirm that only the fact of being located in the Soave D.O. offers to wineries profitable advantages. In this sense the close relationship with the territory (both in terms of the conservation of local traditions and the relationship with the local community and public bodies) influences on the creation of a company brand.

The fourth is linked to the benefits to be part of the collective brand. Despite the high score obtained by the consortium membership element (3.8), differences arise from the sample survey. The local cooperatives are always motivated to work with the consortium. Few of the Soave family wineries, instead, prefer to work together at least at an initial stage to help start business development. Once these companies have created a market position, they decide to leave the collective brand and to continue to develop alone.

The fifth is that the theme of biodiversity and eco-friendly techniques (3.1) as well as the development of agronomical and oenological innovations (3.7) can contribute to the improvement of the protection of the countryside of the Soave D.O. Thus generates positive benefits to the collective brand and, as a consequence, to the winery brands.



A = consortium membership; B = quality-price index; C = agronomical and oenological innovations; D = cru and quality segmentation; E = winery history; F = biodiversity and eco-friendly techniques; G = history, traditions and local culture; H = community relations with public bodies and institutions

Fig.5. The contribution of some elements in the creation of individual wine brands

Research on focus groups has highlighted that:

- The consolidation of the leader wineries has been made possible by the presence of a well-known collective brand in the global wine market.
- The development of the strong territorial brand is linked to the historical medieval town of Soave and its strategic position between the famous cities of Verona and Venice. This has permitted in the recent years to attract lots of tourist to the area.
- Brand promotion and marketing costs of the SMEs working in the zone do not go above 5% of the companies total revenues. The channels that they use for public relations are fairs, wine tasting events and limited web marketing.
- Taking into account the small business dimension, the relationship with local bodies and communities is considered a pre-requisite for creating a brand.
- The recognized capabilities of the consortium to create promotional initiatives increases the expectations of the SMEs regarding how they view the consortium and its future role in the development of the territory.

CONCLUSIONS

The case study analysed suggest that local development models based on typical wines are essential for helping the SMEs entering into the global wine market. Taking into account the limited business dimensions of

the local wineries, the development of local strategic market plans considering not only wine but the important territorial aspects, are necessary for survival in the international markets.

The cross-fertilisation of local relationships is also important for the development of a wine brand. The activity of a D.O. consortium, if it is effectively managed, permits the diffusion of the territorial brand and, as a consequence, the winery brands. Individual companies normally because of financial restriction are unable to promote certain activities that collective associations can organise because of scale economics.

The research results state that a territorial system based on the wine, the environment, the terroir, the tourism, the local traditions and history, etc. with good strategic planning based on territorial products can increase the competitiveness of the SMEs. But only consortia with a positive part in the promotion of wines will survive.

The challenge is that the territorial product must be placed in the mind of the consumers through experience marketing tools rather than traditional marketing instruments. The idea is that the territorial product portfolio should be an experience product portfolio capable of satisfying consumer desires. The marketing strategy must be oriented towards attracting clients and constructing a multifunctional territory through appealing to all human senses.

ACKNOWLEDGEMENTS

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MAIN TRENDS OF THE PEST MANAGEMENT IN AGROECOSYSTEMS OF RAPE CULTURES

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Abstract

Rapeseed crops are some of the most profitable, bringing an income of farmers around 250 € / ha / year. So it is that, nationwide, in 15 years, canola acreage has grown continuously, exceeding, at present, 500,000 hectares. EU Directive 2003/30/EC promotes the use of renewable fuels, and by their obligations in Chapter 14, on energy, Romania has pledged that at least 2% of fuel used to transport either organic origin, is currently the most widely bio diesel made from rapeseed oil. 80% of production of rape is exported and demand is very high. In recent years, rape has become one of the most profitable crops, but cost-effective when productions are over 1200-1500 kg / ha, look what can be done easily when applying appropriate technology that can minimize the risks of culture. This year (2010-2011), as every year the last time, broke a new record for the rape of cultivated land, but keep in mind that with this growing pool of diseases and pests, according to the crop rotation (the recommended that the rape to get back on the same surface after at least three years) is harder. It examines the situation of the main pests in plantations of rape in Romania, given the problems on the occurrence of new damage or changes on the importance of pests. European regulations rapeseed crop pest management and national regulations are analyzed. Given the increasing use of pesticides is performed a comparison of European and national legislation on the approval of pesticides used in crops of rape.

Keywords**:** *rape, pests' management, pesticide registration, Sustainable Use Directive*

INTRODUCTION

Rapeseed crops are some of the most profitable, bringing an income of farmers around 250 €/ha/year. So it is that, nationwide, in 15 years, canola acreage has grown continuously, exceeding, at present, 500,000 hectares. Given the increasing use of pesticides is performed a comparison of European and national legislation on the approval of pesticides used in crops of rape. The actual legislation dealing with the registration of plant protection products (PPP) is 91/414/EEC from 1993, application of this requirements for existing active substances (a.s.) has rejected over 600 a.s.. The new pesticide legislation has changed the principles and rules for using of pesticides in EU, based on Plant Protection Products Regulation 1107/2009 and the Sustainable Use Directive 2009/128/EC, these two concepts of European legislation are essential elements of the Strategy on Pesticides in EU and of course in Romania, which forms the European Union Thematic Strategy on Pesticides which takes into consideration: Plant Protection Products Regulation 1107/2009; Sustainable Use Directive (SUD) 2009/128/EC; Machinery Directive 2009/127/EC – which sets out standards for new equipment and Statistics Regulation 1185/2009 (provision of annual sales data and the provision of data every five years on usage on crops and the pesticides used) [1-5].

MATERIAL AND METHODS

Based on legislative framework that governs the agriculture activity it is presented new concept of Plant Protection Products Regulation and possible impacts on agricultural practice in Romania regarding using of pesticides.

RESULTS AND DISCUSSIONS

I. Sustainable Use Directive 2009/128/EC (SUD)

During the past few years, we have seen many changes in the legislative framework that governs the agriculture activity. For example, there has been rising concern on balancing demand in production with the need to reduce environmental impact; the introduction of several measures to mitigate agricultural risk to deliver public goods; the revision to the way plant protection products are registered. All of these changes have led to much greater complexity, making it increasingly difficult for different stakeholders to provide their contribution.

The new, complex legislative framework makes it difficult for stakeholders that are not part of the political arena to actively participate in the debate. The EU Sustainable Use of Pesticides Directive requires Member States (MS) to develop a legislative framework and National Action Plan (NAP) that includes the aim of reducing the potential risk associated with pesticide use. This national legislation is required to be in place by the end of 2011. Practical measures and the potential benefit they have in meeting the objectives of the SUD.

Practical risk indicators proposed positive pragmatic measures to address: environment–water (soil and biodiversity); people-consumers (bystanders and operators); social factors; economic costs. In implementing the SUD, it is important to clearly define goals in the NAP, and instigate measures to reach these goals. Risk Indicators are expected to help national regulatory bodies to assess trends in pesticide risk reduction and to judge the effectiveness of their programmes. The choice of mitigation measures, approaches and possible solutions is inextricably linked to the risk indicators selected. Therefore, the two topics - risk indicators and mitigating measures - have to be addressed in parallel.

The Sustainable Use of Pesticides Directive requires Member States to develop a national legislative framework to transpose the EU Directive provisions and implement through national action plans its objectives.

The Directive states that reducing the risk associated with pesticide use is one of the most important elements of sustainability. The focus for the national authorities is therefore on the reduction of risks. National Action Plans (NAP) are the tools that transform EU policy, into an organized set of national actions.

In transposing the provisions of the Directive into national law, MSs will have to align the legislation with the country's specifications, political needs, and existing legislation. Member States (MS's) are requested to transpose the Directive into national legislation within two years from the entry into force, effectively by the end of 2011.

II. Risk Indicator Selection

In the development of indicators it was *a priori* assumed that under the current regulatory scheme in the EU the use of any pesticide following the recommendations in the label is considered safe. Due to the fact that products are approved after an exhaustive risk assessment procedure, any risky situation may come from accidents, strong unexpected situations and over all misuse of the product.

For this reason it is critical to be sure those indicators allow measuring how products are used. Due to the complex nature of the agricultural activity, it is extremely difficult to identify indicators which reflect only one aspect of the use of the plant protection product or one aspect of the farming practices. One particular risk associated with the use of plant protection products can be and should be reduced by using a number of different measures.

III. Establishing Quantitative Targets for the National Action Plans

Art. 4 of the Directive 128/2009 require that: *"Member States shall adopt National Action Plans to set up their quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides. These targets may cover different areas of concern, for example worker protection,*

protection of the environment, residues, use of specific techniques or use in specific crops". While the indicators measure the progress in achieving a risk reduction associated with the use of pesticides, their quantitative changes over time represent a quantitative target which is achieved through the implementation of the NAP.

Based on the evaluation of the actual situation in each Member State and the priorities set for the risk reduction in the National Action Plan, these quantitative targets can be developed in relation to the indicators reflecting risks related to environment, worker protection, use of application techniques, etc.

IV. The Risk Indicator and Measures

The focus for policymakers and stakeholders using the Toolbox should be on the most appropriate measure that will deliver the greatest benefit, along with selecting the Risk Indicator measures that can quickly and clearly identify which tools are working most effectively, and are best capable of achieving the desired effects for each individual Member State.

Within the spirit of the Directive to achieve sustainable use of pesticides, risk reduction targets have to be set up on the bases of the indicators chosen to monitor the identified priority items. These targets should be set in accordance to each MS's specific policy and data collection already achieved, prior to the application of the NAP, or if new measures are envisaged, to set up new measurable goals. The targets should be quantified against the existing monitoring data, such as the current level of residues in water, existing number of trained farmers, areas of buffer zones already in place and implementation of best agricultural practices etc.. The targets suggested in the tables below are a hypothetical example of how MS's may consider achieving a certain level of risk reduction through the appropriate measure taken and its corresponding indicator. The targets for each measure shall vary from MS to MS, even if the overall quantitative target of the plan is the same. The provisions of the SUD require Member States to establish targets related to the reduction of risk associated with the use of pesticides; hence some economic and social indicators do not need quantitative targets as they measure the impact on the agricultural activity and not a variation in the risk.

However, a general recommendation to include economic and social targets to evaluate the impact of the measures on the agricultural production, after and during NAP implementation, is appropriate to be considered by all Member States. As MS's are required to achieve risk reduction by setting up quantitative targets and timetables in the NAP, it is very important that nationally transposed legislation of the SUD provisions provide sufficient flexibility to give operators the choice to engage in voluntary initiatives within the framework of the legislation. It is also very important for decision makers to acknowledge and take into account all the available preventive and mitigation measures taken up by operators when monitoring the results in achieving the targets.

Such measures include, for example, training courses of best practices in pesticide use provided by private companies, voluntary initiatives taken by farmers in extending the compulsory size of buffer zones, reports from poison centres and pesticide packaging disposal programs.

V. Identification of the Spatial Scale

Different spatial scales require different questions to be asked and consequently different indicator sets are required to monitor the progress made in achieving the objectives of the Directive. At the national scale – to which we refer in the Toolbox below - the interest is mainly focused on policy development or evaluation, and identification of "Hot Spot". The approach is "top down" and usually at this scale data used are generally available, produced trough monitoring programs or national surveys. However, at a farm level, questions frequently refer to specific problems, for example choosing the right pest strategy. This approach is "bottom up" and should be taken into account when defining the measures set to reach the main goals. This means that the implementation of supporting decision systems and associated indicators or forecasting instruments and programs have to be seen as "bottom up measures" that could lead to

changes and improvements of the system. Member States shall ensure that farmers have available both the information and tools for pest monitoring and pest strategies, as well as ensuring they are able to use them. Reducing risk to water resources-Measures, Risk Indicators and examples of Quantitative Targets.

VI. Environment

The potential risk of contamination of a water body can often be significantly reduced by appropriate prevention and mitigation measures that in turn lead to the reduction of diffuse sources (e.g. run-off from fields, spray drift, drainage, soil movement or leaching) and point source pollution (e.g. spillage during filling a sprayer or from containers). It is essential to take into consideration that not only what we measure is important but how the measurement becomes a proactive tool of risk mitigation; this would lead to control the effects in addition to the presence of the substance.

Measures Risk Indicators Examples of Quantitative Targets: Multi-functional Field margin buffer zones; Specialist training for application in designated protected areas; Certified professional operator schemes and knowledge proof tests; Training on Integrated Pest Management (IPM)* program; Pesticide container recycling schemes; Biobeds/on-farm water management/ wetlands; Reduced use of substances of particular concern.

VII. Rated Environmental Management and Pesticide Monitoring Data

Integrated management of the wider environment is required by the new environmental European policies, including surface water and groundwater, along with soil and sediments that may act as a reservoir for many pollutants and thus create a source of water pollution. Coupling models and Geographical Information Systems (GIS) assessment could be valuable in identifying sensitive areas and lead to the adoption of correct monitoring plans both from a scientific and an economic point of view. It should be emphasized that these tools have to be used to predict risk scenarios at different time and different spatial scales. These tools, associated to monitoring data from national monitoring programs or to passive samplers that could provide a measure of average conditions in a body of water of extended periods of time, can give a more representative picture of water quality, compared to a few instantaneous measurements of pollutant levels taken at intervals of time over a year. Pesticides are just one of the factors that could affect the status of aquatic ecosystems. The effect of pesticides is often difficult to isolate from other stressors and to establish a cause-effect relationship . However, the implementation of adequate monitoring programs is fundamental in order to have an insight of the evolution of the overall water quality, as a part of the Water Framework Directive.

VIII. Multi-Functional Measures

It should be considered that multi-functional measures may provide better value-for-money where economic support is provided to compensate farmers and growers for costs and losses in productivity incurred. Furthermore, multi-functional measures that can deliver a range of benefits from one economic cost imposed on farmers and growers may be more readily accepted and adopted. For example field margins create the opportunity to protect soil and water through a number of mechanisms, including reduced risk of run-off and, where appropriately managed, creating a physical barrier to spray drift. Such field margins therefore provide a function in reducing risk to bystanders. Furthermore, where appropriately designed and managed, field margins provide food sources and habitat for positive environmental gain and enhanced biodiversity. Integrated Pest Management (IPM) that utilizes natural control mechanisms and agronomy techniques to optimize plant health-alongside the judicious use of pesticides where required to assure crop yields and produce quality-could deliver significant benefits for every goal of SUD policy. IPM should be considered the cornerstone of initiatives, with priority on the adequate training and assistance to enable growers to achieve the highest levels of implementation.

IX. People

Minimizing potential exposure of people to pesticides has been a key objective of

legislation and the approval process for pesticide registration and use. EU and National legislation addresses these issues to pesticide responsible agencies in each Member State, to be aware how and when to act responsible towards this issue. Measures Indicators to reduce risk of pesticide use Examples of Quantitative Targets**:** Training of farmers in application techniques, particularly post-harvest treatments; Training on Integrated Pest Management (IPM)* programmes; Education in the importance of adhering to approved label recommendations; Multi-functional field margin buffer zones.

X. Existing EU Sustainable Use Strategies

Policies for pesticide risk reduction program differ from country to country. A number of European countries like Denmark, Sweden, the Netherlands and the UK have already initiated detailed programmes allied to the SUD, like introducing a specific pesticide tax or setting up voluntary initiative measures to meet objectives. However, not all of them have produced such results to set out a trend for a harmonized model. Most indicators that are currently used include quantitative changes in the volume of pesticides used and application frequencies. It has, however, now become widely acknowledged that such indicators are only very crude proxies for assessing the risk of non-target impacts of pesticides. Volume indicators fail to acknowledge the positive benefits of any innovative application techniques used or the precautionary measures taken, which will minimize any impact and have far less effect than a smaller volume applied inappropriately. For example, experience in the Netherlands highlights that a target 50% reduction in the volume of pesticide used was achieved primarily through the elimination of one process of soil disinfection, but limited the effect on any other pesticide use. In Denmark, the adoption of a Treatment Frequency Index (TFI) provided an assessment of the intensity of pesticide use across the country, but did not include the environmental profile or implication of the specific products used in its overall calculation.

XI. Situation of Sustainable Use Strategies in Romania

Policies for pesticide risk reduction program in Romania are under debate now. A significant number of pesticides were replaced by new ones with a result of quantitative changes in the volume of pesticides used and application frequencies, especially in rape culture in order to protect pollinators. For example, in present there are few insecticides for pest control in rape (Table 1) and in the next years more than a half of them will lose their licence.

Table 1 . Main pesticides used for pest control in rape cultures

PRODUS (s.a.)	DOZA (CONC.)
INSECTICIDE	
CRUISER 350 FS (tiametoxam 350 g/l)	3,5 l/t
NUPRID AL 600 FS (imidacloprid 600 g/l)	6,0 l/t
INSECTOFUNGICIDE	
CROPLINE 636 FS (imidacloprid 460 g/l + tiram 176 g/l)	8,0 l/t sam.
CRUISER OSR 322 FS (tiametoxam 280 g/l + matalaxil-M 32,3 g/l + fludioxonil 8 g/l)	15,0 l/t
TRATAMENTE IN VEGETATIE	
INSECTICIDE	
ACTARA 25 WG (tiametoxam 25%)	0,1 kg/ha; 0,07 kg/ha
BISCAYA 240 OD (tiacloprid 240 g/l)	0,3 l/ha
CALYPSO 480 SC (tiacloprid 480 g/l)	0,1 l/ha
DECIS MEGA 50 EW (deltrametrin 50 g/l)	0,15 l/ha
FASTAC 10 EC (alfa-cipermetrin 100 g/l)	0,075 l/ha ; 0,2 l/ha
FASTER 10 CE (cipermetrin 100 g/l)	0,2 l/ha
FURY 10 EC (zeta-cipermetrin 10%)	0,2 l/ha
KAISO SORBIE 5 WG (lamba cihalotrin 5%)	0,150 l/ha
KARATE ZEON (lambda-cihalotrin 50 g/l)	0,150 l/ha
LAMDEX 5 EC (lamba cihalotrin 50 g/l)	0,2 l/ha ; 0,150 l/ha
MAVRIK 2 F (tau-fluvalinat 240 g/l)	0,2 l/ha
MOSPILAN 20 SG (acetamiprid 20 %)	0,150 kg/ha; 0,2 kg/ha
NOVADIM PROGRESS (dimetoat 400 g/l)	1,5 l/ha
NUPRID AL 200 SC (imidacloprid 200 g/l)	0,275 l/ha
NURELLE D 50/500 EC (cipermetrin 50 g/l + clorpirifos 500 g/l)	0,4 l/ha
PROTEUS OD 110 (tiacloprid 100 g/l + deltametrin 10 g/l)	0,350 l/ha ; 0,6 l/ha
PYRINEX QUICK (clorpirifos 250 g/l + deltametrin 6 g/l)	0,75 l/ha ; 1,0 l/ha
RELDAN 40 EC (clorpirifosmetil 400 g/l)	1,1 l/ha

In recent years, rape has become one of the most profitable crops, but cost-effective when productions are over 1200-1500 kg / ha, look what can be done easily when applying appropriate technology that can minimize the risks of culture, that include using of a lot of pesticides without which the high yield of rape couldn't be possible. This year (2010-2011), as every year the last time, broke a new record for the rape of cultivated land, but keep in mind that with this growing pool of diseases and pests, according to the crop rotation (the recommended that the rape to get back on the same surface after at least three years) is harder. Current and future techniques that can be utilized for insect pest management in oilseed rape (OSR) crops depend on EU regulations and of course Romania has to follow these rules. The economic constraints on OSR production is in function with the potential of technology for insect pest management. Successful integrated pest management (IPM) in OSR will depend on the use of expert systems to put together disparate aspects of pest control into an IPM programme that will be appropriate with particular pest problems from Romania.

CONCLUSIONS

1.A key objective of the Sustainable Use Directive is to record step-by-step improvements made from an initial assessment, towards the final goal.
2.The success of mitigation strategies and other measures proposed in the Toolbox of options, and their direct impact in reducing risk to human health and the environment, should be assessed by selecting appropriate Risk Indicators.
3.The Risk Indicators presently available in Europe all have their specific purpose and methodologies. At present there is no universal ideal indicator which can be used for pesticide and environmental policy monitoring and evaluation.
4.Currently MS's may continue to report information based on their existing risk indicators or establish new indicators, whilst waiting for the harmonized indicators.
5.Therefore, there is a need for Pesticide Risk Indicators that capture information and trends not directly related to the volume of pesticide used, but that have a significant impact in reducing the risk from pesticide use.

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ALLIUM CROPS PROTECTION PLANT MANAGEMENT FOR NAPOMYZA GYMNOSTOMA LOEW PEST

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Abstract

Napomyza gymnostoma was recorded as a new pest of Allium spp. in Romania. This pest is the Allium leafminer pest of leek (Allium porrum), onion (Allium cepa), chives (Allium schoenoprasum L.), garlic (Allium sativum) and of ornamental Allium plants. Napomyza gymnostoma Loew, is a leaf miner from Diptera: Agromyzidae which was first described in 1858, in Poland. In several countries of mainland Europe Napomyza gymnostoma has become the major pest of Allium spp.. It can infest a high proportion (80-100%) of a susceptible crop. Plants can be completely destroyed. Even at lower populations, the presence of mines on young plants may reduce the quality, economic losses can therefore be serious and result from feeding damage lowering the marketability of produce. In Romania, in spring 2007, an allium leafminer was recorded for the first time in non-commercial onion crops. Typical feeding symptoms were observed, caused by the mining behavior of larvae, producing the formation of descending galleries. The efficacies of different insecticides applied with different concetrationes for Napomyza gymnostoma control on Allium were evaluated in this study of a two year field trial (2009-2010).

Keywords: *onoin, Napomyza gymnostoma, pest management*

INTRODUCTION

The onion is worthy of notice as an extensive article of consumption in Romania. It is largely cultivated at home, and is imported, to the extent of seven or eight hundred tons a year, in Romania. But it rises in importance when we consider that in our country it forms one of the common and universal supports of life. Onions are valuable culinary vegetables, and also have medicinal value, onions have been used for their medicinal properties for centuries, they have anti-bacterial and anti-fungal properties, and are thought to have some impact on high cholesterol and blood pressure. Onion, garlic and leek crops are the most important potential hosts of *Napomyza gymnostoma* in Romania. Because this pest has two generation from year the host's plants are available all year round and able to sustain increasing pest populations. Due to it's particular biology, the pest is capable to infest almost 100% of a crop. Studies in Serbia revealed that nearly all plants in a field of *Allium* were mined with approximately 20 pupae per plant (Photo 1). All plants were completely destroyed. Even at lower populations, the presence of mines on young plants (Photo 2) may reduce the quality and marketability of produce [1]. In Romania the largest number of pupae 22 was recorded in Arges 2009 in the leek crops and 19 in Ilfov [2]. Larval stage causes the greatest damage on plants of the genus *Allium*.(Photo 3) It is assumed that chemical treatments provide reliable and immediate results, and can furthermore be administered more efficiently with regard to timing and economic aspects. Nevertheless, treatments with pesticides are not easily harmonized with other control methods and may have certain unpredictable - known or unknown environmental effects. Due to the short duration of the effective control and the hidden mode of live of larvae, a significant portion of chemical treatment might remain ineffective. The primary reason is that the active ingredients used today show pure systemic and translaminar action (or even non systemic), so their penetration into plant tissue and translocation is limited [3]. In

was found that both pests occurred on onion in similar term what should be taken into consideration in future planning of chemical control against those pests [4]. From control the *Napomyza gymnostoma* pest were used six different active ingredients of insecticides applied in two different locations.

Photo 1. Pupae damage to Leek

Photo 2. Onion leaves with feeding points

Photo 3. Larvae damage to Leek

Photo 4. Distortion to Onion

MATERIAL AND METHODS

The study were conducted from 2009-2010 in insecticide treated field in two different regions: Arges and Ilfov. Laboratory experiments were done in the entomological laboratory of Central Phytosanitary Laboratory. The observations referring the control of the *Napomyza gymnostoma* in Romania were done in both areas on onion, garlic and leek. From control the *Napomyza gymnostoma* pest were applied foliar treatments whith six different insecticides (Table 1). To determine the efficiency of insecticides were established: Frequency (F%), Intensity (I%) and Degree of attack (Da%) for the three host plants.

RESULTS AND DISCUSSIONS

On the three species of *Allium* were applied foliar treatments in three different concentrations of insecticides. As control the first generation plants *Allium sativum* and *Allium cepa* were treated at the emergence of larvae, to second generation treatments were applied to *Allium porrum* at the occurrence of feeding points.

Table 1. Experimental variants

Host species	Active substance	Insecticides		
First generation				
Allium sativum Arges	novaluron	Rimon 10 EC 0,04%	Rimon 10 EC 0,05%	Rimon 10 EC 0,06%
Allium sativum Ilfov	acetamiprid	Mospilan 20 SP 0,024%	Mospilan 20 SP 0,025%	Mospilan 20 SP 0,026%
Allium cepa Arges	imidaclorpid 7,5%+ deltametrin 1%	Confidor Energy 85 SC 0,12%	Confidor Energy 85 SC 0,13%	Confidor Energy 85 SC 0,14%
Allium cepa Ilfov	spinosad	Laser 240 SC 0,04%	Laser 240 SC 0,05%	Laser 240 SC 0,06%
Second generation				
Allium porrum Arges	cipermetrin 50 g/l + 500 g/l clorpirifos	Nurelle D 50/500 EC 0,05%	Nurelle D 50/500 EC 0,06%	Nurelle D 50/500 EC 0,07%
Allium porrum Ilfov	abamectin	Vertimec 1,8% EC 0,07%	Vertimec 1,8% EC 0,08%	Vertimec 1,8% EC 0,09%

Successful *Napomyza gymnostoma* pest control on garlic was achieved after applied the two insecticides Rimon 10 EC and Mospilan 20 SP (average efficacy 98,7%, degree of attack 0,8%). Pest control on onion were obtained the best results after applied to the first generation in 2009, Confidor Energy 85 SC in a concentration of 0,14%, the average efficacy was 98,9% a 1,2% degree of attack (Fig. 1), compared with untreated variant where degree of attack was 68%. In Croatia to control Diptera damage on onion plants or used spraying with dimethoat with average efficacy (77,8-100%) and imidaclopride (52,37-92,75%) [5].In Romania the best results leeks or obtained after applying the insecticide Nurelle D 50/500 in 2010-year. The average level of attack was 1,2% compared with 73% untreated variant, the efficacy of insecticide was 96,5%. (Fig. 2)

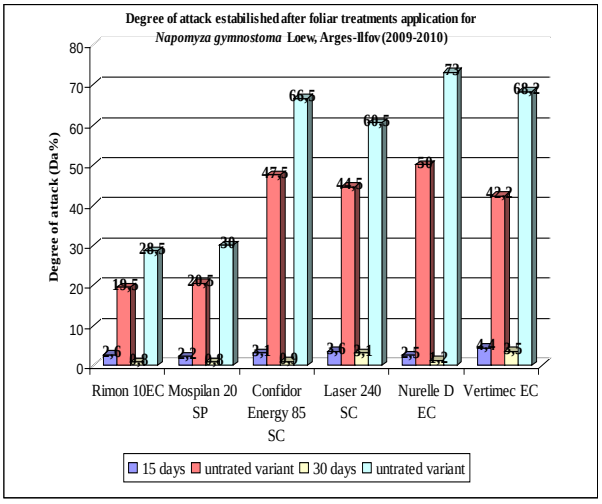

Fig. 1. Degree of attack *N. gymnostoma* (2009-2010)

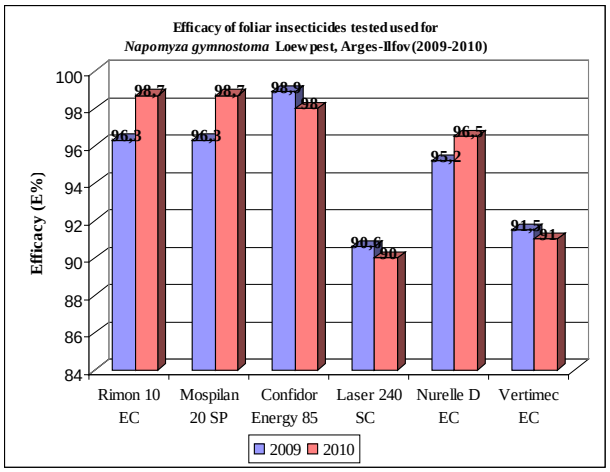

Fig. 2. Efficacy of insecticide application for *N. gymnostoma* (2009-2010)

In Romania largest number of larvae and pupae 22 on plant occurred in untreated variant–*Allium porrum* Arges 2009[2]. Insecticide application Nurelle D 50/500 reduced significantly the degree of attack. In literature Leeks are considered the main host species. In Romania, three species were monitored, of them highest degree of attack that 73% was recorded in the leek plants. In *Allium sativum* plants was recorded at the lowest level of attack that 29,5%. In Croatia *Delia antiqua* was considered the most important dipteran pest on onions but *Napomyza gymnostoma* has now become the most important onion pest [6]. In untreated variants of *Allium cepa* due to their high attack the larvae stage caused distortions on plants (Photo 4). Larval mines can subsequently be seen in the leaves and bulbs. Infested host parts are soft to the touch and susceptible to secondary plant pathogens and infections (*Sclerotium cepivorum*) that could exhibit their own symptoms. Infested plants are smaller and have dried leaves [7]. *Napoomyza gymnostoma* is a European species having first been described from Poland. It is now fairly widespread in Europe. The best methods of controlling *Napomyza gymnostoma* would be to use a combination of measures including, removal and burning of infested plants, infested plants should not be composted, rotation with non-*Allium* spp.. There are only a few chemical options for pest management they are no systemic sprays with active ingredients based on rotenone and pyrethrins. In Austria, organic farmers are advised to grow leeks as far away as possible from chives. They are advised also to cover their leek crops with nets as soon as the flies of the autumn generation emerge, and to bury any plant remains containing fly pupae as deep as possible in the soil [8]. In Poland, delayed planting in the spring reduces damage by *Napomyza gymnostoma* in the autumn [4]. Treatments with a systemic insecticide when adults are active and females are egg-laying, around March/April and October/November, could be used. In Austria, sprays are advised as long as larvae are found feeding in the upper parts of the leaves [8].

CONCLUSIONS

1.The result of this study confirms the necesity of implementation of measures for control, because the high level of infestation may cause damage very large in the host plants crops.
2.There is a necessity to apply insecticides treatments for reducing the number of pupae in the soil the highest efficacy was recorded when was applied Confidor Energy 85 SC (98,9%).
3.The best methods of controlling *Napomyza gymnostoma* would be to use a combination of measures.

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ELABORATING HUMAN RESOURCES TRAINING AND DEVELOPMENT PROGRAMMES – BASIC REQUIREMENT OF THE ORGANISATION'S ECONOMIC EFFICIENCY

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Abstract

Human resources development, as organization function includes as an essential activity for the employers the training and the professional specialization. The objectives of this activity result from the internal needs of organization and they are subordinated to the general objectives. There are meaning to the elimination of the gaps between the real level of knowledge and personal abilities at the creation for opportunities to learn. The necessity of this kind of activities to the organization level is resulting from the economical reasons, linked to the economical efficient grow, the occasional price by the activity of training and professional development being considerate like investments. The stimulation of professional training can be realized through many forms like motivation, the reward and the b modification of the employed personal.

Keywords **:** *programs for training and specialization; forms and organizational structures; human resource*

INTRODUCTION

Professional training is ensured by all the training actions taken in order to perform in your profession as well as possible. A training system includes: establishing the training objectives and requirements, defining responsibilities in the field of professional training, designing professional training and training programmes. The existence of employees who cannot keep up professionally with the mutations occurring in the way activities in the modern economy are performed is a problem that concerns many organisations [1].

In Romania, professional training and training are perceived as a need, but they are not a priority yet. A survey carried out by the Romanian Management Institute shows that 47% of managers consider that the managers' training is absolutely necessary , 49% consider it necessary and 4% consider it little necessary. During the current period of rapid changes Romania is going through, human resources training and development must become a continuous and organised process that takes into account both the changes occurring in the progress to the market economy and those that can be forecast.

The objectives of such a programme result from the internal needs of the organisation and are harmonised with its general objectives. Only in this way can professional training and training be truly efficient, solving the problems of the future and those of the present at the same time.

In order to improve professional training, it is necessary to take the following actions:

- knowing the demand for professional training and its evolution as accurately as possible;
- informing the stakeholders about the professional training possibilities;
- organising a clear record of the employees' professional training in an organisation;
- motivating the employees and supporting those who wish to improve their professional training;
- identifying concerns related to the application of what is learnt;
- performing a control of the professional training actions;
- coordinating the continuous professional training actions.

MATERIAL AND METHODS

This paper aimed to present to analyse the importance of human resource training as a way of increasing economic efficiency at enterprise level. In this purpose, the following aspects have been approached: professional training requirements closely related to its objectives, knowledge needed by employees for completing their tasks efficiently, setting up training programmes, training methods, factors assuring training efficiency. The methodology is based on documentation, comparison with other EU countries, processing statistical data using modern procedures, strategic planning used in human resource management.

Professional training and development are activities of maximum importance to the economic and social development, giving the possibility to rapidly adapt qualifications to the constantly changing requirements of the labour market.

The new Labour Code contains an article that stipulates the employers' obligation to ensure the employees' regular access to professional training. The professional training and development plans must be agreed upon by the employers and the employees' representatives.

Romania has the lowest rate of participation to the human resources continuous training as compared to other acceding countries, but also to the European Union average.

According to a Eurostat survey, Romania is among the last countries included in this survey in terms of the percentage of companies providing a minimum of professional training; only 11% of companies provide continuous professional training course. The rate of participation to the human resources professional training and development courses in our country is lower than the one in the Czech Rep. (69%), Slovenia (48%), Hungary (37%).

The rate of participation to the courses organised by companies is of 20% of the respective companies' staff, much lower than the rate of participation in EU member states (30%). In small companies, the rates of participation were the highest (30% of the entire staff as compared to 19% in the medium-sized and large companies). In terms of the activity sectors, the highest rates of participation were recorded in community, social, personal and transport services activities.

Professional training is a training process during which the participants acquire theoretical and practical knowledge necessary in performing their current activities. Professional development is a more complex process, whose objective is the acquisition of useful knowledge both connected to the current position and to the future one.

The assessment of the application of what is learnt is materialised in: knowledge quantity and quality; behavioural change; perseverance in applying the acquired knowledge; change in mentalities; increase in company efficiency.

Special attention must be paid to selecting the persons who will participate in these programmes. The selection criteria must give equal chances to the company's employees, taking into account the job, the training expenses, the coverage resources, the participants' age and motivation [2].

RESULTS AND DISCUSSIONS

Professional training is a profitable investment in an organisation's human resources, the effects being able to be seen both immediately and in the future. It leads to an increase in the employees' performances and to their adjustment to structural, social and technological changes.

The professional training objectives may be made up of: improving the problem-solving capacity; performing specific works; solving new tasks; improving the communication capacity; preparing certain changes.

Identifying the professional training requirements implies a complex analysis, which consists in correctly defining the training objectives and programmes, taking into account the fact that those who are trained differ in terms of age, education and experience. In establishing these requirements, we usually start from the current training level, assessed by means of

testing knowledge at the beginning of the training programme.

Establishing the professional training requirements involves going through the following stages:

1.Defining the objectives at organisational level, according to structural components and to each employee; this thing involves establishing ways to identify the training needs, so that strategic programmes can be designed, developed and implemented for each and every employee.

This stage involves identifying:

- new organisation activities development areas;
- weaknesses in the overall activity and in completing individual work tasks (the lack of knowledge, poor performance, unsatisfactory product quality);
- knowledge necessary in improving individual performances.

The key questions in order to establish the training needs:

§ Who needs training?
§ What is the participants' training level?
§ What training do they need?
§ What resources can be used?
§ What are the existing constraints

2.Establishing the knowledge which is necessary to the employees in completing their tasks efficiently; this stage aims at making decisions on:

Ø Training objectives:(a)the general training goal;(b) the results expected from the participants after the programme is completed.

Ø Designing the training within which the activities that are going to be performed and the methods that are going to be used will be established:(a)the performance assessment system; (b)the training methods; (c)the training conditions;(d)the training standards general content.

3.Key questions in order to elaborate the training programmes:(a)What aspects must be approached? (b)How much time is necessary? (c)What resources could be used? (d)How can these resources be used more efficiently?

4.Establishing the training methods and listing the resource available; within which the collaboration with specialised training institutions, specialists or other special forms of professional training and development is established.

5.The implementation refers to the actual training, which implies:

-Planning and coordinating the courses;
-Planning the resources;

Key questions at this stage:

-Have all the participants to the training achieved what was initially expected?
-Are there any obstacles that must be overcome?
-Is there a real communication process?
-Do the groups manage to learn?

6.Assessing the professional training and development programme – it is the process through which the efficiency of the professional training and development programmes is assessed against the identified needs.

In order to make the assessment, one must:

- check all the indicators;
- analyse all the information;
- analyse the post-training performances;
- establish the training correction/improvement measures.

The key questions in order to assess the training programmes:

-Have correct questions been asked at every stage in the training cycle?
-Have the answers been correct and complete?
-Has the training been efficient and effective?
-Has the learning process occurred?
-Can all the participants implement all the new knowledge and skills acquired during the course?

The employees' professional training and development has two important functions: usefulness and motivation. Theoretically, professional training programmes contribute to developing the employees' knowledge, skills and behaviours, which is reflected in the efficient performance of the work tasks [3].

Professional training and development leads to an increase in the employees' performances and to their adjustment to structural, social and technological changes. The actual implementation of the knowledge gained means solving problems, which, eventually, is materialised in increasing the organisation's efficiency and profit.

The professional training and development process efficiency increases when the following elements are taken into account:

Ø the programme content is closely related to the employees' activity and to their personal training interests;

Ø the issues that are approached are of interest to both hierarchical superiors and employees;

Ø the employees have the freedom and possibility to use the acquired knowledge, skills, and abilities.

Ø the participants to training or development programmes are motivates in their work.

The systematic approach to professional training will indicate the training needs of each employee of group involved in the same activity (figure). In order to elaborate an integrated and efficient training and development system, it is necessary to consider: the organisational structure, the flowchart, the job description, the tasks that must be completed for each job, the performance indicators for each task, the existing problems or the aspects that must be improved, the tasks for which training is necessary, the training standards, the estimated costs.

Professional training is a profitable investment in an organisation's human resources, the effects being seen immediately and in the future. The main professional training directions of the employees aim at:

a) The unemployed persons' professional training

Training courses are organised by the County Employment Agencies that annually establish a professional training plan based on the surveys of the local labour market demand. The courses are provided both by their own professional training centres and by authorised companies.

b) Professional training programmes for unemployed persons include qualification, re-qualification, development and specialisation. They include the practical training or specialisation intervals. Access to the above-mentioned programmes is possible only after participating to career information and counselling activities.

The National Action Plan for Employment includes measures for the improvement in continuous professional training and for supporting life-long learning, as follows:

- removing blockages in the professional training activity;
- completing the legal framework related to continuous professional training;
- the employers' associations elaborate the annual professional training plans, at company level, through which they give the employees the possibility to participate in various professional training forms [4].

CONCLUSIONS

Professional training is a profitable investment in an organisation's human resources, the effects being seen immediately and in the future as well. It leads to an increase in the employees' performances and to their adjustment to structural, social and technological changes.

The professional training objectives may be made up of: improving the problem-solving capacity; performing specific works; solving new tasks; improving the communication capacity; preparing certain changes.

The legislation which was adopted in the field of continuous professional training considered continuing the professional training system reform by means of implementing the European principles related to quality assurance, decentralisation, social partnership and system transparency, as well as the institutional consolidation of the professional training system.

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STRUCTURES AND DISTINCTIVE FEATURES OF AGRICULTURAL AND FOOD MARKET

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Abstract

The purpose of this paper is to analyze and underline the distinctive features of agricultural and food market. Working methods used in creating this article were analysis and deduction. After the analysis following results were deduced: the market is the classical "invisible hand" that regulates economic activity. In this view, the market appears as an "institution", which ultimately must ensure, through its (production - allocation and use resource, distribution, consumption) functions the economic balance between supply and demand in the long term, realizing the transformation of own interests individuals in the best option for society regarding the nature of production. After the research the underline the following conclusion: agricultural market is like any other market, where agricultural production occurs in the form of supply, and consumption needs - as demand for agricultural products and foodstuffs.

Keywords: *economic balance, supply, demand, agrarian market.*

INTRODUCTION

The agricultural market is like any other market, where agricultural productions appear in the form of offer, and consumer needs as demand for agricultural products and foodstuffs. The market is “the invisible hand” that regulates economic activity. In this vision, market appears as “institution”, which as a last resort should ensure, through its functions (production – resource allocation and use, distribution, consumption), the economic balance between supply and demand in the long term, realizing the change of individuals’ interests in the best option for society on the nature of production.

MATERIAL AND METHODS

The paper is based on the analysis and synthesis of information subject to research, scientific literature confirms that the market is the economic and geographical environment with which we encounter every day.

RESULTS AND DISCUSSIONS

Market, as economic and geographic space where at a certain moment, facing supply and demand for goods and services, constitutes an assembly of opportunities, constraints and restrictions. On the market each firm appears both in postures by the bidder (sellers of products or services which are the subject of its activity) as well applicant, in order to obtain a profit as the best. [1]

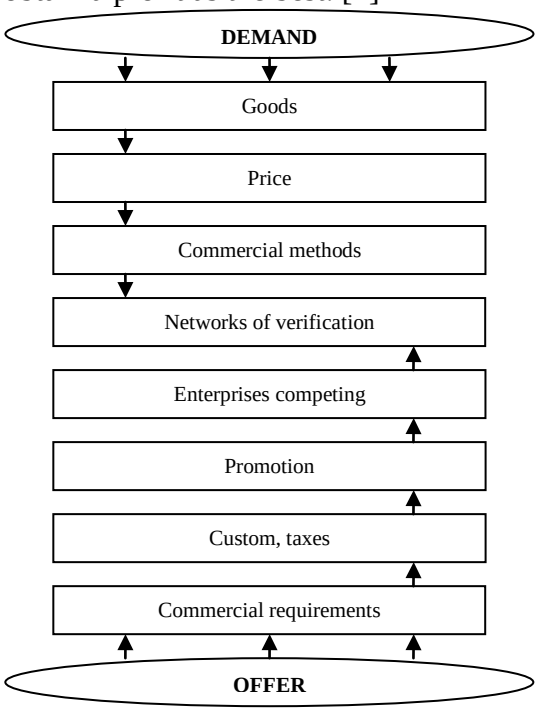

Fig. 1. The principal component elements of agrarian market

This means that she will be permanently preoccupied to maintain their or expand position he has held on the market. In the

acceptation of most authors, agrarian market is a coherent ensemble, a system or a network of relationships sale - buying of goods and services between the contracting parties. Seen as a mechanism, it includes the competition, supply and demand, prices, taxes, etc. (fig.1).
The market is in classical conception "the invisible hand" that regulates economic activity. In this vision, market appears as "institution", which as a last resort should ensure, through his functions (production - allocation and use of resources, distribution, consumption), the economic balance between supply and demand in the long term, realizing the transformation individuals' own interests in the best option for society on the nature of production. [2].

The agrarian market is similar to any other market, where agricultural production appears in the form of offer and consumption needs in the form of demand of agricultural and agro-food products. The agrarian market comprises three subsystems (fig. 2):

-inputs, *represented of local production (excluding own consumption), imports, national reserves and foreign aids;*

-market itself*, is represented of confronting supply and demand of consumption;*

-outputs, *represented of population consumption local, the raw material for manufacturing, export availabilities, national reserves and international obligations.*

The functions of agrarian market are concretized out of the system, most important being providing the population with food products and manufacturing (food, mild) agricultural raw materials. [2]
One of the functions of an agrarian market constitutes ensuring that are used state reserves in the years with natural calamities or with other special situations. [3]
The market should be seen as a markets system, consisting of several segments which have inter-relationships, it has a complex structure.
Domestic market for agricultural products and agro-food has continued evolution that result of the influence of several factors which include: changing agricultural production, population incomes level, prices agricultural and food products etc.

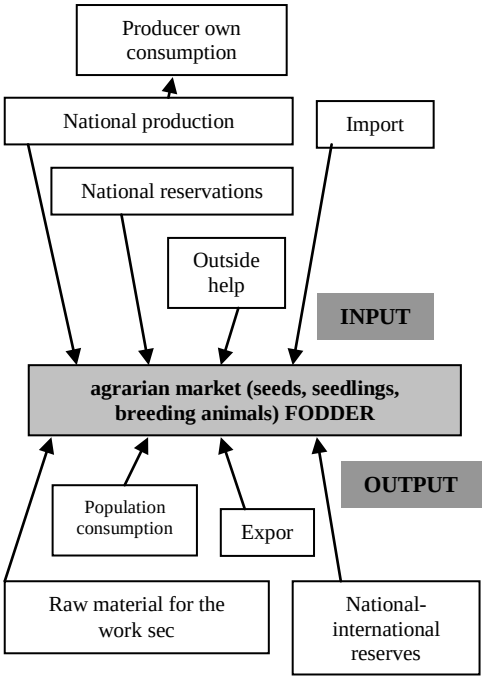

Fig. 2. The system scheme of the agrarian market

CONCLUSIONS

1.The agrarian market is like any other market, where agricultural productions appear in the form of offer, and consumer needs as demand for agricultural products and foodstuffs
2.Market, as economic and geographic space where at a certain moment, facing supply and demand for goods and services, constitute an assembly of opportunities, constraints and restrictions.
3.The agrarian market is similar to any other market, where agricultural production appears in the form of offer and consumption needs in the form of demand of agricultural and agro-food products.
4.The domestic market of agricultural products and agro-food has continued its development due to the change of agricultural production, population incomes, agro-food products prices etc.

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THE STRUCTURE AND POTENTIALITIES OF THE BEE FARMING SECTOR IN ROMANIA

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Abstract

The upwards trend of beekeeping in Romania has required, on the one hand, knowledge of the number of bee families in the structure of agricultural businesses as quantitative factor, with the qualitative factor, the production of harvested honey. The indicators that were used emphasized the variable levels, in the 2004-2009 dynamics, by comparison to the basic year 2004 and the preceding year, but also to the agricultural businesses size classes. The private sector has most of the bee families, the majority falling into the size classes under 0.1 ha and 0.5 – 10 ha. The dimensional knowledge of the variation achieved using the elasticity method revealed a higher growth rate of the number of bee families, as compared to the quantity of harvested honey. Under the same investigation form, in the same interval, we analyzed these categories of prices, resulting a decrease in purchase prices in the interval 2005-2008. For these variation forms, though the elasticity method, we tried to know the intensity of these forms of prices on the number of bee families, on the honey production and alternatively on the purchase prices/retail prices on the market.

Keywords: *bee colonies, extracted honey production, elasticity, system of production (beekeeping), apiarian sector, honey production, supply balance sheet, resources/uses, purchase price, average agro-food market price, elasticity coefficient*

INTRODUCTION

Development of animal husbandry, apiculture and implicitly in Romania in the period after the revolution of December 1989 until now, has seen significant changes in terms of performance. Production assimilated bee bee functioning of appropriate structures, which ranged variations in the production of honey. In this context, this paper makes a comparative analysis of current production capacity, but also yields achieved. It wants to know the organizational framework, referring to farms that have bee colonies, but also the number of bee families existing structure Marmi classes of holdings. It is further shown in extracted honey production, along with how to influence the number of bee on these productions. Of course owning family farms bees have made progress in recent years in terms of increasing honey production and distribution. To create a genuine bee for Romania remains a number of problem areas to solve.

MATERIAL AND METHODS

To meet the objectives of the study was based on processing of statistical data available nationally for the period 2004-2009.

The methodology was based on indicators frequently used in economics, represented by physical, value an percentage units. In order to know the forms and the intensity level of the connection between phenomena, comparisons were made at national level regarding the dynamics of the 2004-2009 interval.

Summary of calculations was focused on the determination of absolute indicators (physical and value units) and relative. The comparison group of indicators was made to all existing and considered to reference a given year. To know the relationship between form and intensity independent factor, the number of bee (x), the dependent factor, honey production (y), using the method of elasticity. The methodology used was permissible, the dynamics of the years, the comparison can be assigned sequentially: E with a fixed basis of

comparison was the first subperiod (2004), E 'for comparison with the immediately preceding sub-period (year) , E''in the sub-period of comparison was considered the last subperiod (2009 indicators analyzed the levels were highest).

RESULTS AND DISCUSSIONS

Evolution evidence bee production capacity in the private practice of occupations aceti. In this paper were pursued on a part ownership of beekeeping and honey production capacity achieved and on the other hand knowledge of the shape influenced the number of bee honey production.

1. ***-Structure of bee production capacity.*** It was played in two respects. The knowledge of the number and size class structure of the farm holding bee colonies, but the focus and level of families of bees in different size classes of agricultural eploatațiilor. In Table 1, it plays that number of bee size classes, which shows:

Table 1 .- Number and size class structure of the farm holding bee colonies in Romania.

Class size farm (ha)	2005		2007		
	no. holdings	% of total	no. holdings	% of total	% over 2005
TOTAL of which:	52397	100,00	39740	100,00	75,84
under 0,1 ha	9368	17,88	4547	11,44	48,53
0,1-0,3	4081	7,79	3566	8,97	87,38
0,3-0,5	1850	3,53	1328	3,34	71,78
0,5-1	5267	10,05	3840	9,66	72,90
1-2	7157	13,66	6985	17,58	97,59
2-5	14208	27,12	10809	27,2	76,07
5-10	7081	13,51	6036	15,19	85,24
10-20	2504	4,78	1804	4,54	72,04
20-30	374	0,71	348	0,88	93,04
30-50	224	0,43	287	0,72	128,12
50-100	189	0,36	108	0,27	57,14
over 100	94	0,18	82	0,21	87,23

Source: Processed by the Statistical Yearbook of Romania, 2010, INS

- Most families of bees holdings are less than 0.1 ha and between 0.5 to 20 ha;
- in 2007 compared to 2005, there is a diminishing trend in the bee family farm owners for most size classes.

The number of bee colonies in the structure of the size classes of holdings, a situation depicted in Table 2 can play following aspects:

- nationally, the total number of bee families is increasing (in 2007 recorded an increase of 3.77% compared to 2005);
- number of families Abina concentration occurs in the same classes of farm size (less than 0.1 ha and between 0.5 to 20 ha);
- Increasing concentration of livestock manifests itself claseloe farm size between 1-50 ha.

Table 2 .- Number of bee size classes in the structure of agricultural holdings in Romania

Class size farm (ha)	2005		2007		
	No families of bees	% to all	No families of bees	% to all	% over 2005
TOTAL of which:	949358	100,00	985205	100,00	103,77
less than 0.1 ha	191150	20,13	133916	13,59	70,05
0,1-0,3	78941	8,32	99044	10,05	125,46
0,3-0,5	43210	4,55	40302	4,09	93,27
0,5-1	102164	10,76	101163	10,27	99,02
1-2	135217	14,24	141610	14,37	104,72
2-5	214661	22,61	272502	27,66	126,94
5-10	127984	13,48	130464	13,24	101,93
10-20	39616	4,17	48633	4,94	122,76
20-30	6342	0,67	7405	0,75	116,76
30-50	3942	0,42	5307	0,54	134,62
50-100	3599	0,38	3097	0,32	86,05
over 100	2547	0,27	1762	0,18	69,17

Source: Processed by the Statistical Yearbook of Romania, 2010, INS

2. -Capacity beekeeping and honey production. It is played for the dynamics of the period 2004-2009, of which the values listed in Table 3, stemming the following:

- the number of bee is in successive annual increase. In 2009 to 2004, the number of bee colonies were amplified with 19.032%
- extracted total honey production in recent years were registered a significant increase compared to 2004 (4.632% and 4.11% respectively). Ninel also yields the years 2005-2007, recorded decreases compared to the year 2004;
- on the average household extracted honey bees, compared to the 2004, can be said for

other years is decreasing. These reduction varies between -20.13% and -5.31%.

Table 3 .- The production of honey produced in the beekeeping sector in Romania

Specification	UM	2004	2005	2006	2007	2008	2009
Number of bee families	Thou families	888	888	891	982	998	1057
	% of 2004	100,0	100	100,338	110,586	112,387	119,032
Total production of honey extracted	Tons	19150	17704	18195	16767	20037	19937
	% of 2004	100,0	92,4491	95,0131	87,5561	104,632	104,11
Average production per bee family	kg/bee family	21,565	19,936	20,420	17,074	20,077	18,861
	% of 2004	100,0	92,44	94,69	79,17	93,09	87,46

Source: Processed by the Statistical Yearbook of Romania, 2010, INS

3. -***Influence of number of bee families on production of honey bees.*** It was followed by the results of elasticity coefficients. One could interpret the links between form and meaning of the number of bee families, independent factor (x) and extracted honey production, a factor dependent (y). Table 4 Results of these forms are rendered by the three types of correlative elasticity (E, E ', E') which can be deduced the following sequence:

Table 4 .- Elasticity Coefficients - the influence of bee families (x) on the production of honey (y) in the beekeeping sector in Romania.

Year	Influence of the number of bee (x) the total production of honey extracted (y)			Influence of the number of bee (x) the average production per household extracted honey bee (y)		
	E	E’	E”	E	E’	E”
2004	0	0	0,24	0	0	-0,89
2005	0	0	0,70	0	0	-0,35
2006	-14,76	-15,96	0,55	-15,71	7,18	-0,52
2007	-1,17	-1,28	2,24	-1,96	-1,60	1,33
2008	0,37	3,24	0,08	-0,29	13,27	-1,81
2009	0,21	0,66	0	-0,65	-1,55	0

*) 2008 was taken as a reference in the form of E".
Source of basic data for calculation: Romanian Statistical Yearbook, 2010, INS.

- form of dependence when the number of bee (x) the total production of honey extracted (y) results in a lack of elasticity, for a majority of the years. Reduce total production of honey in 2005-2007, had a definite influence on the existence of a reverse correlation of factors, number of families bee / honey production (x / y);
- If the number of families seeking dependence of bees (x), but the average production per household extracted honey bee (y), is found for a majority of the inverse elasticity years. It is given by negative values of the coefficients.

The structure of the paper is marked by the gradual knowledge of the honey product in Romania, which begins with the supply balance, the comparative analysis of the purchase/retail price, and in the end the intensity of the price on other indicators depending on it was outlined.

4. –The supply balance sheet for the harvested honey production. It is given by the balance sheet indicators which, for the honey production in Romania in the interval 2004-2009, are presented in table 5.

Table 5.- The supply balance sheet for honey production in Romania

Balance sheet indicators	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
A.- RESOURCES	17.5	19.4	17.1	18.4	17.2	20.7
Useable production	14.7	19.3	17.7	18.2	16.8	20.0
Imports	0.1	0.1	-	0.2	0.4	0.7
B.- USES	17.5	19.4	17.7	18.4	17.2	20.7
Exports	11.2	8.1	6.3	10.4	5.1	8.5
Domestic use	6.3	11.3	11.4	8.0	12.1	12.2
Of which: domestic consumption	6.3	11.3	11.4	8.0	12.1	12.2

Data source: Romanian Statistical Yearbook, 2010, NIS.

By comparison to dynamics analysed the previous year, the resources and uses may be structured in an interpretation of the indicators, as follows:
- the resources, except for the years 2006 and 2008, follow an upward trend. One may say that the usable production dominates, the ratios starting fro 14.7 in the 2003/2004 interval, reaching 20.0 in the 2008/2009 interval. The imports are insignificant, but increasing annually;
- in terms of uses, the annual levels trend is downward, the same rhythm being maintained in terms of exports. The domestic use, with

special reference to domestic consumption, records a significant upward trend, the level of the 2008/2009 interval being almost double compared to the 2003/2004 interval.

We may draw the conclusion that there is a variation in the annual increase in resources, together with the increase in the domestic consumption and the decrease in exports.

5. -The comparative analysis of the price levels. The variation of resources and uses required knowing the variations of the price levels. In the case of the honey product, the purchase prices and the retail prices on the agrofood market are significant. In table 6, we perform such a comparison for the 2004-2009 interval, together with the alternative presentation of the two categories of prices (purchase/retail price). In this respect, we can emphasise the following aspects:

Table 6.- The Comparison of the honey product price levels in Romania

Analysis year	Average purchase price			Average agrofood market price		
	lei/kg	% compared to 2004	% compared to the market price	lei/kg	% compared to 2004	% compared to the purchase price
2004	6.71	100.00	50.18	13.37	100.00	199.25
2005	4.10	61.10	31.20	13.14	98.27	320.48
2006	4.30	64.08	34.29	12.54	93.79	291.62
2007	4.55	67.80	35.65	12.76	95.43	280.43
2008	6.15	91.65	43.95	13.99	104.63	227.47
2009	7.72	115.05	49.45	15.61	116.75	202.20

Data source: Romanian Statistical Yearbook, 2010, NIS

- from the analysis of the honey purchase price we notice an annual variation in its level, which in 2004 amounts to 6.71 lei/kg, followed by a decrease in the 2005-2008 interval (the annual level of the decrease percentage compared to 2004 ranges between -39.90% and -8.35). At the same time, the purchase price is much smaller than the retail price. For the honey product, the purchase price is, in most years, less than half the retail price level (in the 2005-2007 interval the purchase price was about 1/3 of the retail price);
- the average (retail) price on the agrofood market reflects the same variation phenomena but with a differentiated level. The price level records decreases in the same 2005-2007 interval compared to 2004, but only between -6.21% and -1.73%. Compared to the purchase price, the increases in the retain price are amplified e few times (between +127.47% and 220.48%). Yet, the annual dynamics analysis of the retail price level shows a decrease of the ratio to the purchase price, whose level is decreasing in the 2005-2009 interval.

From all this we notice the honey production feedback to the distribution.

6. -The form and intensity of the honey price influence on the indicators that depend on it. In this paper we calculated the elasticity coefficient and the form and intensity of the correlations determined by the price influence was identified. The price <—> production capacity and purchase price <—> retail price bidimensional aspect identifies forms of the market impulses. Practically, through the elasticity coefficients results, presented in table 7 and table 8,they may be interpreted as follows:

Table 7.- The elasticity exhibited through the purchase price (x) influence on the capacity, harvested honey production and "retail" (y) market prices in the apiarian sector in Romania.

Year	Purchase price (x) influence on the number of bee families (y)			Purchase price (x) influence on the harvested honey production (y)			Purchase price (x) influence on the market price (y)		
	E	E'	E"	E	E'	E"	E	E'	E"
2004	0	0	1.22	0	0	0.30	0	0	1.09
2005	0	0	0.34	0.19	0.19	0.23	0.04	0.04	0.33
2006	-0.009	0.06	0.35	0.13	0.56	0.19	0.17	-0.93	0.44
2007	-0.32	1.75	0.17	0.38	-1.34	0.38	0.14	0.30	0.44
2008	-1.48	0.04	0.27	-0.55	0.55	-0.02	-0.55	0.27	0.51
2009	1.26	0.23	0	0.27	-0.019	0	1.11	0.45	0

*) the year 2008 was considered a benchmark under the form E").

Calculation basis data source: Romanian Statistical Yearbook, 2010, NIS.

-the influence of the purchase price (as independent x factor) on the number of bee families, on the harvested honey production (as independent y factor) means a lack of elasticity (the coefficients having sub-unitary values in most years). In the case of the

purchase price influence on the market price, the same lack of influence is maintained, but with a favourable upward trend of this correlation;
- the influence of the market price (as independent x factor) on the number of bee families (as dependent y factor) indicates an upward trend, but with the existence of annual variation levels. This annual growth phenomenon is also noticed in the case of the market price influence on the purchase price. At the same time, through the sub-unitary elasticity coefficients, it results that the market price does not influence the harvested honey production.

Table 8.- The elasticity exhibited through the "retail" market price (x) influence on the capacity, harvested honey production and purchase price (y) in the apiarian sector in Romania.

Year	Market price (x) influence on the number of bee families (y)			Market price (x) influence on the harvested honey production (y)			The market price (x) influence on the purchase price (y)		
	E	E'	E"	E	E'	E"	E	E'	E"
2004	0	0	1.11	0	0	0.27	0	0	0.91
2005	0	0	1.01	4.38	4.38	0.70	22.61	22.61	2.96
2006	-0.05	-0.07	0.79	0.80	-0.60	0.44	5.78	-1.06	2.25
2007	-2.32	5.82	0.38	2.72	-4.47	0.87	7.05	3.31	2.24
2008	2.67	0.16	0.53	0.99	2.02	-0.04	-1.79	3.64	1.95
2009	1.13	0.51	0	0.24	-0.04	0	0.89	2.20	0

*) the year 2008 was considered a benchmark under the form E").

Calculation basis data source: Romanian Statistical Yearbook, 2010, NIS.

All the elements reflected in the price influence outlines the reaction of the producer/ distributor/consumer to the honey product market manifestations.

CONCLUSIONS

Through the diversity of the ratios included in the consumption/price dynamism, this paper is a way of knowing and directing the honey market in the future. The conclusions are formulated in terms of a direction for the future development of the apiarian sector in Romania through the following:
- Number of farms in Romania have bee family is different, most of which are classified by size classes less than 0.1 ha and 0.5 to 20 ha.
- The national bee family flocks have a tendency to increase in 2009 registering a gain of 19.032% compared to 2004. Of all about flocks 4/5din these farms are owned by the above size classes.
- Total production and average annual honey extracted, annual variations. It may refer to the comparisons with 2004, for the period 2005-2007 has a lower level and 2009 at this level is advanced.
- The elasticity form aimed to put into evidence the influence of the bees number (as independent factor) on the production of honey (dependent factor) in the beekeeping sector in Romania. The existence of very reduced rate of annual growth in the number of bee families is necessary to be known and other factors that determine annual variations in the level decreases and extracted honey production as well.
- The paper revealed that the bee production system that is conducive to the private sector, are felt most strongly induced shocks marketplace, so that production capacity must be developed apiculture the requirements and market needs.
- The supply balance sheet for the honey product means an upward trend for the resources which are correlated with the uses. Reference may be made to the annual increases in the useable production and the domestic use.
- From the comparative analysis of the prices (purchase/market prices) it results that there are annual variations, significant decreases being recorded in the purchase price level for the interval 2005-2008. the market price increases annually compared to the purchase price (the purchase price level is between 31.20% and 50.18% of he market price level).
- From the elasticity coefficients results, we concluded the following: the purchase price does not influence the apiarian production capacity (the number of bee families and the honey productions) or the market price; the market price influences directly both the apiarian production capacity and the purchase price.

- The existence of a ratio of about 2/3 of the number of bees in small-sized agricultural businesses in the private sector, up to 5ha, indicates a small direct influence on the honey product market. The intermediary technical and economic factors (the effect being felt through the influence of the level and intensity of the retail price on the agrofood market).

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THE INTERDEPENDENCE FUNCTIONS OF MANAGERIAL ACCOUNTING

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Abstract

Management accounting, also called "analytical accounts" in France or "management accounting" in Romania is intended to serve as a tool in decision making by business managers. Managerial accounting and business use appropriate methods based on economic criteria and management, without taking into account the requirements imposed by legal or tax rules. Here we apply a single criterion - the usefulness of information for taking reasoned management decisions. A function of management accounting is management decision making, which involves selecting a course of action in some specific alternatives. Thus, based on the results, operative reports is reflected in their decisions to punish unfavorable activity and stimulate positive results.

Key words: *managerial accounting, managerial decisions, functions, managers*

INTRODUCTION

Accounting conducted internal and external representation of an enterprise.
This representation justifies the existence of two circuits of the enterprise information system: one that plays out image of the company - financial accounting, considered "the outside " of the company and another which describes the internal processes of the company, called managerial accounting, considered "the internal "the company.
Management accounting in the UK and the U.S. occurred at the end of the eighteenth century, as a result of industrial development and competition.
Management accounting has undergone two stages of development:
- I stage (wars) - between the two world wars. In that time there was no concept of "management accounting", but practice the concept of "production accounts, which have only one goal - calculate the cost of production.
- the stage-II (war) - covers the period after the 2nd World War, namely in the years 1940 to 1950 appeared the notion of "management accounting", which is distinguished from "production accounting" by the fact that apart The calculation of cost of production, it also deals with buget, analysis, control, decision making etc.

MATERIAL AND METHODS

Managerial accounting method includes all the various methods and means through which the subject is reflected in managerial accounting information system of enterprise. Elements of management accounting methods are quite different, namely: planning (budgeting) method, indices, calculation, analysis of business processes, economic-mathematical methods, internal reports. Modern Managerial Accounting includes the following functions (basic elements):
-Planning;
-Control;
- Management decisions

RESULTS AND DISCUSSIONS

Managerial accounting and business use appropriate methods based on economic criteria and management, without taking into account the requirements imposed by legal or tax rules.
Here we apply a single criterion - the usefulness of information for managerial decision making reasoned. Also, any system

of management accounting, market conditions organized in a certain enterprise, must be based on specific tools and processes, such as[3] :

• Unique use of units for planning and accountability;

• assessing the results of activity of subdivisions, the responsibility of business centers;

• continuity of information and use multiple primary and intermediate management purposes;

• Preparation of internal reports as indicators of basic communication system between management levels etc.

Planning - is a process of establishing the rule of driving in the future. At all stages of the process involved in accounting management accounting must clear financial alternatives available.

Accounting data of previous periods serve as a baseline for planning and operating data - as a means of control over the performance indicators and basic plan to correct the plan tasks. Budgeting concept involves preparing a short-term plan in which relations between the separate operations are coordinated at all levels of management of the whole enterprise. The budget process is given special attention to rules and regulations establishing optimal oriented towards ensuring efficient use of all types of resources.

Planning (budgeting) to ensure the order of operation in the future and includes the following measures:

-determining goals, finding alternative variants of shares;

- gathering information on alternative options for shares;

- choosing the optimal path of the following alternative actions;

-making decisions.

An important tool for planning the project budget, which takes part in the preparation and accounting - analytically. Budgeting which is to determine the technical - economic plan for the enterprise and its subdivisions for the current period: decade, month, quarter, year.

This may manifest itself in bringing effective results in line with planned or, conversely, change plans, if it finds that they can not be achieved. Process control enables to predict whether long-term plan will be done to detect potential problems, take measures to keep the change goals and obligations to avoid future losses.

At the operational control structure are five main elements illustrated in Fig. 1.

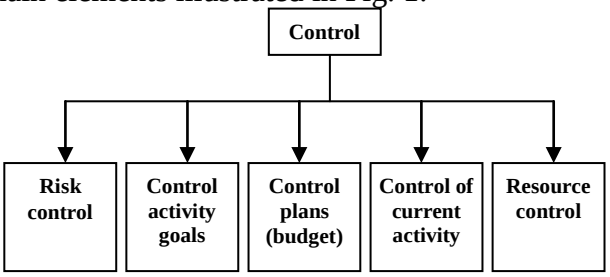

Fig. 1. Operational control elements

One of the weakest elements in riscurilor. Risk control management system is to be expressed clearly and accurately be controlled throughout the planning period. Control activity goals is to control the methods of achieving its goals and change strategies if they have no prospect of realization.

Control plans shall be composed of two independent steps: defined the tasks planned transformation strategies; control of actual violations of scheduled tasks. The first stage is subject to review plans drawn justice, their compliance with the proposed tasks, the importance of early planning stages, the optimal time to perform.

Control of resources is ensured by preparing estimates of resource use and accountability of their effective use. Control is provided by the importance of ongoing work on the current work, which is not in the control goals and resources.

Some businesses are developed "norms actually work" they control the "disposal method" deviations from the normative. Inspection carried out by "elimination method is considered the most effective option. Thus, managers performed control ensures that resources are obtained and used efficiently and effectively[2] .

Amount of input use efficiency to achieve a production level. Degree of effectiveness to achieve the aim. This allows the driver to

focus on negative processes and to detect problems that need solving.

Another function of management accounting is management decision making, which involves selecting a course of action in some specific alternatives. Thus, based on the results, operative reports is reflected in their decisions to punish unfavorable activity and stimulate positive results.

In the time period for which management decisions are taken, they are divided into: long-term management decisions, also called strategic; current management or operational decisions.

The choice of strategy determines the perspective of business development, and therefore management decisions that she can to it in the future, depending on the company's ability to predict the pace of growth of various economic - financial indicators of the company, the company can market to maintain the inflow means alternatively etc. Money for each. in different economic conjuncture (high inflation rate, decreased production, increased competition etc.).

Long-term managerial decisions have a major influence on the future status of the company and therefore, the accuracy of information on business opportunities and its economic environment is very significant.

Therefore strategic decisions must be the prerogative of senior managers. In addition to strategic decisions (long term) general business management decisions that do not attract her enterprise resources over a long period. Such management decisions considering himself or current intelligence and are usually in the lower level managers prerogative.

The current management decision making based on the current economic situation and evaluation of material resources, human and financial, to its disposal at this moment.

As an example of current managerial decisions can serve to establish the selling price of the production company, determining the optimal manufacturing various types of products, determining the type of mass media to be rationally used to advertise the production company etc.

The interdependence of these functions is shown in Fig. 2.

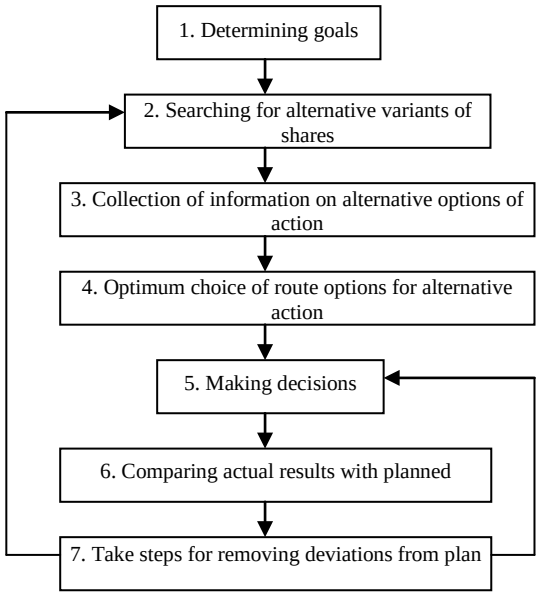

Fig. 2 Interdependence management accounting functions

Managerial accounting organization is done in relation to company size, internal information needs and specific activity. Thus, large companies organize their records management procedures based on detailed and reliable. In contrast, for small businesses accounting management functions are often taken financial accounting, the detail and process information provided by them to the needs of management.

In theory and practice of modern management accounting by the type of connection between financial and managerial accounting, faces two general conceptions of its organization, namely[1] :

a) design of management accounting organization in a connected system, integrated with financial accounting, one circuit is being carried accounting information, which integrates the two components - called monistic conception (integralist) organization of accounting (accounting monism);

b) design of management accounting organization in a completely autonomous circuit with financial accounting - the organization called dualistic conception of accounting (accounting dualism).

In the view of international accounting, accounting and financial management is carried out simultaneously, without splitting them rigorously. Integration solution in the financial accounting management accounting

is quite tricky because it involves combining the functionality of specific accounts accounting systems management functionality expense accounts (class 7 "Expenses ") and income (class 6 "Revenue") financial accounting. Opponents argue that this solution integralist accounting is hard because of the financial accounting records interfering with those in managerial accounting. It alleges that this concept makes it disappear, that has resulted, expense accounts and income from financial accounts at the end of each period of calculation, which makes difficult the preparation and presentation of account 121 "Profit and loss" in financial accounting. Such a subsystem is used by most industrial firms in Britain, Canada etc. *Advantage:* reduced workload for the accounting. *The downside*: as confidential information leaks. It accepts, however, that conception may be practiced successfully by business units specializing in trade and tourism, where it is not a main focus of the production cost issue, but determining the economic-financial results by groups of goods. Dual Accounting is a separate processing of information by the two accounts, each of which address the validation of its specific objectives, being able to go to the organization and management of each separate accounting offices. This approach satisfies the requirements and aims at improving production and calculation of control over consumption. It requires the use of management accounting systems accounts independent of financial accounting, accounts using the same name-pairs that have a structure and reflects the opposite "as in a mirror. Thus the financial accounts are grouped consumption on economic elements, costs and revenues are tracked by their economic nature, and managerial accounting consumption, costs and revenues are grouped consumption centers (enterprise, manufacturing, warehouse, district, brigade) and objects Computers (finished goods, work performed and services rendered). Such a subsystem is used in countries with strict accounting rules from the state (France, Belgium, Romania etc.). *Benefit:* Provides a high confidentiality accounting information. *Disadvantages.* increasing the volume of accounting work and the expenditure of the department's service "Accounting ", because the primary documents are processed twice, once for managerial accounting needs for the second time and financial accounting.

CONCLUSIONS

1. Financial accounting is based on double entry accounting system, which consists in recording economic operations summarized in two ledger accounts and balances of all accounts to obtain balance. While the registration information for business use is not necessarily to be based on double entry accounting system. To collect information on the company's departments or divisions, and the kinds of products and services. It must not accumulate in the ledger accounts and, after its use by administrators for specific needs, is sent to storage. In this connection, the system of information search and storage capacity must be larger than necessary for financial accounts.
2. Require the submission of operative management accounting data, because many decision-making may be delayed up to provide complete information. Managerial Accounting, combining planning and decision making, largely aimed at future periods, therefore the management accounting information and probably have a subjective character.
3. Financial accounting information are available to all categories of users by posting them in the form of financial reports. Most management accounting information is a trade secret, it reflects the tactics and strategy in the enterprise market economy. Leakage of such information might struggle to impart a character unfair market competition and therefore are considered confidential and may not be published.

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IDENTIFICATION OF SPECIFIC LEADERSHIP SKILLS AND SOFTWARE BEHAVIORS IN PUBLIC INSTITUTIONS IN RURAL AREAS - A CASE STUDY, CALARASI

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Abstract

One of the things rarely understood in Romania in terms of leadership is that leadership is not a privilege but a responsibility. Effective leaders are in possession of skills, attitudes and specific knowledge plays a decisive role in their work. Each individual carries with it a certain baggage of knowledge, skills and behaviors that result from their own experience of life (work, education and social interaction) and each individual has the ability to improve capacity and to modify certain behaviors to become more effective leaders. This can be done through continuous and conscious effort, through practice and training.

Keywords **:** *leadership, leader, skills, behaviors*

INTRODUCTION

Subject leadership has been of interest for hundreds of years, the Greek philosophers like Platon and Socrates would be up to the great gurus of our time management and leadership. However, never need effective leadership has been promoted as the XXI century. The main argument is that in these changing times, leadership is the key individuals and organizations and countries and regions in which we live. Leadership as a concept could be translated as the art of leadership and management not only as English dictionary says - Roman. Why? Maybe that's leadership as a subject is more a guide to help us to understand, apply and go through the process of management. Despite recognition of the importance of leadership, there is some mystery in terms of its clear definition. In a review of research on leadership, Stogdiil [4] concluded that "there are as many definitions of leadership many people try to define it." In short, leadership is a complex phenomenon that touches nearly all organizational processes, social and personal. Depends on a process of influence, where people are inspired to achieve certain objectives through personal motivation.

"... leadership is like the abominable Snow Man, whose steps are everywhere but is nowhere to be seen"

MATERIAL AND METHODS

The quantitative research was conducted during September-December 2010, based on semi-standardized questionnaire applied to the front of the subjects in the workplace by interviewing actors with administrative responsibilities, namely:

- local councilors; - mayors and deputy mayors; - local key actors (doctors, teachers, priests, representatives of cultural institutions, education, social assistance. Police);

The survey recorded the views and attitudes of respondents from 27 above-mentioned joint county of the identification of specific leadership skills and behaviors, namely:

•communication within the organization
• a team leading to the successful achievement of objectives
•encouraging team decision making
•tasks and organize time effectively

•change perception and behavior and performance improvement
•complex transformation projects in individual tasks, easy to follow.
• Conflict Management

Questionnaire comprising 15 questions was applied to a number of 157 respondents from 27 municipalities. The sample was selected with a statistical step sample based on surveys, studies obtained by specializations, public position held at the institution in order to provide a representative sample in terms of age groups and function responsibilities, behaviors and attitudes that lead to Specific leadership.

The results for the interpretation of this set of data have led to a research report.

RESULTS AND DISCUSSIONS

The essence of leadership is the ability to create vision, motivation and enthusiasm in a group of people. People are not driven by plans and analysis. They are led by the triad and other things. LEADER truly effective focus almost all their actions created them - with different skills for each element of the triad.

Vision is a positive image of what could become the organization and the way of reaching the destination. To create a vision that is shared, the leader must be always looking for new ideas to match the organization's strategy and be smart enough to sense the good ideas. It is extremely important that it be an artist to transform these ideas into images and stories that are exciting, logical and achievable.

Motivation is one that pushes the action. Leader uses his interpersonal skills to raise energy and help people to see how it could benefit both the "trip" to the goal, and after reaching the target. It helps to see "the words catchin glife." Impetus for projects and initiatives the organization is what helps the organization to reach its destination. Using their power and problem solving skills, the leader shall ensure that the company is on track to fulfill the mission.

Leader must function effectively in all three dimensions. If not a visionary leader can not motivate. The person who maintains the momentum is not a leader if you can not create a vision that is shared by all.

Effective leaders are in possession of skills, attitudes and specific knowledge plays a decisive role in their work. Each individual carries with it a certain baggage of knowledge, skills and behaviors that result from their own experience of life (work, education and social interaction) and each individual has the ability to improve capacity and to modify certain behaviors to become more effective leaders. This can be done through continuous and conscious effort, through practice and training.

Characteristics of leaders can be ordered in four key groups: personal qualities, many social relationships, deep knowledge of business, deep knowledge of people. These characteristics are rooted in three key areas: family, school and organization.

Personal qualities are a set of mental qualities, intellectual, behavioral, motivational leadership and reputation that are different from most people. Among these features distinguish the following: ability, attitude, spirit penetrating vision, competence, insight, motivation and reputation.

Acquisition of mental skills is the individual, giving the leader the ability to perform in good conditions and with a certain inclination (private) work or action in any situation. Attitude is the ringleader acquisition by expressing a design concept in all circumstances, showing tolerance and understanding towards all the interlocutors Spirit is penetrating through the acquisition reflected consciousness, thinking, reason and intelligence manifested keen leadership in any conditions.

The vision is manifested inclination to leave the leader dominated by ideals, not related to the immediate reality, heralding the proximity of events or situations in rural institution / company. In these circumstances it paves the way to prevent crises.

Competence is the intrinsic ability of the leader to decide on solutions to problems in special circumstances, on the basis of deep knowledge of all factors that cause them, without using formal authority and

responsibilities conferred by the power hierarchy in the institution / company. Intuition is the ability to discover the leader, spontaneously, instinctively, by rational essence and meaning of a concrete situation exceptional.

Motivation is made up of all the reasons (conscious or not) and intrinsic incentives causing the leader to perform a particular action or aim at certain objectives, in exceptional circumstances. Reputation is favorable public opinion about the leader, formed as a result of his outstanding achievements in original condition, mobility and fluctuations caused by environmental factors.

All personal qualities above component 'profile' of the leader. These qualities are widely known and appreciated In a social community and the so called leader's charisma.

Social relations are based on all the people who make up the leader's own network of communication both within and outside the institution / company. This network expansion is an area much larger than for managers. Deep knowledge of the business involves a whole range of knowledge in the technical, economic, social and market, which are constantly refreshed the memory and picture of the leader board, from which it can substantiate and optimal decisions in any situation.

Deep knowledge of the people is manifested in the ease of communicating effectively in any situation, with all employees and staff, operating easily in coaching, coordination and control people.

The skills of a leader includes[1] :

• Communication: the fact of being a good listener and be in possession of interpersonal communication techniques;

• Facilitate meetings and decision making: Effective management of meetings and the pursuit of positive outcomes through broad participation in organizational decisions;

• Vision and strategic planning: the fact of having a strong personal vision of the place or community organization must reach in the future and understanding the process that can lead to this;

• Resolving conflict and negotiation: ability to cope with different views and work to achieve positive results during the proposed;

• Working with people: promoting positive relationships between colleagues and ability to inspire others to act;

• Public Presentation: the ability to publicly present messages inspire people;

• Teamwork: ability to work effectively within a team;

• Decision Making: Involving the right people making decisions, using the most suitable method for making decisions and decisions that lead to objectives during the set;

• Taking risks: taking personal risks to find new opportunities and formulating new initiatives;

• Desire for personal development: the desire and commitment to continue to improve the personal qualities.

Convince people to follow you ...

How important is to make people to follow us by conviction and without requiring that they do something?

How important is to have a relationship with others based on respect and trust?

Why do we need all this to become reality?

It is a natural human nature to look for behavioral patterns that people follow them, which inspires trust and confidence. To a large extent is a natural talent of the people to be leaders. But the individual leadership qualities can be improved.

The Leader Behavior[2] :

• behavior-oriented tasks - is specifically concerned with the performance leaders in a timely and appropriate quality level tasks, according to plans and programs for conducting activities with the precise definition of quantitative and qualitative performance to be carried out each subordinate. Subordinates are paid in an incentive for each unit result in acceptable quality. Leader must have competence to plan and organize work to his subordinates so as to maximize their performance.

• People-oriented behavior, the creation of an effective work teams by helping subordinates in their efforts, widespread use of ways and

means of harmonizing the needs of their organization's requirements.

Absolutization to one or another of behavior has proven methods of leadership does not correspond to existing reality, in which are combined in different proportions, the concerns of leaders for tasks with dedicated people.

Leaders must adapt to the specific and ever-changing circumstances. Leaders are truly successful have a common set of behaviors.

They act and will seek to continuously implement the proposed actions;

• They create elaborate changes and will not adopt a passive behavior, will interview the existing situations and will refuse the kind of answers that say "I never done such a thing;

• They exploit the opportunities of the present without compromising the need to invest and build for the future;

• It will develop into an open workspace, will focus on results, always aware that much can be done if the person does not matter who is credited for success;

• evaluate and use the human resources based only on individual performance and potential;

• They think positively and will seek all opportunities to outweigh the challenges that await them;

• There will be enough attention to detail to tell whether or not the objectives are achieved;

• Will seek consensus and be tolerant of other points of view expressed;

•They constantly communicate with influence, encouragement, criticism and listening.

Leaders must send a very clear

•Articulated expectations about the performance of each member of the organization, by accepting the idea that all will be judged only according to individual performance;

• An environment where open communication is encurages and answers and new ideas are required from all involved;

• An appreciation of the principle according to which team members are informed are the most motivated and capable of results;

• Confidence in colleagues and the desire to provide opportunities to those wishing to promote to higher positions and thus accept new responsibilities.

Account and routing. Consideration is the extent to which a leader is approachable and concerned about the fate of their subordinates. One such leader is friendly, listening to subordinates, trains them in making decisions and planning, is impartial and fight for the good of the group. Obviously, the consideration is related to function socio emotion. Targeting is the concern to achieve targets. Targeting refers to the allocation of tasks, setting deadlines, correcting inadequate performance. It is clear that targeting correlates with the function of fulfilling the mission. Account and routing are compatible. A leader with high scores in both dimensions will be an effective leader.

Reward and punishment. Reward involves bringing subordinate compliments, and the material benefits that they deserve special treatment. When such rewards are linked to performance, subordinates are encouraged to work well and meet professional satisfaction. Under such a leader, subordinates know exactly what is expected of them and they will be rewarded if they confirm expectations. Punishment involves admonition, cancellation of any increase in salary, promotions and other rewards. Compared with the effects of reward, punishment of those are far less beneficial. In the best case, little or no penalty contributes to increased productivity and has a negative influence on professional satisfaction. What makes effective leader? "How its influence on other people?

Given the assumptions that make them leaders on their subordinates, D. McGregor Theory X-Theory Y issue (table1) [3]

Table.1.How subordinates alleged that a leader will act according to the latter's assumptions about their attitudes toward work

	If subordinates meet the assumptions of Theory X	If subordinates meet the assumptions of Theory Y
If the leader believes that subordinates meet the assumptions of Theory X	Acts under the provisions of subordinates are dependent on leadership and creativity manifest low	Subordinates are frustrated because the leadership is practiced, based on control and coercion, does not allow display of their opportunities and real job creation.
If the leader believes that subordinates meet the assumptions of Theory Y	Subordinates poor performance achieved by not have the maturity necessary	Subordinates achieved high performance as their needs are fully satisfied in its organizational environment

Theory X or traditional view of leadership. People have an aversion to work and avoided as they can, therefore, people must be controlled and threatened with sanctions to be determined to contribute to achieving the aims organization. People want to be controlled and directed in their efforts because it allows them to avoid the responsibilities effectively. D. McGregor's view, which expresses the idea that people are lazy and should be compelled to work, stayed in the past based on management experience, leading to the practice of leadership authoritarian, paternalistic and mechanistic, based on control and coercion.

Theory Y. It is based on the following assumptions: people consider work as an intrinsic part, normal life, people do not need the work process of threats, sanctions and control works very well when they are rewarded for performance achieved, they seek to take increased responsibilities they are encouraged in this direction, most people have a considerable creative potential in the modern economy is only partially exploited.

Net boundaries made by the four quadrants of the table are not found as such in reality. It may happen that often leaders to form an impression of their subordinates, which may not correspond to their actual characteristics and also the subordinates do not have all the characteristics described. Given these realities, leaders must always adapt selectively concrete situations they face, based on careful analysis of their subordinates, to assess the overall situation and their ability to choose the most appropriate leadership.

There are several types of behavior of leaders[2] :

• **Directive behavior**. Directive leaders work schedules, performance standards and maintain them on subordinates make known what expected of them. This behavior is essentially identical to the target. Structured environment directive leader, setting clear targets on very short notice, supervising staff and providing constant support. They are willing to accept this style of driving with reduced autonomy.

• **Behavior support.** Support leaders are friendly, approachable and concerned to establish and maintain interpersonal relationships pleasant. Calculation is essentially identical to that behavior.

• **Participatory behavior**. Participative leaders consult with subordinates in work-related problems and their views taken into account. Leader involves employees in decision making, based on their high power and aimed at increasing motivation.

• **Behavior delegation.** Leader sets long term goals, provide resources, remove obstacles to staff and is in itself as a resource at their disposal.

• **Persuasive behavior**. Leader sets short-term grants and training established by progressive difficulty tasks, to increase confidence and competence of our employees.

•**Behavior-oriented achievements**.

Achievement-oriented leaders encourage subordinates to strive for a better achievement of objectives. They express confidence in the quality of subordinates.

Subordinates prefer or require different types of leadership, as follows:

• subordinates are motivated by the desire to achieve work well with a professional task-oriented leader

• subordinates who prefer to be told what to do with behavior will appreciate directive leader.

• subordinates who feel that they have mastered what they have done well, will appreciate more directive leadership.

• subordinates who feel able to do his job, the leader considers unnecessary and irritating controls.

CONCLUSIONS

1. A person can be an effective manager without having the capabilities of a leader!

2. Good leaders have a few things in common: they develop a clear vision, gaining commitment and gives people the support they need to operate effectively. Good leaders ensure that their people get quality results, leading the entire team to success.

3. In the simplest approach, we can say that the first driving means setting direction and influencing others to follow that direction.

This can be done by a person applying personal knowledge and leadership skills.
4. Although some people from their positions as managers or supervisors have the authority to perform certain tasks and objectives within the organization they belong to, this power does not automatically make them leaders.
5. True leaders will do so as those who work / works will want to follow or to perform specific tasks.
6. Leaders not limited only to tell others to be made. Un leader can be defined as someone who occupies a position within a group influences the expectations others occupied positions and coordinates and directs the group to achieve goals proposed. True leaders are not born, but are formed over time. People can become more effective leaders if they really want it. Good leaders are formed along a continuum of study, education, training and experience. Specific leadership skills are not innate only to a small extent and therefore should always be improved through hard work and study. The best leaders will never cease self-directed learning and study.
7. A of the most important things a leader can do is to ensure and encourage the formation of new leaders within the organization, company or community.
8. Leaders who make things happen. They have vision, have initiative, can influence people, make proposal scan organize logistics ,may solve some problems, things go all the way and, especially ,their responsibilities.
9. The concept of leadership is not well understood: leadership is very little understood, because it misses the noteworthy examples of successful companies, most often are not even highlighted by the media. Only a few foreign companies or joint ventures are required under their internal communication that allows a good awareness of what is really the concept of leadership.
10. There is a constant confusion between management and leadership: the company's manager is automatically considered a leader. He is the boss, so he is the leader!
11. After a careful analysis it appears that public institutions in rural areas there is a general plan for developing leadership.
-there is still a tradition of leadership;
-lack of higher level communication between managers and employees;
-Managers are more involved in solving tasks to subordinates and less in their coordination, lack of confidence in the ability of employees to carry out these tasks;
-lack of role models that young generation to follow them, "manager is someone who is comfortable in an armchair in his office as secretary screamed to be brought coffee, throwing things in all directions, using insults which it refers to everyone anyway ... and this role is complete. This directory is really unable to relate to people."
12. Fortunately, the future looks promising:
- leadership is starting to be perceived as a real "leader set to be achieved, management team sets the strategy for achieving its purpose, and operational team to complete the project."
- there is an increasing interest in research and development programs in business leadership.
-there is promising potential for the emergence of new generations of effective leaders.

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UNIT COST OF PRODUCTION AS INDICATOR OF THE EFFICIENCY ACTIVITIES

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Abstract

In Romania, agricultural producer from subsistence and semi-subsistence farms, scroll through the winding paths and need to give proof of flexibility in choosing the optimal solution, because they want to obtain maximum results with limited and expensive resources. Thus, the estimation of unit cost for each product, is a priority for these farmers, because characterizes on farm's consumption and is the premise of the economic mechanism of recovery of costs through revenue. The cost of production, determined for existing crops in a vegetable farms, can be used as a tool of management that summarizes the quantity and quality of inputs, increasing the economic efficiency of activities.

Keywords**:** *unit cost of production, economic efficiency of activities, farm management.*

INTRODUCTION

Information and knowledge are resources that can play a huge role in the success and survival of the agricultural farms. Through the economic management's process they insist upon efficient use of all resources that the farm has. By determining costs are obtained analytical information of detail on the efficient use of production factors. [1] The importance of determining production costs in agriculture is tri-dimensional and it refers to the following category of users:

- The farmer by : classification and subset of the costs, the control of materials, labour and indirect expenses, production policy, the measuring of efficiency through standard, the budget, costs control, prices policy, expansion policy.
- Permanent employees and say-labourers : by correlation of labour productivity with the salaries and the incentives given;
- The public, because a part of ... can turn into lower costs to consumers in the form of lower prices (consumers will gain confidence in the correctness of prices).

MATERIAL AND METHODS

The present work is a case study in one of the vegetable farms in the South-Muntenia Region, SC OMV OANCEA SRL, which has a total surface of 15 ha, it is specialized in the early potato crop, the potato being cultivated on the entire surface, and the cabbage on half of it. At this crops was determined the direct cost of production, the total cost of production, but also the incomes earned by the capitalization of production, taking into account a minimum and maximum level of inputs/outputs quantities, of prices of production factors used and of actual expenditure made. To determine the direct cost and the total cost of production was taken as the unit of measure the cultivated hectare, for which was determined the maximum and minimum level of direct expenditure and the actual total expenditure made by the producer in the operating activity, correlated with the production obtained per hectare.

RESULTS AND DISCUSSIONS

Defined as the monetary expression of the costs of production factors for production and sale of economic goods, the cost of production and the knowledge of its level, structure and dynamics are indispensable for the agricultural producer in order to carry out an optimal activity. The cost of production ensures the measurement of the monetary

effort to achieve the unit of product at the farm level, it is an instrument in theirs rational management and the principal instrument at microeconomic level.

The cost of production is also an indicator of reference at the level of economic efficiency. Tracking the actual cost of production expenses offers to the agricultural producers the possibility to know the volume of production factors consumed and the efficiency of these expenditures, compared with the rules of expenses stipulated, with the level of expenditures that other farmers make or with the planned level. Through all these given information, costs stimulate agricultural producers to introduce the technical progress, to rise workers qualification, to organise production and labour, to administer with maximum efficiency production factors. [2]

As part of the sale price, the cost of production is the essential indicator to determine the offer cost by the agricultural producer in the act of production negotiation made directly with buyers or economic agents. Knowing the exact level of production expenses, the agricultural producer will know between what limits to negotiate the selling price, so as to recover these expenses and achieve also a profit.

The economic behaviour of the agricultural producer taken into study (SC OMV OANCEA SRL), as an expression of its involvement in the market economy realities, relates to the necessity of optimal administration of resources, that are objectively limited, in order to satisfy as fully as possible and balanced the unlimited needs and in continuous diversification.

The agricultural producer has as objective either the maximization of the profit, or the determination of the combination of production factors so as to achieve a certain amount of products at a minimum cost.

In the crops examined was taken into account the version A (the minimal version) and the version B (the maximal version). At the crop of early potato, the total expenses are composed, in the case of the minimal version, from 83% direct expenses per crop and 17% common expenses per farm, that are for the potato crop, and in the case of the maximal version from 87.86% direct expenses per crop and 12.13 % common expenses per farm, that are for the early potato crop.

Table 1 .Production Cost for Potato Crop

Early potato						
Specification	Quantity- kg		Price/el/ kg		Value- lei	
	minimum	maximum	minimum	maximum	minimum	maximum
II .Production (UM - kg)	67,200	70,000	1.0	1.0	67,200	70,000
III. OVERALL EXPENSES (A+B)					**14,830**	**20,199**
III. A. DIRECT PRODUCTION EXPENSES					**12,403**	**17,772**
1 Potato seed - kg	2,400	2,500	1.50	3.10	3,600	7,750
2. Total fertilizers					3,550	3,900
I. Chemical					2,400	2,400
complex	1000	1000	2.4	2.4	2,400	2,400
I. organic -tons (50 50 t every 2 years)	25	30	46	50	1,150	1,500
3. Pesticides					1,290	1,290
Sencor herbicide	0.5	0.5	180	180	90	90
Phitosanitary treatment subst	1	1	1200	1200	1,200	1,200
4. Other direct expense					1,693	2,206
potato packing net bags	600	2,000	0.35	0.35	210	700
diesel liters/ha (average consumption 6l/hour)	300	306	4.6	4.6	1,360	1,372
Crop specific agric machine repairs					133	133
5. Works and services performed by THIRD PARTIES					200	200
TIR Crop transport	1	1	200	200	200	200
6. Labour expenses					1,390	1,726
6.1. Mechanical labour expenses - hours	60.0	61.0			390	439
autumn tillage	4	4	6.5	7.2	26	29
soil milling	3	3	6.5	7.2	20	22
mechanical planting	6	7	6.5	7.2	39	50
chemical fertilization	1	1	6.5	7.2	7	7
earthing	3	3	6.5	7.2	20	22
use of herbicides	1	1	6.5	7.2	7	7
phitosanitary treatments 10 treat/year	10	10	6.5	7.2	65	72
milling potato stalks	2	2	6.5	7.2	13	14
mechanically removing potatoes	30	30	6.5	7.2	195	216
6.2. Expenses on manual labour - ZN	16.8	19.8			1,000	1,287
potato planting man service (4 people *6-7	2.4	2.8	60	65	144	182
fertilising chicken manure	2.0	2.0	60	65	120	130
irrigation equipment service (0.6 ZN/watering)	2.4	3.0	60	65	144	195
Harvesting potato+packing+loading	10.0	12.0	60	65	600	780
7. Quality assurance					672	700
III. B. JOINT EXPENSES	-	-	-	-	2,427	2,427
Overheads					312	343
Expenses on depreciation	-	-	-	-	1,019	1,019
Expenses on repairs	-	-	-	-	952	952
Expenses on the agricultural machine tax					71	71
Expenses on the land tax					60	60
Expenses on interests					86	86
Other joint expenses	-	-	-	-	238	238
IV. DIRECT PRODUCTION COST (lei/kg)					*0.18*	*0.26*
V. PRODUCTION COST (lei/kg)					*0.22*	*0.29*

Becomes conspicuous the share growth of direct expenses in the maximum version, which demonstrates the fact that the agricultural producer uses inputs of high quality with higher prices, but which are correlated with the increase of production and of received incomes. In the direct expenses were included the material expenses: seed expenses (30.37%, version A and 44%, version B), chemical fertilizers (29.95%, version A and 22.19 %, version B) pesticides (10.88 %, version A and 7.34%, version B) and other direct material expenses (14.28%, version A and 12.55%, version B), expenses with works and services rendered by third parties with values of 2-3% in total of direct expenses, expenses with mechanical and manual labour (11.79%, version A and 9.82%, version B), expenses with crop insurance (1.01%, version A and 2.84%, version B). Common expenses are composed of administrative expenses, amortization and

repairs, rents as well as expenses with taxes and duties that are common to the farm.

Only through a more accurate simultaneous estimation of the production expenses and of the alleged selling price of agricultural products, can be appreciate if obtained incomes will exceed expenses and will be obtained an acceptable rate of return. Therefore, the calculation of the cost of production is recommended to be done before moving to the actual production. The direct cost of production varies between 0.79 lei/kg (minimum version) and 0.35 lei/kg (maximum version), and the total cost is 0.95 lei/kg (minimum version) and 0.40 lei/kg (maximum version) which denotes the fact that by increasing expenses correlated with the increase of production, can be obtained a lower cost of production than in the case in which the total expense are minimum. At the crop of early potato, the production obtained in the minimum version's case was 15000 kilos, and in the maximum version's case 50000 kilos. The difference of production over 3.33 times higher in the maximum version's case can be explained through the acquisition of some potato varieties for seed with high biological value, free of pathogens and with high productivity. Correlated with the production obtained, the incomes obtained in the case of version B have exceeded 4.16 times the incomes obtained by trading production in the case of version A, which had a selling price lower with 25% than the version B because of the poorer quality of the potato obtained. The economic calculation, the functioning and development of activity on the principle of efficiency take into consideration *the relation between cost and the selling price* of every economic good, relation as from a part to a whole. The cost (C) designates only a part of the selling price (P), and some expenses supported by the traders, and the price surplus (over the cost of production) represents the profit (pr) or the benefit. [4] So, for each unit of finished product, is valid the equality: $P = C \pm pr.$

In the case of A, the society registers a loss of 0.15 lei/kg, and in the case of version B, it's registered a profit equal with 0.6 lei/kg.The efficiency of expenditures can be appreciated in relation with the results obtained, based on the return rate of the consumed resources, known also as the return rate of costs (Profit for turnover/ Expenses for turnover x100). [3] In the case of version A, stands out the fact that the incomes obtained by production capitalization are lower than the total expenses per crop, so the crop is unprofitable, and the return rate of costs is in this case -15.96%, and in the case of version B, the return rate of costs is 150% .At the autumn cabbage crop, the total expenses of production are composed, in the minimum version's case from 84.48% direct expenses per crop and 15.51% common expenses per farm, that go to potato crop, and in the maximum version's case from 86.97% direct expenses per crop and 13.02% common expenses per farm, that go to the autumn cabbage crop. Becomes conspicuous the share growth of the direct expenses in the maximum version, which demonstrates the fact the agricultural producer uses inputs of high quality with higher prices, but which are correlated with the increase of production and of the incomes obtained. In the direct expenses were included the material expenses: expenses with seedling (20.10%, version A and 28.10%,version B, the difference coming from the possibility of procuring the seedling: from the own production, version A, or purchase, version B), expenses with pesticides(4.88 %, version A, and 4.49%, version B) and other direct material costs(5.77%, version A and 4.90%,version B), expenses with works and services provided by third parties with values of 1-1.5 percent total direct expenses, expenses on mechanical and manual labor (62.79%, version A and 57.15%, version B), crop insurance costs (4.69%, version A and 3.93%, version B). Common expenses represent 15.51% (minimum version) and 13.02 (maximum version) consisting of administration expenses, depreciation and repairs, rentals and as well tax expenses and common farm taxes.

Autumn Cabbage production was 67,200 kg , the lowest level and 70,000 kg the highest level, sold at the price of 1 RON /kg. Related with the production obtained, the incomes in version B exceeded 4% revenues by selling production in case A. The direct cost of production on autumn cabbage varies between 0.21 RON/kg (minimum version) and 0.25 RON/kg (maximum version), and total production cost is 0.25 RON/kg (minimum version) and 0.29 RON/kg (maximum version) which shows the fact that on this

crop, reducing costs, given that the production does not record significant oscillations, it is important to get a lower production cost.

In version A case, the society records 0 profit on the product unit of 0.75 RON/kg, and in the version B case, is recorded a profit equal to 0.71 RON/kg and we can say that in conditions of a certain profit margin, the size of the costs puts pressure on the price.

The consumption efficiency compared with the obtained results, on the return rate of consumed resources, or the return rate of the costs, in minimum version case, 296.37%,and in the maximum version 242.29%,which shows that the return rate is better in case of lower expenses.

Table 2. Production Cost for Cabbage Crop

Autumn cabbage

Specification	Cantitate- kg		Pret - lei/ UM		Valoare- lei	
II .Production (UM - kg)	minim	maxim	minim	maxim	minim	maxim
	67,200	70,000	1.0	1.0	67,200	70,000
III. OVERALL EXPENSES (A+B)					16,954	20,451
III. A. DIRECT PRODUCTION EXPENSES					14,323	17,788
1 Cabbage seedling - thousand blades	48	50	60.00	100.00	2,880	5,000
2. Total fertilizers					0	0
I. Chemical					0	0
I. organic -tons					0	0
3. Pesticides					700	800
Sencor herbicide	2	2	100	100	200	200
Phitosanitary treatment subst	1	1	500	600	500	600
4. Other direct expense					827	872
potato packing net bags	180	190	4.5	4.5	810	855
diesel liters/ha (average consumption 5l/hour)					17	17
Crop specific agric machine repairs					250	250
TIR Crop transport	1	1	250	250	250	250
6. Labour expenses					8,994	10,167
6.1. Mechanical labour expenses - hours	36.0	38.0			234	274
autumn tillage	3	3	6.5	7.2	20	22
soil milling	20	20	6.5	7.2	130	144
mechanical planting	1	1	6.5	7.2	7	7
chemical fertilisation	10	10	6.5	7.2	65	72
earthing	2	4	6.5	7.2	13	29
use of herbicides	146.0	152.2			8,760	9,893
phitosanitary treatments 10 treat/year	8.0	8.0	60	65	480	520
milling potato stalks	3.6	4.2	60	65	216	273
mechanically removing potatoers	134.4	140.0	60	65	8,064	9,100
7. Asigurarea culturii					672	700
III. B. JOINT EXPENSES	-	-	-	-	2,631	2,663
Overheads					312	343
Expenses on depreciation	-	-	-	-	912	912
Expenses on repairs	-	-	-	-	952	952
Expenses on the agricultural machine tax					71	71
Expenses on the land tax					60	60
Expenses on interests					86	86
Other joint expenses	-	-	-	-	238	238
IV. DIRECT PRODUCTION COST (lei/kg)					*0.21*	*0.26*
V. PRODUCTION COST (lei/kg)					*0.25*	*0.29*

To reduce the cost the producer must look and find reserves to reduce consumption of inputs, to act simultaneously on all factors of production in all phases of economic activity to apply possible measures for reduction on the costs according with the competition requirements imposed by the market. The reduction of production cost should not take place without negative influences on the quality of agricultural products, but rather, simultaneously must ensure a quality bonus. If the reduction of the costs will be made due to lower quality is anti-economical.

C CONCLUSIONS

1. 1.The production cost represents an extremely useful economical instrument in substation and adopting the decisions on the resources allocation, production and structure volume, size or restriction of finished products, technological innovation, etc.
2. 2.At a given level of consumption of factors per unit of product (or on the result unit),the decrease of the purchase price of the factors leads to lower average cost and vice versa.When the price of the factors remains constant, and their consumption per product unit shrinks, occurs, also, the reduction of the average cost. The size of the cost per unit of product is influenced also by the changing of products characteristics and quality.
3. 3.To increase profit, the agricultural producer must increase the sold production volume. In agricultural activity, there are some restrictions: the limited character of economic resources (the ground first, as a main production factor).
4. 4.The reduction of the production factor causes stability or even the reduction of the prices, the increase of the agricultural products in fight with the competition both on the internal market and in the external market.

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STUDY CONCERNING THE BUYING BEHAVIOUR FOR THE AGROALIMENTARY PRODUCTS

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Abstract

After the entrance on the romanian market of the first hypermarket in 1996, large store-networks progresively replaced small stores, wich didn't handled the competition, and caused large mutations on the pathway between producers and consumers. It is obvious the change in consuming behaviour but the purpose of this article is to identify and prioritize the reasons consumers choose a form of trade. The present study is the result of a controlled poll conducted in order to identify consumer behavior of food products. The investigation was conducted on a sample of 450 people, based on a questionnaire containing 13 questions and highlights the consumer orientation toward food markets or supermarkets, which determine the choice of the quantities of products purchased on a shopping session and the factors determining the choice of a product There are also pursued the consequences for producers of agricultural products. It also presents the results of what happened with the food market near the respondent.

Keywords **:** *consumers'behaviour, agroalimentary product, income, choosing criteria.*

INTRODUCTION

The period before 1990 was characterized by an absolute domination of the government monopoly on food trade. This required the organization of producers in the form of consumer cooperatives and thus to allow a very small extent the presence of individual producer on dedicated markets. The transition to market economy allowed the appearance of other forms of commercial organization thereby emerging the wholesale markets and small boutiques, which, by diversifying their offer, gave consumers a choice.

The moment when on the Romanian market appeared large retailers such as Metro, Selgros, represented a turning point in the sale of food products. They have introduced the concept of Cash & Carry market, which quickly gained popularity among consumers. Popularity increased primarily because it offered the opportunity to purchase large amounts they could pay with cash, but also because under one roof it was situated a variety of fresh products with a high quality.

Today, large retail chains dominate the retail market of food products, and caused considerable changes throughout the routes of products between producers and consumers. This influence is particularly evident in urban centers, where is clearly notified the emphasized preference for super and hypermarkets at the expense of food markets.

The current study aimed to answer a question that bothers Romanian producers: what has changed in the mentality of today's consumers and what drives them to buy a certain product? It's also interesting to observe how the food markets close to the subjects have changed in structure or size over time. The most important is to figure out how will changing consumers' behaviour affect farmers and food market, and if it can be developed the concept of local consumption / consumption of Romanian products.

MATERIAL AND METHODS

According to Philip Kotler, the questionnaire and specialized equipment are the two ways you can collect the necessary data for

marketing research. [1] This paper is based on interviewing a sample of 450 people with ages between 18 and 60, students of USAMV Bucharest. This survey was conducted in order to identify the subjects' behaviour regarding the purchase of agricultural products. The usefulness of the study is primarily based on the need to identify consumption trends and what elements provoke the purchase decision. Producers need to realize how useful it is targeting production. The questionnaires we used to achieve the objectives contained a total of 13 different types of questions: open questions, closed dichotomous questions, closed questions with multiple choice, questions of classification of respondent.

However, although the questionnaire was applied to 450 subjects, it is recommended to apply it to a much larger scale, in order to obtain a more accurate picture of what affects the consumer in their purchasing decisions.

RESULTS AND DISCUSSIONS

Our study has identified certain preferences of the respondents both in terms of products to be consumed, but also in choosing the place where they shop and the factors underlying these decisions. For food products, consumption is influenced by several features [2]:

-Purchase decision is spontaneous and not a result of long periods of reflection;

-Purchased products meet family needs more than personal taste;

-Consumer habits are influenced by family size, living environment, whether or not they have children, religion, lifestyle, and are often sent the next generation;

-Shopping sessions are scheduled in order to purchase agricultural products;

-There can be no fidelity to the brand, very rare appearing the preference of a certain food market or a certain producer ;

-Revenue has a major role in purchasing decisions;

-Traditions in the consumers' area, although young people are open to try new food products (fast food, exotic fruits).

Buyer's age is one of the main elements that affect the consumption decision. In general, older people are more conservative, while the young people tend more likely to try new products, non-traditional. In our situation, we noticed for example that from the 27% representing people with older ages, most of them prefer buying products from the food markets, while the young people prefer hypermarkets.

Income, as part of the buying decision may influence the buyer in choosing a certain product, with a higher quality. The more income raises, the more we tend to buy better products at higher prices. The answers to questionnaires recorded revenues of the age category 18-25 years on average 20509 RONi/year, for the 25-40 years category 23644 RON/year and those over 40 years have average incomes of about 31,927 RON / year. We can observe a positive trend in the level of revenues with increasing age. The average income overall is 25359.95 RON per year and the percentage of revenues allocated to the purchase of food varies for all the age categories between 34% and 35%.

Generally, shopping sessions for food products are made by one family member, but the products are consumed by all members. Among our respondents, the highest percentage (81.7%) said they are actively involved in buying food products, either alone or accompanied by their spouse. We also noticed that young people up to 25 years rather do shopping either alone or to entrust this task to a trustworthy person, most often parents. It is notified the individual's distrust in random people for doing the food shopping, and the preference for entrusting this task to family members only.

The purchase / sale of certain products is considered appropriate only in certain places. Asking them where they deem appropriate the purchase / sale of food products, our subjects identified the purchase / sale in agro-food markets as a very adequate 52%, while less suitable is only perceived by 14.4% from all the three age categories. In the case of hypermarkets however there is a difference according to age: most of those aged 18 and 25 years and those over 40 years consider it

very adequate and only a small part of them consider it inappropriate. Overall, however, most consider it very adequate (47.6%) adequate - 42.3% and less adequate - 10.1%.

Another question in the questionnaire referred to the correlation between the location where they shop and how often they buy there. Thus, we meet daily in the food markets around 7.64% of the respondents, 31.21% twice weekly, weekly - 52.2% and 8.9% at other time. Preference order is maintained in all 3 age categories. Regarding the hypermarket, the most frequently is visited weekly (58.22%), daily passes the threshold only 5.06%, 15.82% biweekly, and at other intervals 20.88%. According to all the responses, we conclude that respondents prefer to go daily to the corner store and make their weekly supply from the market, supermarket and hypermarket.

In order to choose the place where they do the shopping, the consumers notice some features regarding the location. The most important criterion in choosing the location for all three age categories is the quality of products sold there. The least important criterion is the fame of the store (for those between 18 and 25 years and for those aged between 25 and 40) but for those older than 40 years on the last place is the transport facilities criterion. Overall, the ranking of the nine criteria listed in the questionnaire is the following: product quality (35.6%), price of products (24.21%), parking (9.68%), universality (8.47%), proximity (8.23%), store size (6.53%), transportation facilities (5.08%), fame of the store (2.17%). None of the respondents indicate another criteria in the open question.

Once identified the characteristics by which we choose the location, we must identify the characteristics that products must have. In the questionnaire, the respondent had to choose between eight features, or if none corresponded to personal belief, he the opportunity to appoint another important feature for him. Processing the answers, we found that the most important criterion of choice is quality, being chosen more often. Ratio between quality and price is for 18.62% of the people a fair reason for buying. Most interested in this aspect are young people between 18 and 25 years. Global brand ranks 6th in the top criteria (9.51%) having the greatest importance among those between 18 and 25 years and lowest in importance among the over 40 years. If the product is in the promotional offer, then 10.21% of those surveyed say they would choose it. And in this case, young people are most receptive, due to having the patience and time required for seeking such deals.

Agricultural producers must focus on the better promotion of products so thatthe turnover increses, and consumers buy in larger quantitie. [3] According to the questionnaire responses, most individuals (42.5%) react moderate to promotional offers, and only a very small percentage react very strongly (7.18%). Other people react only slightly or not at all to these means. In the attention of respondents, the first place is occupied by TV campaigns (23.64%) so that a national awareness campaign for consumers could have the greatest impact. In second place, with a percentage of 17.09% is the “3 the price of 2” offer. Gift items offer ends podium at a rate of 15.95% in the choices. The last place ranks online campaigns, though they got increasingly more public in recent years, still do not have the desired effect among buyers.

The average shopping cart by shopping session resulted from the questionnaire, identified as the most popular products fruits, soft drinks, vegetables, bread and bakery products in which respondents buy at least 2 units per session. Popular are also products such as milk and cheese or meat. The most popular assortment of meat is poultry, chosen for reasons of price or quality.

If there is a need for choice between the food market and hypermarket question is whether between the products of the two forms of marketing there is a qualitative difference. If the answer is yes, the question arises: Who sells the best products?

Of respondents, 44.04% said between the two forms of trade they notice huge differences in terms of product superiority, while only 2.9% believe that there is no such differentiation between the two types of marketing. Among those who believe that there are differences

between products, 57.48% think that the products' quality is higher in markets versus 42.52% who believe the supermarket products are superior. Market gains a majority in terms of percentage of product superiority in all three age categories. Although there are differences between products, sharing opinions is balanced, creating a ratio of about 50% -50% among those who prefer the agro-food market and those who prefer super / hypermarket.

The appearance of various business units where before there were only neibourghood markets, "sliced" the pie of consumers. Competition has led to restriction and disappearence for some or the emergence and expansion of others. It was the same thing for food markets. When asked what happened to the agro-food market in their proximity, recorded responses were ranked as follows: in 40% of cases it has increased its capacity, in 29% of cases the market near subjects it remained at it's original dimensions. Disadvantageous cases are those where food market size decreased or it was even replaced. 17% have reduced capacity, 11% were converted into shops, boutiques - 2% and 1% in homes. Decrease in size of the markets needs to worry the authorities because food manufacturers who sell in these locations have been forced to relocate or give up food trade. For many, selling to stores is impossible because of the taxes levied by the shop owners.

CONCLUSIONS

The changes food markets have gone through in recent years has been mostly beneficial. As society evolved, consumer behavior has evolved and he now manifests and a greater pleasure in taking part in shopping. Also, the criteria underlying the purchase of products have changed, making way for new habits.

Today, producers must take into account the fact that the population has a higher degree of sophistication and the emphasis is not only on price but also on quantity. Increasing product quality will become an asset both for the producer - who will sell more, and for the buyer - who will return.

The population still has a positive image about the market and farmers, and this image should be maintained. Appropriate promoting will exert effects on the number of buyers you will attract. It is essential to increase the number of buyers, as increasing the quantity per buyer is almost impossible given the inelasticity of demand.

Last but not least, we must take all necessary measures for the size and number of food markets not to fall. First affected are producers who can not cope with the demands of hypermarkets. In the long run, it will even lead to a shortage of producers with immediate effect on land abandonment. Food markets are essential to remind consumers what the true value of food. It reminds them how much human labour is involved in the process of growing food, and the fact that the consumption prove care for the community and land cultivation. [4]

A general conclusion may be that it is necessary for the Romanian producers to adapt their offer in order to meet markets' demands including consumer desires in terms of packaging and products conditioning. Related to this, a question naturally arises: Do Romanian producers want to answer these challenges and especially do they have the ability to adapt quickly to consumer demands?

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PRINCIPLES FOR A SUSTAINABLE WATER MANAGEMENT

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Abstract

As we try to point out in this paper, water is one of the most important environmental resources, with some particular characteristics of a public as well as of an economic good. In the beginning, we mention some of the main actual global challenges in the water sector, which should be met by a Sustainable Water Management. In the paper first we define this concept, along with stating some of its main political principles and economic issues. Developing a sustainable water pricing structure is another requirement for a sustainable water management. Our main conclusion is that a pragmatic application of economic aspects with regard to water should focus on the goal of cost recovery and efficiently use of the generated revenue to achieve our water resource management objectives, including the sustainable development goal of a universal provision of adequate water supply and sanitation.

Keywords **:** *sustainable development, water management, full cost recovery, economic efficiency*

INTRODUCTION

Water, as the most fundamental constituent of life, is one of the vital environmental elements for the sustainable development of a nation. Water is essential for achieving sustainable development, since the proper management of water resources is an essential component of growth, social and economic development, poverty reduction and equity, and sustainable environmental services– all important for achieving the Millennium Development Goals.

Competition for water and shortcomings in managing it to meet the needs of society and the environment call for enhanced societal responses through improved management, better legislation and more effective and transparent allocation mechanisms.

Current challenges faced by the water sector mean a wise planning for water resources, evaluation of availability and needs in a watershed, possible reallocation or storage expansion in existing reservoirs, more emphasis on water demand management, a better balance between equity and efficiency in water use, inadequate legislative and institutional frameworks and the rising financial burden of ageing infrastructure.

MATERIAL AND METHODS

In order to study, analyse and understand some important requirements of sustainable water management, first we define the concept of SWM, in correlation with the IWRM concept; then we outline the most important four principles of SWM and analyse some of their implementing requirements. We also analyse the public good and economic good features of freshwater, to develop some equity and economic efficiency issues of a truly sustainable water management.

RESULTS AND DISCUSSIONS

At its most basic level, SWM is the management of water resources that holistically addresses equity, economy, and the environment in a way that maintains the supply and quality of water for a variety of needs over the long term and ensures meaningful participation by all affected stakeholders.

Sustainable water management might be thought of as the state when four domains of sustainability are effectively implemented. They are:

1. Social sustainability: Where all humans have equitable access to adequate and affordable water services to meet their health and livelihood requirements, and where citizens and communities play a meaningful role in water governance and decision-making.
2. Environmental sustainability: Where water use and management does not compromise biodiversity, the functioning of habitats, or ecological or hydrological processes that are essential to society.
3. Economic sustainability: Where water management is affordable and cost effective and economic costs and financial risks are understood, minimized, and balanced in a transparent, socially acceptable way.
4. Institutional sustainability: Where institutions tasked with water management have sufficient resources and social legitimacy to function over the long term.

Sustainable Water Management is an Integrated Water Resources Management (IWRM) (as it has been defined by the Technical Committee of the Global Water Partnership) namely "a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems." Operationally, IWRM approaches involve applying knowledge from various disciplines as well as the insights from diverse stakeholders to devise and implement efficient, equitable and sustainable solutions to water and development problems.

At the International Conference on Water and the Environment (Ireland, in 1992), four main principles of water emerged that have become the cornerstones of subsequent water sector reform for a sustainable development.

Principle 1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

According to this principle, three main socio-economic characteristics of water are highlighted:

1. Water is critical to sustaining life.
2. Freshwater is however a finite resource because the hydrological cycle on average yields a fixed quantity of water per period, and the quantity of water resources cannot be adjusted significantly by human actions.
3. As a resource, water is essential to development and paradoxically vulnerable to development.

Principle 2: Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels.

The principle of participation emphasizes other important features:

-the involvement and subsidiarity, in water projects decision making at the most feasible level with full public consultation and input from users in the planning and implementation of water projects, which leads to more successful projects in terms of scale design and operation and maintenance;

-participation also helps to ensure that environmental resources are protected and that cultural values and human rights are respected;

-participation can help coordinate interests, increase transparency and accountability in decision making and can also improve cost recovery, which is a key to revenue generation and financing sustainable water management.

Principle 3: Women play a central part in the provision, management and safeguarding of water.

In developing countries as well as all over the world, there is strong evidence that water managers must consider the urgent need to mainstream gender in integrated water resources management to achieve the goal of sustainable water use.

Principle 4: Water has an economic value in all its competing uses and should be recognised as an economic good as well as a social good.

Water has a value as an economic good as well as a social good. Treating water as an economic good is imperative for logical

decision making on water allocation between different, competing water sectors, especially in an environment of water resource scarcity. In a sustainable integrated WRM, the economic value of alternative water uses helps guide decision makers in the prioritisation of investment.

Although water is an economic good, it is also a social good. In view of a sustainable development, it is particularly important to view water allocation as a means of meeting social goals of equity, poverty alleviation and safeguarding health.

Therefore, in our approach, some important characteristics of water as an environmental quasi-public good should be mentioned:

i. Water is to a large extent, a non-excludable good, since water falls from heaven, flows and evaporates with no boundary;
ii. Water is, nevertheless, rival so it is not a pure public good but maybe more a common pool resource, with a finite amount that must be shared in common over a variety of uses and over geographic areas.
iii. The renewal of water is both seasonal and stochastic, involving uncertainty in supply. Given the constant need for water, this feature calls for investments in infrastructure that enable us to store and to regulate the supply of water.
iv. Water cannot be considered as a homogeneous good, since quality of water may vary substantially, both in space and time. Again, ensuring the quality standards for various uses of water needs water infrastructure investments.
v. The public aesthetic and recreational uses of water are considered "pure" public goods, featuring both non-exclusion and non-rivalry. We can locate in this category, public and aesthetic uses and benefits coming from non-use as well (for generating ecological services, for instance).
vi. Other important water benefits such as waste assimilation benefits, for instance show partial public-good features, because the capacity of any water stream to serve for waste assimilation is a rapidly congestible good (after some point, it is not possible that water gives that benefit without restricting the same benefit to other potential users).
vii. Some other water services have even fewer public-good features (closer to being private goods) are the services of potable water and sanitation, which generally have high degrees of exclusion and rivalry.
viii. There are water services that are also excludable but that show less rivalry in use, like fishing, hydroelectric and transportation activities, which do not necessarily require extracting water (at least in significant ways) from other potential uses.

Principles for sustainable pricing of water

To focus on how supply and demand of water meet, in a sustainable water management approach, one must address how water is delivered/distributed over uses and users, as well as how the needs of future generations are taken into account.

In the pricing of water for a sustainable management, it is important to be aware that value and charges are two distinct concepts; the value of water in its alternative uses is important for the rational allocation of water as a scarce resource, whether by regulatory or economic means. Conversely, charging for water is an economic instrument meant to achieve multiple targets such as:

☐ Influence behaviour towards conservation and efficient water usage;
☐ To support disadvantaged groups;
☐ Provide incentives for demand management;
☐ Ensure cost recovery and signal consumer willingness to pay for additional investments in water services.

When developing a sustainable water pricing structure, four important issues should be taken into account:

1. Full cost recovery.

The full cost recovery is one of the most important principles of a Sustainable Water Management. To develop sustainable water supply and sanitation utilities, the water industry should be able to earn a profit, or at least to cover their:

§ Capital costs for installations (to extract, clean and transport the water);
§ Variable costs of water extraction, cleaning and transportation

2. Equity

Since water is actually vital for human life and welfare, every person should be able to acquire sufficient water to survive, at least. A sustainable water management issue is therefore a water bill to be quite affordable (but raising the price with demand).

At the same time, this principle of equity should work in relation to demand o different generations: the price of water should be sufficiently high to avoid over-extraction and excessive pollution of water, ensuring that future generations too will get a share of the scarce amount of water available.

3. Economic efficiency

This is a most important sustainable management issue, since economic efficiency in the water sector means that the price of water should be equal to the long-run social marginal cost [1]. This has two main important analytical features:

§ the social marginal cost of water supply must include external environmental costs:

§ the long-run cost includes the capital and operation costs, for water infrastructure facilities.

Such a pricing of water would provide the right incentives to use water efficiently and, at the same time, to further develop the water sector and eco-efficient technologies.

4. Administrative feasibility

Unfortunately, there are often some administrative feasibility constraints to a sustainable water management, mainly linked to:

§ high costs of water metering and monitoring

§ poor knowledge and assessment (in monetary terms) of the external costs

§ potential lack of transparency and awareness.

CONCLUSIONS

A pragmatic application of economic aspects with regard to water should focus on the goal of cost recovery and efficiently use of the generated revenue to achieve our water resource management objectives, including the sustainable development goal of an universal provision of adequate water supply and sanitation.

This awareness can contribute to improved efficiency in resource use and environmental sustainability. Still, we believe that longer term research progresses in pursuing such objectives should be made, with reference to the concepts of the full economic cost and full economic value of water.

The equity considerations are also important, particularly with regard to water supply, and the case that full supply cost based tariffs can improve coverage of supply networks should be tested and carefully monitored in Romania (on a case by case basis) assuming that the appropriate governance structures (such as the ROC and IDA [2]) are put in place. It should be possible to achieve equity goals with the careful use of an appropriate tariff structures (if it is accepted that these imply cross-subsidy by wealthier water users) or other income support measures.

Finally, we must underline the need to permanently consider the sustainable water management principles and economics in all economic development policies and strategies. This is because the relationship between environmental objectives and the functioning of water systems can be very complex. In an institutional context where environmental objectives are given no real expression either within institutions or among decision makers, the water sector will tend to reflect this situation and is very unlikely to produce positive environmental effects. For example, if the overall effect of economic policies is to favour rapid economic growth with intensive use of contaminating processes, the water sector will only amplify this, since water will be allocated to the activities favoured by these policies [3].

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SPECIAL CHARACTERISTICS OF WATER SUPPLY AND DEMAND

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Abstract

In order to promote and implement a sustainable water management, studying and understanding some peculiar features of the water supply and demand may be necessary. Therefore, mainly in didactic purpose, we outline and analyse these issues, with some focus on the agriculture water demand, as well as on some of the water supply cost function properties. The economic, opportunity and environmental costs of water are further featured and analysed. Finally, we outline some recent trends in water supply and demand.

Keywords **:** *water supply, water demand, marginal costs, elasticity of water demand and supply*

INTRODUCTION

While most of the old challenges of water supply, sanitation and environmental sustainability remain, new challenges such as adaptation to climate change, rising food and energy prices, and ageing infrastructure are increasing the complexity and financial burden of water management.
Population growth and rapid economic development have led to accelerated freshwater withdrawals. Trends in access to domestic water supply indicate substantial improvement in the past decade, putting most countries on track to achieve the water supply target of the Millennium Development Goals.

MATERIAL AND METHODS

In order to study, analyse and understand some special characteristics of water demand and supply, the following economic and mathematical concepts, functions and indicators were used: the aggregate water demand D function (1.1), the components of water use costs (fig.1.), the total water costs function TC (1.2.), the marginal costs of water supply, the water output elasticity of total costs (1.3).

RESULTS AND DISCUSSIONS

To analyse the characteristics of water demand and supply, we should consider water as an economic good; it is not only used as an input, but also directly consumed.
Consumer behaviour is highly influenced by preferences, the price of the good, and budget constraints. All of these factors will shape what is known as the willingness to pay for the good, which is the basis for a downward-sloping demand function, relating price to quantities demanded.
Thus the demand function relates the quantity of commodity (water) that a consumer is willing to purchase, to price, income and other variables. Demand may be typically expressed as a function of different variables, with a general form:

$$q= f(x_1, x_2,\ldots x_k) + \varepsilon$$

where f is the function of variables $x_1, x_2,$ xk, ε is a random variable describing the joint effect on q of all the factors not explicitly considered by the variables. The price elasticity of demand for water measures the willingness of consumers to give up water use in the face of rising prices, or conversely, the tendency to use more as price falls [1].

Households use water in final consumption – we deal with direct demand, while in the agriculture and industrial sectors, water is a raw input required for the production processes, so we have indirect demand for water.

Therefore, the demand for water is based on the monetary evaluation of the benefits that an additional unit of water provide to each agent. The water demand curves, in which the quantity consumed is a function of the price, are downwards sloping so the benefits of an additional unit of water are decreasing.

Each sector is characterized by a specific relationship between the water quantity and the benefits derived, hence their demand curves have different slopes.

With a focus on the sector of agriculture, this relation may be described by the interesting equation as following [2]:

$$D(p) = \sum_{i=1}^{n} L_i q_i(p) \qquad (0.1)$$

where the aggregate water demand D is the sum of each farmer's optimal demand for water per unit of land $q_i\ (p)$ (water being an input in the process of production), multiplied by the land endowment L_i..

Normally, in the competitive markets, supply and demand for a good will interact to form an equilibrium price, which leads to optimal allocation of resources. Competitive firms will seek to recover their production costs (otherwise these are out of the market); and each period, the same good or service will be offered to consumers for expected market prices.

However, given its many public good features mentioned above, this classical competitive market is seldom feasible for the operation of water services. Or, in cases in which markets can be organized (like for potable water), these show monopolistic behaviour, which characterizes water provision when there is a large water infrastructure in place.

Notwithstanding the lack of markets, the production of water services still requires the use of scarce resources, and costs will be incurred. If the price paid for the use of water does not cover the costs (which should reflect an efficient provision of the water services; costs related to non-efficiencies and rent seeking in water provision must not be considered) as part of a full cost recovery approach to water services, we would have troubles assuring the provision of water in the near future.

From an economic viewpoint, supply of water is mainly driven by:

- the costs of constructing and operating the infrastructure;
- the opportunity costs of these resources in alternative uses;
- the costs of the externalities.

Full cost recovery may include the opportunity cost of water as a cost, meaning that foregone benefits of using water in its best next alternative needs to be considered as well. The opportunity cost of water is determined mainly by three factors:

1. actual characteristics of the supply system (location and hydraulic connections). Opportunity cost is very low if water can be used only by the proposed project, and is high when transfers of water from one use to another are easy to implement;
2. the regime of water property rights enforced. Here, opportunity costs are close to zero where transfers of water are prohibited by the law, but become relevant where private markets are free to operate;
3. the specific use of water. High-valued uses impose a lower opportunity cost on low-valued uses of water.

The inclusion of opportunity cost in the full cost recovery approach, however, has proven to be impractical for charging users water tariffs accordingly. In general, users will find it very unfair to be charged a "cost" which is not directly related to the provision of the service they are receiving. However, opportunity cost calculations can be fruitfully used as a guide for authorities in using economic instruments, in looking for better water allocations, and also in prioritizing future water investments, given scarce resources.

Therefore, to get a better awareness, the total social costs faced for supplying water may be represented as in Figure 1:

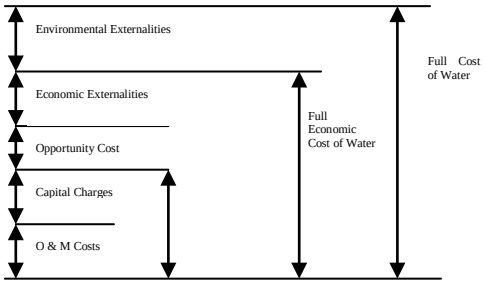

Fig.1 The components of water use costs

In the economic analysis of water, the supply costs are one of the main topics; they are usually referred to as "use costs". These water use costs may be distinguished in:

- headwork's costs, as incurred in the abstraction, storage and treatment of water;
- network costs, incurred for the distribution of water, and for the collection and disposal of wastewater.

The total water cost function may be expressed as a quantitative relationship aiming to describe the cost of supplying output at each scale, from zero up to the system's theoretical capacity, in any time-period. Thus, it is a function of the quantity of water supplied to the economy.

For the economic analysis, a total water cost function can be approximated by a quadratic function of the form:

$$TC(Q) = aQ^2 + bQ + c \quad (0.2)$$

where *TC* are total costs, *Q* is the quantity of water and *a, b, c* are the parameters of the relationship, estimated through regression analysis.

The average costs of water *AC = TC/Q*, are equal to the total costs divided by the unit of water produced. Nevertheless, more important for economics may be the marginal costs, since they express the incremental costs of getting one more unit of water and determine the right incentives to proper, sustainable management of water.

The marginal cost of water supply *MC(Q) = ΔTC/ΔQ* is strictly positive and tends to be increasing in the short term, due to scarcity and capacity constraints.

Another very relevant issue for the water supply are the specific economies of scale, measured by the output elasticity of total costs. The water output elasticity of total costs $E_{TC,Q}$ is defined as the percentage change in total costs per unit percent change in quantity supplied.

$$E_{TC,Q} = \frac{\partial TC / TC}{\partial Q / Q} = \frac{\partial TC / \partial Q}{TC / Q} = \frac{MC}{AC} \quad (0.3)$$

Depending on whether there are economies or respectively, diseconomies of scale, the output elasticity of total costs $E_{TC,\,Q}$ can be lower or higher to unity; it may also be equal to unity, if the costs are constant all along the relevant values.

Actually, the total cost of water supply function can exhibit several slopes, depending on the relative strength of two opposite effects:

§ for raw water abstraction, the marginal costs are greater than the average costs, (since usually the closest, cheapest sources of water are used first) and here the costs of abstraction curve has a positive slope;

§ for further water operation utilities (infrastructure network and treatment), marginal costs are usually less than the average costs, with quite important economies of scale.

It is an empirical matter to determine the actual size and degree of the economies of scale and consequently, the slope of the water supply costs curve.

A key economic aspect in the management of water is also the distinction between short- and long-run costs [4]:

§ in the short-run, the daily output may be increased through some operational changes and organizational innovations;

§ in the log-run, new additional capital will be required, for new projects or for the expansion of the existing plants and infrastructure.

CONCLUSIONS

These issues are most important in the economic analysis approach, whereas, to assess the social cost of providing water, a long-run perspective and marginal cost calculation is required, to be compared to water demand. Higher water supply elasticity may appear in the long-run, due to the "indivisible" character of water provision

(since in order to produce even modest levels of output, major water infrastructure works are necessary).

As concerning the demand-side of water, the current trends registered in water use vary among countries and among sectors, within the countries. Some of the most important issues here are:

- § agriculture is responsible for about 69% of the total freshwater abstraction globally;
- § most of the additional food needed to feed the growing world population is expected to come from irrigated land, therefore increasing the demand for water in the agriculture;
- § for most OECD countries, irrigation water represents over 80% of total agricultural water use, lately encouraged by irrigation water subsidies;
- § only about 8% of the global water abstraction is used by households;
- § growing use of freshwater for cooling in electricity production is an important emerging trend in many OECD countries.

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MILK MARKET AND ITS VOLATILITY – A REGIONAL APPROACH

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Abstract

The paper's goal is to determine milk price volatility, on the basis of a long-term analysis (January 2005- August 2010) of average procurement price evolution, by months, per total country and by development regions for cow milk, sheep milk, cow and sheep "cottage cheese" and fresh cow cheese. The variation coefficient was calculated as a ratio of standard deviation to the average, making it possible to identify the dispersion points. The paper also investigates the latest evolutions on the national market by regions, with regard to the animal herds by species, their yields, milk collection, processing, consumption and distribution of dairy products. The main conclusions are the following: agricultural products price volatility is influenced by crop production; the more dispersed and volatile crop production is, the higher the volatility of agricultural prices; in the case of cow milk, market stability is higher, compared to the sheep milk market; as against an average increase of 39% in the average procurement prices for cow milk, in the period January 2005 – January 2010, an increase above average and the largest increase is found in the region South West Oltenia of 64% and in the region Center, i.e. 59%; under the country average with only 4%, 17% and 25% respectively, are the regions South Muntenia, South-East and North-West; the average procurement prices for raw cow milk were more dispersed in the region South West Oltenia (counties: Mehedinți, Gorj, Olt, Vâlcea, Dolj); it is in this region that the highest variation coefficient was found (28.95%), compared to the other development regions.

Keywords **:** *prices, standard deviation, variation coefficient*

INTRODUCTION

In value terms, milk production is on the second place as importance in animal production, after meat production. In the year 2009, cow and buffalo cow milk accounted for 22.7% of the animal production value and 7.9% of the agricultural output value, while ewe and goat milk 0.8% of the animal production value and 0.3% of the agricultural production value.
Total milk production decreased by 4.5% in the period 2007-2009, while the cow and buffalo cow herds were also down by 10%. In the year 2009, cow milk production was obtained on 850 thousand holdings, with an average size of 1.76 heads, which is a much lower size compared to that of the European countries, and 64 % of total cow herds were found on very small-sized holdings (1-2 heads). As the cow herds are scattered on small-sized farms, it is very difficult to provide an adequate management of quality and hygiene-sanitary conditions. This is the reason why at present, only 67% of the milk processed in Romania is milk conform to the EU standards, as compared to 32% two years ago.

MATERIAL AND METHODS

In order to determine price volatility, we used monthly time series of average procurement prices for cow milk, ewe milk, as well as of dairy prices (cow *telemea*, fresh cow cheese and ewe *telemea*) in the period January 2005 – August 2010, per total country, by months and by development regions, calculating the variation coefficient, as indicator that expresses the volatility level of the market for these products. The average price analysis for the raw ewe milk had as time series the same period 2005-2010, with the specification that the processed data covered the period April – September of each year, due to lactation specificity in the sheep species. The variation coefficient was calculated as ratio of standard deviation to the mean, making it possible to identify the dispersion points. The higher the variation coefficient, the higher the dispersion and the price volatility. The information source was represented by the official data published by the National Institute for Statistics (NIS), through the Tempo-online database.

RESULTS AND DISCUSSIONS

General considerations on domestic milk production

Total milk production reached 56383 thousand hl (including calves consumption) in 2009, out of which cow and buffalo cow milk 50570 thousand hl. By development regions, cow milk production decreased in the regions Center (-0.4%), North-East (-3.5%), Bucharest-Ilfov (-5.1%), South-East (-5.7%), North-West (-6.3%), West (-10.5%) and South-West (-12,5%) and it increased in the region South Muntenia (+0.3%).

Both milk quality and quantity are affected by the high fragmentation of milk production. Thus, about 76% of the milk production comes from small holdings with 1-2 heads each, which account for 92 % of total dairy farms.

In the period 2007-2009, the total production of raw milk collected by the processing units (from Romania and from imports) decreased by 109675 tons (- 9%); this decrease was twice as great in the period 2007-2008 (-77389 tons), than in 2008-2009 (-32286 tons). Thus, while in the year 2007, compared to previous year, the cow milk quantity collected by the processing units increased by 10975 tons (1.0%), in 2008 the collected milk quantity was down by 21327 tons (1.9%), compared to previous year, and in 2009 down by 68105 tons (6.5%), as against previous year.

By species, in the investigated period, only the collected ewe milk had a slightly increasing trend from one year to another, the collected quantity increasing by 1121 tons (+9%); the buffalo cow milk, as well as the goat milk had decreasing trends, with the buffalo cow milk the collected quantity being down by more than half in the year 2009 compared to 2007. This adds to the differences by species with regard to the share of milk from total production, which goes to processing. Thus, in the year 2009, out of total cow milk production (calves consumption excluded), only 21.3% was delivered to processing, 7.7% buffalo cow milk, 3.2% ewe milk and only 2.4% goat milk. The difference is the self-consumption and sales on the peasant market.

The analysis of the two milk origin sources, i.e. milk collected in Romania and imported milk, reveals that the imported raw milk share increased from 3.6% in 2007 to 7.4% in 2009, while the share of raw milk collected from the Romanian holdings and collection centers was down from 96.4% in 2007 to 92.6% in the year 2009.

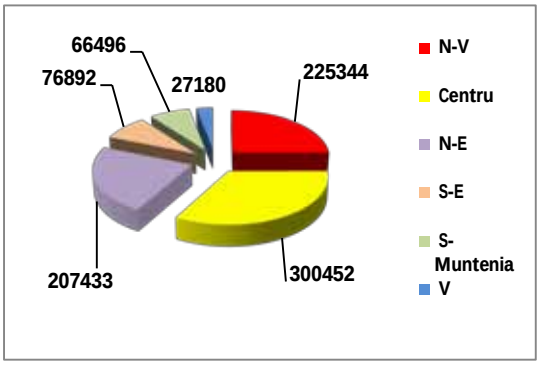

Figure 1. Structure of collected cow milk by development regions, in the year 2009 (liters)
Source: processing of data provided by the National Institute of Statistics

As regards cow milk collection in the 8 development regions, it is mentioned that 91% is supplied by 6 regions (North-West, Center, North-East, South-East, South-Muntenia, West), and 9% by the 2 regions (South-West Oltenia and Bucharest Ilfov). These two regions do not report the collected quantity to the National Institute for Statistics, considering it "confidential data". By regions, it can be noticed that the largest quantities were collected in the regions Center (30.3%), North-West (22.7%) and North-East (20.9%).

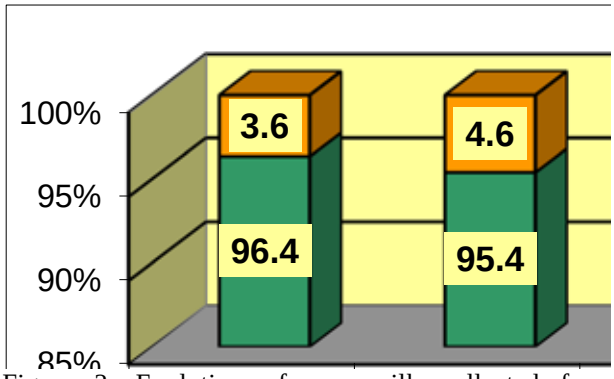

Figure 2. Evolution of raw milk collected for processing by processing units, by origin sources (%)
Source: processing of data provided by the National Institute for Statistics

The dairy products are supplied to the **domestic market** by economic operators with transport and/or storage activities, wholesale and retail activities, farmers (raising dairy cows) who come with fresh dairy products directly to final consumers.

The sales on the peasant market and self-consumption are the most important from the point of view of milk flow volume. From this point of view, it can be specified that about 77 % of total milked cow milk, 87% of the total milked buffalo cow milk and 97% of total milked ewe and goat milk is sold through this channel.

As regards the **foreign market**, in the last 3 years, Romania constantly had a deficient balance of trade in the trade with milk and dairy products. The trade balance deficit ranged from 112869 thousand euro in 2007 to 157134 thousand euro in 2009. Thus, the trade balance decline was by -33 % in 2008, compared to 2007, while in 2009 it was by only -4% lower than in 2008. Thus we can say that Romania is a net importer of milk and dairy products.

Price volatility analysis

In order to determine the volatility of average procurement (farm gate) prices for raw cow milk, raw ewe milk, cow and ewe *telemea* and fresh cow cheese we calculated the variation coefficient as ratio of standard deviation to the mean. As it can be seen from the tables below, there are significant differences between the variation coefficients of cow milk and of ewe milk. It can be concluded that in the case of cow milk there is a greater market stability compared to the ewe milk market. We can mention that the annual average variation coefficients for raw cow milk indicates quite similar values in the investigated period 2005-2010, with limits ranging from 4.94% (2008) to 6.82% (2005).

By comparing the variation coefficients across regions by years we can notice that the average raw cow milk procurement prices were more dispersed in the region South West Oltenia (counties: Mehedinți, Gorj, Olt, Vâlcea, Dolj), where the highest variation coefficient was found (28.95%), compared to the other development regions. It is in this region that the highest milk procurement prices were found, even since the second half of the year 2009, the prices continuing to be high in the period January - August 2010. The most stable region from the point of view of price volatility, with variation coefficients under the country average, is the region Center, where in

in the region South Muntenia, where the variation coefficients throughout the period 2005-2010 are by more than half higher than the country average. in the region South Muntenia, where the variation coefficients throughout the period 2005-2010 are by more than half higher than the country average.

the year 2008, the variation coefficient reached only 2.77%. A high price dispersion is also found In the case of ewe milk, price volatility is much higher, compared to cow milk. By comparing the variation coefficients by years and across regions, a very high price dispersion is found in the region North East, where, mainly in the years 2005 and 2006, the variation coefficients (244.95%) reveal an unstable market.

The same can be said about the region South Muntenia in the year 2010. Quite a balanced region with regard to price dispersion and stability is the region South East, where the variation coefficients are quite close to the country average.

The variation coefficients for cheese (cow *telemea*, ewe *telemea* and fresh cow cheese) by years reveal that the prices for these products are less dispersed that the raw milk prices. The highest values are found for *telemea* from ewe milk, with limits ranging from 3.73% in 2009 to 8.88% in 2008. It is worth mentioning that in the year 2009, in all the three products, the variation coefficient reveals the highest price dispersion; this situation is the result of the difficulties in the respective year (economic crisis, unfavourable weather conditions, low yields in cereals).

The analysis of average procurement prices for cow milk in the period January 2005 – August 2010 reveals the following:

- as compared to an average increase of 39% in the period January 2005-January 2010, an increase above the average and the largest increase was found in the region South West

Oltenia, i.e. 64% and in the region Center of 59%;
- below the country average, with a price increase by only 4%, 17% and 25% respectively, are the regions South Muntenia, South East and North West;
- in all the years under investigation, the highest prices are found in the cold winter months, and the highest in very hot months, i.e. in July and August;
- the regions with the highest volatility throughout the investigated period are North East and South Muntenia

Table 1. Ewe milk - variation coefficient %, prices per total country and by regions

Specification	Total	North East	South West Oltenia	North West	South Muntenia	South East
2005	3.45	244.95	155.11	49.18	1.84	2.03
2006	51.29	244.95	0	49.33	77.46	77.56
2007	3.84	49.77	0	5.93	0.00	48.99
2008	12.36	77.46	0	4.72	77.46	24.49
2009	49.48	109.80	0	50.41	110.63	49.05
2010	49.49	53.70	154.92	78.03	244.95	49.90

Own calculations on the basis of NIS tempo on-line prices

Table 2. Variation coefficient (%) in cheese, in the period January 2005 - August 2010

Specification	*Telemea* from cow milk	*Telemea* from ewe milk	Fresh cow cheese
2005	4.62	6.42	4.17
2006	3.90	5.72	4.94
2007	3.07	3.98	3.40
2008	9.05	8.88	7.64
2009	4.39	3.73	5.51
2010	4.19	3.87	4.70

Own calculations on the basis of NIS tempo on-line prices

CONCLUSIONS

Agricultural price volatility is influenced by the volatility of crop production; the most dispersed and volatile the crop production is, the most volatile are the prices of agricultural products;
In the case of cow milk, there is a higher market stability as compared to the ewe milk market;
The average raw cow milk procurement prices were more dispersed in the region South West Oltenia (counties: Mehedinți, Gorj, Olt, Vâlcea, Dolj), where the highest variation coefficient was found (28.95%), compared to the other development regions;
The variation coefficients in cheese (cow *telemea*, ewe *telemea* and fresh cow cheese) by years reveal that the prices for these products are less dispersed than the raw milk prices;
Compared to a 39% increase of average cow milk procurement prices, in the period January 2005 - January 2010, an increase above the average and the largest increase was found in the region South West , i.e. 64% and in the region Center, 59%; a price increase under the country average, by only 4%, 17% and 25% respectively was found in the regions South Muntenia, South East and North West.

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THE DEVELOPMENT LEVEL AND ECONOMICAL EFFICIENCY OF S.D.E. „CHETROSU", DISTRICT OF ANENII NOI

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Abstract

One of the essential problems that have been accumulated in the food and agricultural sector of the Republic of Moldova is the reduction of the development level and economical efficiency of the agricultural production. That is why we will analyse the didactic basis of the Stat Agrarian Univesity of Moldova S.D.E. "Chetrosu" being in a critical situation. We will put the stress on the necessary conditions for organizing of the farm activity and the result of the utilization of these ones. Consequently we will centre on the incomes from sales and will determine in such a way the level of the enterprise specialization on the incomes structure from sales. It is consequently being analyzing the indicators of the assurance and the efficiency of using production ones in S.D.E. "Chetrosu". The indicators system presenting the financial results includes the row profit, the period of the financial administration period till to the taxation, the net (plainly) profit and the productivity indicators (generally of the agricultural economical and financial production). Each of these indicators are being mutually completed elucidating one of the side of the economical efficiency of the obtained agricultural production in the enterprise. The calculation of these indicators is being effectuated on the basis of the annual financial reports and on the specialized forms on the activity of the agricultural enterprises. According with the economical content the notion of financial results is complex and includes the indicators of the profit and productivity.

Keywords **:** *production proportion, revenues from sales, labor and production resources, economical efficiency, economical and financial indicators*

INTRODUCTION

The economical efficiency of the production activity in the agriculture represents a complicated economical category that expresses the appropriation to produce maximum economical effects with optimum consumptions living and materialized labour. But the last time the level of development and economical efficiency of the agricultural entities are reduced that is the deposed effort does not correspond with the obtained effort. To this one influence negatively many factors such as: the absence of traditional markets of production sale, high prices for securing of the fixed means and current actives, low productivity of the agricultural production due to the small process for selling finished products.

MATERIAL AND METHODS

For investigating the problems that characterizes the development level and economical efficiency it was analyzed the proportion dynamics of production; make-up, the structure and revenues dynamics from sales, the utilization indicators of the labour resources; the utilization efficiency of production resources and economical and financial indicators of SDE "Chetrosu". The analysed period of investigation includes the 2007 – 2009 years. The analysis information constitutes: the financial reports, the accounting balance, the financial results and specialized forms of the SDE "Chetrosu" of 2007 – 2009 years.

RESULTS AND DISCUSSIONS

Today, under the competitive economy passing from the centralized structures to the decentralized ones, the currency availabilities receive a new character by their influence on the financial situation of the agricultural enterprises.

It provides a high degree of liquidity to the firm and simultaneously includes in its make-

up the beginning and the end of the production cycle- the sale.The importance and the place of the entity within the agriculture and administrative territorial unities with the national economy is determined by the proportion of its production. The production size is based on a system of indicators reflecting, on the one hand, the necessary conditions for organizing of the farm activity (land, labor force, energy resources, livestock of animals) but, on the other hand, the result of the utilization of these ones (total production, goods in comparable prices, total revenue, raw profit, net sales).

Table 1 – The dynamics of the production proportion SDE "Chetrosu"

Nr.	Indicators	Years			2009 year in percent by	
		2007	2008	2009	2007	2008
1	The surface of the agricultural lot, ha Including:	1223	1351	1221	99,8	90,4
2	Arable lots	1228	1254	1124	99,6	86,6
3	Annual plantations	95	97	97	102,1	100
4	The average livestock animal of employees engaged in the agriculture, persons	63	67	60	95,2	89,6
5	Plants growing	63	67	60	95,2	89,6
6	Zootechnial sector	-	-	-	-	-
7	The annual average value of the fixed productive means, in leis Including:	6391	6273	6271	98,1	99,97
8	Fixed means of production with agricultural destination, thousands leis	6384	6237	6213	97,32	99,04
9	The total agricultural production value (in comparable prices of 2009 year) thousands leis Including:	2208	4413	2739	124,05	62,07
10	Vegetal production	2208	4413	2739	124,05	62,07
11	Animal production	-	-	-	-	-
12	**Revenues from the sale of agricultural production, thousands leis**	**4203**	**1290**	**4280**	**101,83**	**331,8**

The change of these indicators (increase or reduction) in the dynamics offers the possibility to appreciate the development level of the farm (favorable, sufficient, unfavorable). Consequently for analyzing the production proportion of SDE "Chetrosu" Anenii Noi district.

The data of table 1 demonstrate us that the surface of the agricultural lots increased in 2009 in comparison with 2007 and 2008 respectively with 0,29 and 9,6 percent. The arable lots also decreased insignificantly in 2009 in comparison with 2007 and 2008 with 0,4 and 13,4 percent. In the make-up of annual plantations surfaces did not occur essential changes and practically were maintained at the same level. The annual average livestock of employees engaged in agriculture decreased in 2009 in comparison with 2007 by 4,3 but according to 2008 by 10,4 percent.

The annual average value ot the fixed means was reduced in 2009 in comparison with 2007 and 2008 respectively with 2,61 and 0,86 percent. The total agricultural production value (in comparable prices of 2005 year) had an increasing tendency in the dynamics of 2009 year in comparison with 2007 by 21,05 percent and a diminution in comparison with 2008 year with 37,93 percent.

The revenues from the sale of the agricultural production had sure tendency increasing in 2009 in comparison with 2008 by 3,3 times due to the unfavorable climatic conditions of the 2008 year.

Finally we may affirm that the development level of the farm is favorable. In equal conditions of production that is the optimum assurance of the production process, with necessary resources, the economical efficiency of the agricultural production depends greatly a of the specialization level.

The principal priorities of the specialization are the following: gives opportunity more complete and more efficient to utilize the specific climatic conditions of the given zone; offers conditions to reduce the number of inefficient branches in the entity and to develop the principal area; the introduction of the complex mechanization; they are not distributed the currency means and material ones to the production of a greater number of products, but they are utilized to the

production of the must efficient branches; simultaneously with the specialists perfecting occurs a more efficient division of the labor in the entity; it leads to the qualification of the works; the specialized enterprises are more efficiently directed.

The specialization of the agricultural production is determined in the frame of structure analysis of a series of indicators as: the total production and ware in comparable prices, the sold production in current prices, revenues and sales.

The appreciation of the enterprise specialization is effectuated on the basis of the revenues from sales (table 2).

Table 2 – The make-up of the structure and the revenues dynamics from sales in SDE "Chetrosu"

The name of products branches	Years					
	2007		2008		2009	
	Thou-sand leis	%	Thou-sand leis	%	Thou-sand leis	%
Vegetal production:	3409	81,11	1027	79,61	4017	93,86
Cereals and vegetables grain total	3235	76,97	629	48,76	2722	63,6
including:	-	-	-	-	1	0,02
wheat	50	1,19	4,9	3,8	356	8,32
lye	58	4,38	14	1,09	5	0,12
barley	16	0,38	69	5,35	514	12,01
oats						
maize	50	1,19	266	20,6	419	9,79
grain vegetable	416	9,9	31	2,4	224	5,23
sunflower	-	-	1	0,08	-	-
soy						
Total fruits and berries	137	3,26	64	4,96	-	-
Grapes	207	4,92	129	10	39	0,91
Other vegetal production	34	0,81	38	2,95	-	-
Total agricultural production	4203	100	129	100	4280	100

Analyzing the revenues make-up from the sale of the agricultural products in SDE "Chetrosu", we find that the form is occupied with the growing of the vegetal production (cereals, sunflower, fruits, grapes etc.).

By examining the structure of the sales revenues, we may affirm that SDE "Chetrosu" is specialized in the production of the cereals and vegetables for grains which weight in the revenues structure from sales made up in 2009 about 93,9 percent, the other cultures occupying unsiquificant weights.

Studying the dynamics of the obtained revenues from the sale of the agricultural products we remark an increasing tendency of these ones in 2009 in comparison with 2007 and 2008 years respectively by 1,83 and 3,3 times, that motivates the fact that in the entity there are reserves of reparation of the economical situation. Another characteristics of SDE "Chetrosu" represents the analysis of the enterprise assurance with labor, utilizing in this purpose different tables that are combined, that reflect the distribution and the structure of the manpower by sort, quality and other characteristics at the level of the entity.

On the basis of the data from table 3 that follows we will analyze the indicators of the labor resources utilization in SDE "Chetrosu".

Table 3 – The indicators of the insurance and utilization of the labour in SDE "Chetrosu"

Indicators	Years		
	2007	2008	2009
The degree with assurance with labour resources, %	89	96	96
The recording of the manpower with fixed means of production with agricultural destination, leis	101333	93627	103550
The worker time effectively by 1 employee per year, days	231	226	242
The coefficient of utilization of labour resources (worked days: 265)	0,87	0,85	0,91

In the analysis of table 3 there is motivated the fact that the resources labour are utilized in average at the level of 88 percent. The providing with labour resources constitutes in average 84 percent. Concerning the endowment of manpower with fixed means of production with agricultural destination increased in the dynamics, reaching in 2009 le level of 103550 leis at 1 middle employee annually that contributes to the increase of the work productivity.

Another important characteristics of the farm, connected directly with the organization and direction of the production process is represented by the organizational productive structure of these ones, which are at the basis of the planning, accounting and analysis of economical processes at different levels of the essential or operational activity (branches, sectors, farms, crew) of the auxiliary activities (the park of agricultural machines, the workshop for fixed means, warehouses technical construction with water supply, heat and other services) and supplementary ones, as a rule with non agrarian profile (mills, the section of construction and roads reparation).

The economical level of the farm development depends on the efficient utilization of the agricultural lot, manpower, mixed means, materials. For this it is

calculated and analysed the present indicators in table 4.

Table 4 – The efficiency of production resources utilization in SDE "Chetrosu"

Indicators	Years			The deviation of the financial	
	2007	2008	2009	2007	2008
Productivity of 1 ha of agricultural, leis	1805,4	3266,5	2243,2	437,8	-1023,3
The annual middle productivity of worker engaged in the agriculture	35047,6	65865,7	45650	10602,4	-20215,7
The middle productivity per hour of a worker in agriculture, leis	151,7	291,4	188,6	36,9	-102,8
The output of the productive fixed means with agricultural destination, leis	0,35	0,7	0,44	0,09	-0,26
The consumptions at 1 leu revenues from sales, lei	0,8	3,3	0,93	0,13	-2,37

Analyzing tha data from table 4 we may find that the output of 1 ha of the agricultural lots increased in 2009 comparatively with 2007 with 437,8 lei and it was reduced in comparison with 2008 year by 1023,3 leis.
It is also demonstrated the raise of the annual middle productivity, that presents an unfavorable situation for the farm economy. The same situation as also presented on investigating the average of productivity per hour on a worker in the agriculture. It is enough enjoyable the fact of unessential increasing of the consumptions at 1 lei of revenues from sales in dynamics.
The degree of using of the production factors contributes to the development of the farm activity and to the increasing of the financial results.
The indicators system presenting the financial results includes the volume of the net profit, the profit of the financial – economical activity. Each of these indicators are being completed reciprocally, elucidating one of the sides of the economical efficiency of the obtained agricultural production in the farm.
The economical efficiency of the agricultural production is entirely determined by the profitability level. In the table that is following we will present the account of the financial – economical activity indicators of SDE "Chetrosu".

Table 5 – The indicators of the financial, economical activity of SDE "Chetrosu"

Indicators	Years			Deviations in 2009 (+,-) in comparison with	
	2007	2008	2009	2007	2008
Raw profit, leis	1701444	173249	(1128709)	-2830153	-1301958
The profit of the period of the financial administration on taxating, leis	2649657	623410	(899593)	-1164560	-1523003
Net profit, leis	2649657	623410	(899523)	-1164560	-1523003
General profitability, percent	27,7	5,4	-7,9	-35,6	-13,3
Profitability of the agricultural production, %	64	15,5	-21,3	-85,3	-36,8
Economical profitability, %	39,4	7,44	-10,97	-50,37	-18,41
Financial profitability, %	64,4	9,72	-13,67	-78,07	-23,39

Having analysed the indicators of the economical and financial activity we remark that in 2009 in comparison with 2007 and 2008 years the general financial, agricultural and economical profitability are considerable reduced that presents a negative situation for the farm.
Finally we may affirm that the farm must consequently look for the most efficient solutions reduce the direct consumptions of materials namely the acquits on securing of the seeds, combustible and other current actives, which directly lead to the variation of the production costs and respectively the increasing of the obtained profit.

CONCLUSIONS

From the effectuated investigations result the following conclusions:
1.According with the production proportions the revenues from the sale of agricultural production had in SDE "Chetrosu" a sure tendency increasing in 2009 in comparison with 2007 by 1,87 percent and according with 2008 by 3,3 times due to the unfavorable climatic conditions of 2008 year.

2.By examining the revenues structure from sales we may affirm that SDE "Chetrosu" is specialized in the production of the cereals and grain vegetable the weight of which constituted in 2009 about 93,9%.

3.The made researches show that the endowment of the manpower with fixed means of agricultural production and destination in the dynamics it was increased reaching in 2009 year the level of 103550 leis at one middle annual worker that contributes to the raising of the labor productivity.

4.Analyzing the utilization efficiency of the production resources we find that in SDE "Chetrosu" the majority of indicators increased in 2009 in comparison with 2007 and reduced in comparison with 2008.

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THE ECONOMICAL EFFICIENCY OF THE FIXED MEANS UTILIZATION IN S.R.L. (SOCIETY WITH LIMITED RESPONSABILITY) „DISETINCOM", DROCHIA DISTRICT

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Abstract

The production means represent a dominant factor of intensity in agriculture, whose importance results from the following findings: the equipment level with production means and the quality of these ones influence directly the level, quality and economical efficiency of the agricultural production. The techinical and material basis of the agriculture generally acts directly on the natural factors facilitating the favorability of these ones. The level and improvement degree of the technical and material basis of the agriculture determine the level of qualification and specialization of the manpower as well as new conceptions in the organization and managing of the agricultural production. It is necessary to effectuate the ensurance analysis S.R.L. „Disetincom" with fixed means and energetic resources. The analysis in dynamics also foresces the determination of the rates of increase or reduction in the make-up of active and passive fixed means. The structure of the fixed means foresces the determination of their wight after the following groups: production fixed means from the principal activity, production fixed means from other rates and unproductive fixed ones. For appreciating the structure of the fixed means in dynamics it is being calculating the following indicators: the absolute modification and the structure of the fixed means by categories. Besides the quantitative indicators it is also appreciating the qualitative ones. The establishment of a more reduce volume of means under the level of the technological requirements creates difficulties of technical and organization character that finally characterizes the diminution of the production economical efficiency too.

Keywords **:** *fixed means material technical basis, functional state, energetic resources, productivity, the capacity of fixed means, factorial analysis*

INTRODUCTION

The fixed means represent a dominant factor of the agricultural intensity the importance of which results from the following findings:
The level of equipment with production means and the quality of these ones directly influences the level, quality and economical efficiency of the agricultural production;
The material and technical basis of the agriculture, in its ensemble acts directly on the natural factors, facilitating the favorability of these ones;
The level and perfecting degree of the agricultural material and technical basis determine the level of qualification and specialization of the manpower as well as new conceptions in the organization and leading of the agricultural production.
The goods forming the material and technical basis of the agriculture may be expressed both in natural form and valuable.
The production means are divided in two groups: means and labour objects.
The problem salving regarding the double name of the labour objects and means, as well as of other economical notions is related to the entry in force since the first of January 1998 of the National Standards of Accounting and of the New plan of accounting accounts. Thus, according S.N.C. 16. "The Actives Accounting on long term" the labour means excepting the objects of low value and short standing are named fixed means which as an bookkeeping subject enter in the make-up of actives on long standing lick the capital investments the lots on which un fold the enterprises their productive activity and the natural resources of the country.

MATERIAL AND METHODS

In the analysis process of the economical efficiency of the fixed means utilization there

was pointed out: The assurance analysis with fixed means and energy resources, the financial state and fixed means reproduction, the factorial analysis of the fixed means output and detailed factors account; to the deviation of the output of the production fixed means in S.R.L. " Disetincom".

The analysis was effectuated during the 2006-2007 yeans. The sources of the collected date, constitute the specialized forms of S.R.L. accounting balance the report concerning the financial results on 2006-2008 years.

RESULTS AND DISCUSSIONS

Taking into account the mentioned findings above. "The fixed mea ns " enter in the group of materials active long wearable on long standing their value in the cost of the manufactured production of the works and realized services by means of wears account according with the norms of the depreciation of these ones.

For appreciating the assurance with fixed means is being account ed the following indicators:

The assurance with fixed means of production that is determined with the relation between the annual middle value of the ale production fixed means to the surface of the agricultural lots;

The equipment with fixed means that is determined like the relation between the annual average value of the ale fixed means of production to the annual average number of works framed in production.

These two indicators characterize the level with assurance with fixed means in ensemble per economical unity for pointing out some shortages of insufficient providing is appreciated the assurance with means separately by categories.

The analysis of fixed means in dynamics allows the revealing of the changes in the fixed means of production and the appreciation of the assurance level in comparison with the accomplished production program.

According to the data of table 6 we remark that in 2008 year in comparison with 2006 and 2007 the value of the fixed means of production incoming to 100 ha of agricultural lots increased respectively by 10.3 and 31.9 percent.

Table 1 - The assurance analysis S.R.L. "Disentincom" with fixed means and energetical resources.

Indicators	Years			2008 year in % to	
	2006	2007	2008	2006	2007
1. Incombs to 100 ha. agricultural lot: 1.1. fixed means of production, lei	155878	130362	171922	110,3	131,9
1.2. energetical resources, horse power	73	74,8	69,3	94,9	92,6
2. incombs tone annual middle worker appointed in the agriculture 2.1. fixed means leis	5730,6	6032,5	26023	4,54 ori	4,31 ori
2.2. energetical resources h.p.	2,68	3,46	10,48	3,91 ori	3,03 ori

According to the data of table 6 we remark that in 2008 year in comparison with 2006 and 2007 the value of the fixed means of production incoming to 100 ha of agricultural lots increased respectively by 10.3 and 31.9 percent.

The same tendency also has the value of the fixed means incoming to an annual middle worker appointed in the agriculture that in the same period increased accordingly of 4,54 and 4,31 times. They were also increased the energetical resources in account, at one worker of 3,91 and 3,03 times due to the substantial reductions in 2008 in comparison with 2006 and 2007 years the annual middle number of workers appointed in the agriculture.

The analysis in dynamics also foresees the determination on of the increase rhythms or reduction in the make-up of the passive and active fixed means.

The structure analysis of the fixed means foresees the determination of the weight under the following groups:

a) fixed means of production from the basis activity
b) fixed means of production from other branches
c) unproductive fixed means.

Appreciating the structure of the fixed means in the dynamics it is necessary to take into

account the relation between the force machines and labour machines. According to the established norm this relation must constitute 1:25 or 1:30; it means that at each unity of force machine must income 2,5 or 3 unities of labour machines, in such a case the efficiency of the utilization of the machines, tractors and equipment may be increased.

Besides the quantitative indicators in analysis are also appreciated the qualitative ones that characterize the functional and reproduction state of the fixed means.

These indicators are:

The utility coefficient;

The coefficient of liquidation;

The coefficient of renewal.

All the indicators of the qualitative and reproduction state of the fixed means are is analysed in the dynamics, that allows to point out the increasing reserves of the qualitative and reproduction state of the fixed means (table 2).

Table 2 - The initial data for the determination of the fixed means functional state in SRL "Disenticom", leis

Indicators	2007	2008
1. The fixed means value at the beginning of the year	2227260	2517827
2. The fixed means value at the end of the year	2517827	2838880
3. The fixed means value at which the wear is not accounted	-	-
4. The inventory means value	2517827	2838880
5. The wear and tear of the fixed means at the year end the year	1644496	1997360
6. The remained value of the fixed means of the year end	87331	841520
7. The liquidated fixed means value	2315	-
8. The fixed means value included in the functioning	292882	321053

Consequently we will analyse the functional and reproduction state of the fixed means in SRL "Disenticom".

The data of these two tables show us that the reproduction of the fixed means in SRL "Disenticom" is realized despite of the fact that the wear increased by 352864 leis or with 21,5 percent in 2008 in comparison with 2007. This indicator resulted in the increase of the wear coefficient with 7,7 percent in 2008 in comparison with 2007 decreased the keeping coefficient by 14,3 percent. This coefficient shows us that 85,7 percent from the fixed means are utilized in the production process.

Table 3 - The analysis of the functional and reproduction state of the fixed means in SRL "Disenticom"

Indicators	2007 year	2008 year	2008 year in % to 2007
1. The coefficient of wear	0,65	0,70	107,7
2. The coefficient of keeping	0,35	0,30	85,7
3. The liquidation coefficient	0,1	-	-
4. The coefficient of renewal	11,63	11,31	97,25

The renewal coefficient increased with 2,75 percent in 2008 in comparison with 2007 year, but the last has a positive tendency because increased both the value of the fixed means at the year end by 12,8 percent and the value of the fixed means included in the functioning in the analysed year by 9,62 percent.

The ways of increasing and account of the factors influence. A particular economical broker (agent) of an efficient activity has the establishment the more correct of the necessity of the necessary current actives. It must in such way be determined for being sufficiently for covering the requirements claimed by the applied production technologies in the respective period. The establishment of the means volume immobilizes financial means of the economical brokers with negative implications on the final economical results. At the same time the establishment of a more reduced volume of means under the level of the technological demands creates difficulties of technical and organizatoric order in unfolding of the production processes that

characterizes finally the diminution of the economical efficiency of the obtained production.

Consequently we will analyze the economical efficiency of the fixed means utilization with agricultural destination in SRL "Disenticom".

Table 4 - The analysis of the economical efficiency of the production fixed means utilization with agricultural destination in SRL "Disenticom"

Indicators	2007 year	2008 year	Deviations (+, −)
1. The capacity of the fixed means, leis	0,42	0,72	+0,3
2. It incombs to 1 leu of production fixed means with agricultural destination			
2.1. The total agricultural production - in comparable prices	2,38	1,39	-0,99
- in current prices	2,93	+1,51	-1,42
2.2. Total revenue in the agriculture, leis	0,43	-0,12	-0,55
2.3. The obtained row profit from the sale of the agricultural production	0,06	-0,37	-0,43

In consequence of the data analysis from table 4 we remark that the fixed means capacity increased by 0,3 leis in 2008 year in comparison with 2007 due to the fact that in SRL "Disenticom" occurred their widened reproduction, a fact that contributed to their increase with 42,4 percent.

But it did not contribute also to the increase of other indicators which had been reduced in 2009 in comparison with 2007 substantially.

To it influenced the reduction of the total value with 17,2 percent of the total revenue and obtained raw profit from the sale of the agricultural production.

For revealing the causes of the deviation of the out put of the productive fixed means is effectuated the factorial analysis of this efficiency synthetical indicator. For this reason it is necessary to make-up a table with initial and initial data which will contain the method of respective indicators account for the factorial analysis.

Table 5 - Account and initial data for factorial analyzing of fixed means out put of production of agricultural destination.

Indicator	Account method	2007 year	2008 year	Deviations (+, −)
Initial data:				
1.The total production value, thousand, leis	WPG	5755	4765	-990
2.The annual average value of the production fixed means with agricultural destination, th. leis	MFP	2413	3435	+1022
3.The number of machines, equipment, unities	TM	59	78	+19
4.The annual average value of the active fixed means, thousands leis	MFA	2224,9	2838,9	+614
5.The total number of machines changes, thousands	TS	61,95	85,8	+23,9
6.The total number of hour – machines, thousands	TO	189,5	192,9	+3.4
Account data:				
7.The average value per unities of machines, equipment, lei	MFA/TM	37,71	36,4	-1,31
8.The weight of the active fixed means in the make-up of the production fixed means of agricultural destination, percent	MFA/MFP	92,2	82,6	-9,6
9.The change regime coefficient	TS/TM	1,05	1,1	+0,05
10.The length of the change in hours	TO/TS	3,05	2,24	-0,81
11.The productivity of the machines per hour	VPG/TO	30,4	24,7	-5,7
12.The out put of the active fixed means, leis	VPG/MFA	2,32	1,68	-0,64
13. The out put of the production fixed means of agricultural destination	VPG/MFP	2,38	1,39	-0,99

The factors influence account at the deviation of the out put of the productive fixed means is effectuated in two stages:

At the first stage of analysis is calculated the influence of the general factors:

1.The weight of the active fixed in the make-up of the productive fixed factors of agricultural destination;

2.The out put of the active fixed means.

The calculation of the influence of these factors is effectuated under the method the absolute differences.

Table 6 – The factorial of the out put of the productive of agricultural destination

Indicators	2007 year	2008 year	Devia-tions (+,-)	Including under the influence of the	
				weight means fixed active	means fixed active
A	1	2	3=2-1	4	5
resultative					
1. The out put of the productive fixed means of agricultural destination, leis	X_0 2,38	X_1 1,39	-0,99	-0,91	-0,13
factorial					
2. The weight of the active means in the make-up of the productive fixed means, %	Y_0 92,2	Y_1 82,6	-9,6	x	x
3. The out put of the active fixed means	2,32	1,68	-0,64	x	x

I factor $(x_1 - x_o)\cdot y_o$;

$$(1,39 – 2,38)\cdot 0,922 = 0, 91$$

II factor $(y_1 – y_0)\cdot x_1$

$$(0,826 – 0,922)\cdot 1,39 = 0,13$$

At the second stage of analysis it is calculated the influence of the detailed factors to the output deviation.

Analyzing the data from table 7 we remark that the out put of the productive fixed means according the correlated factors was diminished due to the reduction in 2008 year in comparison with the 2007 year of the total production value in comparable prices with 17,2 percent and of the increasing of the productive fixed means value in the same period with 42,4 percent.

These ones were the principal reasons that contributed to the diminution of the productive fixed means out put.

Table 7 - The calculation of the detailed factors influence to the deviation of the productive fixed means out put in SRL "Disenticom"

The number of accounts	The number of the substitution	Correlated factors: The average value per unity of machines and equipment	The weight of the active fixed means	The coefficient of the change regim	The length of the change in hours	The productivity per hours of the equipment	The out put of the productive fixed means, leis	The influence calculation, leis	The size of the influence
1	0	37,71	0,922	1,05	3,05	30,4	3384,9	-	-
2	1	36,4	0,922	1,05	3,05	30,4	3267,3	3267,3 - 3384,9	- 117,6
3	2	36,4	0,826	1,05	3,05	30,4	2927,1	2927,1- 3267,3	- 340,2
4	3	36,4	0,826	1,1	3,05	30,4	3066,5	3066,5- 2927,1	+ 139,4
5	4	36,4	0,826	1,1	2,24	30,4	2252,1	2252,1- 3066,5	- 814,4
6	5	36,4	0,826	1,1	2,24	24,7	1829,9	1829,9- 2252,1	- 422,2

CONCLUSIONS

In the process of the production one may remark a diminution of the utilization level of the production means, the principal reasons are: the structural modification of the production branches in favour of those ones with a bigger capacity of the production means; it is being increased the cost of the production means in the production buildings that have a long term of exploitation; the fixed means are not always satisfied completely with working capital.

The increase much more rapids of the prices at the production means with the agricultural destination than at agricultural products.

According to the mentioned above the principal ways of increasing of the utilization efficiency of the production means are the following:

1.The establishment of the rational make-up size of the production means and the creation of optimum structures;

2.The buildings occupy a major quote (more than 50%) from the total fixed means, that is why their more intensive utilization of the buildings in the zoo technical sector, the diminution of the term of giving in exploitation of the buildings, must be more intensive utilized the irrigable lots, the widening of the roads net in the farm;

3.In Moldova Republic the annual plantations occupy an important place in the fixed means, a great importance has the increase of their productivity due to: the establishment of the optimum structure of the fixed means, the increase of the mechanization level, the liquidation of the all shortages, the utilization more wide of the irrigation in horticulture, the introduction in the production of new forms of financial administration of the production and labor;

4.For producing of animal products utilized less of 40 percent of all the fixed means with agricultural destination. In order to use them much more rationale it is necessary to utilize the capacity of the room, the improvement of the quality of animals, the satisfaction of the animals with qualitative forages, the concentration and optimum specialization;

5.The development and much more rationally utilization of the mechanization means that can be effectuated due to the increase of the work days number and of the agricultural machines productivity, the mechanization of the transport means, the diminution of the exploitation expenses;

6.The efficiency in the agriculture depends on the current actives utilization which can be solved by establishing of the optimum proportion between the fixed means and current actives.

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CONSEQUENCES OF THE MILK AND DAIRY IMPORTS ON THE ROMANIAN MARKET

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Abstract

The present paper investigates the competitive pressures of the milk and dairy imports upon the domestic market and market niches of Romanian dairy products. The method consists in analyzing foreign trade data on milk and dairy products together with domestic production. The deficiencies of the milk production and processing system create favorable conditions for imports. Romania is a net milk and dairy importer, yet it succeeds in exporting organic dairy products or dairy products based on ewe, goat or buffalo cow milk. Although the exported quantities are small, the values per product unit are significant. The results show that the competitive pressures will continue as long as there are deficiencies in the raw milk production and collection.

Keywords **:** *milk and dairy products, domestic production, import, export*

INTRODUCTION

Romania's accession to the European Union in January 2007 represented a new competition challenge for the milk and dairy sector. In this context, many dairy factories that could not get in line with the sanitary-veterinary and food safety norms had to close down. The raw milk quota assigned to Romania by the accession treaty was not used mainly due to non-conform raw milk or to the high raw milk collection costs. In these conditions, the imports of raw milk, milk and dairy products increased both in value and in quantity in the period 2007-2009.

Although Romania has significant areas under natural pastures and hayfields (33% of the agricultural land), the Romanian raw milk production has great fluctuations, with relatively great differences between the milk quantities delivered in summer and in winter.

The traditional areas where milk is produced are the hilly and mountain areas. The low average yields per fed cow head reflect the extensive operation in our country. 97% of the cow herds, 98% of the buffalo cow heads and 99% of sheep and goats are raised on individual holdings. Thus, raw milk production is dispersed into small quantities, which implies difficulties as regards its quality and its collection.

MATERIAL AND METHODS

On the basis of foreign trade data and of the Romanian milk and dairy production we investigated the competition pressures exercised by the foreign trade upon the domestic market. The investigation took into consideration the characteristics of the Romanian milk and dairy market.

RESULTS AND DISCUSSIONS

In the last three years Romania constantly had a deficient balance of trade in milk and dairy products. The deficit of the balance of trade ranged from 112,869 thousand euro in 2007 to 157,134 thousand euro in 2009. Thus, the decline of the balance of trade was -33 % in 2008, compared to 2007, while in 2009 this was by only -4% lower than in 2008. Hence we can say that Romania is a net importer of milk and dairy products.

Whey (CN code 0404) was the only product in which imports decreased in the investigated period. In concentrated milk and cream (CN code 0402) the trade deficit decreased in 2008, as compared to 2007,

while in 2009 the imports of concentrated milk and cream increased compared to 2008. In cheeses and curds (CN code 0406) the trade deficit diminished by 12 % in the year 2009. For all the categories of imported milk and dairy products, the average prices increased in the investigated period. The highest average price increase was in the case of cheeses and curds, while the lowest increase was in non-concentrated milk and cream.

In general, the values of average prices of Romanian milk and dairy exports are higher than those of imports; however, in the case of butter (for all the three years), for concentrated milk and cream (for the years 2008 and 2009), as well as for whey (in 2007 and 2009) the import prices were higher than the export prices, which reveals that for these products Romania's imports are of higher quality than the quality of exports.

For the year 2009, the average prices of the exported dairy products increased, compared to the average prices of the imported products, which decreased. The Romanian milk and dairy imports constantly increased in the investigated period, the most important share being held by cheeses and curds as well as by non-concentrated milk and cream.

Although the value of Romanian milk and dairy exports increased by 24% in the investigated period, they continued to be 6 times lower than the imported value in 2007 and 8 times lower than the value of imports in the years 2008 and 2009. This makes us conclude that Romania is not competitive yet on the European milk and dairy market.

Cheeses and curds (CN code 0406) hold the most important share both in the value of imports and in the value of exports. Cheeses and curds are on top of the list in Romanian consumers' preferences. Unfortunately, Romania exports only 1 - 4 % of the yearly cheese production, and it imports from 25 to 45% of the cheese production produced in Romania. The main supplier of cheeses and curds for Romania is the European Union. In EU-27 the main supplier is Germany (43%), followed by Poland (9%), Italy (5%) and Hungary that constantly increased its market share in the last 2 years to 10%.

Table 1: Deficit of Romania's balance of trade from the milk and dairy trade, 2007-2009

Specification	2007 (thou euro)	2008 (thou euro)	2009 (thou euro)
Total	-112869	-150551	-157134
CN code 0401	-19698	-30088	-37039
CN code 0402	-5805	-4048	-7598
CN code 0403	-9383	-11711	-15659
CN code 0404	-8238	-7443	-6195
Butter (CN code 0405)	-15807	-18861	-21470
CN code 0406	-53937	-78400	-69175

Source of data: Romanian General Customs Directorate

The largest amounts of cheeses and curds are imported in the period July-October. The monthly values of the cheese and curd imports tend to get equalized throughout the year, which means that in the second half of the year cheaper cheeses and curds are imported, while in the first half of the year cheeses and curds with a higher processing level are imported. It was noticed that in the year 2009 the imported quantities of cheeses and curds increased, yet their values were lower than in 2008.

The Romanian cheese and curd exports reached a peak level in the months February and September 2009 when the exported quantities and their values significantly increased. The Romanian cheese and curd exports constantly increased, increasing almost three times in the investigated period. The main export market for cheese is the US market. Here ewe cheese and buffalo cow cheese maturated in the caves from the Apuseni Mountains are exported. The exports to the United States began about 10 years ago under a program funded by the United State Agency for International

Development and implemented by the firm Land O'Lakes in Romania.

Non-concentrated milk and cream (CN code 0401). Fresh drinking milk is consumed as such, for breakfast in general, while cream is consumed either I combination with different cheeses or it accompanies different food preparations or sweets or it is used for the preparation of different products.

In early '90s, non-concentrated milk and cream had a significant position in the milk and dairy imports, as in the Romanian factories at that time there was no UHT technology in place to provide a longer shelf life for those products. With the modernization of the milk and dairy factories and the adoption of these technologies, the imports considerably decreased.

Although there is no distinct CN code for raw milk, in the year 2009 significant quantities of raw milk came to the Romanian market from Hungary, due to its conformity with the EU standards.

In the year 2009, it can be noticed that 50 – 90% of the total monthly imports of non-concentrated milk and cream was represented by the raw milk for processing. And yet the raw milk imports represent only about 7 % of total national production.

The non-concentrated milk and cream imports increased in the period under investigation due to the increase of raw milk imports. Non-concentrated milk and cream imports follow the lactation curb, i.e. larger quantities are imported in the cold season and the imports decrease in the warm season, when raw milk production is also lower.

While for raw milk the main supplier is Hungary (54%), for the processed milk and sour cream imported under the CN code 0401, the main supplier is Germany (12%). The Romanian exports of non-concentrated milk and cream were quite sporadic and distributed into small amounts to Greece and Italy.

As regards butter (CN code 0405), the imported quantities represent the equivalent of 58-81% of the domestic production, while the exported quantities only 1% of production. Romania is a net butter importer.

The monthly distribution of butter imports followed an uniformization trend in 2009, although in the previous years in the summer period the butter imports were much smaller. The main butter suppliers to the Romanian market are the following: Poland (24%), the Czech Republic (14%), Germany (12%) and France (8%).

Table 2: Domestic production, imports and exports of dairy products, in the period 2007-2009 (tons)

	2007	2008	2009
Cheeses and curds (CN code 0406)			
Production	67,304	69,618	68,854
Imports	18,539	27,360	29,423
Exports	807	1,050	2,459
Non-concentrated milk and cream (CN code 0401)			
Production	230,214	245,822	268,336
Imports	48,059	64,723	100,590
Exports	1,008	967	1,010
Butter (CN code 0405)			
Production	8,216	8,484	10,486
Imports	4,764	6,616	8,527
Exports	49	44	107
Concentrated milk and cream (CN code 0402)			
Production	9,071	6,086	12,382
Imports	18,968	11,684	13,524
Exports	9,638	11,941	13,177
Curdled milk, acidified milk, yoghurt, kephir (CN code 0403)			
Production	129,951	143,121	143,274
Imports	11,543	13,100	17,630
Exports	1,490	1,831	2,101

Source of data: Romanian General Customs Directorate

The annual butter exports accounted for 1% of the value of Romanian milk and dairy exports. Butter is exported on a sporadic basis over a few months of the year, and mainly in December. The main outlet for the Romanian butter was the Czech Republic and Germany for the period 2007-2008, while in 2009 exports were mainly oriented to Hungary and Poland.

Concentrated milk and cream (CN code 0402). The trade in these products is more

balanced than the trade in other categories of dairy products, the trade balance deficit being lower in this case. And yet, Romania is a net importer of concentrated milk and cream (mainly skimmed or whole milk powder) as the raw milk is not sufficient for meeting the demand on the domestic market and to create a surplus to be processed into milk powder.

The main milk powder supplier for Romania is Poland. Hungary and the Czech Republic significantly diminished their market share to the benefit of Poland in the year 2009.

Imports are distributed throughout the year. In the year 2009, the monthly imported quantities tended to uniformization. While in the year 2007 the exported butter quantities represented half of the imports, in the last two years the exported quantities had the tendency to equalize imports. The main outlets for concentrated milk and cream are Greece and Bulgaria. Exports reached a peak level in the summer months.

Curdled milk, acidified milk, yoghurt, kephir (CN code 0403). In the investigated period, the equivalent quantity of 9 - 12% of the domestic acidified milk production was imported, while exports represented only 1 % of domestic production. The most important supplier of acidulated milk continued to be Germany, followed by Hungary and Poland.

The acidulated milk imports are relatively constant throughout the year, and their prices were relatively constant in the period under investigation. The Romanian acidulated milk destinations were oriented to non-EU countries, Republic of Moldova and Croatia. In the investigated period, exports slightly increased in both quantity and value in the months November and December.

Whey (CN code 0404). As we had no available data for the Romanian whey production, all we can say is that Romania is a net importer in the case of this product, too. The main whey suppliers are the following: Hungary, Germany, the Czech Republic and Austria, countries with tradition in milk production and processing. Romania imported from 6 to 10 thousand tons of whey and exported 500 - 1000 tons. The monthly imported quantities in the investigated period followed different trends. Anyhow, in all years, the month of December was characterized by lower imports. In the second half of the year, the monthly imports had an increasing trend.

CONCLUSIONS

Romania is a net importer of milk and dairy products. There is an uniformization trend of milk and dairy imports throughout the year. Although the Romanian exports are not significant, it is worth mentioning that mainly ecologic dairy products or dairy products based on ewe, goat or buffalo cow milk are exported.

Due to the lack of efficiency on its dairy farms, Romania also imports raw milk and probably it will continue to import this product until the livestock and milk collection sector get reorganized so as to become efficient.

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TOMATO MARKETING CHAIN IN THE REPUBLIC OF MACEDONIA

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Abstract

Tomato production is one of the most important agricultural activities in the Republic of Macedonia. The paper is focused on tomato marketing on the domestic market, beside the fact that it is mostly an export oriented product. The aim of the paper is determination of the prices at different levels in the distribution of fresh tomato, thus evaluation of the impact of tomato marketing system over the farmers' income. Therefore, the profit and marketing margins at each level in the marketing chain are calculated for the period from 2005 to 2008. The biggest part of the tomato marketing is marketed through intermediaries, by an average farm gate price of 0.54 euro/kg. The average retail prices throughout the observed period range from 0.82 to 0.93 euro/kg. Thereby, the marketing margins are highest at the level of the traders with an average marketing margin of 0.28 Euros. Furthermore, the analysis of the relationship between the retail prices and the farmers' price, showed that 40% of the retail price is received by the farmers, i.e. that the retailers acquire 60% of the retail price. This leads to the conclusion that the intermediaries-traders of tomato have the largest influence in the total tomato marketing system, i.e. that there is an urgent need for the tomato producers to organise themselves in the area of tomato marketing.

Keywords **:** *marketing chain, profit margin, marketing margin , retail price, farm gate price*

INTRODUCTION

Tomato production is one of the most important in the agricultural sector in Republic of Macedonia. Tomato is produced on an average area of 5,514 hectares in the period 2005-2008, and is mainly carried out at family farms [1]. In the same period, the total production of tomatoes in the country reached around 125 thousand tons [Ibid]. The tomatoes are a traditional product of particular importance because of the fact that they are one of the major export oriented products from the Republic of Macedonia. The annual export value of fresh tomato exceeds 22 million dollars [2]. Regarding the consumption, the tomatoes can be used as fresh tomatoes or in the processing industry, as input for production of other products. Since the tomatoes are produced in both glass-houses and plastic tunnels as well as on open field, the demand for tomato on the market is satisfied during the whole year. Considering the whole tomato marketing chain, there are different prices at the level of producers, traders, wholesalers as well as at the level of retailers. Therefore, the aim of this study was to determine the prices at the different levels in the distribution of fresh tomato and thus to estimate the efficiency of the tomato marketing system. Furthermore, the analysis in this paper was referred to calculation of the profit and marketing margins on all levels in the tomato marketing chain for the period 2005-2008, as well as determination of the strengths and weaknesses of the marketing chain itself.

MATERIAL AND METHODS

The study of the cyclic development of the tomato market in the Republic of Macedonia was accomplished by data analysis in the period 2003-2008. For that purpose, data were collected from the State Statistical Office (SSO), and from studies prepared by the Faculty of Agricultural Sciences and Food-Skopje. The data referred to the farm gate, wholesale and retail prices. Moreover, for calculation of the profit and marketing margins, the cost of production was

determined. The data for calculation of the cost of production at variable costs, as well as the estimated full cost of production (including the fixed costs), were gathered through the Farm Monitoring System (FMS) data base, for the period 2005-2008. The farm monitoring indicated the resources, yields, revenues and costs of the farm. Lastly, series of semi-structural interviews with the participants in the tomato marketing chain were conducted.

The determination of the tomato cost of production as well as of the producer farm gate price was accomplished by using the analytical enterprise budgets, as "budgets where all production costs are identified and grouped in certain structure which constitute its cost of production" [3]. The analytical enterprise budget also enabled calculation of the full cost of production and the cost of production at variable costs level [*ibid*]. The cost of production at variable costs does not include all costs generated in the production and the sale of the product. Full cost of production is calculated as estimated full cost of production, by using an estimated value of the fixed costs from previous researches [4]. The data collected from the State Statistical Office are statistically processed, using the standard methods of the descriptive statistics, particularly using the measures of central tendency, variability and relative position. The profit margin used in this study represented "the difference between the costs and the price of the product, expressed in percentage" [5], i.e.

$$\text{Profit margin} = \frac{\text{Cost of sale - Buying price}}{\text{Buying price}} x100$$

The marketing margin is defined as "difference between prices of certain product at two points in the marketing chain" [6]. The marketing margin showed the portion of the price covering the marketing costs at all levels in the tomato marketing chain.

The marketing efficiency of the tomato producers could be ultimately determined.

RESULTS AND DISCUSSIONS

During the period 2005-2008, the tomato production showed an increasing trend. Two-thirds of the tomato production is exported, and the remainder is sold on the domestic market. The tomato marketing is realized by weakly organized market, i.e. trade by private companies, traders and other forms of chain trading, on the wholesale and retail market [7]. In the period 2005-2008, the average yield was 52 tons/hectare; the lowest average yield throughout the study period was in 2006 (19 tons/hectare), while the highest yield of 83 tons/hectare was realized in 2007. From the production costs point of view, during the period 2005-2008, the average production costs ranged in the interval from 2.9 thousand €/hectare in 2006 to 9.4 thousand €/hectare in 2008, *i.e.* the average costs were 6 thousand €/hectare.

Table 1: Yield of tomatoes in kg/ha and production costs in €/ha

Indicator	Yield in kg/ha	Production costs in €/ha
Lowest	18.570	2.894
Highest	83.107	9.370
Average	52.273	5.989
Standard deviation	31.499	2.985
Coefficient of variation (%)	60	49

On the basis of the determined costs and yields, the cost of production at variable costs was calculated. It varied during the observed period, showing a decreasing trend. The average full cost of production ranged in the interval from 0,17 €/kg to 0,23 €/kg, with an average value of 0,19 €/kg. It also confirmed a downward trend during the observed period.

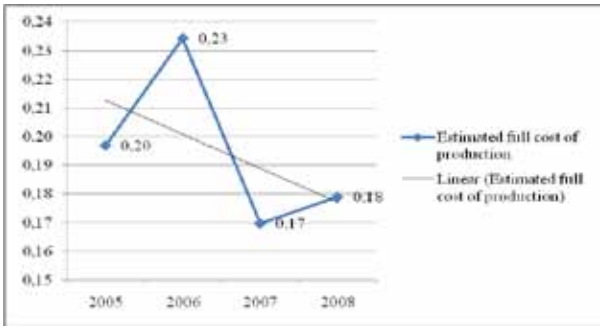

Figure 1: Trend line of the full cost of production in the period 2005-2008

Beside the cost of production, the study identified the farm gate, wholesale and retail prices. The tomato average farm gate price was close to 0.54 €/kg. Compared with the

variations at the cost of production levels, the farm gate prices proved to be more inconsistent as a result of the tomatoes' seasonal character, with variations of 33%. Additionally, the wholesale prices varied from 0.57 to 0.68 €/kg, and the retail prices ranged within the interval from 0.82 €/kg in 2005, the highest price being 0.93 €/kg in 2007. Compared with the farm gate prices, the wholesale and retail prices were more stable with low coefficient of variation of 7% and 4%, respectively.

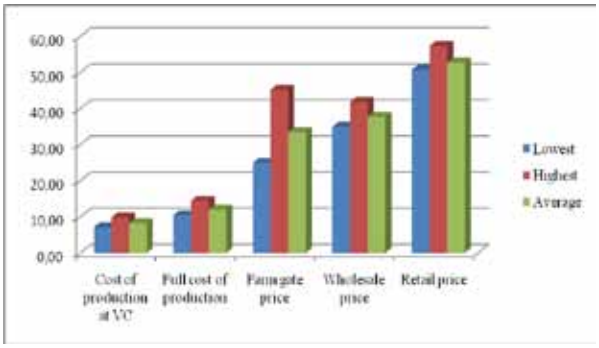

Figure 2: Prices in the tomato marketing chain in €/kg

The analysis showed that the profit margins were highest at the level of traders, *i.e.* that traders obtained the largest part of the sales price for the risk undertaken and the occurred costs. An exception occurred in 2007 and 2008 when the tomato producers realized their production at higher price in relation to the estimated full cost of production. The profit margins at the level of traders were in an average around 93%, while at the level of farmers during the observed period they reached in an average 65%. The profit margins were lowest at the level of wholesalers in relation to the retailers and they amounted in average 45%. In addition, the lowest profit margin could be recognized within the tomato producers in 2006, when the cost of production was the highest (0.23 €/kg).

Table 2: Profit margins in the period 2005-2008 (in %)

Market participant	2005	2006	2007	2008	Average
Producers (%)	39	15	114	92	65
Traders (%)	111	124	73	66	93
Wholesalers (%)	43	39	48	52	45

Furthermore, the analysis of the marketing margins showed that they were highest at the level of tomato traders, which leads to the fact that the traders had highest marketing costs (packaging, storage, etc). The average marketing margins accomplished by the traders were 0.28 €/kg. The marketing margins were also significantly high at the level of wholesalers, and in an average amount they were approximately 0.26 €/kg. The marketing margins were lowest at farmer level, which indicated that the marketing costs were also on the lowest level.

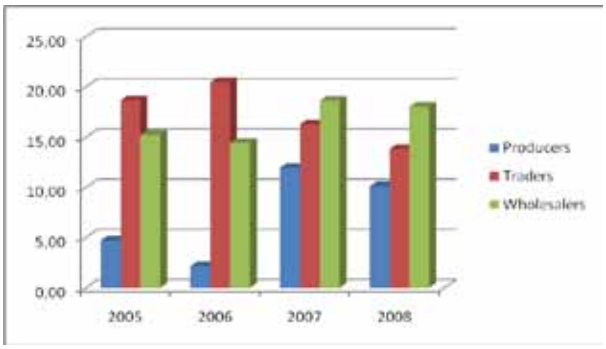

Figure 3: Marketing margins in the period 2005-2008 (in €/kg)

On the basis of the determined prices at all levels in the tomato marketing chain, the profitability of the tomato production was calculated. During the observed period, the tomato production has a coefficient higher then 1, thus leading to the fact that during the whole period the production of tomatoes remained cost effective.

CONCLUSIONS

1. The strengths of the tomato production and its marketing on the domestic market relate to the good natural conditions for production of tomatoes, relatively high quality, as well as the competitive production on both domestic and foreign market.
2. The sale by the producers with rare contracts with the traders, their weak negotiating power, as well as the non existence of distributive centers represent the weaknesses of the tomato marketing in Republic of Macedonia.
3. The traders have the biggest influence in the total marketing system of tomatoes.

4. Considering the fact that the producers have weak negotiating power, their organizing in the area of marketing should be one of the immediate activities in the overall marketing system. The farmers could jointly organize the sorting, packaging, storing and transporting of tomatoes and thus decrease the marketing costs and increase the added value to their products.
5. In order the consumers' demand to be met there is a need of establishing regional distributive centers as a basic standard for successful functioning of the tomato marketing system. Hence the availability of the necessary quantities and qualities of tomatoes will be ensured.
6. Conclusively, the abovementioned will contribute to more efficient functioning of the total tomato marketing chain in the Republic of Macedonia.

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ASSESSING TRENDS IN FOREIGN TRADE OF THE REPUBLIC OF MOLDOVA OF INVOLVEMENT CONDITIONS OF GLOBALIZATION

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Abstract

The paper aimed to present the evolution of export production during the period 2000-2009 in the Republic of Moldova. Research methods used are: monographs, statistical analysis. International trade is one of the oldest forms of cooperation between peoples, having both the considerable advantages and some disadvantages. Research conducted shows us that markets USSR, Moldova sold 80% of the wines, fruits and vegetables. Since 1991, when gaining independence the Republic has shifted its economic relations with Western Europe, especially since prices for raw materials and energy resources imported from Russia and Ukraine had become larger and the sale of goods on Western markets, country profit it gained twice as often a possible profit achieved in the CIS. With the current study, would be eloquent elucidation classification republic in global flows of trade (through it and demonstrate the influences of globalization on the national economy), by the country's main trading partners.

Keywords **:** *export, evolution, agricultural production , Republic of Moldova, globalization.*

INTRODUCTION

Since 1991, when gaining independence the Republic has shifted its economic relations with Western Europe, especially since prices for raw materials and energy resources imported from Russia and Ukraine had become larger and the sale of goods on Western markets, country profit it gained twice as often a possible profit achieved in the CIS.
In this context, it highlights the need to address foreign trade trends, the evolution matrix of the process of globalization.
In recent years, problems of transition of goods and services across state borders have become an object of attention. In general, society development of international trade, the most remarkable expression of economic globalization, namely the trade because it mediates most types of exchange. Both directly and indirectly indicate not only the volume of international trade specialization coefficient, but also economic stability: if we look at export and import volumes, then we see that if the Second World War, the world economy is becoming weaker and integrated.

MATERIAL AND METHODS

During the investigation there were used such research methods as: analysis, monographic, statistic as well as other methods and procedures that allowed revealing the essence of the investigated problem.

RESULTS AND DISCUSSIONS

Unquestionably, the dominant feature of late twentieth century is the increasing integration of interdependence on a planetary scale globalization feature. It is considered that the term globalization has its origins in literature devoted to multinational companies, initially indicating a limited phenomenon, later expanding its purpose to identify the new phase of world economy.
1. In 1983, Theodore Levitt proposes this term to describe the convergence of markets worldwide. Those two factors are modelers globalization of international economic relations and technology.
"Global Society" act as if the whole world (or its main regions) constitute a single entity: sell the same things the same way everywhere. Firm is adapted to national specificities and where not able to manipulate the specific demands redial. The term applies particularly when administered solely aimed at multinationals and international trade.
2. In 1990, Kenichi Ohmae concept extends to the whole chain of value creation (R & D,

design / engineering, manufacturing, marketing, services, finance). In this case, the company creates its sales services abroad, and local produce and provides full control of the subsidiary after the value chain. This process leads to a new stage of global integration, which occurs when the same group firms conduct their R & D departments, investment financing and recruitment of staff worldwide. In this case, globalization means some form of management, globally integrated, multinational firm-specific.

3. The third focuses on redefining the definition of game rules, rules previously imposed by member nations and are currently being reshaped by multinational firms. By this definition the plan passes the internal management of the international architecture firms.

The definition refers to developments underway and no final state of the international system.

4. Finally, according to the fourth definition, globalization means a new configuration of the international economy. If, before inter-national economy was respectively determined by the interaction of processes that were taking place especially in the member nations, the current period is typical of the globalize economy in which national economies are decomposed and then rearticulate transactions in a system and processes Direct operating internationally.

The definition stresses the qualitative leap compared with the previous stages: nation states, governments also lose their ability to influence developments in national economies, instead of succumbing to regional entities, which are points of support in multinational network. In addition, this model interdependencies between territories subject to grow so strong that lead to synchronous developments, if not identical, however uniform.

Globalization is a complex phenomenon that describes, at the same time, the consequences of economic phenomena and their political, social.

The economic aspect of globalization can be specifically measured by the size of flows of goods, services, capital and labour.

From an economic perspective, the goal of globalization is increasing profits and keeping alive the various national companies for which space is insufficient, under increased research and development costs, reduce the life of products, increasing quality requirements, etc..

Globalization of economic activity provides benefits arising from differences between the countries of the world, which constitute the source of profits. To capitalize on these advantages, the geographic mobility of firms has increased, production relocation contemporane13 representing an aspect of reality. It considers that economic globalization will be formally completed when the goods, services, capital and labour will flow freely fully and local governments and authorities in any country will treat firms equally, irrespective of nationality or origin. In other words, the process will end when the differences between the countries of the world will not be generating sufficient benefits to allow for profit.

How such a situation is still very distant, is expected to intensify the process of globalization.

The most important factors acting in favour of globalization are:

1. technical progress, which increased the range of products, reduce transportation costs, increase speed, safety, transmission of information so quickly. The Internet is, in this regard, a decisive factor in the globalization process;

2. liberalization of international trade and international investment, which has allowed fewer international trade barriers, this positive development contributing decisively, the system GATT / WTO.

3. liberalization of capital markets, which increased the FDI and transnational firms. Multinational and transnational companies have an important role in the process of globalization, most of them from TD.

Since 2000, international trade operates, encouraging figures scoring (Table 1), the structure and geography of the country's export specialization coefficient, however, is

quite inadequate and tends to manifest a decrease.

Table 1. Moldova's foreign trade dynamics

	2000	2005	2006	2007	2008	2009
Export total (mln.USD)	471,0	1091,3	1051,6	1341,8	1597,3	1297,7
Including:						
CIS	210,0	551,2	424,1	550,3	627,9	490,5
EU	165,2	443,3	537,6	679,3	820,1	578,5
Other countries	95,8	96,8	89,9	112,2	149,3	128,7
Import total (mln.USD)	776,0	2311,8	2693,1	3689,8	4898,9	3278,3
Including:	333,0	915,9	1020,7	1333,7	1737,2	1140,4
CIS	413,2	1038,7	1218,5	1681,3	2105,4	1422,5
EU	29,8	357,2	453,9	674,8	1056,3	715,4
Other countries						
Specialization index (exports to GDP,%)	**49,6**	**29,6**	**23,8**	**25,1**	**28,1**	**25,1**

Source: adapted according www.statistica.md / reports / Statistical Yearbook years 2005-2010

Observed over the years 2005-2006 a boost in exports of our country, leading to 1597 million. FDI in 2008, with obvious reduction in value in 2009 as a result of international financial recession, which began on end of 2008.

During these years, felt the specialization index fluctuations less essential, indicating that the maximum rates recorded in 2000 and again in 2005.

International consumption, seasonal or monthly, in an essentially influence the development of our import and export dynamics of the years analyzed. Unlike other years, foreign economic activity in 2009 was most intense in late, a fact explained by reducing the international economic crisis, export incentive measures, to ease the export of Moldovan wines etc. measures have resulted in boosting exports, which is extremely important in the current macroeconomic conditions. This is another example of external influences on the state economy.

Observing these trends, highlight the fact that it is absolutely necessary to remain in the future on the Russian market, which is well known domestic producers.

But dependence on a single market, relatively unstable and unpredictable, is very vulnerable to foreign trade, eloquently demonstrated in the summer of 1998, when the Russian financial crisis caused not only a reduction in exports, but also led to the devaluation of national currency.

In this context, it highlights the need to address foreign trade trends, the evolution matrix of the process of globalization.

Thus, in developed countries, the share of the first trading partner does not exceed 20% of total foreign trade, the EU countries, this share is even lower - 15%. In the case of Moldova, the share of Russian foreign trade still remains at a very high - around 40%.

International trade volume in 2000 compared with 1950 has increased 16 times, while the gross world product indicators only 5.5 times.

Profit received from a commodity exchange any other, is established in all cases the value of goods purchased and not made. This profit is persistent and when a country can produce all goods much cheaper than other countries so the profit is based on principles of comparative advantages.

Note, that as export goods, mainly manifests all finished products and production factors as capital, labor, land, goods exported to a low yield.

The country that neglects the specialization required lost many economic advantages offered by participation in the international division of labor.

At the same time, the economy with a narrow specialization, monoculture, make the country a considerable dependence on changing conditions, often unpredictable world market.

With the current study, would be eloquent elucidation classification republic in global trade flows (by it and demonstrate the influences of globalization on the national economy), by the country's main trading partners.

In this context, illustrate the fact that only a quarter of Moldova's foreign trade partner is the European Union countries.

Character exports to the European Union have the following aspects:

- Dimensions of the EU market are one of the largest in the world. Moldova has a favorable geographical proximity to stimulate exports in this market. Moreover, other studies in this field, based on the use of gravity models indicate that normally in the absence of any

barriers, export volume would be much higher in this market;
- Moldova has a relatively small share of EU market, but growing steadily, that the competitiveness of products exported to this market has a trend of consolidation;
- The need for increased promotion of exports to the EU market stemming from the fact that these products have potential for development based on comparative advantages "elevated", which would allow an intra-industrial specialization of Moldovan exports.

Moldova's reorientation and the initiation of global business processes began in the years 1992-1998, when the republic was created a new geographical structure of foreign trade structure based on three main areas: CSI (the basis for Russia and Ukraine), EU (especially Germany, Italy, Netherlands and France) and Central and Eastern European countries - TECO (the basis for Romania).

The evidence, therefore, a change in the geographical structure of foreign trade (CIS decreases and increases the importance of the European Union), although a radical turning point for EU trade flows has not yet. However, when the event was, this trend takes its toll on the overall reorientation of the Republic of external flows, which is a key link with the rest of Europe and the rest of the world.

Such trends were recorded in 1998-1999 in the Baltic States: Estonia, Lithuania, Latvia (now members of the European Union) .

Partnership and Cooperation Agreement, entered into force in 1998 and Action Plan EU - Moldova (2004), provides important benefits to our country in its relations with the EU, but at the same time, the country is unable to fully exploit these advantages and opportunities.

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This proves to be real and on the grounds that such acts (including preferential tariffs granted by the EU our country) provides a minimum level in the context of deepening trade relations margin products that make up the majority of our exports (food, alcoholic beverages, tobacco products animal and vegetable kingdoms etc.).

On the other hand, goods which have benefited from special treatment were stimulated in the EU export: garments, fabrics and knitted garments, hides and skins, footwear and some alcoholic beverages. The list of imports include the automobile industry products (agricultural machinery, computers, etc..), textiles, medicines, cosmetics, and large quantities of cereals and grains, pasta, frozen meat.

In 2009, Moldova's foreign trade in agricultural and agro-food products covered over 100 countries. The total value of foreign trade in agro-food products amounted to US$ 1122,8 million, decreasing by 8,44% (US$ - 103,6 million) from 2008.

In 2009, Moldovan agricultural and agro-food products were exported to 80 countries with a total value of US$ 609,2 million, which is US$ 14,2 million more than the previous year. The main categories of agro-food products exported in 2008-2009 are shown below.

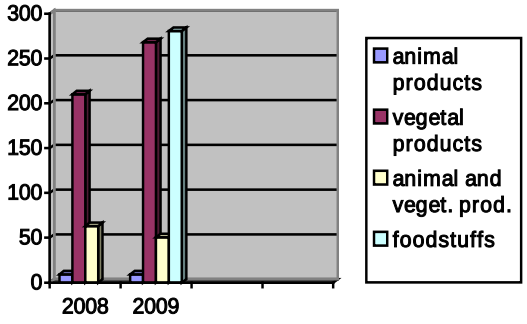

Figure 1 Export structure in 2008-2009
Source: adapted according www.statistica.md

Foodstuffs, alcoholic drinks, tobacco and tobacco products held the largest share of Moldova's total export in 2009, at US$ 281,0 million, or 46,1%, of total exports in 2008.

Plant products totaled US$ 268,4 or 44,1%, of total export, which is with US$ 58,3 more than in 2008. in this category of products sunflower seeds, walnuts, fruits and cereal crops account for the largest share.

Animal oils and fat have the share of 8,3% (US$ 50,7 million) of total export. This group

of goods decreased its share by US$ 12,2 million.
Exported livestock products totaled US$ 9,1 million (1,5% of the total value).
In early 2010, the meat processing industry worked 14 large and 70 medium and small units. Share of industrial products sector in the production structure in the country is 5.1%.
In the years 2001-2009, the value of meat production increased from 355.2 million MDL (2001) to 1104.5 million MDL (2009). In 2009, it has decreased by 24.8 percent from 2008. The main goods produced in the sector in 2009 were meat (including poultry) - 11 200 tonnes and sausage - 20.60 thousand tonnes. Total production capacity per year per branch is around 190-200 thousand tons of meat carcasses. Slaughter capacity is used for a yield of only 7.5 percent and the manufacturing of sausage - about 35-50 percent.
An important part of the raw material used in producing the meat industry is imported. Processing sector faces pork high internal costs, despite relatively high corn production and cheap labour. In addition, the quality of pork meat processing industry provided a problem will be solved in the future. Most of the pig is in private households, feeding and husbandry practices that have been weak and the genetic material is generally of poor quality, despite its subsidies in recent years.
Dairies hold 4.2% in the structure of industrial production in the country. In 2009, enterprises with main activity produced milk processing industrial production value of 1085.2 million MDL in current prices which represents an increase of 2.5 times compared to 2001 and a decrease compared to 2008 9% was achieved when the maximum production of 1192.4 million MDL.
The main dairy products in 2009 are the production of milk and cream with a fat content <6% - 67,100 tons, butter - 4.4 thousand tons, cheese and cream cheese - 2 300 tones and 7 3000 tons of ice. Over the last decade, processors have decreased by about 75 percent volume acquisition and processing of milk.
The main reason is the liquidation of large producers of raw materials, with the privatization of agricultural households. Although overall the country is producing annually about 570 to 600,000 tons of milk a commodity, a quantity that can be fully industrialized existing capacities, processing units collect and process only 25-30 percent of this volume.
Major problems in purchasing raw materials are under-capitalization sources (zones) of raw materials and poor technical equipment of the offices of milk collection. Another reason, no less important, which led to bankruptcy of many enterprises in the field, is the loss of traditional markets and under-equipping of milk processing units, which does not allow competitive production.
In 2009 the main share of exports of agro-food products went to CIS countries (54,1%), followed by EU countries (32,7%). During this period, the share of export to CIS countries increased insignificantly and those to European Union by 2,08%.

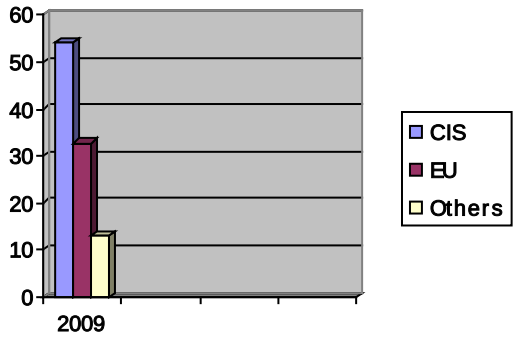

Figure 2 Geographical Trends of Exports in 2009
Source: adapted according www.statistica.md

The top ten export partners of the Republic of Moldova in 2009 absorbed 78,45% of total exports. These countries were the following: Russia – 30%, Belarus – 11,6%, Ukraine – 9,1%, Romania – 9,1%, Germany – 5,6%, France – 4,5%, Kazakhstan – 3,5%, Switzerland – 3,1%, Austria – 1,1%, and Turkey – 0,8%.

CONCLUSIONS

Traditionally it is considered that the real profits from trade can be obtained from export

more than import. Practitioners believe that consumers prefer domestic goods production and trade deficit presents a major economic problem. But theorists view the only question of enlarging the capital is received by importing raw material.

In conclusion we can say that the CIS market, the Republic of Moldova orientation focuses on the following basic directions:

- Republic of Moldova on this market share is declining, that our export competitiveness in this market is reduced, either because of non-economic factors that lead to the introduction of tariff and non tariff barriers, or because of economic factors (increasing competition from traditional products exported from the Republic Moldova in the CIS market architecture changes etc.).
- Structure of exports to CIS denotes obsolete forms of specialization of the Republic of Moldova, based on comparative advantages, the latter requires a specialized inter-branch and trade sectors.

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ANALYSIS OF MEASURES FOR ATTRACTING FOREIGN INVESTMENTS IN THE REPUBLIC OF MOLDOVA

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Abstract

The paper aimed to present the analysis of measures for attracting the foreign investment. The investments have an important role in the economy of a country, as they represent the material support of its social-economic development. They ensure the increase of fixed capital, technical and economic efficiency of the existing investments and also the creation of new working places. In this context the investments represent the decisive element of the economic growth, and of the intensive, qualitative and efficiency factors' promotion. In any economic, social or cultural field the investments are associated with the idea of development.

Keywords **:** *investment , Republic of Moldova, strategy for attracting, globalization.*

INTRODUCTION

The investments have an important role in the economy of a country, as they represent the material support of its social-economic development. They ensure the increase of fixed capital, technical and economic efficiency of the existing investments and also the creation of new working places. In this context the investments represent the decisive element of the economic growth, and of the intensive, qualitative and efficiency factors' promotion. In any economic, social or cultural field the investments are associated with the idea of development.

MATERIAL AND METHODS

During the investigation there were used such research methods as: analysis, monographic, statistic as well as other methods and procedures that allowed revealing the essence of the investigated problem.

RESULTS AND DISCUSSIONS

Globalization of production processes, with the globalization of trade, which is already done in previous decades, require new approaches, emerging global market share with new resources and new content internationals, in particular, information resources and capital. [1]

In this context, attracting foreign investment is an important component of economic policy in all states, the most advanced in this area are even developed countries. Investment incentive is to generate new economic activities and is done to obtain goods and services essential to a viable economy.

Mobilization of investment resources is one of the economic equation in favor of strategic objectives and expected development of any country. This process helps both to increase industrial output, improving national economic complex, the issues related to the upgrading of enterprises, but also the development of the regions (townships), implicitly solving social problems.

Naturally, as with countries in the region, this route is followed and the Republic of Moldova, attracting investment, along with export promotion as a primary priority of the Government, which is found in practically all papers and medium term strategic planning long - both at the national / inter-sectored (eg. National Development Strategy), and at how dedicated the main strategy document in this respect is to attract investment and promote exports for 2006-2015. The objective of attracting investment strategy is to ensure the

values that will allow increased production volumes and external competitive domestic and export potential of existing. Achieving this objective is to ensure diversification and restructuring the country's economy, increase competitiveness, to contribute to economic stability and create the basis for integration into the global economy.

In Moldova, foreign investments are mainly concentrated in manufacturing, electricity, gas and water, trade, repair of motor vehicles, motorcycles, household goods, financial activities, real estate, renting and business activities of enterprises. [2]

The largest amount of FDI coming in Moldova are allocated to sectors which produce goods or services for international market competition. On the other specialists say that due to foreign investment, many sectors such as mobile telecommunications, were virtually created from scratch, while others, such as production and distribution of electricity have been saved from collapse. However, in recent years, foreign companies have sales much higher than domestic ones. Statistics show that most often come from the Netherlands and Cyprus investment (accounting for over 30 percent). But experts say the figures do not show the real situation, since these countries are home to another home capital, including Russian, Romanian, Ukrainian (even Moldovan).

List of top 10 foreign investors is as follows (from 2001 to 2008):

- Netherlands EUR 181,820,000 million
- Cyprus 125.00 million
- Italy EUR 119 320 000 million
- Russia euro 73.86 million
- Germany EUR 56.82 million
- Spain 56.70 million
- United Kingdom EUR 52.73 million
- Romania EUR 45.57 million
- France EUR 36.28 million [4]

Thus in Moldova have launched several economic development projects, (we drew attention to those related to agriculture and rural development), funded by various foreign structures.

1. Agribusiness Development Project of CNFA, funded by USAID;
2. Rural Finance Project and Small Enterprise Development (International Fund for Agricultural Development);
3. Agricultural Revitalization Project (IFAD);
4.Moldovan-Lithuanian project "Strengthening the system of veterinary control and food safety of Moldova";
5. Increasing food production project 2KR Program account (Government of Japan) ;
6. Pollution Control Project in Agriculture (World Bank) ;
7. Rural Investment and Services Project (Phase II, 2006-2010);
8. Land Re-parceling project (August 2007 - February 2009);
9. Increasing the quantity and quality project for the Agricultural Products Export individual enterprise level (July 2007 - March 2009) ;
10. The project "Support to Rural Sector Development through Strengthening Capacity Advisory Service" (October 2006 - December 2009);
11. Pilot Program for Attracting Remittances in Economics, PARE 1 1 "for 2010-2012. [5]

Launch Pilot PARE was an inspired one international practice and adjusted to the reality of the Republic of Moldova and aims to develop sustainable business impact as both economically and socially. Thus, every lion invested in remittances will be substituted with a lion in the form of grants under the program.

This program is a challenge for Moldova and has a viewfinder support of Moldovan migrants to return the country to launch their own businesses contributed to the development of national economy.This project aims to: Mobilising human and financial resources Moldovan migrant workers in sustainable economic development of Moldova.

The main objectives of the project are:
• Increase awareness of migrants and recipients on business development opportunities in Moldova;
• Increasing the entrepreneurial skills among migrants and recipients;
• Encourage the establishment and development of SMEs by migrants and recipients;

• Facilitating the access of migrants and recipients to financial resources necessary to establish / SME development in Moldova.

PARE 1 a target group are migrant workers or their first degree relatives, who have a firm during the launch or development, with private capital and will obtain a grant for the establishment and business development within the Moldova. The program is implemented by the rule "1 +1", which states that every dollar invested in remittances will be substituted with a lion in the PARE. The maximum grant amounts to 200 thousand.

Participation in the program is carried out on a first come - first served basis. The migrant worker or relative degree of it can benefit from the provisions of "PARE 1 a" once as a founder or member of an enterprise.

Expected Results:

a) increasing the amount of investment (at least 200 million lei);
b) increasing the amount of remittances invested (at least 100 million lei);
c) create new business and developing existing ones, including 70% in rural areas;
d) creating new jobs (from 1500 up to 6000 new jobs). [3]

As a result of a program appears to help increase the volume of investment in the national economy, the creation and development of small businesses, including 70% in rural areas, reducing emigration and unemployment, leading to the improvement of living standards.

CONCLUSIONS

The role of foreign investment in a country's economy is indisputable: the chain of effects that they generate is reflected both on the production of goods and services, as well as consumption, saying supply and demand simultaneously.

All investment programs to help further development of the Moldovan economy, especially agriculture. Programmes should be transparent, be accessible.

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FISHERY PRODUCTION FROM ROMANIA, NATIONAL TRENDS AND PERSPECTIVES

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Abstract

This paper seeks two-dimensional aspects of the problem of fisheries development in Romania. These investigations were focused on the knowledge and interpretation of indicators relating to the dynamic part of the production, intermediate consumption and GVA / GDP, and on the other hand employment and productivity in this sector. The comparative forms found on paper deepened by methodologies based on elasticity, aimed at a foundation based on knowledge of the current situation of fisheries, but also of the influencing factors.

Keyword: fishing industry, influencing factor, output, intermediate consumption, GDP, productivity, flexibility.

INTRODUCTION

Fisheries sector development is essential to natural and geographical and social-economical conditions in Romania. The values given in the annual dynamics of the reporting period emphasize the two-dimensional aspect of the problem of the fisheries sector in Romania (the knowledge of the current situation and prospect of foundation of the development of this sector). It followed the development trend of the trend and Romanian fisheries correlative influences of the coefficients of elasticity that the level of knowledge and interpretation of key indicators of production and labor productivity have contributed to the knowledge of the current situation .

MATERIAL AND METHODS

To present the economical events of the fisheries sector in Romania, which followed the dynamics of the period 2004-2008, there have been raised groups of indicators in physical, value and percentage units. Knowledge of these sides was played sides from the annual output achieved, interim gross domestic product (GDP), the completion being achieved through participatory aspect of the labour force (expressed in days and hours) and its productivity in the fisheries sector. By determining the coefficient of elasticity, it was possible to make comparisons from 2004 and previous years of dynamic analysis. To know the influence production fisheries on all other indicators were determined by the elasticity coefficients.

Formulas $(E = \frac{\Delta y}{y} : \frac{\Delta x}{x})$,

with a fixed base (E), in chain (E ') and keeping constant the last year of dynamic analysis (E).

With the coefficients of elasticity (E, E ', E") has been determined the existence of forms of links between fish production factor considered independently made (x) and factor dependent (y). The methodology used was permissible, the dynamics of the years, the comparison can be assigned sequentially: E with a fixed basis of comparison was the first sub period (2004), E 'for comparison with the immediately preceding sub-period (year), E" in the sub-period of comparison was considered the last sub period (the year the value of the indicators analyzed were the highest). Effective forms of determining the coefficient of elasticity were carried out at

national level, enabling the production of knowledge influence the shape and intensity made on other indicators for each year between 2004 - 2008.

RESULTS AND DISCUSSIONS

The whole results of the fisheries sector in Romania, could be played two-dimensional:
a) static form that is based upon the interpretive dynamics of production levels and productivity indicators workers,
b) influence the shape and intensity of production undertaken on indicators presented above.

A) Evolution of main indicators production fisheries sector in Romania.

Table 1. Evolution of main indicators of production of the fisheries sector in Romania

Specification	UM	2004	2005	2006	2007	2008	2009
Production (physical)	t	13143	13352	12576	15106	16250	15202
	%	100,0	101,59	95,68	114,93	123,64	115,66
Production	mn MDL	58,5	67	79,6	96,2	164,7	... .
	%	100	114,52	136,06	164,44	281,53	... .
	% Previous year	91,4	107,20	105,4	107,7	140,40	... ...
Intermediate	mn MDL	44,7	53,2	63,5	70,3	120,30	... ...
	%	100	119,01	142,05	157,27	269,12	... .
	% Previous year	91,9	108,90	105,8	109,10	139,8	... ...
Gross domestic product	mn MDL	13,8	13,80	16,1	25,9	44,4	45,90
	%	100	100	116,66	187,68	321,73	332,60
	% Previous year	90,0	101,40	103,60	101,90	142,10	... ...

Source of basic data for calculation: Romanian Statistical Yearbook, 2010, INS.

Interpretation was based on the level of the production indicators and on the forms of intermediate consumption and GDP results, with the employment and productivity of it in fisheries sector.

At the national level, observing the key indicators of progress and its derivatives fishery production (intermediate consumption and GDP), shown in *Table 1*, the dynamics from 2004 to 2009, you can deduct the following:

- The physical production of fish in the dynamic analysis reveals increases. There is a difference in the growth rate for the physical production and value terms. Compared to 2004, growth in physical production is much lower than the expression in the form of value (growth in 2008 than in 2004, is in physical units of 23.64% and the value is in units for the same compared period is of 181.53%)
- Comparison to the previous year reflects the dynamics of production increases, but whose differences in annual rates are much lower;
- Analysis of the dynamics of intermediate consumption and GDP has grown in a different note from the year 2004 and the previous year.

Further analysis sought employment and its productivity as shown in *Table* 2.

Table 2 .Indicators of employment and labor productivity in the fish sector in Romania.

Specification	UM	2004	2005	2006	2007	2008
Employed population	thousands	... ...	3,8	2,3	3,4	2,7
	%	... ...	100	60,52	89,47	71,05263
Hours worked	thousand hours	... .	7593,8	5871,6	6327,1	5189,1
	%	... .	100	77,32	83,31	68,33
Annual labour productivity	Euro / day	6900	3631,60	7000	7617,6	13629,6
	%	100	52,63	101,44	110,4	197,53
Hourly Labour Productivity	lei / hour	3,5	1,8	2,7	4,1	7,1
	%	100	51,42	77,14	117,14	202,85

Source of basic data for calculation: Romanian Statistical Yearbook, 2010, INS

Different aspects have been presented such as:

- Employment expressed in thousands of persons and hours worked reflects the dynamics of 2005-2008, a decrease in their level. In this area, the number of people is

28,095% and the number of hours worked is - 31.67 %, decrease in 2008 compared to 2005;
- The annual and hourly productivity growth is found significant. For 2004 to 2008, the annual productivity per worker increased by 97.53%, while hourly productivity growth in the years of comparison is 102.85%. ;
- The fisheries sector in Romania here, it may deduct sides that can be significant, with reference to the following: an increase fish production and derived indicators, a decrease in employment and productivity growth.

B) Dependence relations between the indicators derived production and productivity in fisheries. Constitute elements of fisheries output achieved repercussions that can be analyzed over time (in the dynamic period 2004-2008), the national interdependence. *Table 3* dimensional form is rendered to the elasticity of factor influence retaliation annual fishery production (x), dependent on factors (y) intermediate consumption and GDP indicators.

Table 3. Elasticity manifested through the influence of production (x) on intermediate consumption and GDP (y) in the fisheries sector in Romania.

Year	Influence of production (x) of intermediate consumption (y)			Influence of production (x) the gross domestic product (y)		
	E	E '	E	E	E '	E
2004	0	0	0,97	0	0	1,06
2005	1,30	1,30	0,94	0	0	1,16
2006	1,16	10,91	0,91	0,46	0,88	1,23
2007	0,88	7,053	0,99	1,36	2,91	1,001
2008	0,93	39,96	0	1,22	1,003	0

*) 2008 recorded the highest value (year it was taken as a reference in the form of E"). Source of basic data for calculation: Romanian Statistical Yearbook, 2010, INS.

- *Influence of production (x) on consumption intermediate (y),* emphasize differentiation: the form of fixed base years analyzed, there is a direct dependence of equilibrium, the values being the average unit level (1.30> E> 0, 88). For the chain is a trend towards a clear direct dependence with an upward trend (1.30> E '> 39.96). Subunit level of elasticity coefficients whose values are based on year 2008, means the growth trend (0.97> E> 0.99) to achieve performance in 2008.
- *Influence of production* (x) *on GDP* (y), according to the three types of coefficients within the dynamics of comparative analysis that there is a steady trend of direct dependence (E> 0, E '> 0, E> 0). In the case of 2008 base of comparison, values close to unit level (1.23> E> 1.001), signifies a trend of faster growth.
- *Influence of production (x) on hourly productivity per worker (y),* given in *Table 4,* reveals the same period 2004-2008, annual differentiated aspects, but similar levels are found between the two forms of productivity. For fixed base and chain, the levels are negative (the production increase inversely, affects productivity). It implies the existence of other factors, which has a definite influence on productivity.

Table 4 . Elasticity manifested through the influence of production (x) on intermediate consumption and GDP (y) in the fisheries sector in Romania

Year	Influence of production (x) on daily productivity (y)			Influence of production (x) on hourly productivity (y)		
	E	E '	E	E	E '	E
2004	A	0	0,76	0	0	0,78
2005	-3,26	-3,26	1,23	-3,34	-3,34	1,25
2006	0,04	4,93	0,94	-0,63	2,65	1,19
2007	0,16	0,42	1,06	0,26	2,48	1,01
2008	0,53	1,10	0	0,56	1,02	0

*) 2008 recorded the highest value (year it was taken as a reference in the form of E"). Source of basic data for calculation: Romanian Statistical Yearbook, 2010, INS.

On the basis of the chain, most years there is a direct correlation trend (E '> 1), and for comparison base of 2008, positive values indicate that yields the same effect influences the level of productivity. Note that all these positive values in the three forms of elasticity used oscillating levels recorded in most cases.
The conclusion is that the yields achieved in the fisheries sector is very much correlated with the quantitative side of intermediate consumption and GDP and less than the

qualitative side, and hourly productivity per worker.

CONCLUSIONS

In the context of the presented fisheries sector in Romania, we can conclude the following:

1. Potential fish production in Romania should be taken more into account the developmental levels that reflect successive annual increases (which is the last year 2008 recorded maximum levels of analysis).
2. For the same sector intermediate consumption and GDP growth recorded also, but whose annual amplifications are much larger than those of production (peak levels recorded in 2008).
3. As a result of these trends has been questioned on both the production of knowledge, influenced by the results derived by the indicators, but also on employment in the fisheries sector. The shape and intensity influences the results, which was analyzed by the method of elasticity coefficients, which surprised differentiation of these influences.
4. The influence of production on intermediate consumption GDP, points out a direct dependency relationship, which resulted in a balance, but that can signal and an upward trend (with reference to the comparison year 2008 performance where there is an expansion of forms of expression between these factors).
5. The influence of production on productivity (per employee and hourly) means a direct correlation trend in the sense that yields the same effect influences the level of productivity. The mention recorded of oscillating values for most years, the trend of successive amplifications compared to 2008.
6. The work presented shows that the existing fisheries potential defines a quantitative aspect that is played through the possibilities of growth and national diversification sector, with the qualitative aspect revealed by the employment which can be quite effective. Both sides may be a way to revive the economy and increase fish productivity.

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THE IMPORTANCE OF INTEGRATING THE ENVIRONMENTAL INDICATORS INTO FINANCIAL AND ACCOUNTING PROCESSES

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Abstract

One of the main challenges of the economic crisis which is currently affecting humanity is to find solutions for the re-establishment of a sustainable economic growth in such way that the obvious environmental crisis is not deepened even more. This is why many specialists consider that the transition to an economy which is characterized by a low impact on the environment and an efficient use of natural resources would be now appropriate. In this context, active and voluntary instruments shall be identified and developed in order to assure as sustainable as possible economic and social activities.

Key words: *environmental accounting, National Accounts, economic performances, environmental indicators*

INTRODUCTION

The aim of any economic activity is to obtain profit, but in doing this, it has to take into account the need to protect the environment. In case that the contradiction between the natural environment and the economic growth deepens, the financial results obtained by companies and indicated by accounting become one of the main value levers, as well as the source of the budgeted incomes which are necessary for environmental protection. Therefore, profit may be considered as a source which contributes to the preservation of environmental quality and the protection of resources and a development source. This is why an environmental accounting is necessary to allow a better quantification of the results indicated by financial and accounting statements.

MATERIAL AND METHODS

The quantification of economic performances and the establishment of their interdependence with the ecological performance may be accomplished only by establishing several indicators which will be more comprehensive than the current ones and which will allow the measurement and analysis of economic activity related costs in the context of environmental preservation.
These indicators, being highly synthetic, are obtained based on the data supplied by the National Accounting which uses the National System of Accounts (NSA).
NSA includes a set of accounts which contain data with the help of which indicators as the following may be established: gross national product, added value and balance of trade. All the indicators used are based on a standard format which allows them to be compared at national and international level, and to establish the place which is occupied by each country.

RESULTS AND DISCUSSIONS

Although there is interest in environmental accounting, both at national and international level, regarding the establishment of some environmental accounts, it is difficult to establish the value and role of economic resources for the productive activity.
Here are some of the supportive arguments:

- Environmental expenses cannot be identified within the data from National Accounts;

- The use of natural capital is treated only as a depreciation of the physical capital without taking into account the regeneration capabilities of natural goods;
- Many of the environmental goods are evaluated only at their economic value, and other are under-evaluated because they cannot be sold on the market;
- Most of the environmental services cannot be sold on the market and this is why they cannot be evaluated in money. Thus, they are not included in the National Accounts.

As regards Romania, the establishment of accounts by which the economic use of the environment at national level is indicated is an answer to the failures of the existent National Accounts. They are supplemented by an integrated "economy-environment" accounting.

The Environmental Accounting at national level has four components:

- The accounts for environmental goods which indicate the natural resource base
- The accounts related to the flow of materials (energy and resources) in economy, which supply information at the level of economic activities regarding the use of energy and materials as inputs for production and final consumption, generation of pollutant emissions and waste
- The satellite accounts with expenses for environmental protection and resource management which identify the expenses from the National Accounting made by industry, public administration and households for the protection and management of environmental resources
- The macro-economical indicators adjusted with the environmental elements, and transformed into composed indicators, as sustainable development indicators or disengagement indicators.

Compared with the National Environmental Accounting, the Environmental Accounting for companies is focused on the cost structure and environmental performances of the companies. It is accepted by the managers of organizations as a response to the reduction of costs on the one hand, and the reduction of the impact of activities on the environment, on the other hand.

In order to minimize the environmental impact, information are necessary about the environmental costs related to the developed activities, this being in close relation with the tendency of organizations to implement environmental management systems. Many companies fail to identify the environmental costs and it is difficult to identify the environmental performance of such organizations.

On the one hand, through environmental accounting, companies can make a quantitative evaluation of the results of the initiatives regarding the change of the economic system in order to comply with the sustainable development requirements and, on the other hand, they may use the environmental accounting as an analysis method designed to increase the efficiency and the effects of their environmental protection measures.

Thus, in order to quantify the environmental protection efforts, the environmental costs has to be established. They are represented by the costs related to environment cleaning activities after the end of the production process or the costs related to the waste treatment, information that can be useful for the short term management.

The environmental costs include internal and external costs related to protection or an environmental damage repair. Thus, the internal costs are costs for waste generation, treatment and removal, being represented by the costs for diminishing or compensating the negative environmental impact of the company. The external costs include the social and environmental impact caused to other companies by its own activities. According to the "polluter pays" principle, these externalities have to be internalized in the organizations which produce them. They are in fact social costs. This is why the Environmental Accounting enforcement also depends on understanding the differences between private and social costs.

CONCLUSIONS

In conclusion, we can state that the environmental accounting is a vital instrument

for the management of a company, for managing the risks and environmental operating costs. The integration of environmental performances into the financial processes will take place only by using an environmental accounting system, and by including their results in the company documents, they will contribute to a better management of the phenomena which contribute to environmental protection: energy preservation, waste reduction, pollutant emission reduction etc.

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BEHAVIOR ANALYSIS OF SAVINGS AND CREDIT ASSOCIATIONS IN MOLDOVA'S ECONOMY

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Abstract

Small and Medium Enterprises (SMEs) play an important role in the economic life of a country. They are a main source of creating jobs, a breeding ground for new business ideas, and the main promoter of entrepreneurship. Consequently, strengthening small and medium enterprises is critical for competitiveness. However, to start or to grow a business requires money, and often, finding adequate funding is a major difficulty that small and medium enterprises encounter. Currently, non-bank credit institutions that provide financing services are represented by the savings and loan associations and microfinance organizations. Thus, development of those institutions can be beneficial by contributing to financing a higher proportion of rural areas , resulting in a revival of trade ,farming ,social sector ,handcrafts and other socio-economic sectors ,ultimately contributing to rural business development and social area.

Key words*: small and medium business, savings and credit associations,_non-banking institutions, financial indicators, entrepreneurship.*

INTRODUCTION

The SCA was created in Moldova in 1998, with the task of facilitating rural residents access to basic financial services such as deposit savings and loans, support for legal activities of their members to improve economic and social conditions. According to Law no. 139-XVI from 21.06.2007, Savings and Loan Association (SCA) has a special legal status of non-commercial organization, formed voluntarily by individuals and legal entities associated with the common principles, which supports its members savings deposits, provide loans and other financial services. This document is meant to contribute to the development of the SCA in terms of increasing the volume of savings, diversification of services provided, and increasing the independence from the attracted funds. [2]

SCA's aim to support the legal activities of its members to improve their economic and social conditions by providing extended services.

Principles of SCA are:

- Voluntary association of individuals and businesses by territorial, professional or religious interests, and freedom of dissolution in accordance with law;

- Personally or through a representative participation of its members in the management and control bodies, in accordance with law;

- Equality of members' personal non-property rights, regardless of the size of the membership, including the ownership by each member of a single vote in the governing bodies;

- Equal access to services for its members to accept savings deposits, lending and other services provided under the law, the category of license held, association's bylaws and policies;

- Minimization of the risk factor. The main requirements to be met by SCA are:

- The association can not have more than 50 members;

- The association is established for an unlimited period, unless the charter specifies otherwise;

-Annual profit, in case there is one, first

is directed towards the institutional capital, according to article 33 of the Law, then towards association reserves, in accordance with the current Law, with the regulations of the supervisory and the bylaws [1].

According to the SCA Law (new edition), which came in effect on 1 January 2008, the principles of association of members are voluntary, with a few exceptions provided by the law.

Central Association that will hold a license will be entitled to:

- provide services related to loans and loan associations;
- accept investments in its liquidity fund from associations;
- administer the fund;
- offer liquidity assistance from the fund to maintain association's liquidity.

In accordance with the law, the association will be entitled to give the associations the following:

- Trust and brokerage services to reserve funds and their placement in various financial instruments.
- Loan resources from the financial market and international organizations.

However, the central association will have to represent the association's interest in relations with institutions and private organizations, public authorities, including courts, as indicated in the law.

In turn, members of the central association will be entitled to receive loans, guarantees, and other services offered by the central associations, invest in the liquidity fund, to request and receive information on activities of central associations. At the same time, members of the central associations will be required to submit State share and other financial contributions set by statute, by the governing bodies of central associations, and by the regulations of the supervisory authority.[2]

MATERIAL AND METHODS

For the activity analysis of Saving and Credit Associations on the Republic of Moldova territory, the Statistics were used from the Department of the Statistics and Sociology of Republic of Moldova, National jury of financial markets which characterizes the dynamic evolution of these Associations.

RESULTS AND DISCUSSIONS

Currently, in the Republic of Moldova there are over 470 operational savings and loan associations, 98 percent of which are in rural areas. Typically, organizations don't have their own sources of borrowing and therefore go to creditors. This is how they get credit resources to further offer loans to its members. The bank loans are always secured, however almost all associations loans are unsecured. The average loan has increased in recent years to some extent, but still is small [3].

The analysis of the SCA during the years 2004-2010 shows confidence in the SCA system and services that are provided.

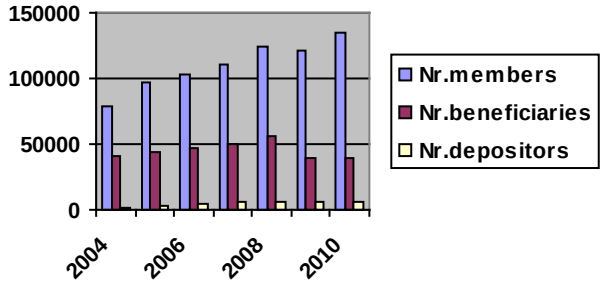

Fig.1. Evolution of the members, beneficiaries and depositors.
Source: author based on data developed by NCFM.

The outcomes show the following: by 2008 the number of SCA members increased from 78,900 up to 123,600 people or 1.57%, decreasing in 2009 with 1667 people, but in 2010 we see an increase of SCAs members by 12,947 or 11.1%. Regarding the number of loan recipients we can mention that starting in 2004 and by 2008 there is an increase of 38.5%, respectively comparing 2009 to 2008 there is a considerable reduction with 29.9% or 16,890 persons. In 2010 we can also mention a decrease of 819 persons. The number of depositors' savings decreased by 463 persons in 2010 compared with 2009 or a 7% decrease, from 6646 people in 2009 to

6183 people in 2010, increasing during 2004-2008, from 1685 to 6720
savings depositors.
According NCFM's data on SCA activity we can make an analysis of those groups which are characterized by indicators Table1.

Table 1: The main indicators of SCA activity (mil.$)

	Indicators	2007	2008	2009	2010 3rd quarter
1	Total assets	33,9	53,5	32,6	29,1
2	Loans	26,7	46,0	28,7	26,3
3	Equity	6,0	9,3	7,8	6,7
4	Savings deposits	6,8	7,2	6,3	7,6
5	Bank loans and loans received	16,7	32,3	16,0	12,7

Source: author based on data developed by NCFM.

Since 2009, we see that total assets fell by 3.5 million and constituted $ 29.1 million in 2010 compared to $ 32.6 million in 2009, due to the reduced demand for loans, the crisis imprint being felt on the SCAs activity. The largest amount of loans granted by the SCA was $ 46.0 million in 2008, then decreasing starting with 2009 from $ 28.7 million to $ 26.3 million in 2010, registering a decrease of $ 2.4 million. Equity of the associations decreases starting with 2009, from $ 9.3 million in 2008 to $ 6.7 million in 2010. According to this indicator we can state that SCA must pay attention to the capitalization process.
In 2010 the value of savings deposits attracted from association members was $ 7.6 million, a decrease of $ 1.3 million since 2009.
In Table 2 we present more detailed savings deposits by the due date.

Table 1: Savings by payment term (USD Million)

	2007	2008	2009	2010 3rd quarter
Up to 1 month	0,1	0,3	0,2	0,3
1 to 3 months	0,5	0,5	0,6	0,4
3 months to 1 year	6,0	6,2	4,9	6,2
1 to 3 years	0,2	0,2	0,6	0,7
3 to 5 years	0,0	0,0	0,0	0,0
Over 5 years	0,0	0,0	0,0	0,0
Total	6,8	7,2	6,3	7,6

Table 2: Savings Structure by payment term (%)

	2007	2008	2009	2010 3rd quarter
Up to 1 month	1,2	3,3	3,7	4,4
1 to 3 months	7,1	6,2	7,2	5,1
3 months to 1 year	88,1	87,3	78,6	81,9
1 to 3 years	3,6	3,2	10,4	8,6
3 to 5 years	0,0	0,0	0,0	0,0
Over 5 years	0,0	0,0	0,0	0,0
Total	100	100	100	100

Source: author based on data drawn NCFM.

According to the table we indicate that the majority constitutes savings deposits with maturity period of 3 months to 1 year and the lowest share is contributed to contracts for more than five years. Namely the need to ensure balance and maturity of loans shows that the SCA accepts savings deposits for periods of up to one year.

CONCLUSIONS

SCAs are in a new development period, which was started simultaneously with the changes to the Law on SCAs. Improvement of the statutes, getting the licenses of the new type, establishment of new norms of financial prudence and other regulations, are just some measures that help strengthen SCA system, efficient management of individual and systemic financial risks, protection of member rights, improvement of service quality and competitiveness of the financial market. The main factors that led to the deterioration of loan quality are: decreasing remittances, wages, job losses, lower revenues from the sale of agricultural products and other income. It should be noted that compliance with key indicators such as institutional reserves, liquidity, minimum requirements for limiting the risk of lending has ensured the stable development of the system of associations.
Having as the example the relevant practice in the area where this system is an element of sustainable microfinance of the rural area development, the process institutional strengthening and development of the savings and loan associations in Moldova should lead to their independence from external resources,

to the formation of strong associations to increase efficiency in their market.

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STRATEGIC AND OPERATIONAL DECISION ON TRANSPORTING GOODS

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Abstract

The purpose of the research is deepening into the strategic and operational decision when transporting products. Working methods used in this article are analysis and synthesis. Following the investigated materials the following ***results*** *were reached: The major objective of the strategy and the transport activities are to provide customers with required time, place and form facilities as, under the organization's convenient cost. Strategic decisions concern the targeting of transport activity for a higher period of time compare with tactical decisions (operational), witch pursue implementation of the strategies and give solutions to current issues of transport activity. As an important* ***conclusion*** *of this paper, he following must be underlined: for performing the transport strategy, the managers of transport activity are involved in a series of tactical and operational decisions.*

Keywords: *convenient cost, transport activity, tactical decisions, operational decisions.*

INTRODUCTION

Transport of products is an essential activity of individuals distribution, considered the most important component of logistics mix, it usually hold nearly two-thirds of the costs of all activities from logistics.
This domain requires making decisions with very high frequency, which often must be reconsidered at small intervals of time, due to a change in the existing restrictions upon adoption. [1]
Decisions on transport of products throughout the entered and the circuit of their impact on exercise for all in the logistics chain activities.

MATERIAL AND METHODS

The primary method used is that of investigation is national and international specialized literature.
Also paper has at based on methods of analysis and synthesis of information subject to research, scientific literature confirms that transportation of the goods is the best important component of logistics mix.

RESULTS AND DISCUSSIONS

The major objective of the strategy and transport activities is to provide utility customers time and place as required, using a convenient cost to the organization. This objective is in close correlation with a series of strategic marketing objectives, among which include: maintaining internal and external costumer loyalty firm gain competitive advantage, favorable positioning and market segment targeted, depending on the level of services provide. [3]
Strategic decision concern the direction of transport activity for a period of time greater than tactical decisions (operational) to implement the strategies and addressing current issues of transport activity. The chose of strategic alternatives of transport is influenced by many factors including**:** [1]

- **Type of product transported**, in terms of value, density and characteristics of product merchandising, as well as storage requirements**;**
- **Level of service required by customers**, in terms of cycle control, maintaining quality and integrity of the goods at the destination point information on the route where the goods and the estimated time until arrival at destination**;**
- **Component targeted logistics** supply raw materials, components and/or finished products, operation support activities,

physical distribution of goods to the final consumer**;**

- **Territorial area**, the degree of territorial dispersion of business users of transport, supply sources and customers, domestic and global markets**;**
- **Organizations resources** – financial, material and human resources available to the organization to develop its own transport and/ or those of third parties etc.

Main criteria considered for defining the strategy for the transport of goods are the following:

a. *Modes of transportation*, one of the most important strategic decisions is refer to the choice of appropriate transport modes. The range of existing option includes the following basic modes: rail, road, water, air and pipeline. Depending on the type of goods transported, customer requirements and feature modes, each organization will use one or more ways. Mode selection is based on the following main criteria: costs, transit times, consistency (variability), availability, flexibility, frequency and safety;

b. coordination modes of transporting. Any user of transport service can choose between calling the separate and unrelated to the alternative modes of coordination modes. Increasingly common, especially in international trade, is the option for via modal transport. Simply call in several modes, depending on the territorial scope, or type of customer is not essentially modal**.** Is required to provide door to door service, efficient cost-based special equipment (containers which can be easily transferred from one mode to another.

c. direct involvement in transportation activities. Every organization needs transportation services must adopt a major decision on the direct involvement of their resources in transportation activities**.** Possible variants are: dialing only transportation companies (organizations that have as main activity the transport of goods for different customers on a commercial basis), only their own transportation and alternative activities resulting from the combination in different proportions, the two alternative mentioned. Call your own fleet of vehicles has several advantages (1) increase control over transport; (2) savings due to the fact that the organization no longer bear the costs of calling the company to a carrier (e.g. Billing costs, terminal costs, etc.); (3) reducing losses and destruction of goods, a reduction in the number of manipulation; (4) use of vehicles as mobile storage mobile; (5) A mobile publicity, by public transportation. However, possession and operation costs of its fleet of vehicles can be a disadvantage.

d. number of transporters. Appealing to one or more carriers of the organization is a strategic decision in the case of modes characterized by competition. Reduce the number of carriers that has positive effects: increased bargaining power due to higher volume of goods transported by a single operator; facilitate tracking activity transportation and their performance, simplifying the administrative aspects of nature. *e. degree and method of consolidation*. Organization of the transport user may consider alternative delivery option in small or large quantities. Bulk products are usually transported in quantities' that allow you to use the full capacity of vehicles. Delivery of small parties of goods is often inefficient in term of costs, when it is done in-house.

For accomplishing transport strategy managers are involved in a series of tactical, operational decisions. Type of decisions is largely influenced by the degree of involvement of their resources in transport, is demand of the park and/or commercial basis. Among the most important operational decision to sing the following: [1, 2]

a. Transport selection - choosing transport solution, after evaluating potential suppliers of transport services, based on a set of cost and performance criteria;

b. Transport planning – depending on the needs of supply has the support of the organization of production and physical distribution;

c. Establishing routes – routes peccary definition will travel goods from point of origin to final point of distance, both in the carriers of the dial;

d. carrying out service commands– shipping and contact information in terms of point of

acquisition of goods, type of goods transported, the weight and volume of cargo, destination of goods;

e. speed transportation – the achievement of all sizes to ensure shipments arrive at a destination within a certain period of time and working with the carrier for this purpose;

f. redirecting transport – change the destination for a certain load, or during the movement, before it reached its destination or when he got to the point of destination and carrier notification about this decision;

g. tracking transport – to know where the cargo at some point on the route between the origin and destination.

Apart from the responsibilities arising from the strategic and operational decision presented transport activity managers are obliged to conduct a series of related activities, involved in meeting the objectives' set transport. Can be regarded as examples of transport budgeting, negotiating transportation rates, tracking payments to carriers, including such demurrage, claims for damages for loss or damage to goods during transport, creating an information system on the activity of other transport components of the logistics system.

CONCLUSIONS

1. Transport of products is one of the essential activities of physical distribution, considered the most important logistical component of the mix, it usually hold about two-thirds of the costs of all logistics activities.
2. Major objective of the strategy and activities of transportation and utilities to give customers time, place as required, using a convenient cost to the organization.
3. Main criteria considered for defining the strategy for the transport of goods are as follows: modes of transportation, coordination modes, direct involvement in transport activities, transport number, degree and method of consolidation.

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DEVELOPMENT OF ECOLOGICAL VEGETABLES AND DIVERSIFICATION PRODUCTION ON LOCAL MARKET

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Abstract

The purpose of the paper is to research the ecological vegetable growing development and study the product diversifying on the local market. The following methods were standing at the basis of article: analysis, deduction, synthesis, etc. The following results have been deduced after the research: organic vegetable growing is imposed today as a modern practice, with results that are based on scientific data which create a new life, work and agriculture conception, with increased efficiency and which can provide products in accord with customers' demanding requirements. Organic vegetable growing is a set of measures and methods that contribute to the realization of a new environmental quality in relevant ecological and economic conditions with agricultural products in large quantity, of high quality, obtained by "according to nature" methods, but with minimum material and energy costs. Several important conclusions may be drawn up after the research: organic vegetable growing involves maximum reduction of polluting chemicals use and the genetically modified plant neutralization for ensuring the maintenance of a biodiversity with a high biological productivity. It is a theoretical tendency for conditions in our country, but which need to be materialized in the future.

Keywords: *organic vegetable growing, environmental quality, agricultural products, genetically modified plants*

INTRODUCTION

Organic vegetable growing is developed in the world in a fast, efficient and beneficial rhythm. It is very difficult to precisely assess when the organic vegetable growing has been imposed worldwide. But all scholars recognize that the true "boom" of organic vegetable growing started in the 90s of the twentieth century. The development of this kind of vegetable growing presents a particular interest not only to professional experts, but also for organic product consumers. Moldova's soil and climate favorable conditions for the cultivation of a wide range of vegetable crops with increased ecological and biological value. The amount of certified organic vegetable products in the Republic of Moldova has always been increasing in recent years: in 2001 - 395 tons, but in 2005 - 3050 tons, increased 77.2 times. For the year of 2010 to 74,575 tons, an increase of 2.5 times. Organic vegetable growing supposes the maximum reduction of polluting chemicals use and the genetically modified plant neutralization for ensuring the maintenance of a biodiversity with a high biological productivity. It is a theoretical tendency for conditions in the Republic of Moldova, but which need to be materialized in the future.

Today it imposes as a modern practice, with results that are based on scientific data to create a new life, work and ecological agriculture conception, with high efficiency and which can provide organic vegetable products according to the consumers' demanding requirements.

MATERIAL AND METHODS

The material used for the purpose of the realized research pointed in analysis and interpretation data of specialization literature, the Agriculture journal - founder of Ministry of Agriculture and Food Industry of Republic of Moldova. An important place in the paper occupies the determining economic, theoretical and social measures of food products status, especially organic vegetables on the basis of theoretical, methodological

and practical analysis, adequate to the demands of economic competition.

The information on the importance of organic vegetable food was gained from a detailed study realized on the basis of the scientific literature in the field, of several periodicals and other sources. In terms of theoretical – scientific aspect the article has been made in the context of complex and systematic approach of economic competition concepts. Taking into consideration the complexity of research, to its realization it has been applied an expanded arsenal of scientific methods. In the present study were used the following methods and techniques for measuring the economic importance, supplying organic vegetable production:

It was found that both analysis and synthesis of studying the economic and food importance of organic vegetable production are based on studying and analyzing the factors influence divided on the results, but the common influence of all factors on the results is the synthesis. The research represents the knowledge process of phenomena by means of some methods, procedures, techniques, etc., and includes the whole of a large number of closely related actions, well-organized, thoroughly planned of data collection, systematization and processing, storage and retrieval, analysis and interpretation etc. of the necessary information for understanding and managing development processes of organic vegetable growing.

RESULTS AND DISCUSSIONS

The basic principle of organic vegetable growing is "to develop vegetable growing as a body and to consider it as an ecosystem that is being shaped in nature and constitutes an alternative to intensification, specialization and reliance on the use of chemicals".

Organic vegetable growing represents a set of measures and methods that contribute to the realization of a new environmental quality in ecological and economic conditions relevant to agricultural products in large quantities, high quality, obtained by "according to nature" methods, but with minimum material and energy costs.

Defined as a science, organic vegetable growing deal with the systematic study of material (living organisms and their living environment) and functional (intra relations and interrelations of material structures) structures of agricultural systems and with design and the management of agro ecosystems able to ensure, for a long time, the human needs of food, clothing and housing, without minimizing their ecologic, economic and social potential. Under the practical aspect, as an occupation, it represents the assembling activity of theoretical knowledge about nature and agriculture in sustainable technological systems based on material, energy and agricultural resources of the information systems. Organic vegetable growing emphasis on the use of appropriate management practices in place to introduce of some manufactured products out of the company, and also takes into consideration the fact that each region particularities requires well adapted systems to the specificity of this region. The main goal of organic vegetable growing consists in realizing food products with a high content of bioactive substances in order to not harm human health and the environment.

In terms of the food importance of vegetables produced in the "organic crop system" can be mentioned that the nutritional value is given of the same components above mentioned, but the quality is superior due to their "organic" obtained way.

From the economic point of view with reference to those above mentioned, there are very important essential differences:

• vegetable growing sector is most affected by pollution because of the intensive character, represented by: the multitude of species, varieties, hybrids, etc., performing successive and associates crops, as well as to obtain higher yields per area unit, and for all these they require the use of insecto-fungicids, stimulators, herbicides and chemical fertilizers;

• the productive potential of species and varieties should be maintained by other technological processes to replace the main

use of synthetic products (above mentioned) or greatly reduced and only those allowed by law in the field;
• in such conditions, the “organic” production have higher values compared with those obtained in the classical system;
• it is necessary and obligatory the crop rotation use – the most important technological aspect in an organic vegetable growing;
• cultures that define the intensity (associated and successive) are practiced taking into account the principles and rules of organic production;
• “organic” vegetable growing is practiced on more restricted areas, on small area farms in particular of "family" type;
• preparatory and maintenance land works must respect the imposed rules, reducing mechanical one and employing much more the manual labor force;
• mainly used varieties and hybrids with resistance to pathogen attacks and even local populations more adapted to environmental conditions in the area;
• the obtained yields are lower for the same crop, but also grown in classic crop, but revenues will be higher because the “organic” products are sold at higher prices;
• it is considered the future agriculture in order to preserve the "soil" and "man’s” health and that of the "planet".

Every human activity both in agriculture and outside it, must take into account "the laws of nature" and at least for now on to be" respected”.

We are already familiar with the persistent landscape in the agricultural products compartments from prestigious shopping centers. Extremely colorful and attractive vegetables, with the same photo cropped look in a magazine. It is a common image in the supermarkets, but already in the majority capital and province markets, too. Like most consumers’ opinions, that denotes the fact that many times these vegetables or fruits have almost nothing of their natural taste. The childhood taste of many middle age people scattered on the time waves, as sand castles on the riverbanks. Today, many companies are trying to attract their customers through food advertisements which they trade and which they say are ... "as the mother’s homemade". There are aspects of everyday life, which demonstrate that return to natural farming, which does not use chemicals is prior, as consumers are increasingly demanding.

Currently in the Republic of Moldova, it has not been an appreciation on the part consumers of organic or ecologic food yet. There does not exist shops which to sell these products. For the moment, at least of inertia, the hope to get closer to nature also remains in the market, at the peasants, but even here we do not know how "clean" these products are grown and bred. Times have changed in rural areas, too, and summer garden paradise, in holidays to grandparents, has disappeared. Thus, we risk every time you buy one product or another, and try to eat as natural and balanced as possible, avoiding as much as semi-cooked products, sugar, fats, food additives, even so as we can.

The deficit of high quality vegetable products have spurred European Union to put a special emphasis on the plants or animals production using ecologic procedures and encouraging those who wish to practice such a vegetable growing type. However, returning to these processes is not just simple, because the rules are very strict, so that the final product to be truly all-natural and organic.

CONCLUSIONS

Development of organic vegetable production in our country must be regarded as the most important way of reducing rural poverty in the Republic of Moldova, inhabited by about 60% of the total population and where young people go to other places to find a job paid a little. The deficit of quality vegetable products gives us real possibility:

1. To put an emphasis on achieving a balanced, sustainable and diversified agro-ecosystem to ensure the protection of natural resources, consumers’ health and life;
2. To not allow the application of any polluting technologies, the restrictive use of synthetic chemicals and vegetable practices;
3. To protect and enhance the diversity by choosing the types of crops and species that

may contribute to the harmonization of organic vegetable production with soil natural limits;

4. To achieve production structures and balanced crop rotations within which the main role to be given to the varieties with a high degree of adaptation and increased genetic resistance to diseases and pests, the application of modern technologies, both for crop production, which will satisfy their requirements, and varieties.

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STUDIES ON OPTIMAL ALLOCATION AND USE OF INVESTMENT RESOURCES

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Abstract

In the free market competitive system, the entrepreneurs' actions are competitive if they are efficient. By applying the method of dynamic scheduling, the optimal policy obtained by tabular calculation is upgrading in the first and third operating year, and no upgrading in the rest of the time horizon. The value of the allocated investments for the two years amounts RON 300 million. By adopting this policy, a maximum profit of RON 9179 million is obtained.

Keywords: *investment, optimization, upgrading, development strategies, dynamic scheduling*

INTRODUCTION

The extremely high responsibility of the investment decision is given by the role of investments in the economy of economic operators, their economic, financial, social impact, the limitation of investment resources, and the risks involved.
Before taking an investment decision, several inquiries, studies and calculations are made aimed to establishing the priorities regarding the allocation of resources in view of establishing the objectives which, for the economic operator are the most needed.

MATERIAL AND METHODS

The study was made for an agricultural product processing company and its aim was to prepare the development strategy for a period of five years.
For preparing and optimizing the strategy, the dynamic scheduling method is used for the optimal allocation and use of investment resources. The dynamic scheduling method is based on a sequential analysis of the decision-making processes by studying the phenomena in time, meaning dynamically. It can be used to optimize the use of investment resources in case that the development of activities may be affected by a decision which is aimed to the achievement of the objective specified by the economic efficiency criterion.
Optimizing the distribution of an investment fund over several projects with different production capacity development options, substantiating the optimal decision regarding the repair, upgrading or replacement of used equipment are only few of the problems which can be solved with the help of dynamic scheduling.

RESULTS AND DISCUSSIONS

Preparing and optimizing the development strategy of a company are based on the following conditions:
-value of the sold and cashed in production (Q) amounted RON 3.000 million;
-production costs related to the sold and cashed in production (C) were of RON 1.800 million
-the forecasted investments (I_t) for upgrading the fixed capital related to the sold production incomes were of RON 130 million.
Preparing and optimizing the strategy are based on two policies which can be adopted, increase of production with an average of 8 % yearly based on several organizational measures not involving investments or with 12 % by assigning an annual investment fund for upgrading the fix capital.

Within the first policy, a policy which is marked with E, the annual rate of growth for the investment costs (I_c) will be of 5 % in years 1, 3, 5 and of 4 % in years 2 and 4.
For the second policy, upgrading policy which is marked with M, the forecasted costs will increase starting with the first year as follows: 7 %, 10 %, 8 %, 10.5 %, 10 %.
The value of the annual investment necessary for upgrading which will be provided from own sources will be of RON 140 million, RON 150 million, RON 160 million, RON 162 million, RON 165 million.
Because the upgrading action which represents mainly the purchase of new equipment, takes place in each year of the horizon, the investments are not included in costs and appear separately in calculations.
The optimal policy for the development strategy of the company in the next five years will be modeled in tabular format.
First, the profit evolution in case of applying E policy for the entire horizon is established.

Table 1. Profit evolution in case of applying E policy

Indicators	Measure Unit	Initial state	Optimization horizon					Total
			1	2	3	4	5	
Q	million RON	3000	3240	3499.2	3779.1	4081.4	4407.9	19007.6
Iq	%	-	8	8	8	8	8	-
C	million RON	1800	1890	1965.6	2063.9	2146.5	2253.8	10319.8
I_c	%	-	5	4	5	4	5	-
I_t	million RON	130	-	-	-	-	-	-
P_h	million RON	1070	1350	1533.6	1715.2	1934.9	2154.1	8687.8

By applying the operating policy without upgrading the fixed capital, a profit of RON 8687.8 million is foreseen for the entire horizon. For optimizing the investment, M policy is applied with the allocation of annual investment funds. As shown, for each stage, the decision is based on its consequences on the remaining stages (of the remaining sub-horizon). For example, the optimal decision for year two is the one which maximizes the profit in 2-5 interval.

Table 2. Profit evolution in case of applying M policy - Step 1

Indicators	Measure Unit	Initial state	M_1	E_2	E_3	E_4	E_5	Total
			0	1	2	3	4	
Q	million RON	3000	3360	3628.8	3919.1	4232.6	4571.2	19711.7
Iq	%	-	12	8	8	8	8	-
C	million RON	1800	1926	2003	2103.2	2187.3	2296.7	10516.2
I_c	%	-	7	4	5	4	5	-
I_t	million RON	130	140	-	-	-	-	140
P_h	million RON	1070	1294	1625.8	1815.9	2045.3	2274.5	9055.5

By applying M policy in the first year of horizon, it was noticed that it positively influences the total profit which is increased with RON 367.7 million. Therefore, in the first year, the optimal policy is the upgrading policy.

Table 3. Profit evolution in case of applying M policy in year two - Step 2

Indicators	Measure Unit	Initial state	M_1	M_2	E_3	E_4	E_5	Total
				0	1	2	3	
Q	million RON	3000	3360	3763.2	4064.3	4389.4	4740.5	20317.4
Iq	%	-	12	12	8	8	8	-
C	million RON	1800	1926	2118.6	2224.5	2313.5	2429.2	11011.8
I_c	%	-	7	10	5	4	5	-
I_t	million RON	130	140	150	-	-	-	290
P_h	million RON	1070	1294	1494.6	1839.8	2075.9	2311.3	9015.6

It was noticed that the upgrading policy applied in year two has negative influences on the subsequent stages, generating a lower total profit than in the previous case. Therefore, in

year two, the non-upgrading operating policy is optimal.

Table 4. Profit evolution in case of applying M policy in year three - Step 3

Indicators	Measure Unit	Initial state	M_1	E_2	M_3	E_4	E_5	Total
					0	**1**	**2**	
Q	million RON	3000	3360	3628.8	4064.3	4389.4	4740.6	20183.1
Iq	%	-	12	8	12	8	8	-
C	million RON	1800	1926	2003	2163.2	2249.7	2362.2	10704.1
I_c	%	-	7	4	8	4	5	-
I_t	million RON	130	140	-	160	-	-	300
P_h	million RON	1070	1294	1625.8	1741.1	2139.7	2378.4	9179

The upgrading policy for year three generates a better situation for the entire horizon, so it is optimal.

Table 5. Profit evolution in case of applying M policy in year four - Step 4

Indicators	Measure Unit	Initial state	M1	E_2	M_3	M_4	E_5	Total
						0	**1**	
Q	million RON	3000	3360	3628.8	4064.3	4552	4916.2	20521.3
Iq	%	-	12	8	12	12	8	-
C	million RON	1800	1926	2003	2163.2	2390.3	2509.8	10992.3
I_c	%	-	7	4	8	10.5	5	-
I_t	million RON	130	140	-	160	162	-	462
P_h	million RON	1070	1294	1625.8	1741.1	1999.7	2406.4	9067

Because the total profit is lower than in the previous step, the optimal policy in year four is non-upgrading operation.

Table 6. Profit evolution in case of applying M policy in year five - Step 5

Indicators	Measure Unit	Initial state	M_1	E_2	M_3	E_4	M_5	Total
							0	
Q	million RON	3000	3360	3628.8	4064.3	4389.4	4916.1	20358.6
Iq	%	-	12	8	12	8	12	-
C	million RON	1800	1926	2003	2163.2	2249.7	2474.7	10816.6
I_c	%	-	7	4	8	4	10	-
I_t	million RON	130	140	-	160	-	165	465
P_h	million RON	1070	1294	1625.8	1741.1	2139.7	2276.4	9077

As shown in the method description, the decision taken in the last stage of the horizon is substantiated only by taking into account the objective of this stage and the optimization policy, by adding the optimal sub-policy of 1-4 sub-horizon to the optimal sub-policy of year five we obtain the optimal function.

CONCLUSIONS

1.The optimal policy obtained by tabular calculation is upgrading in years one and three and non-upgrading in the rest of the time horizon.

2.The last two tables show that the highest profit in year five is obtained in case of non-upgrading operation.

3.The value of investments assigned for the two years amounts RON 300 Million. By adopting this policy, a maximum profit of RON 9,179 million is obtained.

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THE INSURANCES SYSTEM IN THE AGRICULTURE OF MOLDOVA REPUBLIC

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Abstract

Agricultural activity in general, closely linked to climatic conditions controlled by man, by living organisms, the powerful economic interests of all parties involved so pronounced etc, it is considered as one of the highest risk level. Typically, this assessment includes both natural hazards and economic ones. Proceeding from this finding objective, modern agriculture in all countries has a well-defined object of insurance. Mechanism and contemporary instruments to ensure agricultural sector is widely diversified, taking as a basis for specific geographic diversification structure phyto sectors and / or livestock, the economic opportunities of participants in the insurance etc.

Keywords : *insurances, agriculture, subventios,risks.*

INTRODUCTION

The insurances sector from Moldova republic is poor developed. It is a valid affirmation especially for the rural middle. In Moldova the insurance of the agricultural production is subsidized by the state. In spite of the introduction of these subventions that challenged a stressed tendency of increasing of the raw insurance premiums starting with 2005 year, the agriculture remains on of the least ensured sectors. In 2008 the unbroken raw insurance bonus of agriculture insurances were ciphered to about 3 mln. Euro. Thus, the weight of the agricultural insurances from the insurances market is extremely reduced, making up only 5.4 percent from the total value of the collected raw insurance premiums. Moreover, only two companies of insurances guaranteed the risks in the agriculture in 2008 and namely “Moldasig” SRL and “Moldcargo” SRL.

MATERIAL AND METHODS

In order to relate the given problem it was analyzed the literature by speciality, the national Rapport of Human Development in Moldova Republic, the Statics National Office as well as the data of SRL “Super Agro”. As methods they were utilized the analysis, synthesis, table method, analytical method of calculation.

RESULTS AND DISCUSSIONS

The polices that cover the agriculture risks include drought, pouring rains, hail, inundations and different type of frosts. The first varies depending on the crop type as welled as on the covered risks and make up in average 3-5 percent from the accumulated sum Concerning “Moldasig” SRL, the compensations in the case of a loss raises in the total value of the insured loss minus appreciatively 20percent. The beneficiaries of the insurances market are mainly framers.

The system of insurance in the agriculture of Moldova is strong subsidized by the government. The subsidizing of the premiums includes the drought, hail, inundations, gales efrost, as well as the forced sacrificing of the domestic animals and poultry. The subsidized goods include sugar beet, maize, sunflower, tobacco, vegetable, wheat, autumn rape, barley vine, orchards, grapes fruits cultures and animals.

The table data reflect the subsidized premium volume as well as the planed sum in the budget for these subventions for 2006, 2007 and 2009 years.

In the case in which the insurances in the agriculture will obtain the popularity among the farmers, the actual conception of Moldovan system of the risk transferring will impose a substantial increase of the state expenses.

Table 1. The state subsidization of insurances in the agriculture

Indicators	Years		
	2006	2007	2009
The subvention (in percent from the premium costs)	50% - 60%	80%	70%
The allotted sum in budget for subventions (million leis)	3,7	15	25

Source: [2]

Together with the premium subvention of insurance in the agriculture, the government of the Republic of Moldova also foresees the exposed assistance in case of disaster.
In 2008, for example, the government allotted 15.3 million leis.
The insurances in the agriculture represent a real way of protection the agricultural crops and so the effectuated investments in this sector. At the same time, the potential of the agricultural insurances from Moldova Republic remains to be unaccounted, even if the state allots subventions in a size of 80 percent from the ensured sum of the crops and animals unfortunately, the big majority of small producers continues to ignore the agricultural insurances being a motive for which, even if the latest years the ensured agricultural surfaces increased, however these ones remain very small in comparison with the countries from west Europe. The latest five years the state allotted for the development of the system of subsidized agricultural insurances means in a total volume over 70 millions leis. So, in Moldova Republic are annually ensured up 450 agricultural producers. The insurance quota of the agricultural crops in 2008 made up 3.5 percent from the common portfolio and recorded an increase by 14.5 millions leis in comparison with 2007 year. In the period of 2005 - 2009 years the effectuated compensation level was a modest one and reached a quota of 20 -30 percent, in total being paid compensations in a volume of 45.44 millions leis.
At present, about 5 percent of the total surface of agricultural lots from Republic of Moldova is ensured. This weight is much decreased in comparison with the west of Europe. For example, in France are ensured more than 60 percent of agricultural surfaces, in Germany over 80 percent, but in Romania – appreciatively 20 – 25 percent from the total agricultural surface.
In Republic of Moldova as in other countries from Central Europe and Est one the insurance mechanism of the agriculture is made up from two constitutive parts: the insurance with the application of physical tools (irrigation systems, antihail, systems for flighting diseases and pests, etc.) and the insurance by applying the economical tools (Insurances Companies).
Unfortunately not all natural disasters (frosts, pouring rains, etc.) including the economical risks, may be counteracted by utilizing physical tools. The economical tools may be applied only after losses de facto of agricultural production, while the physical tools can not admit such lasses. From here it, results the necessity of a well symbioses organized symbioses both of the physical tools and economical ones of insurance of the agrarian sector.
The economical mechanism of insurances in the agriculture may be applied on the compulsory base or self willed. For the conditions of the market economy are specified voluntary aspects of the insurance relations. But the problem is constituted by the loss of money at the agricultural manufacturers for ensuring in time the agricultural production. Besides the high taxes of the insurance premiums based objectively on the similar exaggerated levels of the physical and economical risks. This problem caused a suddenly diminution in the period of reformation of the insurance services in the agriculture. Fir these reasons starting with 2005 year in Moldova Republic was

implemented in practice so – called subsidible insurance of the production risks in the agriculture, by the Law Concerning the subsidized insurance of agricultural production risks number 243 – XV of 5 July 2004.

Even if the last was for a longtime waited by the farmers and the insurance companies, the practical realization of the law named above is not so sample. As a principal cause is regarded the absence of a full information concerning the instrument and real possibilities of the subsidized insurance. First of all it means the detailed acquaintance of the agricultural producer with advantages of ensured agriculture. Besides the obtaining of the compensations in the case of appearance of the natural disasters, any ensured agricultural producers has more priorities regarding the access to the bank services the contracts conclusion of type "futures" so the access to the sale market more guaranteed, to the relations formation more stable with the purveyors of energetically resources, fertilizers, phytosanitary products, etc

The law adoption concerning the subvention of the production risks in the agriculture that foresees the allocation by the state of the subventions to the insurance of the agricultural production and animals generated the necessity of involving the companies of insurance in the development of the insurances market of the agricultural sector. The existent conditions at this moment determined the involvement a the insurance company in the insurance on the agricultural sector by the natural disasters and namely The National Society of Insurances "Moldasig". Consequently the presented examples on calculating the sums and insurance premiums will be estimated to the conditions of this company.

In the case in which are insured deux risks together it is applied the coefficient of reduction 0.8. On ensuring for 3 risks – the reduction coefficient 0.7.

If, for example SRL "Super Agro" insures 200 hectares of rape against the winter frosts the insurance sum will be calculated so:

Sum of insurance = surface * the planned harvest per ha * price of commercialization

Sum of insurance = 200 ha * 2500 kg * 3 leis = 2250 000 leis;

The premium of insurance = 1500000 * 6% = 135 000leis;

The quota of subventions = 135 000 * 80% = 108 000 leis;

The quota paid by SRL „Super Agro" = 108 000 * 20% =21 600leis.

Table 2. The premiums of insurance established by SRL „Moldasig" for the principal agricultural risks

Agricultural crop	Winter frosts, % from the insurance sum	Spring frosts , % from the insurance sum	Hail, % from the insurance sum	Excessive drought, % from the insurance sum
Autumn wheat	5%	-	3%	6%
Autumn barley	5%	-	3%	6%
Rape	6%	-	3%	6%
Sunflower	-	-	5%	6%
Sugar beet	-	3%	3%	6%
Maize	-	-	4%	6%
Orchards	-	7%	5%	-
Grapes	-	7%	5%	-
Vegetable	-	5%	5%	6%
Tobacco	-	3%	5%	6%

Source: [1]

CONCLUSIONS

1. The adoption on the Law Concerting the subsidization on the production risks in the agriculture that foresees the allocation by the state of the subventions on insuring the agricultural production and animals generated the necessity of involving insurances companies in the development of the insurances market of the agricultural sector. These companies are: the National Society of Insurances "Moldasig" and "Moldcargo" SRL;

2. The economical instruments may by applied only after the losses de facto of the agricultural production, while the physical instruments, can not admit such losses. From here it results the necessity of the well organized symbioses both of the physical tools and economical ones of insurance of the agricultural sector;

3. The potential of the agricultural insurances from Moldova Republic remains to be not accounted for reasons that the great majority

of agricultural producers continues to ignore the agricultural insurances.

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INTERNATIONAL TRADE WITH GARLIC

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Abstract

This paper presents the evolution of international trade in garlic, taking in discussion the issue of imports, exports and trade balance of the product at the level of continental units for the period 2005-2007. The work methods used were percentage and documentary that followed the presentation of actual data and a proper structuring for index at world level. For the average period, total world imports of garlic was 1,532,030 tons, a value that was based on continental holdings: 909,97 thou tons for Asia (59.40% of total), 20, 86 thou tonnes America (20.86% of the total), 238,23 thou tonnes for Europe (15.55% of the global total), 50,08 thou tonnes of garlic for Africa (3.31% of total) and 13.50 thousand tonnes Oceania (0.88% of total). The average period recorded a total of 1.595,7 thou tonnes exported garlic, the continents participate with: Oceania 0,6 thou tonnes (0.04% of total), 4,8 thou tonnes Africa (0.30% of total) Europe 10,57 thou tonnes (6.43% of total), 134,53th. tonnes America (8.43% of world total) and 1353,2 thou tonnes Asia (84.80% from world total).Total world trade with garlic in the considered period, recorded only excess levels: $ 99.5 million for the year 2005, $ 96.9 million in 2006, $ 51.2 million for 2007 and 82, $ 54 million average recorded for the period. Asia are the largest component of the global market of garlic.

***Keywords :** import, export, trade balance, deficit, surplus*

INTRODUCTION

International trade directly affects all national economies, their dependence on the world market manifested differently from one country to another or from one group to another, both in terms of exports and imports. The dependence of national economies for the world market is determined by the structure of production and the degree of specialization of its and by international and domestic market size [1]. Regarding the export of agricultural products, it should be understood that all commercial transactions by which plant and animal products - unprocessed or processed, in varying degrees - are traded on the foreign market [2]. Given the food functions and hence food consumption of vegetables and fruit can be said that these products depend on the morphological characteristics of species and part that are subject to consumption, the ripening and using stage, compared to that in which are harvest. Tests which horticultural products are subject to: visuals (color, size, shape), flavor and fragrance, taste qualities (sweet, bitter, acid), texture, hardness, fruitiness, etc. [3].

MATERIAL AND METHODS

In order to characterize the evolution of international trade, the following indicators were used: import, export (quantitatively expressed) and their trade balance. The period analyzed in this study is 2005-2007. The data, collected from www.fao.org, have been statistically processed and interpreted, building the trend line.

RESULTS AND DISCUSSIONS

Table 1 shows global imports of garlic, the actual values recorded in the period 2005-2007, taking into account all the global and continental levels: Africa, America, Asia, Europe and Oceania [4].
In 2005, the Oceania continent has recorded the lowest level of imports at 12,4 thousand tonnes (representing 0.89% of world total), the biggest being specific to Asia with 809 thousand tonnes (57.84%). Other continents

have registered in 2006 imports of: America 303 thousand tonnes (21.66% of world total), 224,6 thousand tonnes garlic Europe (16.06%) and Africa 46,7 thousand tonnes (3.55%).

Table 1. Garlic - World imports (2005-2007)

Specification	2005		2006		2007		Average 2005-2007	
	Th. t.	Str %	Th. t.	Str %	Th. t.	Str %	Th. t.	Str %
Africa	49,7	3,55	46,9	3,20	55,8	3,22	50,08	3,31
America	303	21,66	318,2	21,73	337,4	19,47	319,53	20,86
Asia	809	57,84	849,1	57,97	1071,8	61,85	909,97	59,40
Europa	224,6	16,06	236,6	16,15	253,5	14,63	238,23	15,55
Oceania	12,4	0,89	13,8	0,95	14,3	0,83	13,50	0,88
Total	1398,7	100,0	1464,6	100,0	1732,8	100,0	1532,03	100,0

Next year (2006) presented similary import situation, Asia recorded a rate of 849,1 thousand tonnes (57.97% of total worldwide 1,464,600 tons), America 318, 2 thousand tonnes (21.73%) Europe 236,6 thousand tonnes (16.15%), Africa 46,9 thousand tonnes (3.20%) and lowest level of the indicator beeing specific to Oceania with 13,8 thousand tonnes (0.95% of world total). The year 2007 presented in terms of import, a maximum levels for Asia of 1071,8 thousand tonnes (61.85% of those registered globally) and a minumum for Oceania of 14,3 thousand tonnes (0.83% of total 1732,8 thousand tonnes worldwide). America has been imported 337.4 thousand tonnes (19.47% of world total), Europe 253,5 thousand tonnes (14.63%) and Africa 55,8 thousand tonnes (3.22%). For the average period (Fig.1.) world total imports of garlic was 1532.03 thousand tonnes, a value that was based on continental holdings: 909.97 thousand tonnes for Asia (59.40% from total) America 20,86 thousand tonnes (20.86%), 238.23 thousand tonnes for Europe (15.55%), 50,08 thousand tonnes for Africa (3.31%) and 13.50 thousand tonnes Oceania (0.88%).

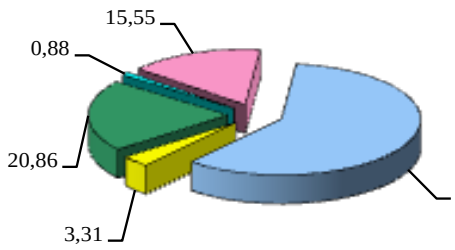


Fig.1. World Imports of Garlic - period average (structure -%)

Data on exports of garlic (thousand tonnes) in the period 2005-2007 are presented in Table 2 [4].

Table 2. Garlic - the world export (2005-2007)

Specificaretion	2005		2006		2007		Average 2005-2007	
	Th. t.	Str. %	Th. t	Str. %	Th. t	Str. %	Th. t	Str. %
Africa	3,5	0,23	4,0	0,26	6,9	0,40	4,80	0,30
America	123,3	8,14	130,1	8,51	150,2	8,61	134,53	8,43
Asia	1278,4	84,42	1297,0	84,87	1484,2	85,07	1353,20	84,80
Europe	108,6	7,17	96,4	6,31	102,7	5,89	102,57	6,43
Oceania	0,6	0,04	0,7	0,05	0,5	0,03	0,60	0,04
Total	1514,4	100	1528,8	100	1744,5	100	1595,70	100

In 2005, total exports registered worldwide for garlic was 1514.4 thousand tonnes, continents participating in its performance with levels of 0.6 thousand tonnes Oceania (0.04% of the world), 3.5 thousand tonnes Africa (0.23%) Europe 108.6 thousand tonnes (7.17%), 123.3 thousand tonnes America (8.14%) and 1278.4 thousand tonnes in Asia (84.42%). In 2006, the largest amount has been exported from Asia - 1297 thousand tonnes (representing 84.87% of total worldwide 1528.8 thousand tonnes), followed at long distance by America with 130.1 thousand tonnes (8.51 %), and Europe with a quantity of 96.4 thousand tonnes (6.31%), Africa has exported 4 thousand tonnes (0.26% of total) and, Oceania exported 0.7 thousand tons of garlic (0.05% of total). Next year (2007) found the situation remained unchanged at the continental level, the highest level of exports registered for Asia achieving 1.4842 thousand tonnes (85.07% of total), followed by America – 150.2 thousand tonnes (8.61%) Europe 102.7 thousand tonnes (5.89%), Africa – 6.9 thousand tonnes (0.4%) and Oceania with 0.5 thousand tons (0.03%). The period average (Fig. 2.) registered a total of 1595.7 thousand tonnes exported garlic, the continents attending: Oceania 0.6 thousand tonnes (0.04% of total), 4.8 thousand tonnes Africa (0.30%) Europe 102.57 thousand tonnes (6.43%), 134.53 thousand tonnes America (8.43%), 1353.2 thousand tonnes Asia (84.80%).

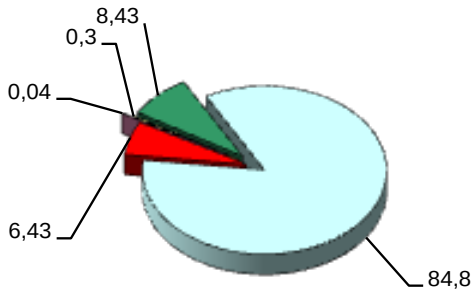


Fig.2. World export of garlic - period average (structure -%)

In Table 3 (Fig.3.) is analyzed the trade balance for garlic in 2005-2007, both globally and for the continents [4]. We can say that the African continent recorded an unfavorable situation for the entire period, the exports were below compared to imports, the deficit being: -21.2 million $ in 2005, -24.4 million $ in 2006, -28.5 million $ in 2007 and -24.7 million $ for the period average.

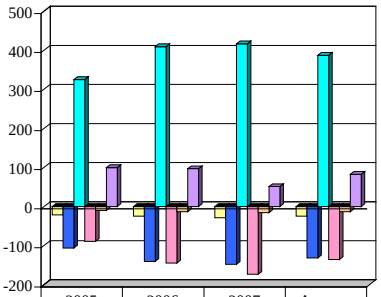
Table 3. Garlic - trade balance (2005-2007) - million $

Year	Ind.*	Continent					Total
		Africa	America	Asia	Europa	Oceania	
2005	E	1,8	116,4	601,3	202,5	0,9	922,9
	I	23,0	222,3	276,2	291,2	10,7	823,4
	±	-21,2	-105,9	325,1	-88,7	-9,8	+99,5
2006	E	1,9	124,9	833,0	232,3	1,0	1193,1
	I	26,3	265,1	413,8	376,8	14,2	1096,2
	±	-24,4	-140,2	409,2	-144,5	-13,2	+96,9
2007	E	3,5	157,0	891,3	268,6	0,9	1321,3
	I	32,0	305,0	474,7	442,0	16,4	1270,1
	±	-28,5	-148,0	416,6	-173,4	-15,5	+51,2
Media	E	2,40	132,77	775,20	234,47	0,93	1145,77
	I	27,10	264,13	388,23	370,0	13,77	1063,23
	±	-24,7	-131,36	386,97	-135,53	-12,84	+82,54

*E-export, I-import

On the American continent, the trade balance with garlic had a weak character, imports being higher than exports for the entire period analyzed: 105.9 million $ in 2005, 140.2 million $ for the year 2006, 148 million $ in 2007 and 131.36 million $ in the period average.

The trade balance for the Asian continent, recorded a surplus for the whole period, from 325.1 million $ in 2005 to 413.8 million from $ in 2006 and 474.7 million $ for the year 2007, therefore period average knows a surplus of 386.97 million $.



	2005	2006	2007	Average
Africa	-21,2	-24,4	-28,5	-24,7
America	-105,9	-140,2	-148	-131,36
Asia	325,1	409,2	416,6	386,97
Europa	-88,7	-144,5	-173,4	-135,53
Oceania	-9,8	-13,2	-15,5	-12,84
Total	99,5	96,9	51,2	82,54

Fig.3. Garlic - trade balance (2005-2007)

The largest deficit was registered for garlic in Europe, where imports exceeded exports by 135.53 million $ (on average), annual deficits determined value: 88.7 million $ in 2005, 144.5 million $ in 2006, 173.4 million $ for 2007. A situation on the trade balance deficit with garlic was recorded for Oceania: 9.8 million $ in 2005, 13.2 million $ in 2006, 15.5 million $ for 2007 and 12.84 million $ for period average. Total world trade with garlic in the period considered, recorded only exceeding levels: 99.5 million $ for the year 2005, 96.9 million $ in 2006, 51.2 million $ for 2007 and 82.54 million $ for the period average.

CONCLUSIONS

1. Analyzing the effective import of garlic in the world, it is observed that the level has increased from 1398.7 thousand tonnes in 2005 to 1464.6 thousand tonnes in 2006, and for the year 2007 to a record level of 1732. 8 thousand tonnes.

Among continents, the largest imports were made in Asia, which in 2007 recorded a level of 1071.8 thousand tonnes imported garlic (61.85% of the world that year) and the lowest share of imports being recorded in Oceania with 12.4 thousand tonnes in 2005 (0.89% of total annual), 13.8 thousand tonnes in 2006 (0.95% of the world). The African continent,

imported on average approximately 50 thousand tonnes.

2. With regard to exports is observed that 2007 was the most favorable in global exported 1744.2 thousand tonnes (15.2% compared to 2005), the largest share of exports was hold by Asia who owned 1484. 2 thousand tonnes of garlic (85.07% of total), followed by America with a level in 2007 of 150.2 thousand tonnes garlic (8.61% of the year).

3. The global trade balance with garlic, was excedentary for the period under review, exports exceeded the imports, the surplus was 99.5 million $ in 2005 of 96.9 million $ in 2006 and 51.2 million $ for 2007. This was due to specific state of affairs for Asia - the main force in the global market.

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THE SUGAR WORLD TRADE EVOLUTION

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Abstract

This paper presents the evolution of international trade in garlic, taking in discussion the issue of imports, exports and trade balance of the product at the level of continental units for the period 2005-2007. The work methods used were percentage and documentary that followed the presentation of actual data and a proper structuring for index at world level concerning the alimentary importance for sugar at world level. For the period average, the world's total sugar imports was 1014131 tonnes, a value that was based on continental contributions: 586,249.7 tonnes for Europe (57.81% of total), 232,484.7 tons for Asia (22.92 % Of the total), 152,403.3 tonnes for America (15.03% of the global total), 28,384 tons of sugar imported from Africa (2.80% of total) and 14609.33 tonnes for Oceania (1.44% of total). The average period recorded a total of 754,051 tons of sugar exported at the world, the continent contributing by: 4172 tons Oceania (0.55% of total), 10993.33 tonnes Africa (1.46% of total), 118,632.3 tons America (15.73% of total), 162,833.3 tons Asia (21.59% of world total) and 457,420 tonnes Europe (60.67% of the world).Total world sugar trade recorded only poor levels: -115 268 thousand $ in 2006, -166 151 thousand $ in 2007, -163 457 thousand $ for 2008, -148,292 thousand $ for average period . Europe is the main actor on the world sugar market (imported and exported quantities).

***Keywords :** import, export, trade balance, deficit, surplus*

INTRODUCTION

Higher increase in trade compared to world production, has resulted in doubling the share of exports and imports in world GDP after the Second World War. As a result the international trade issue among the global problems of world economy [1]. Exports of agricultural products is a general export part of engaging the national economy, covering the following objectives: to contribute to the world division of labor, free currency drawing, that contribution rates necessary for all economic agents in agriculture. Factors that influence the export of plant and animal products are: domestic market supply and demand of agricultural products (directly and indirectly supply for industrial production), demand and supply on the world market of agricultural products [2]. Regarding the trade in sugar is worth noting that growers want to get reasonable prices for the production of sugar beets delivered, while processors seek cheap supply of raw material. In this context the ability to import raw sugar duty-free import attracts more processors to buy raw sugar imported for processing, on the other hand, processors not consider attractive these imports because the relatively high transport costs, which is why accept restrictions on imports of raw sugar [3].

MATERIAL AND METHODS

In order to characterize the evolution of international trade, the following indicators were used: import, export (quantitatively expressed) and their trade balance. The period analyzed in this study is 2005-2007. The data, collected from www.fao.org, have been statistically processed and interpreted, building the trend line.

RESULTS AND DISCUSSIONS

Table 1 shows the global import of sugar in the actual values recorded in the period 2006-2008.

Table 1. Sugar - World imports (2006-2008)

Specification	2006		2007		2008		Average 2006-2008	
	Tonnes	Str. %	Tonnes	Str. %	Tonnes	Str. %	Tonnes	Str. %
AFRICA	32933	3,33	25479	2,45	26740	2,64	28384	2,80
AMERICA	127985	12,94	173724	16,69	155501	15,36	152403,3	15,03
ASIA	175055	17,69	233931	22,47	288468	28,50	232484,7	22,92
EUROPA	640001	64,68	594199	57,09	524549	51,83	586249,7	57,81
OCEANIA	13516	1,36	13521	1,30	16791	1,67	14609,33	1,44
TOTAL	989490	100,0	1040854	100,0	1012049	100,0	1014131	100,0

Sugar World Import si presented by continent: Africa, America, Asia, Europe and Oceania [4].

In 2006, the Oceania continent has recorded the lowest level of imports to 13516 tonnes (representing 1.36% of world total), the largest being imported to Europe by 640001 tonnes (64.68% of total world imports of 989,490 tonnes). Other continents have registered imports of 175055 tonnes in 2006 for Asia (17.69% of world total), 127985 tonnes America (12.94% of the world) and 32933 tons for Africa (3.33% of total). For next year (2007) sugar import situation are similarly, Europe recorded a rate of 594199 tonnes imported (57.09% of total worldwide 1040854 tons), Asia 233931 tonnes (22.47% of world imports) America 173,724 tons (representing 16.69% of the total), Africa 25479 tonnes (2.45% of the world) and the lowest level was recorded for Oceania with 13521 tonnes (1.30% of world total). The year 2008 presented in terms of extreme levels of imports following: maximum in Europe with 524549 tonnes (51.83% of those registered globally) and Oceania continent minimum 16791 tonnes (1.67% of total worldwide 1,012,049 tons), Asia has recorded 288468 tonnes (28.50% of world total), America 155501 tonnes (15.36%) and Africa with 26740 tonnes (2.64% of total). For the average period (Fig.1.) world total imports of sugar was 1014131 tonnes, a value that was based on continental contributions: 586249.7 tonnes Europe (57.81% of total),

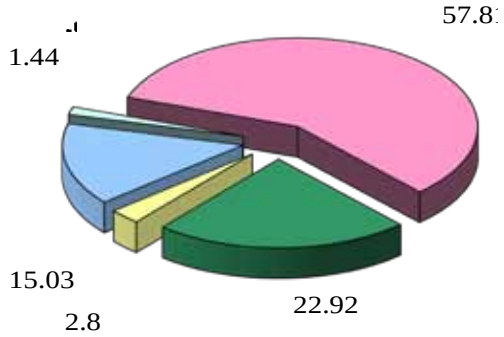

Fig.1. World Sugar Imports - period average (structure -%)

232484.7 tonnes Asia (22.92%), 152403.3 tonnes America (15.03%), Africa 28384 tonnes (2.80%), 14609.33 tonnes Oceania (1.44% of total).

Data on sugar exports - actual levels - in the period 2006 - 2008, are presented in Table 2 [4].

Table 2. Sugar - the world export (2006-2008)

Specification	2006		2007		2008		Average 2006-2008	
	tonnes	Str. %	tonnes	Str. %	tonnes	Str. %	Tonnes	Str. %
AFRICA	15955	2,04	8544	1,18	8481	1,12	10993,33	1,46
AMERICA	114766	14,68	111902	15,43	129229	17,10	118632,3	15,73
ASIA	139200	17,81	155685	21,47	193615	25,63	162833,3	21,59
EUROPA	509853	65,23	446327	61,56	416080	55,08	457420	60,67
OCEANIA	1871	0,24	2589	0,36	8056	1,07	4172	0,55
TOTAL	781645	100	725047	100	755461	100	754051	100

In 2006, total sugar exports recorded worldwide was 781645 tonnes, with continents participating in its levels with: 1871 tonnes Oceania (0.24% from the world level), Africa 15955 tonnes (2.04%) 114766 tonnes Asia (14.68%), 139200 tonnes America (17.81%) Europe 509853 tonnes (65.23%). For 2007, the highest level of exports was recorded for the European continent with 446327 tonnes (representing 61.56% of world total 725047 tonnes), followed by Asia at high distant - 155685 tonnes (21.47%), then America 111902 tonnes (15.43%), Africa with 8544 tonnes (1.18%) and Oceania with 2589 tonnes (0.36%).

In the following year (2008) the situation found at the continental level remained largely unchanged, the highest share of exports being reached in Europe 416080 tonnes (55.08% of total), followed by Asia, where 193615 tonnes were exported (25.63%), America 129229 tonnes (17.10%), Africa with 8481 tonnes (1.12%) and finally with 8056 tonnes Oceania (1.07%).

The period average (Fig. 2.) registered a total of 754051 tonnes of sugar exported, the continent contributing to its formation by: 4172 tonnes Oceania (0.55% of total), 10993.33 tonnes Africa (1.46%) 118632.3 tonnes America (15.73%), 162833.3 tonnes Asia (21.59%), Europe 457420 tonnes (60.67%).

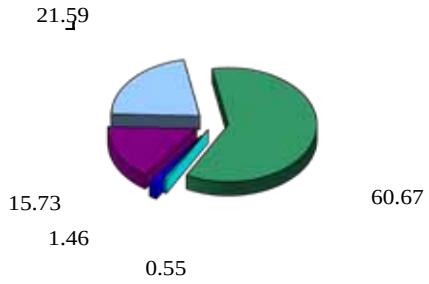

Fig.2. World Sugar Exports - period average (structure -%)

In Table 3 it is taking into consideration the sugar trade balance for the period 2006-2008, both globally and for each continent [4].

Table 3. Sugar - trade balance (2006-2008) - thousands. $

Year	Ind.*	Continent					Total
		Africa	America	Asia	Europe	Oceania	
2006	E	21771	62288	103011	389770	2657	579497
	I	35889	65462	131375	452230	9809	694765
	±	-14118	-3174	-28364	-62460	-7152	-115268
2007	E	14016	85578	127697	435990	3238	666519
	I	27892	85036	181922	526490	11330	832670
	±	-13876	542	-54225	-90500	-8092	-166151
2008	E	15157	87661	182965	485346	4713	775842
	I	30894	94960	234683	564457	14305	939299
	±	-15737	-7299	-51718	-79111	-9592	-163457
Average	E	16981,33	78509	137891	437035,3	3536	673952,7
	I	31558,33	81819,33	182660	514392,3	11814,67	822244,7
	±	-14577	-3310,33	-44769	-77357	-8278,67	-148292

* E-export, I-import

Thus we can say that for the African continent the situation was worse for the entire period, the level of exports is below imports, the deficit increased from -14118 thousand $ in 2006 to -15737 thousand $ in 2008, while in 2007 is register 13876 thousand $. The average period for the continent has recorded a deficit of -14577 thousand $. On the American continent the trade balance with sugar was poor in 2006 (-3174 thousand $) in 2008 (-7299 thousand $), and for average period (-3310,33 thousand $), only excess value is recorded in 2007 (+542 thousand $). Trade balance for Asia was poor for the entire period, the deficit ranging from -28364 thousand $ in 2006 to -54225 thousand $ in 2007 and -51718 thousand $ in 2008 (period average recorded a deficit of -44769 thousand $).

The situation for Europe was similar to that in Asia, sugar exports were lower than imports for the whole period under review: -62460 thousand $ in 2006, -90500 thousand $ in 2007, -79111 thousand $ for 2008 and an average of -77357 thousand $ (for the period taken into account). Oceania trade balance registered a deficit for the entire period, with: -7152 thousand $ in 2006, -8092 thousand $ in 2007, -9592 thousand $ in 2008, -8278,67 thousand $ for the average period.

Total world sugar trade recorded in the period under review, only weak levels (Fig. 3.) as follows: -115 268 thousand $ 2006 -166 151 thousand $ in 2007, and $ -163 457 thousand $ 2008, -148 292 thousand $ for the average period.

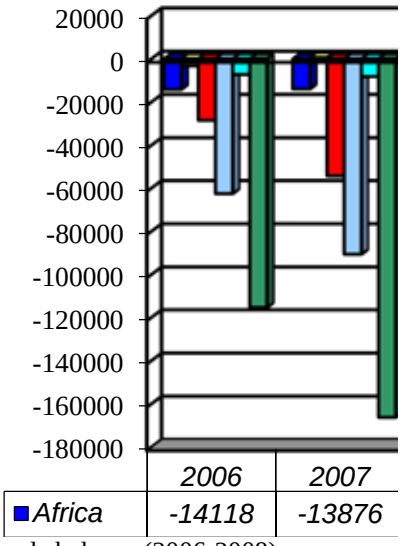

Fig.3. Sugar - trade balance (2006-2008)

CONCLUSIONS

1. Analyzing the actual import of sugar in the world, it is noted that the values recorded by the latter have increased from 989,490 tonnes in 2006 to 1040854 tonnes in 2007, and the record level for 2008 was 1012049 tonnes. On the continents, the largest imports were made in Europe, where the reference is the year 2006 to 640001 tonnes of sugar imported (64.68% of the world that year) and the lowest share of imports to 13521 tonnes characterized Oceania in 2007 (1.30% of total

annual) and 13516 tonnes in 2006 (1.36% of the total that year).

2. Regarding the exports is observed that 2006 was the most favorable worldwide with 781645 tonnes exported, the main actor was Europe with 509853 tonnes of sugar exported (65.23% of the yearly total), followed by Asia at distant 139200 thousand tonnes of sugar (17.81%) and America, which exported 114766 tonns of sugar.

3. The trade balance of the world sugar trade recorded a deficit in the period under review, exports are below imports, the deficit being: 115268 thousand $ in 2006, 166151 thousand $ in 2007 and 163457 thousand $ for 2008. Best situation occurs in the American continent, the only continent that has a surplus of 542 thousand $ in 2007.

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CONSIDERATIONS ON THE TRENDS OF THE ROMANIAN FREIGHT DURING THE PERIOD 1990-2008

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Abstract

The paper aimed to identify the trends in goods transport and its role in the economy during the period 1990-2008. In this purpose a specific system of indicators and modern statistical methods were used to process the data provided by National Institute of Statistics. Despite that in 2008, about 524,486 thou tonnes of goods have been transported, representing just 23.65 % of 2,217,198 thou tonnes transported in the year 1990, the contribution of transport to GDP increased from 6.26 % in 1990 to 11.04 % in the year 2008 and to employment from 7.04 % to 9.15 % in the same period of time showing that transport has an important role in the economy. The largest amount of goods is transported on roads, representing 69.10 % of total transported goods. Also, about 65.60 % of goods are transported on roads by private companies. While railways, roads and petroleum pipe-lines have become less important as means of conveyance, inland waterways, seawaterways and air transport have been developing faster. The correlation between the amounts of transported goods and transport contribution to GDP is a positive and a strong one , equal to 0.990 showing that the development of transport is an important factor for enhancing the economy. In order to develop transport in Romania, the following measures are imposed: modernization of infrastructure for assuring a faster moving of goods at lower transport costs, a better road tax procedure for enhancing SMEs as carriers, high quality services for developing a modern, efficient and safe transport and protect environment against pollution.

Keywords: *goods, Romania, trade, transport, trends*

INTRODUCTION

Transport is an important trade component assuring the goods movement from producers to consumers [2,5,6]. Transport does not represent only a link between various branches of the economy and trade between countries but also an important contributor to GDP and employment [7,8]. Without a transport network at global level, international trade can not be carried out and different geographical zones and regions of the world can not be integrated in the world circuit and can not benefit of globalization advantages [10,11,12].

Besides the techniques and productivity, the transport system and quality give their contribution to the competitiveness of the economy.

At microeconomic level, transport is a basic item of firm strategy with a deep technical and economic impact. Under the market globalization, transport has become a more and more stimulating factor due to its role in the logistics mix [9].

The operation of transportation determines the efficiency of moving products. The progress in techniques and management principles improves the moving load, delivery speed, service qualiyty, operation costs, the usage of facilities and energy saving [9] .

One of the keys to being competitive in a global economy lies in the ability to provide safe, efficient and low-cost transportation for goods and services [11].

Road transportation, mainly on convenient highway transportation network, has an important function in enhancing the regional economic development [12] .

Transportation plays a central role in facilitating economic activities across sectors and cycle research.

Transportation has to be an efficient activity and for this reason it is important to analysis this aspect permanently using a system of specific indicators [3].

The actual three big problems of transport are energy saving, environment portection and development of the economy [1].

In this context, the paper aimed to present an analysis upon the evolution of transportat sector in Romania during the period 1990-2008, using a specific sysytem of indicators and data provided by National Institute of Statitistics in order to identify the main trends, estimate the prospects of transportation and draw proposals for the development of this important sector in the economy [13].

MATERIAL AND METHODS

In order to set up this paper, the data have been collected from National Institute for Statistics for the period 1990-2008.The following indicators have been determined and analysed : transport contribution to GDP and employment, the amount of transported goods, number and capacity of various means of conveyance (railways, inland waterways, seawater ways, roads and ports), correlation between transport contribution to GDP and the amount of transported goods, share of agrifood products in total transport).

In this purpose, a large variety of mathematical and statistical methods have been utilized as mentioned below.

Fixed Basis Index(FBI) , according to the formula :

$$FBI = \frac{X_n}{X_0} \text{ x } 100 ,$$

Average (A) , according to the formula :

$$A = \frac{X_1 + X_2 + ...X_n}{n} ,$$

Variance or Dispersion of variables , S^2 according to the formula :

$$S^2 = \frac{\sum_{i=1}^{n} (X_i - \overline{X})}{n-1} ,$$

Standard Deviation , S, according to the formula:

$$S = \left(\sqrt{\frac{\sum_{i=1}^{n} (X_i - X)^2}{n-1}} \right)$$

-***Variation Coefficient*** , $V_{\%}$, according to the formula :

$$V_{\%} = \frac{S}{X} \text{ x } 100$$

-***Correlation Coefficient*** between Goods Transport and contribution of transport to GDP, according to the formula :

$$r_{xy} = \frac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

,

-***"T"Test for correlation coefficient ,*** according to the formula :

$$t = r\frac{\sqrt{n-2}}{\sqrt{1-(r)^2}} ,$$

-***Least Square Method of Regression Analysis ,*** based on linear regression function :

Y = a + bx , where Y = contribution of transport to GDP, the dependent variable and X = goods transport, the independent variable . The coefficients "a" and "b" have been calculated solving the two normal equations given below:

$$\sum y = an + bx ,$$

$$\sum xy = a\sum x + b\sum x^2 ,$$

and using the formulas:

$$a = \frac{\sum y \sum x^2 - \sum x \sum xy}{n\sum x^2 - (\sum x)^2}$$

$$b = \frac{n\sum xy - \sum x \sum y}{n(\sum x^2) - (\sum x)^2}$$

RESULTS AND DISCUSSIONS

Transport Contribution to GDP. As an important branch of the economy, transport sector plays a special role contributing to GDP. In the period 1990-2008, the share of transport in GDP has grown up from 6.26 % in 1990 to 11.04 % in the year 2008. The absolute figures are more convincing showing that transport contribution to GDP has continuously increased from ROL Billion 494 in the year 1990 to Lei Million 50,606.3 in 2008. Compared to GDP dynamics, the increased rhythm of transport contribution to GDP is 4 times higher reflecting a substantial development of sector so important both at macro and micro economic level . In 2008, Romania's GDP accounted for Lei Million 458,489.4 compared to ROL Billion 788.3 in the year 1990 (Table 1).

Table 1.GDP from Transport, Storage and Communication

	ROL Billion		Lei Million current prices			2008/1990 %
	1990	1995	2000	2005	2008	
GDP	788.3	66,598.5	72,736.4	255,232.7	458,489.4	58,161.8
GDP from Transport	49.4	5,576.6	7,598.7	29,345.8	50,606.3	102,441.9
Share of Transport in GDP (%)	6.26	8.37	10.44	11.49	11.04	176.4

Transport Contribution to Employment. In the field of transport, in 2008, about 801 thou persons were employed , by 4.84 % more than in 1990. At national level, the number of employed persons has continuously decreased from 10,840 thou persons in 1990 to 8,747 thou persons in 2008, showing that in the last year of analysis this number was by 20 % less than in 1990. As a consequence, the contribution of transport to civil employment has grown up from 7.04 % in 1990 to 9.15 % in 2008 (Table 2)**.**

Table 2.Transport Contribution to Civil Employment (thou persons)

	1990	1995	2000	2005	2008	2008/1990 %
Employment in Economy	10,840	9,493	8,629	8,390	8,747	80.69
Employment in Transportation, Storage and Communication	764	556	493	508	801	104.84
Share of Transportation in Economy Employment (%)	7.04	5.85	5.71	6.05	9.15	129.97

The Amount of Transported Goods by Transportation Means of Conveyance has registered a continuous decline during the 18 analysed years. In 2008, about 524,486 thou tonnes of goods have been transported, representing just 23.65 % of 2,217,198 thou tonnes transported in the year 1990. However, the situation of transportation by means of conveyance is different from a mean to another. While railways, roads and petroleum pipe-lines transport have deeply decreased, inland waterways, seawaterways and air transport hav become more important. Compared to 1990, in 2008, the goods transported on roads were by 81.16 % less, on railways by 69.52 % less and via petroleum pipe-lines by 47.25 % less. At the same time, the amount of goods transported via inland waterways, seawaterways and air have doubled their figures compared to 1990 (Table 3). The reason of these trends is transport costs and the lack of corresponding infrastructure in railways and roads. Goods transport is cheaper on inland waterways and maritime transport and faster par avion.

Table 3.Goods Transport by Means of Conveyance (thou tonnes)

	1990	1995	2000	2005	2008	2008/1990 %
Railways	218,828	105,131	71,461	69,175	66,711	30.48
Roads	1,934,362	616,044	262,943	306,994	364,605	18.84
Inland waterways	16,719	11,697	19,959	33,648	30,295	181,20
Maritime	23,802	37,610	25,469	47,694	50,458	211.99
Par avion	-	14	16	20	27	192.85
Via Petroleum Pipe-lines	23,487	16,183	16,354	12,804	12,390	52.75
Total Transport	2,217,198	827,216	388,656	470,909	524,486	23.65

The Evolution of Goods Transport by Ownership. Public sector is still important in railways transport, petroleum pipe-lines and air transport and private sector is stronger in goods transportation on roads, inland waterways and seawater ways (Table 4).The largest amounts of goods are transported on roads, representing 69.10 % of total transported goods. Also, about 65.60 % of goods are transported on roads by private companies.

Number of Means of Conveyance and Transport Capacity. In the period 1995-2008, the number of locomotives and wagons for goods transport and the capacity of

railways has continuously declined as well as in case of maritime transport because many ships were sold. But, the number of ships without propulsion for goods transport and tug boats and pushers increased in 2008 compared to 1995 reflecting the development of inland waterways trade (Table 5).

Table 4.The Amount of Transported Goods by Ownership in 2005 and 2007 (thou tonnes)

	Total Transport		Public Sector		Private Sector	
	2005	2007	2005	2007	2005	2007
Railways	69,175	68,772	55,236	49,559	13,939	19,213
Roads	306,994	356,669	35,919	18,066	271,075	338,603
Inland waterways	16,532	14,975	129	390	16,403	14,585
Maritime	65	49	-	-	65	49
Par avion	6	5	4	4	2	1
Via Petroleum Pipe-lines	13,378	12,310	13,378	12,310	-	-

Table 5.Number and Capacity of Rail, Inland Waterways and Sea Transport Means of Conveyance

		1995	2000	2005	2008	2008/2005 %
Railway Transport						
Locomotives	Number	4,370	3,448	2,061	1,907	43.6
	Capacity –thou HP	11,876	10,614	7,259	6,750	56.8
Wagons for Goods Transport	Number	141,867	107,708	58,951	47,420	33.4
	Capacity –thou tonnes	6,364	4,942	2,733	2,177	34.2
Inland Waterways Transport						
Ships without propulsion for Goods Transport	Number	1,064	1,713	1,184	1,221	114.7
	Capacity –thou tdw	1,507	2,254	1,563	1,553	103.0
Tugboats and Pushers	Number	246	929	241	256	104.1
	Capacity –thou HP	295	485	307	243	82.4
Maritime Transport	Number	255	192	36	27	10.6
	Capacity –thou tdw	5,970	1,809	176	103	1.7

The Number of Railways in Operation was by 5 % lower in 2008 in comparison with 1990, but more efforts were made to electrify new railways so that in 2008, their number was by 7.9 % higher than 18 years ago. At present, about 36.8 % of railways are electrified in Romania compared to 32.4 % in 1990. However, the bad infrastructure, the high costs of repairs and modernization have determined the abandon of some railways (Table 6).

Table 6. Railways under Operation

	1990	1995	2000	2005	2008	2008/1990 %
Total Railways	11,348	11,376	11,015	10,948	10,785	95.03
Electrified	3,680	3,866	3,90	3,999	3,974	107,9
Share of Electrified (%)	32.4	34.0	35.9	36.5	36.8	113.5

The Amount of Goods Transported on Railways has registered a decline, firstly, because the diminished production in various sectors and then because of the bad infrastructure, reduced transport speed and high costs. In 2007, about 66,711 thou tonnes of goods were transported on railways by about 70 % less than in 1990.

The share of agro-food products in railways transportation has been diminished gradually from 8.81 % in 1990 to 2.17 % in 2007, because of the reduced agricultural production and also because road transport has become more and more important for perishable agro-food products (Table 7).

Table 7. Amount of Agro Food Products and Goods Transported on Railways (thou tonnes)

	1990	1995	2000	2005	2007	2007/1990 %
Total	218,828	105,331	71,461	69,175	66,711	30.5
of which Agro-food Products	19,296	7,254	3,535	2,670	1,452	7.5
-Cereals	7,976	2,869	1,290	773	257	3.2
-Potatoes, vegetables, fruit	828	136	71	53	3	0.4
-Live animals, Sugar Beet	2,687	25	3	-	-	0
-Wood and Cork Synthetic snd man made textile yarns an products, other raw materials of animal and vegetal origin	729	402	240	154	161	22.1
Food and Feedstuffs for animals	5,516	1,955	1,337	1,369	926	16.8
Oleaginuous Seeds, fruit and fats	1,560	1,867	594	321	105	6.7
Share of AgriFood products (%)	8.81	6.88	4.95	3.85	2.17	246

The Amount of Goods Transported on Roads has become more important because of higher speed provided by high performance and higher capacity vehicles. In 2008, for example, about 364,605 thou tonnes were transported on roads, by 2.2 % more than in the previous year. While the national transport has increased by 2.6 %, international transport declined by 5 % due to the reduced Romanian goods export. Another remark is the fact that both goods import and export have declined, while transit transport has become 7.8 times better developed. About 95.2 % of total road transport is represented by national transport (Table 8).

Table 8. Amount of Goods Transported by Roads (thou tonnes)

	2007	2008	2008/2007 %
Total Goods Transported on Roads	356,669	364,605	102.2
-National Transport	338,279	347,132	102.6
-International Transport	18,390	17,473	95.0
- Import	8,388	7,441	88.7
- Export	9,800	8,440	86.1
- Transit	202	1,592	788.1

The Amount of Agro-Food Products Transported on Roads. In the year 2007, of the 356,669 thou tonnes of transported goods, agro-food products represented 40,841 thou tonnes, that is 11.45 %. The main agro-food products transported on roads, in the decreasing order of their importance, are: food and animal feedstuffs (34,135 thou tonnes), cereals (4,664 thou tonnes), potatoes, other vegetables and fruit (840 thou tonnes), live animals and sugar beet (654 thou tonnes) and other products, textiles etc (548 tonnes).

The Amount of Goods Transported through Ports accounted for 78,353 thou tonnes in 2007, of which 6,368 thou tonnes represented agro-food products, that is 8.12 %. The maritime transport is used much more compared to inland waterways port transport. The share of agro-food products transported through inland waterways ports is 9.13 %, higher than on seawater ways (Table 9).

Table 9. Amount of Goods Transported through Ports in 2007 (thou tonnes)

	Port Transport	Maritime Transport	Inland Waterways Transport
Total Port Transport	78,353	48,928	29,425
-Agro-Food Products	6,368	3,680	2,688
Share of Agro-Food Products (%)	8.12	7.52	9.13

The Amount of Goods Transported through Airports has increased by 65.76 % from 16,099 tonnes in the year 2000 to 26,686 tonnes in 2008 (Table 10).

Table 10. Amount of Goods Transported through Airports (tonnes)

	2000	2005	2008
Freight and Mail	16,099	20,226	26,686

The Correlation between Goods Transport and Transport Contribution to GDP. Considering the values for the period 2000-2008 for transport of goods in Million tonnes and transport contribution to GDP in terms of Lei Billion, the average values, standard deviation and variation coefficient were calculated and presented in Table 11.

Table 11. Average Values, Standard Deviation and Variation Coefficient for Goods Transport and Transport Contribution to GDP in the period 2000-2008

	Average	Standard Deviation	Variation Coefficient (%)
Amount of Transported Goods (Million Tonnes)	26.211	14.705138	56.10
Transport Contribution to GDP (Lei Billion)	0.452	0.0533329	11.79931

The average amount of transported goods accounted for 26.211 Million tonnes in the period 2000-2008, with a very high variation coefficient, meaning that there was a large variation among variables from a year to another. The average transport contribution to GDP was Lei Billion 0.452 in the same period of time, with a small variation coefficient, 11.79931 %, reflecting that the average is very correct.

The correlation coefficient between these two important indicators was a positive and a very strong one, r = 0.990, showing that the more goods are transported, the more contribution is given by transport to GDP.

Forecast of Transport Contribution to GDP. Considering the two indicators, X=independent variable, amount of goods transport and Y= dependent variable, transport contribution to GDP, and based on linear regression, reflecting the direct relationship between them, according to the formula: y= a+ bx and using the normal equations system :

$$\sum y = an + bx \quad ,$$

$$\sum xy = a\sum x + b\sum x^2 \quad ,$$

in which we introduced the corresponding values, we obtained:

4.07= 9a + 235.9 b

112.895 = 235.9 a + 7,913.13 b

The values for the parameters a and b were : a= 2.0390662 and b = 0.003593.

As a result, the regression function has become:

$Y = 2.0390662 + 0.003593 X$

Based on this regression function and considering that the goods transport will continue to increase by 26.211 million tonnes every year, the values of the estimated transport contribution to GDP for 10 years for the period 2009-2018 are the ones presented in Table 12.

Table 12. Forecast of Transport Contribution to GDP depending on the Increase of 26.211 Million tonnes of Goods Transport per year in the period 2009-2018.

Year	Y=Transport Contribution to GDP (Lei Billion)	Year	Y=Transport Contribution to GDP (Lei Billion)
2009	2.1332423	2014	2.6041228
2010	2.2274184	2015	2.682989
2011	2.3215945	2016	2.792475
2012	2.4157706	2017	2.8866511
2013	2.5099467	2018	2.9808272

Therefore, for an increased amount of transported goods by 26.211 Million tonnes per annum in the period 2009-2018, the transport contribution to GDP will grow up by Lei Billion 0.0941761 annually, so that in the year 2018 it could account for Lei Billion 2.9808272.

CONCLUSIONS

1.In 2008, about 524,486 thou tonnes of goods have been transported, representing just 23.65 % of 2,217,198 thou tonnes transported in the year 1990.

2.The contribution of transport to GDP increased from 6.26 % in 1990 to 11.04 % in the year 2008 and to employment from 7.04 % to 9.15 % in the same period of time showing that transport has an important role in the economy.

3.The largest amount of goods is transported on roads, representing 69.10 % of total transported goods. Also, about 65.60 % of goods are transported on roads by private companies.

4.While railways, roads and petroleum pipe-lines have become less important as means of conveyance, inland waterways, seawaterways and air transport have been developing faster.

5.The correlation between the amounts of transported goods and transport contribution to GDP is a positive and a strong one, equal to 0.990 showing that the development of transport is an important factor for enhancing the economy.

6.Despite that the decline in goods transport was also caused by the difficulties the Romanian economy is passing through, there are other factors which could be used for strengthen transport sector. In this respect the following measures are imposed: modernization of infrastructure for assuring a faster moving of goods at lower transport costs, a better road tax procedure for enhancing SMEs as carriers, high quality services for developing a modern, efficient and safe transport and protect environment against pollution.

7.All the carriers have to respect the following principles: traffic, navigation and flight safety, traffic regularity, low transport costs, low transport duration, goods integrity during the transport and environment protection against pollution.

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STUDY ON THE TRENDS IN ROMANIA'S MEAT MARKET

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Abstract

The paper aimed to identify the trends in Romania's meat market in the period 2003-2007. Meat production in terms of live weight has recorded a continuos decrease accounting for 1,503 thousand tones in the year 2007 compared to 1,653 thousand tones in the year 2003. This situation is due to the reduced number of slaughtered animals and low live weight at delivery.As a result, in 2007, Romania produced 69.8 kg meat per inhabitant, by 10.75 % less compared to 78.2 kg in the year 2003. In the same year, meat supply accounted for 1,336,370 tones, of which beef 12.85 %, pork 50.58 %, sheep and goat 4.09 % and poultry 32.48 %. Romania is a net meat importing country. Despite that the export value increased 2.29 times, import value increased 18.33 times in the period 2003-2007. This had a negative impact on meat balance whose deficit has continuously increased. The unbalanced meat demand/offer ratio, the high meat price and low purchasing power of the population have lead to the decline of meat consumption per inhabitant, In 2007, the average meat consumption was 62 kg/capita compared to 64 kg in the year 2003. The development of meat sector in Romania requires modernization of fattening farms and meat processing units, the application of intensive technologies using high quality feeding for increasing animal live weight at slaughter and meat quality, a new stimulating payment system for farmers according to carcass quality, more attention to meat export in order to increase competitiveness of Romanian meat products on the external markets.

Keywords: *consumption, market, meat, production, Romania,trade, trends*

INTRODUCTION

The Romaniaan meat sector plays an important role in agriculture and industry. In the year 2007, it contributed by 41.8 % to animal production and by 16.1 % to total agricultural output [2]. Romania's entry into the EU in 2007 has imposed and continue to impose an important tranzition period in order to align meat sector to he EU requirements [1].

Romania is till facing a lot of problems regarding fattening, processing and meat distribution and marketing. The small farm size (in average 2.4 cattle, 2.9 pigs, 9.1 sheep and goats and 28 poultry), the lack of high breeding value live stock, the insufficient capital for applying modern technologies, low feeding quality , high production costs are the main characteristics of animal farming. Meat processing sector is facing with the implementation of the EUROP carcass system classification, with the rules of quality management, with the need of new investments for modernizing the processing units and the need to change the payment system according to carcass quality in order to oblige farmers to deliver high quality animals at slaughter [3,4,7,8,9].

Meat market is disadvantaged by the uncorresponding meat demand/offer ratio, insufficient production, increased imports compared to exports making Romania a net meat importing country [2,5,6].

In this context, the paper aimed to analyze the evolution of meat sector in the period 2003-2007 based on the empirical data provided by the National Institute of Statistics and FAO Stat in order to identify the main trends in the field in the period of Romania's pre and post accession to the EU [10,11,12].

MATERIAL AND METHODS

In order to set up this paper, the data have been collected from National Institute for Statistics for the period 2003-2007.
The following indicators have been used: livestock evolution and structure by animal species, average liveweight at slaughter by species, meat production in terms of live weight, meat and meat preparations production, meat production per inhabitant, meat and meat derivates baance sheet, the average producer's price, meat quality, meat export, import and trade balance and meat consumption.
The usual modern metholodogy based on time series of data and fixed basis index was utilized.

RESULTS AND DISCUSSIONS

Livestock Evolution. In the year 2003, the livestock consisted of 2,897 thousand cattle, 5,145 thousand pigs, 8,125 thousand sheep and goats and 76,616 thousand poultry. While cattle stock has registered a reduced number, all the other species have recorded a recover, taking into account their importance in the human life and economy. In 2007, the cattle stock accounted for 2,819 thousand heads, being by 2.70 % less than in the year 2000. The pig number accounted for 6,563 thousand heads, by 27.56 % more than in the year 2003, obviously due to the traditional consumption of this sort of meat in Romania. The number of sheep and goat increased by 14.88 % compared to the year 2000, reaching 9,334 thousand heads, taking into account the importance of these species as milk and meat source. Poultry stock has also registered an increasing trend, accounting for 82,036 thousand heads in 2007, being by 7.07 % higher than in 2000 (Table 1).

Table 1. Livestock Evolution (thou heads)

	2003	2004	2005	2006	2007	2007/2003 %
Cattle	2,897	2,808	2,862	2,934	2,819	97.30
Pigs	5,145	6,495	6,622	6,815	6,563	127.56
Sheep and Goat	8,125	8,086	8,298	8,405	9,334	114.88
Poultry	76,616	87,014	86,552	84,990	82,036	107.07

Average Liveweight at Slaughter. In general, during the analysed period, the average liveweight of slaughtered animals regietered a decline, except poultry. In case of both fattened adult and youg cattle, the average liveweight was 275 kg per head in the year 2007 compared to 321 kg/head in the year 2003. This figure is small showing a more extensive fattening technology than an intensive one practiced in farms and taking into consideration that the best live weight for assuring a high quality carcass in over 400 kg/head, Romanian cattle breeders have still to do more in order to keep pace with farming requirements in the EU states. In case of pigs, the average live weight at slaughter decreased to 108 kg/head in 2007 compared to 111 kg/head in 2000. However, it could be considered a good liveweight at slaughter in connection to fat layer and carcass quality and consumer preference for lean meat. The average live weight at slaughter for sheep and goats was 18 kg/head in 2007 compared to 23 kg in 2003 (Table 2).

Table 2. Average Liveweight at Slaughter (kg/head)

	2003	2004	2005	2006	2007	2007/2003 %
Cattle	321	328	333	275	275	85.66
Pigs	111	105	103	113	108	97.29
Sheep and Goat	23	28	19	18	18	78.26
Poultry	1.9	1.9	1.8	1.8	1.9	100.00

Meat Production in terms of Liveweight of Slaughtered Animals. The meat production was 1,659 thousand tons in 2003 and 1,503 thousand tones in 2007, that is by 9.41 % less than in the first year of study. This was due to the reduced number of slaughtered animals but also of te diminished average live weight of animals at slaughter. The general trend is a consequence of the decline registered by liveweight of slaughtered animals in the analysed period. In 2007, meat production in terms of live weight was by 11.91 % lower in case of cattle, by 9.58 % lower in case of pigs, by 18.52 % lower in case of sheep and goats and by 3.26 % lower in case of poultry in comparison to the performance recorded in the year 2003 (Table 3).

Meat and Meat Preparations Production. In spite of the diminished average live weight, meat and meat preparations production increased in the period 2003-2007, based on one side on the ilocal raw material but also on imported meat amounts. Meat production increased by 33.82 % from 204 thousand tones in 2003 to 273 thousand tones in 2007. Meat preparations production increased by 1.96 % from 204 thousand tones in 2003 to 208 thousand tones in 2007 and canned meat production grow up to 26 thousand tones, being by 23.80 % higher in 2007 compared to 2003 (Table 4).

Table 3.Meat Production in Terms of Live Weight (thousand tons)

	2003	2004	2005	2006	2007	2007/2003 %
Beef	378	391	383	318	333	88.09
Pork	710	627	605	618	642	90.42
Sheep and Goat Meat	135	166	114	101	110	81.48
Poultry Meat	430	372	401	361	416	96.74
Total Meat Production	1,659	1,561	1,508	1,401	1,503	90.59

Table 4. Meat and Meat Preparations (thousand tones)

	2003	2004	2005	2006	2007	2007/2003 %
Meat	204	210	230	233	273	133.82
Meat preparations	204	254	208	205	208	101.96
Canned Meat	21	22	23	26	26	123.80

Meat Production per Inhabitant. Meat production per inhabitant registered a decline, not because of a diminished offer but mainly due to the increased meat price and low purchasing power of population, mainly of the pensioners whose share in total population is about 20.5 % (Table 5).

Table 5. Meat Production per Inhabitant (kg/inhabitant/year)

	2003	2004	2005	2006	2007	2007/2003 %
Meat Production	78.2	73.8	69.7	64.9	69.8	89.25

Meat and Meat Derivates Balance Sheet shows that in 2007, domestic meat production in carcass equivalent accounted for 1,001,758 tons, meat import represented 35.78 % of internal production, that is 358,451 tones, exports represented 13,583 tones meaning 1.35 % of domestic production and stock variation was 10,256 tones. Therefore, meat supply accounted for 1,336,370 tines in 2007, as presented in Table 6.

Table 6. Meat Supply Balance in Carcass Equivalent in the year 2007 (Tones)

	Production	Import (+)	Export (-)	Variation Stock (-)	Meat Supply
Beef	164,502	13,484	6,099	129	171,758
Pork	470,586	210,369	447	4,514	675,994
Sheep and Goat Meat	54,670	902	843	1	54,728
Poultry Meat	312,000	133,696	6,194	5,612	433,890
Total Meat	1,001,758	358,451	13,583	10,256	1,336,370

Average Price per Kilogram Live Weight at purchasing has registered a slight increase in the analyzed period in case of all species, except sheep and goats. The highest average sale price was Lei 3.55 per kg live weight in the year 2007 for pigs, by 7.57 % higher than in the year 2003. The price for sheep and goat kilogram live weight was Lei 3,52 in 2007, by 25.74 % less than in 2003. The poultry price was Lei 3.32 per kg live weight by 14.48 % higher than in 2003. Finally, the lowest price was Lei 2.98 per kg of fattened cattle, despite that in the year 2007, it was by 24.68 % higher than in the year 2003 (Table 7).

Table 7. Average Producer's Price (Lei/Kg Live Weight)

	2003	2004	2005	2006	2007	2007/2003 %
Cattle	2.39	2.62	3.30	3.31	2.98	124.68
Pigs	3.30	3.90	4.69	4.19	3.55	107.57
Sheep and Goat	4.74	4.44	3.31	2.93	3.52	74.26
Poultry	2.90	3.13	3.78	3.71	3.32	114.48

However, even though prices per kg live weight registered an increase, they are still at a very low level from farmers' point of view, rarely being able to cover production costs. The reduced price per kg of cattle live weight is justified by the diminished beef demand and also the farmers' orientation mainly to milk production or dual purpose breeds. Unfortunately, in Romania there are no cattle breeds for meat production.

Meat Industry. Meat processing sector is represented by a number of specialized companies who are dealing with animal slaughtering and meat processing. About 635 firms have business in red meat processing, 60 companies are involved in poultry meat processing and 312 firms are dealing with meat preparations. According to the EU classification system, just 153 companies cover the requirements for A category and a number of 259 units are still in transition obliged to compile with the EU processing standards. Modernization of meat processing sector is very important in order to assure a corresponding technical endowment, high productivity and meat and meat preparations quality. In 2006, Euro Million 107.8 were invested in meat industry, representing by 200 % more than in the year 2002. About 47.4 % investments are destined for modern equipments, 32 % for new buildings and 17.9 % for means of meat transportation. Foreign investors' capital represents a small percentage, just 3.4 %, but the main financing source of investments in meat industry is represented by owners' equity and 13 % is coming from internal credits.

Meat Quality is an important aspect which should be discussed because it important for all the "actors" playing in the meat market: farmers, processors and consumers. Farmers are interested in fattening process in the purpose to deliver animals at a higher slaughter weight as long as the price is offered per kilogram live weight at the moment and not in relationship to carcass quality. In this respect, they pay more attention to feeding, daily gain and production cost which have to be permanently kept under control as finally their business to be a profitable one. Meat processors are interested in buying more animals at a higher live weight and at a minimum price, thinking in their benefit and many times disadvantaging the farmers. But processors are facing with the EU standards obliging them to produce high quality meat and derivates. The EU carcass classification system is operating in Romania as long as it has become a member state of the EU. According to this system, the percentage of lean meat has to represent 55 % for E class, 50-55 % for U class, 50-45 % for R class, 45-40 % for O class and below 40 % for P class. The requirements regarding carcass quality stimulates initiative and competitiveness among processors in order to extend their market position and to apply meat price according to carcass quality. This will have a deep impact upon farmers who have to pay more attention to fattening factors. The consumers are more and more informed, educated and oriented to lean and flavored meat. But the reduced purchasing power uncorrelated with the high sale price in shops and supermarkets are the most important decision factors.

Meat Exports in Carcass Equivalent have registered an increase for beef, mutton, goat meat and poultry meat. In 2007, the meat export in carcass equivalent accounted for 6.1 thousand tones, being 15.25 times higher than in 2003. Mutton and goat meat export was doubled than in 2003, accounting for 0.8 thousand tones. The export of poultry meat was by 29.78 % higher reaching 6.1 thousand tones in 2007. Exported pork remained at a constant level of 0.4 thousand tones (Table 8).

Table 8. Meat Export in Carcass Equivalent (thousand tones)

	2003	2004	2005	2006	2007	2007/2003 %
Beef	0.4	0.7	0.9	1.2	6.1	1525.00
Pork	0.4	0.3	0.4	0.8	0.4	100.00
Sheep and Goat Meat	0.4	1.0	1.6	1.5	0.8	200.00
Poultry Meat	4.7	7.3	6.2	3.2	6.1	129.78

Meat Import in Carcass Equivalent is represented by beef, pork and poultry. Imported beef amount reached 12.9 thousand tones in 2007, being 3.79 times higher than in 2003, supporting domestic low offer in order to cover better consumer's needs. Pork import accounted for 187.3 thousand tones in 2007, being by 90.73 % higher than in 2003. Also, an important amount of poultry meat was imported. In 2007, it accounted for 138.3 thousand tones, by 50.82 % higher than in the year 2003 (Table 9).

Meat Export Value accounted for Euro Million 55 in the 2007, being by 2,29 %

higher than in the year 2003, when it recorded just Euro Million 24. The distribution of export value by meat category is relatively equal: 49 % meat and edible offal and 51 % meat and fish preparations. The value of the exported meat and fish preparations increased 2.54 times in 2007 compared to 2.07 times for meat and edible offal (Table 10).

Table 9.Meat Import in Carcass Equivalent (thousand tones)

	2003	2004	2005	2006	2007	2007/2003 %
Beef	3.4	5.4	33.8	53.9	12.9	379.41
Pork	98.2	152.2	213.0	225.5	187.3	190.73
Sheep and Goat Meat	-	-	-	0.5	0.5	-
Poultry Meat	91.7	134.3	160.8	155.4	138.3	150.82

Table 10.Meat Export Value (FOB-Euro Million)

	2003	2004	2005	2006	2007	2007/2003 %
Meat and Edile Offal	13	18	18	16	27	207.69
Meat and Fish Preparations	11	13	16	23	28	254.54
Total Export Value	24	31	34	39	55	229.16

Meat Import Value . Compared to meat export value, meat import value is very high. In 2007, the value of imported meat was Euro Million 605, being by 18.33 times higher than in the year 2003 and 11 times higher compared to the value of meat export. The highest share in meat import value belongs to meat and edible offal, 91.40 % in 2007 (Table 11).

Table 11.Meat Export Value (FOB-Euro Million)

	2003	2004	2005	2006	2007	2007/2003 %
Meat and Edile Offal	165	276	503	520	553	335.15
Meat and Fish Preparations	13	16	21	30	52	400.00
Total Import Value	33	40	524	550	605	1833.33

Meat Trade Balance. Taking into account the evolution of export and import, meat trade balance has recorded a deficit whose value has continuously increased from Euro Million 9 in the year 2003 to Euro Million 550 in the year 2007. The increased import value compared to export value reflects a lack of competitiveness of the Romanian meat on the external market, an uncorresponding demand/offer ratio. This situation has a deep negative impact upon local producers (Table 12).

Table 12. Meat Trade Balance (Euro Million)

	2003	2004	2005	2006	2007	2007/2003 %
Meat Export	24	31	34	39	55	229.16
Meat Import	33	40	524	550	605	1833.33
Meat Trade Balance	-9	-11	-490	-511	-550	611.11

Meat Consumption is relatively small in Romania compared to other EU countries and this is due, on one side, to the un corresponding demand/offer ratio and, on the other side, to the high meat price and low purchasing power of many categories of the population. The average yearly consumption per inhabitant has decreased from 64 kg in the year 2003 to 62 kg in the year 2007 (Table 13).

Table 13.Average Meat Consumption (kg/inhabitant/year)

	2003	2004	2005	2006	2007	2007/2003 %
Beef	9.0	9.6	10.0	10.0	11.0	122.22
Pork	30.0	28.0	34.0	33.0	33.0	34.00
Sheep and Goat Meat	3.1	2.6	2.3	2.2	2.5	80.64
Poultry Meat	22.0	19.0	21.0	21.4	19.0	86.36
Total Meat Consumption	64.0	59.2	67.3	66.6	61.5	96.09

CONCLUSIONS

1.Animal Production is an important sector in the Romanian agriculture. Meat Production is required to assure a balance high protein value in te daily diet of the population.

2.The cattle stock has registered a reduced number, because beef is a not a prefered sort of meat by Romanians. All the other species : pigs, sheep and goats and poultry have recorded a recover, taking into account their importance as food source and for the economy.

2.The average live weight at slaughter was smaller in case of all the species in the year 2007 compared to the one registered in the

year 2003. This was due to the application of less intensive fattening technologies and lower quality forages used in animal feeding.

3.As a consequence of the reduced live weight at slaughter and the decline regietered in the number of slaughtered animals, meat production in terms of live weight has recorded a continuos decrease accounting for 1,503 thousand tones in the year 2007 compared to 1,653 thousand tones in the year 2003. The reduction is about 10 % with a deep impact upon the internal market and consumer needs' coverage.

4.Despite of the decline registered for live weight at slaughter, meat, meat preparations and canned meat production registered an increase, because of the production diversification, the use of raw material both from local and external sources. In 2007, Romania produced a higher meat production by 33.82 % in case of pure meat, by 1.96 % in case of meat preparations and by 23.80 % in case of canned meat compared to the year 2003.

5. In 2007, Romania produced 69.8 kg meat per inhabitant, by 10.75 % less compared to 78.2 kg in the year 2003.

6. In the same year, meat supply accounted for 1,336,370 tones, of which beef 12.85 %, pork 50.58 %, sheep and goat 4.09 % and poultry 32.48 %.

7.Romania is a net importing country, because its meat trade is characterized by an export/import ratio in the favor of imports. While export value increased 2.29 times, import value increased 18.33 times in the period 2003-2007. Import value is 11 times higher than export value, with a negative impact of meat balance whose deficit has continuously increased. Also the higher imports affect local producers.

8. The unbalanced meat demand/offer ratio, the high meat price and low purchasing power of the population have lead to the decline of meat consumption per inhabitant, In 2007, the average meat consumption was 62 kg/capita compared to 64 kg in the year 2003.

9.The development of meat sector in Romania requires modernization of fattening farms and meat processing units, the application of intensive technologies using high quality feeding for increasing animal live weight at slaughter and meat quality, a new stimulating payment system for farmers according to carcass quality, more attention to meat export in order to increase competitiveness of Romanian meat products on the external markets.

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MAIN TRENDS OF THE PESTS MANAGEMENT IN AGROECOSYSTEMS OF GRAPEVINE PLANTATIONS

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Abstract

Viticulture represents an important part of agriculture in Romania, both from the economic and social point of view. The total area under vines is about 189.7 thousands ha, being an intensive culture, the area of grapevine has 2% of the agricultural area and income from viticulture is 10% from the value of the agriculture production. It is analyzes the situation of the main pests from grapevine plantations of Romania in the light of problems related to the emergence of new or modifications of the importance of harmful pests. European regulations are the main pest management of vine plantations, as well as national regulations it is analysed. Given the increasing use of pesticides is emphasized as a comparison of European and national legislation on the approval of pesticides used in plantations of vines, is also comparing the European and national legislation on the marketing and use of pesticides in plantations vines. The impact of exotic pests varies considerably depending on the species and the area being invaded. Some species are able to rapidly colonize an area and become serious pests, often because they are no longer under control of predators or diseases that limited their numbers in their native habitat. Species that rapidly colonize an area are often called exotic invasive pests. Once established, invasive species are extremely difficult to eradicate and can cause not only ecological disruption, but economic problems as well. Everyone has a part to play to keep exotic and invasive species from coming into Romania and spreading throughout the state. All known grapevine pests, in Romania, include about more than 20 pests and one xylem bacteria transmitted by insects. .

Keywords **:** *grapevine, quarantine, pesticide registration*

INTRODUCTION

According to the Food and Agriculture Organization (FAO), 75,866 square kilometres of the world and in Romania 2,480 km^2 are dedicated to grapes. Approximately 71% of world grape production is used for wine, 27% as fresh fruit, and 2% as dried fruit. A portion of grape production goes to producing grape juice to be reconstituted for fruits canned "with no added sugar" and "100% natural". The area dedicated to vineyards is increasing by about 2% per year. Farmers in Romania depend entirely on the use of chemical pesticides to control arthropod pests from grapevine agroecosystems. This situation may create problems in pest control and to human health as well as environment. Therefore, due to these problems, man started to look for new control programs where he finally focused on Integrated Pest Management (IPM) However, many people erroneously understand that IPM means the use of non-chemical control measures. If used correctly, and despite of their side effects, pesticides remain an important component of IPM [1]. The concept of IPM depends on several components, among these, understands the agroecosystem [2].

MATERIAL AND METHODS

Based on legislative framework that governs the agriculture activity it is presented the main problems which appear in grapevine plantations in Romania, how to manage them and new concept of Plant Protection Products Regulation and possible impacts on agricultural practice in Romania regarding using of pesticides in grapevine plantations.

RESULTS AND DISCUSSIONS

The In Romania, as anywhere in the world, numerous pests attack grapevines, their relative importance varies with zone of

vineyard, Phylloxera (*Dactylosphaera vitifoliae*) which has determined an huge losses of European vineyards at the end of nineteenth century, is controlled now by use of resistant rootstocks that rejected the pest from grapevines plantations, the grape bud moth (*Eupoecilia ambiguella*), the vine moth (*Lobesia botrana*) are in the present the most serious problems for grapevine because they attack the fruit, but now it is possible to control them by using of pheromones traps for warning. Despite the necessity for the pheromone traps to indicate the start of the flight period, the experiments confirmed the lack of a correlation between the population dynamics and the level of damage by the pest. Pheromone trapping can offer very useful indications regarding the start of the flight period of each generation and its duration but not on the severity and incidence of the pest. Discoloring of leaves in grapevine is done by different species of mites as the fruit tree red spider mite (*Panonychus ulmi*), the two-spotted spider mite (*Tetranychus urticae*), the (*Calepitrimerus vitis*), etc., or spotting on the leaves is determined by the vine leafhopper (*Empoasca vitis*) and thrips species *Drepanothrips reuteri*. Sometime, in Banat and Oltenia long-palped tortrix (Sparganothis pilleriana) attack the leaves, and in some areas of Dobroudja erosions of vineyard buds attributed to overwintering larvae of the geometrid willow beauty (*Peribatodes rhomboidaria*) have been observed, creating some problems and necessity of chemical control measures. The new pesticide legislation has changed the principles and rules for using of pesticides in EU, based on Plant Protection Products Regulation 1107/2009 and the Sustainable Use Directive 2009/128/EC.

Many types of insects cause damage to grapevines. The damage is often only cosmetic and does not hurt the vine. A central theme to the insect and mite control is scouting. Scouting is the systematic evaluation of foliage and fruit on a timely basis. This allows identification of the pest, an assessment of the damage and will help in deciding whether treatment is warranted. Recognizing insect or mite damage is relatively easy with a basic understanding of each potential pest.

I. Scouting and applying control measures connected with ETL

In spring has to be done the first survey in grapevine plantation searching for: *Calepitrimerus vitis* - grape rust mite and *Colomerus vitis* (Eriophyes vitis) - grape erineum mite or vine leaf blister mite are principals acari pest (Acari – Eriophyidae) for them the first survey is done in pre-blossoming phenophase, at the beginning of April when 100 eye collected from vine stock in different parts of the plantation are examined and ETL (Economic Treasure Level)=5-6 mites/bud during bud swelling, the second survey is done at post-budding phenophase examining at least 100 leaflet/plot and ETL= 5-6 mites/leaf in post-budding phenophase or 30% leaves with symptoms (treatments are not applied if predators are present in 20% of the samples at their raport, in these samples, is 1 predator/20 pests. Tetranychidae - *Panonychus ulmi*, - European red mite and *Tetranychus urticae* - Two spotted spider mite, are those mites for which, in each year are applied chemical control in grapevine agroecosystem, for *Panonychus ulmi* ETL= more than 30 eggs / bud during bud swelling, or when mite eggs are found in 70% of buds or ETL= 5-6 mobile forms/leaf or leaves 60% with symptoms attack before flowering or ETL= 3-5 mites/leaf, or 30% leaves with symptoms of attack during the summer, in the same time for *Tetranychus urticae* ETL=5-6 mites/leaf, or 20% of leaves with symptoms of attack, in 2-3 leaflet phase or ETL=6-7 specimens/leaf, or 50% leaves with symptoms in summer. For *Daktulosphaera vitifoliae* - Grape Phylloxera, in spring and also in summer, ETL is 5% leaf with galls in the moment of the buds opening during the releasing of first 2-3 leaves. *Parthenolecanium corni* - Brown Elm Scale or European Fruit Lecanium, has an ETL=10 female /cm^2. For Grape Moths (*Lobesia botrana* - European Grapevine Moth and *Eupoecilia ambiguella* - Vine Moth, family Tortricidae), in the first generation, ETL=2-3 specimens larve/30 plant during the buds

inflation or 30 clusters (inflorescence wrapped with white silk thread in the form of nests)/100 bunches in vegetation time. *Sparganothis pilleriana* - Grape Leafroller or Vine Tortrix Moth or Long-Palpi Tortrix or Leaf-Rolling Tortrix has ETL=15-20 larvae/plant, in areas where there has been an attack in the previous year. *Peribatodes rhomboidaria* - Willow Beauty has an ETL=5-7 living larvae/30 plants/30 ha. *Byctiscus betulae* - Hazel Leaf-roller has an ETL=5 adults/plant. *Melolontha melolontha* - European cockchafers has an ETL=0.1 to 0.5 adults/1m^3 of leaf sheath or 1-3 larve/m^2, in soil. *Anoxia villosa* has an ETL=0,2 larve/ m^2 in soil. *Anomala solida* - Scarab beetle has an ETL=2-4 adults/plant. ***In summer*** has to be done the second survey in grapevine plantation searching for: *Calepitrimerus vitis*, ETL=10 mites/leaf or 40% leaves with symptoms and *Colomerus vitis* ETL=10 mites/new branches with attack symptoms. *Panonychus ulmi* has an ETL= 3-5 mobile forms/leaf or 30% leaves with attack symptoms, *Tetranychus urticae* and *Eotetranychus carpini* - Hornbeam mites, ETL=6-7 mites/leaf, or 50% of leaves with symptoms of attack, in summer time. *Empoasca vitis* - Grape Leafhopper has an ETL=2-3 larvae/leaf. For *Daktulosphaera vitifoliae* in summer, ETL is 5% leaf with galls. Cottony Grape Scale (Pulvinaria vitis), Mealybugs (*Pseudococcus*) and Soft scales or unarmored scales (*Lecanium corni* - European Fruit Lecanium) have an ETL=2 larvae/ cm^2. Vine leaf thrips (*Anaphotrips vitis* and *Drepanothrips reuteri*) have an ETL=5 exmplars/branch. For Grape Moths (*Lobesia botrana* and *Eupoecilia ambiguella*), for the second generation, in July, has to be done a scouting of 20-25 bunch of grapes from 10 different areas of plantation and ETL=5 viable eggs/100 bunch of grapes or 10 larvae/100 bunch of grapes or 100 adults/pheromone trap/week. ***In autumn*** has to be done the third survey in grapevine plantation searching for: *Empoasca vitis* - Grape Leafhopper, ETL=25 larvae/25 scouted leaves. For Grape Moths (*Lobesia botrana* and *Eupoecilia ambiguella*), for the third generation, ETL=2 perforation (holes) of grapes/25% from analyzed bunch of grapes which it is supposed to determine a 8% losses. [3]

II. Ensure freedom from viral disease, Flavescence Dorée or Bois Noir phytoplasmas.

EPPO (OEPP/EPPO, 1990) recommends, to ensure freedom from disease, that grapevine nurseries should be established in, and propagating material should be collected from, areas where flavescence dorée does not occur. Alternatively, mother plants should be inspected during the growing season and be particularly well protected against the vector. Control of the vector is achieved by: (i) eliminating eggs through burning pruning wood and treating before bud burst with parathion-activated oils; (ii) one or two chemical applications against instars 30 and 45 days after first hatching, followed by another treatment against adults [4] Like all phytoplasmas, the causal agent of flavescence dorée (Grapevine flavescence dorée phytoplasma) is localized in the phloem of infected grapevines from where it is acquired by the vector for subsequent transmission. The principal vector, the cicadellid *Scaphoideus titanus*, was introduced into Europe from North America [5] Bois noir (Grapevine bois noir phytoplasma) is not transmitted by *S. titanus*, Vidano et al., in 1989 found *S. titanus* to be abundant in affected vineyards in Piemonte; they also found *Hyalesthes obsoletus* transmitting phytoplasmas to various wild plants and weeds [6]. The insects in Auchenorrhyncha group identified in the investigated vine plots showing leaf yellowing phenomena in Romania belong to 21 species, 9 subfamilies and 6 families. The leafhopper *Scaphoideus titanus*, the well-known vector of *Flavescence Dorée* phytoplasma was detected in two of the commercial vine plots from Murfatlar and Blaj vineyards and in an uncultivated vine plot in Bucharest; The planthopper *Hyalesthes obsoletus*, vector of Bois Noir phytoplasma was identified in samples from both commercial vine plots in Murfatlar. Some other Auchenorrhyncha insects considered by the entomological literature as potential vectors of the grape yellow phytoplasmas e.g.

Reptalus panzeri (Löw), *Fieberiella florii* (Stall), *Neoaliturus fenestratus* (H-S), *Stictocephala bisonia* (K&Y), *Dictyophara europaea* (L.), and *Euscelidius variegatus* (Kirsch) were captured on vineyard in Romania [7]

III. Biological compatibility between the entomopathogenic fungus Beauveria bassiana and fertilizers products used in organic viticulture

Assuming that the use of organic fertilizers and biological control agents make to increase the soil's repressive effect against the development of phylloxera and other pests in the vineyard, it was conducted laboratory experiments, in order to assess the effect of farm manure and compost on biological parameters of some Beauveria bassiana strains selected for obtaining biological insecticides. It was tested three B. bassiana strains belonging to the entomopathogenic microorganisms collection of the Romanian Research-Development Institute for Plant Protection. Barkley kernels colonised by fungal strains was incorporated in soil fertilizers; after a six months incubation period at 240 C, the fungal strains were re-isolated from test fertilizers and it was quantified the following biological parameters of single-conidium isolates: vegetative growth, conidiogenesis, viability and virulence. To test the virulence, aqueous spray of conidia were applied on Plodia interpunctella larva, used as test insect. B. bassiana strains colonized organic substrates, the saprophytic development was abundant, the vegetative multiplication and the sporulation were not inhibited in any of the experimental variants. The average size of fungal colonies and their daily average growth rates were close to the control variants. Estimated conidia viability showed a mean percent germination up to 91%. The conidia was high virulent, it was registered 89-93% P. interpunctella mortality. This study shows that the organic fertilizers farm manure and compost are compatible with B. bassiana, the romanian fungal strains can be used for a B. bassiana inoculum conservation strategy in organic viticulture based on preliminary trials with good results in control of phylloxera. [8]

IV. Sustainable Use Directive 2009/128/EC (SUD)

The Sustainable Use of Pesticides Directive requires Member States to develop a national legislative framework to transpose the EU Directive provisions and implement through national action plans its objectives.

The Directive states that reducing the risk associated with pesticide use is one of the most important elements of sustainability. The focus for the national authorities is therefore on the reduction of risks. National Action Plans (NAP) are the tools that transform EU policy, into an organized set of national actions.

In transposing the provisions of the Directive into national law, MSs will have to align the legislation with the country's specifications, political needs, and existing legislation. Member States (MS's) are requested to transpose the Directive into national legislation within two years from the entry into force, effectively by the end of 2011.

CONCLUSIONS

1. The There is a necessity to apply insecticides treatments at a certain ETL.
2. There is a necessity to avoid spreading of flavescence dorée (Grapevine flavescence dorée phytoplasma).
3. It has to be done more studies referring biological control of pests.

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RESEARCH CONCERNING RURAL VERSUS URBAN POPULATION – PRESENT AND PROSPECT

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Abstract

The paper aimed to rural population versus urban population, the data have been collected from National Institute for Statistics for the period 2000-2008. In this purpose, the following indicators have been considered: the share of rural and urban population in Romania's population, the distribution of rural population by development region, fertility rate, live births, deaths, dead-born per 1,000 inhabitants, life expectancy, internal migration, rural and urban active population, employment, employment rate by area, employment in agriculture by age group, unemployment, unemployment rate, age structure for farmers and skilled workers, employment rate by educational level, employed and unemployed rural population by age group, monthly incomes and expenditures per household. The main characteristics of rural communities are the reduced vitality, lack of a corresponding infrastructure, poverty, low training level and limited access to culture and education, aging, low job opportunities, low income sources, low living standard. Rural areas development requires a behavior and mentality change, more involvement of the Government and other decision makers both at national and local level to find the best solutions for stimulating the multifunctional development of the rural space.

Keywords*: population, present, prospect, Romania, rural, urban*

INTRODUCTION

The development of rural space has a vital importance for Romania, where rural areas keep about 93.7 % of the territory and about 45.5 % of the country's population [2,6,7]. More than that, the European Commison for Agriculture and Rural Development appreciates that 85 % of the EU surface represents rural areas with a deep impact upon the economic, social and cultural development of the community [1,3,5].

Despite of the fast development registered in the last 80 years, the rural population is still charaterized by a continuos stability, its number being maintained about 10-12 million people. The popualtion movement is mainly directed from villages to cities, but during the last 20 years a new phenomen is more evident the trend of people living in the cities are willing to build houses or modernize the ones inherited from their ascendants in the country side, running away from teh city civilization and looking for fresh air, relaxation in the middle of nature, return to the normal way of living, preserving the contact with the customs and traditions, history and folk culture heritage.

The development of rural areas in the future according to the EU priorities has to seen as a multifunctional use of land, human, capital and financial resources recognizing the limits imposed by the biological, geographical, economical and social environment. Rural space is an important source of labor and in its turn is the core of durable development, economic progress and poverty reduction in the rural space[6].

Compared to other EU countries, Romania's rural areas are characterized by a reduction of economically active population, a high number of old population, a continuous migration both from rural to urban areas and the reverse, a low educational level, a low productivity in agriculture, a lack of other jobs opportunities in the non agricultural

sectors, reflecting a lack of sustainable development in the rural space [4,6].
In this conext, the present paper aims to present the actual situation of rural population in comparison with urban population, analysing its numerical and structural evolution emphasizing the main trends and identifying the prospects in the coming future. The data provided by National Institute of Statistics for the period 2000-2008 have been processed using the modern methodology in the field of demographic studies based on a specific system of indicators [8].

MATERIAL AND METHODS

In order to carry out the analysis of rural population versus urban population, the data have been collected from National Institute for Statistics for the period 2000-2008. In this purpose, the following indicators have been considered: the share of rural and urban population in Romania's population, the distribution of rural population by development region, fertility rate, live births, deaths, dead-born per 1,000 inhabitants, life expectancy, internal migration, rural and urban active population, employment, employment rate by area, employment in agriculture by age group, unemployment, unemployment rate, age structure for farmers and skilled workers, employment rate by educational level, employed and unemployed rural population by age group, monthly incomes and expenditures per household.
From a methodological point of view, the evolution of each indicator in the analysed period was studied using the fixed basis index and comparisons have been made from a period to another and also between rural and urban areas.

RESULTS AND DISCUSSIONS

Rural Population accountde for 9,669,114 persons in the year 2008, representing 45 % of Romania's population. This weight of rural population is very high compared to other EU countries (Table 1).

Vitality Indicators of Rural Population. In the year 2008, live births accounted for 100,382, representing 10.4 per 1,000 inhabitants , a low level compared to the one recorded in the urban areas. In 2008, in the rural areas, the number of deaths counted for 138,850 persons, meaning 14.3 per 1,000 inhabitants, a very high level compared to the one registered in the cities.

Table 1. Population by Area in the year 2008

Romania's Population		Rural Population		Urban Population	
No. of persons	%	No. of persons	%	No. of persons	%
21,504,442	100	9,669,114	45	11,835,328	55

The number of dead-born per 1,000 births was 5.2 in the rural areas, compared to 3.8 in the urban ones. Life expectancy is shorter in the rural areas , in average 72.5 years compared to 73.76 years in the urban areas . Therefore, in the rural areas the figures show a decline of vitality compared to the cities (Table 2).

Table 2. Vital Indicators in the year 2008

	Total		Rural		Urban	
	Absolute number	Rates per 1,000 Inhabitants	Absolute number	Rates per 1,000 inhabitants	Absolute number	Rates per 1,000 Inhabitants
Live Births	21,900	10.3	100,382	10.4	121,518	10.3
Deaths	253,202	11.8	138,850	14.3	114,352	9.7
Natural Gain	-31,302	-1.5	-38,468	-3.9	7,166	0.6
Dead-born per 1,000 births	-	4.5	-	5.2	-	3.8
Infant deaths per 1,000 live-births	-	11.0	-	14.0	-	8.5
Life Expectancy (years)	73.03	-	72.05	-	73.76	-

Internal Migration. In the year 2008, about 157,149 persons left the villages and communes and went to the urban areas and at the mean time, a number of 203,306 people have migrated from cities to the rural areas.

Table 3. Internal Migration by Area in the year 2008 (No. of persons)

	Total Migration	Rural Migration	Urban Migration
Out-migrants	389,254	157,149	232,105
In-migrants	389,254	203,306	185,948
Balance	-	46,157	-46,157

As a result the migration balance shows a surplus of 46,157 people compared to the exiting number of rural population at the beginning of the year (Table 3).

Rural Active Population. In the rural areas, the active population accounts for 5,935 thou persons in the year 2000 and by about 25 % less , that is 4,473 thou persons in the year 2008. In the same period of time, in the urban areas, the active population has increased by 2.29 %. Therefore, in 2008, the share of rural active population in Romania's active population was 45 % (Table 4).From an economic point of view, the cities are more advantaged having at their disposal more active people.

Table 4.Active Population by Area
(thou persons)

	2000	2005	2008	2008/2000 %
Total	11,283	9,851	9,944	88.13
- Rural	5,935	4,490	4,473	75..36
- Urban	5,348	5,361	5,471	102..29
Share of Rural in Total (%)	52.6	45.5	44.9	-

Rural Employment accounted for 4,268 thou persons in the year 2008, by 25.80 % less than in the year 2000. In the same period of time, in the urban areas, employment has increased by 7.25 %, from 4,756 thou persons in the year 2000 to 5,101 thou persons in the year 2008. This is a normal situation as long as, the cities offer more opportunities for finding jobs than the communities situated in the countryside (Table 5).

Table 5. Employment by Area (thou persons)

	2000	2005	2008	2008/2000 %
Total	10,508	9,147	9,369	89.16
- Rural	5,752	4,258	4,268	74..20
- Urban	4,756	4,889	5,101	107..25
Share of Rural in Total (%)	54.7	46.5	45..5	-

Employment Rate has registered a decline in the rural areas from 73.8 % in the year 2000 to 61.2 % in the year 2008. In the same period of time, in the urban areas, the employment rate has increased by 3.04 %, from 55.8 % in 2000 to 57.5 % in the year 2008 (Table 6).

Employment Distribution of Rural Population by Development Region. If we look at the figures presented in table 7, we can notice that employment of rural population by development region is different from a region to another, but as a general trend, in the year 2008, this indicator registerd lower levels in all the regions of Romania, except Bucharest Ilfov region, where employment of rural population increased by 5.73 % in 2008 compared to the employment figure in the year 2000.

Table 6. Employment Rate by Area (%)

	2000	2005	2008	2008/2000 %
Total	63.6	57.7	59.0	92.76
- Rural	73.8	61.6	61.2	82.92
- Urban	55.8	55.0	57.5	103.04

In the territory, in 2008, the employment of rural population is higher in South West Oltenia (67.1 %), North East part of Romania (66.8 %), South Muntenia (64.4 %) and lower in the Center part (53 %) and North West (54 %).

Table 7. Employment Distribution of Rural Population by Development Region (%)

Development Region	2000	2005	2008	2008/2005 %
Total Rural (thou persons)	5,752	4,258	4,268	74.20
North West	71.8	57..5	54.0	75.20
Center	66.0	51.4	53.0	80.30
North East	77.7	69.2	66.8	85.97
South East	73.4	57.5	57.0	77.65
South Muntenia	71.1	61.8	64.4	90.57
Bucharest Ilfov	61.0	52.2	64.5	105.73
South West Oltenia	82.4	68.4	67.1	81.43
West	75.4	60.0	60.4	80.10

Employment Rate by Educational Level of Rural Population. As we may see from the figures presented in Table 8, in the year 2008, the employment rate in the rural areas was lower for people having high and medium educational level in comparison with low trained people. At the same time, in the urban areas, it was recorded a similar trend.

Employment in Agriculture by Age Group. In the year 2008, about 9,369 thou persons were employed in agriculture. The highest employment rate is for the people of an age ranking between 35-44 years and the lowest one is foe young people whose age is raking between 15 and 24 years. Also there is still a high employment rate for people older than 55 years showing the aging of working people in agriculture with its negative consequences (Table 9).

Table 8.Employment Rate by Educational Level in he Rural Areas (%)

	2006				2008			
	Educational Level				Educational Level			
	Total	High	Medium	Low	Total	High	Medium	Low
Total country	58.8	86.1	64.9	39.6	59.0	85.7	63.5	41.0
Rural	61.1	84.5	69.8	51.1	61.2	81.6	68.7	51.8
Urban	57.2	86.3	62.3	21.3	57.5	86.2	60.5	22.0

Farmers Number and their Age Structure. In the year 2008, about 2,224 people were working as farmers and skilled workers in agriculture, representing 23.73 % of total active population in Romania. Regarding the age structure of the people of this category, we may say that aging is a characteristic as confirmed by the figures presented by age group in Table 10.

Table 9. Employment in Agriculture by Age Group in the year 2008

Employment in agriculture (thou persons)	Of which, at working age (%)						65 years and over (%)
	Total 15-64 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	
9,369	82.5	9.0	17.6	18.5	17.2	20.2	17.5

Table 10. Age Structure for Farmers and Skilled Workers in the year 2008 (%)

	Total employment (thou persons)	Of which, at working age						65 years and over
		15-64 years	15-24	25-34	35-44	15-54	55-64	
Total country	9,369	94.8	8.3	26.8	26.9	21.7	11.1	5.2
Farmers and skilled workers	2,224	81.1	8.6	17.1	17.9	16.6	20.9	18.9

Unemployment in the Rural Areas represented 35.6 % of total unemployment in the country in the year 2008 as aspect which could be considered a positive one compared to the situation in the cities. But if we look at the unemployment in the rural areas registered in the year 2000, we may see the fact that unemployment has deeply increased in the rural space from 23.6 % in 2000 to 35.6 % in 2008 showing that there are less opportunities for finding a job in the countryside compared to the urban localities (Table 11).

Unemployment rate in the Rural Area has increased from 3.1 % in the year 2000 to 4.6 % in the year 2008 compared to the urban area where unemployment rate has declined from11.1 % in 2000 to 6.8 % in the year 2008 (Table 12).

Table 11. Unemployment by Area (thou persons)

	2000	2005	2008	2008/2000 %
Total	775	704	575	74.19
- Rural	183	232	205	112.02
- Urban	592	472	370	62.50
Share of Rural in Total (%)	23.6	32.9	35.6	-

Table 12. Unemployment Rate by Area (%)

	2000	2005	2008	2008/2000 %
Total	6.9	7.2	5.8	84.05
- Rural	3.1	5.2	4.6	148.38
- Urban	11.1	8.8	6.8	61.26

Employed and Unemployed Rural Population by Age Group. In the year 2008, the employed persons belong mainly to the older age groups compared to the unemployed persons who are mainly of 1524 years old. The most advantaged age category is the one whose age is ranking between 35-44 years which is much better preferred to be employed by employers (Table 13).

Table 13. Employed and Unemployed Rural Population by Age Group in the year 2008 (%)

Age Group	Economically Active Persons			Non-economically active persons
	Total	Employed	Unemployed	
Total	46.2	44.1	2.1	53.8
-under 15 years	-	-	-	100.0
-15-64 years	64.5	61.2	3.3	35.5
-15-24 years	37.5	32.0	5.5	62.5
-25-34 years	72.1	68.5	3.6	27.9
-35-44 years	80.1	77.0	3.1	19.9
-45-54 years	75.9	73.4	2.5	24.1
-55-64 years	58.4	57.4	1.0	41.6
65 years and over	25.7	25.7	-	74.3

Total Expenditures of Households have deeply increased from the year 2001 to the year 2008. Concerning farmers, in average

the expenditures per household increased 3.47 times from Lei 432.15 per month in the year 2000 to Lei 1,501.31 per month in the year 2008. Compared to other categories, farmers ' expenditures bring them on the second position after employees (Table 14).

Table 14. Total Expenditures of Households (Lei Monthly per Household)

	2001	2008	2008/2001 %
Total Households	516.52	1,915.19	370,7
Employees	705.76	2,540.0	359.8
Farmers	432.15	1,501.31	347.4
Unemployed	407.86	1,360.36	333.5
Pensioners	418.39	1,504.48	359.5

Living conditions in the rural space. Compared to other EU countries, Romania ranks on the last or next to the last position concerning population's living conditions and rural balance is deeply unfavourable for our country. Considering the countryside as a living area and activity in natural conditions, open space, unlike the built-specific areas, it is clear that there are multiple interferences and a gradual transition from the urban center by excellence multifunctional to the village itself, related to farming, soil resources and / or underground recover. Rural space is characterized by a large scale of technical endowment, infrastructure and facilities for households with access to public utilities. There are still many things to do in order to modernize infrastructure, to develop small amd medium sized local industry in order to create new jobs opportunities and offer a large variety of services in the countryside.

Income and consumption of goods and services in rural households. An ICCV investigation in 2003 showed that 42% of households had income which could not cover basic necessities, while other 37% rarely meet basic needs. Therefore, 79% of households are below the level of living, and only 21% of farm household subjects at a decent level. Worst situations are found in households where there are only pensioners (43% below the minimum required under the 96% cumulative level of living), households of farmers, namely those of farmers and pensioners (92% increments below decent).

Table 15. Total Income of Households (Lei Monthly per Household)

	2001	2008	2008/2001 %
Total Households	521.79	2,131.67	408.5
Employees	729.26	2,852.99	391.3
Farmers	433.08	1,594.47	368.1
Unemployed	385.04	1,300.62	337.7
Pensioners	418.7	1,704.38	407.1

CONCLUSIONS

1. About 45 % of Romania's population is living in the rural areas and dealing mainly with agriculture having a negative impact upon labor productivity, whose level is one the lowest ones in the EU.
2. About 3 % of the total investments in Romania's economy are destined to the rural areas. As a result, non agricultural sectors are less developed in the rural communities and a lack of job alternatives is still characterizing the local economy in the rural space.
3. The low training level in agriculture is closely related to low employment rate and it is another restraining factor for rural population's professional reconversion.
4. The rural population's ageing has a negative impact on labor productivity, modernization of communities and multifunctional development of the rural space.
5. The main characteristics of rural communities are the reduced vitality, lack of a corresponding infrastructure , poverty, low training level and limited access to culture and education, low income sources.
6. Rural areas require deep changes in non-agriculture sectors such as processing, trade, services etc in order to create new job opportunities, to increase rural population's income and living standard. This means investments both in agricultural and non-agricultural activities, a new national and local policy concerning the development of rural communities.

7.A special attention has to be paid to young people who has to be stimulated to work and develop business in their home localities.
8.Rural areas development requires a behavior and mentality change, more involvement of the Government and other decision makers both at national and local level to find the best solutions for stimulating the multifunctional development of the rural space.

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RESEARCH CONCERNING THE RELATIONSHIP BETWEEN GROSS DOMESTIC PRODUCT, FIXED ASSETS AND EMPLOYMENT USING COBB –DOUGLAS FUNCTION

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Abstract

The paper aimed to analyse the evolution of GDP, fixed assets and employment in Romania's economy during the period 2000-2005 based on the data provided by the National Institute of Statistics, emphasing the relationship between these indicators using corellation coefficients, elasticity coefficients, Cobb Douglas Production Function and time series analysis. GDP increased from Lei Million 80,984.6 in the year 2000 to Lei Milliom 514,654 in the year 2008. the value of fixed assets in the Romanian economy accounted for Lei Million 1,346,619 being 9.28 times higher than in 2000, when it registered Lei Million 144,978.2.In 2008, 8,747 thousand persons were employed in the economy by 1.3 % more than in the year 2000. The Cobb Douglas production function for Romania has the following aspect GDP = 2,79 x $FA^{0.62}$x $EM^{0.38}$. The use of Cobb-Douglas production function is an important econometric tool for drawing the decisions both at macroeconomic and microeconomic levels regarding the policy for increasing efficiency, for a better distribution of incomes and assuring an optimum harmonization between production factors under the globalization and knowledge based economy.

***Keywords**: Cobb Douglas function, economic growth, employment, fixed assets,gross domestic product*

INTRODUCTION

Economic growth is the main objective of any country as a guarantee of its competitiveness and image in the economic world. Gross domestic product is recognized as the main barometer of living standard. In 2009, Romania was placed on the 46th position in the world with a GDP accounting for
USD Million 161,110, on the 63rd position for USD 7,500 GDP per capita, on the 87th position for the GDP growth rate of 17.95 % in the 2008 compared to the year 2007 [12].
Its creation depends on various production factors such as investments, technical change, fixed capital, value added, employment, market development, export and import, prices, inflation rate, consumption, households' incomes and expenditures.
Among the most important factors of influence are capital and labor, because in order to increase productivity and efficiency both at macro and micro economic level, it is essential to study the capital and labor items.
The increase of capital mainy of of high technical performance and the increased consumption of high qualified labor have a deep impact upon economic growth and GDP.
Since 1930 when Paul Douglas and C.W. Cobb have shown that an increase in a nation's capital stock and labor force means more output and put capital, labor and output in mathematical formula well know as Cobb-Douglas Production Function, many research works have been based on this mathematical useful tool in order to evaluate the substitution ratio between various production factors and to predict the maximum results which could be obtained for specific substitutions rates of inputs [1, 2, 3, 4, 5, 6, 7, 8, 9, 10].
In this context, the paper aimed to analyse the evolution of GDP, fixed assets and employment in Romania's economy during the period 2000-2005 based on the data provided by the National Institute of Statistics, emphasing the relationship between these indicators using corellation coefficients, elasticity coefficients, Cobb Douglas

Production Function and time series analysis[11].

MATERIAL AND METHODS

In order to carry out the paper the empirical data concerning GDP, fixed assets and employment in the economy were collected for the period 2000-2008 from the National Institute of Statistics.

The methodology used to process the data included:

Time Series Analysis based on Fixed Basis Index, FBI, whose formula is

$$FBI = \frac{X_n}{X_0} \text{ x } 100,$$

Average (A) , according to the formula :

$$A = \frac{X_1 + X_2 + ...X_n}{n},$$

Variance , S^2 according to the formula :

$$S^2 = \frac{\sum_{i=1}^{n}(X_i - \overline{X})}{n-1},$$

Standard Deviation , S, according to the formula:

$$S = \left(\sqrt{\frac{\sum_{i=1}^{n}(X_i - X)^2}{n-1}} \right)$$

Variation Coefficient , $V_{\%}$, according to the formula :

$$V_{\%} = \frac{S}{X} \text{ x } 100$$

Covariance, S_{xy}, according to the formula:

$$S_{xy} = \frac{\sum x_i y_i - \frac{\sum x_i . \sum y_i}{n}}{n-1}$$

Correlation Coefficient, r_{xy}, according to the formula:

$$r_{xy} = \frac{S_{xy}}{S_x . S_y}$$

Elasticity Coefficient, E, for GDP, P, function of Fixed assets (FA) and employment (EM) according to the formula:

$$E_{P/FA} = \frac{\Delta P}{P} \div \frac{\Delta FA}{FA} \text{ and}$$

$$E_{P/EM} = \frac{\Delta P}{P} \div \frac{\Delta EM}{EM}$$

Cobb Douglas Production Function, Z, according to the formula:

$$Z = a\, x^{\alpha} y^{\beta}$$

whose solution is :$\log z = \alpha \log x + \beta \log y = \log a$, therefore a linear multiple regression between X= log x, Y=log y and Z= log z, where Z=Gross Domestic Product, X=Fixed Assets and Y= Employment.

RESULTS AND DISCUSSIONS

The Evolution of Gross Domestic Product. In the period 2000-2008, Romania's GDP increased from Lei Million 80,984.6 in the year 2000 to Lei Milliom 514,654 in the year 2008. Therefore, it was 6.35 times higher in 2008 compared to the year 2000 showing that Romania regietered an important economic growth in the analysed period (Table 1).

Fixed Assets has recorded a similar increasing trend but the increase was a more dynamic one. In 2008, the value of fixed assets in the Romanian economy accounted for Lei Million 1,346,619 being 9.28 times higher than in 2000, when it registered Lei Million 144,978.2 (Table 1).

Table 1.Gross Domestic Product, Fixed Assets and Emploment in Romania during the period 2000-2008

Year	GDP Lei Million	Fixed Assets Lei Million	Employment Thou persons
2000	80,984.6	144,978.2	8,629
2001	117,945.8	217,150.6	8,563
2002	152,017.0	285,556.4	8,329
2003	197,427.6	672,244.7	8,306
2004	247,368.0	552,622.2	8,238
2005	288,954.6	624,752.8	8,390
2006	344,650.6	718,629.7	8,469
2007	416,006.0	915,282.8	8,726
2008	514,654.0	1,346,619.0	8,747
2008/2000 %	635.49	928.84	101.36

The Employment has registered a different situation compared to GDP and fixed assets**.** In the year 2000, about 8,629 thousand persons were employed in the economy. In the following year, the number of employed people has continuously decreased till the year 2004, when it registered the lowest level 8,238 thousands. But starting from the year 2005, the employment increased accounting for 8,747 thousand persons in the year 2008. Comparing the situation in 2008 with the one in the year 2000, we could say that employment recorded a slight increase by 1.3 % in the last year of analysis (Table 1).

Fixed Basis Indices for GDP, Fixed Assets and Employment show the increased trend of these three important indicators characterizing the Romanian economy in the period 2000-2008 (Table 2).

Table 2. Fixed Basis Indices for Gross Domestic Product, Fixed Assets and Emploment in Romania during the period 2000-2008 (%)

Year	GDP	Fixed Assets	Employment
2000	100.0	100.0	100.0
2001	145.6	149.8	99.2
2002	187.7	196.9	96.5
2003	243.7	463.6	96.2
2004	305.4	381.1	95.4
2005	356.8	430.9	97.3
2006	425.5	495.6	98.1
2007	513.6	631.6	101.1
2008	635.4	928.8	101.3

The statistical parameters for GDP, fixed assests and employment in the period 2000-2008 are presented in Table 3. As we may see in the average values for the three indicators in the analysed period was: 419.77 % for GDP, 98.34 % for Fixed Assets and 323.74 for Employment.The variation coefficient registered 61.77 % for GDP, reflecting a large variation among variables, 2.20 % for fixed assets showing a low variation across the years and 54.78 % for employment, a high variation during the analysed period.

The Correlation Coefficients between GDP, fixed assets and employment varied from a couple of indicators to another. The correlation between Fixed assets and employment is 0.384, a middle to reduced relationship the two indicators, meaning that an increased value of fixed assets will not lead to an increased employment. The correlation between fixed assets and GDP is 0.962 showing that an infusion of fixed assets in the economy will have a strong and positive impact upon economic growth. The correlation between employment and GDP is 0.435 and its value show that employment is an important economic factor (Table 4).

Table 3.Average, Standard Deviation and Variation Coefficient for GDP, Fixed Assets and Employment for the period 2000-2008

Year	Average	Standard Deviation	Variation Coefficient %
GDP	419.77	259.31	61.77
Fixed Assets	98.34	2.16	2.20
Employment	323.74	177.36	54.78

Table 4.Correlation Coefficients between GDP, Fixed Assets and Employment

Correlation Type	Correlation Coefficient
Fixed Assets x Employment	$r_{xy} = 0.384$
Fixed Assets x Gross Domestic Product	$r_{xz} = 0.962$
Employment x Gross Domestic Product	$r_{yz} = 0.435$

Gross Domestic Product Elasticity pending on fixed assets and employment. The GDP elasticity function of fixed assets varied between values lower than 1 and also higher during the analysed period showing that in the years 2005 and 2006 GDP was deeply influenced by the increased value of fixed assets, while in the other years and mainly in the year 2003, its influence was weaker.

Table 5. GDP Elasticity function of Fixed Assets and Employment

Year	PIB Elasticity	
	Fixed Assets	Employment
2000	-	-
2001	0.91	-57.00
2002	0.89	-15.59
2003	0.20	-81.75
2004	-0.74	-77.12
2005	1.03	27.05
2006	1.06	85.87
2007	0.64	29.36
2008	0.41	609.00

Looking at the GDP elasticity function of employment, we may see a large variety of both positive and negative values. In the period 2000-2004, the employment had a strong and negative influence on the economic development while starting from 2005 it has become an important factor in the economy deeply contributing to the increase of GDP.

Cobb Douglas Production Function. Based on the time series indices referring to the three indicators and the specific calculations, finally the Cobb Douglas production function was shaped. In case of Romania, the classic Cobb Douglas variant has the following aspect:

$$GDP = 2,79 \times FA^{0.62} \times EM^{0.38}$$

The fact that α and β parameters are not quite identically means that the contribution of the two factors, fixed assets and employment to GDP is not relatively stable. Each factor has to be analysed in more details in order to a better identification of the traditional items they consist of and to evaluate their role and impact in the economy. Concerning fixed assets, they consists of essential generators of economic progress such as infrastructure in research, development, innovation, intangible assets, natural capital, institutional capital etc. Regarding labor, represented by employment, is could be considered the core of the economy because the high qualified labor is a real stimuli enhancing the whole economy.

The common item of the both production factors is represented by intangible assets, which are the main contemporary generator of income and profit for the largest national national and multinational companies. The more intangible assets in the economy, the higher economic growth. Usually, intangible assets are named "intellectual capital", a new form of technological progress.

CONCLUSIONS

1.Production factors represented by fixed assets and employment have an important role in the contemporary economic development, stimulated by technological progress.

2.The use of Cobb-Douglas production function is an important econometric tool for drawing the decisions both at macroeconomic and microeconomic levels regarding the policy for increasing efficiency, for a better distribution of incomes and assuring an optimum harmonization between production factors under the globalization and knowledge based economy.

3.This study is just among the few studies run on this topic in our country and it could open new doors of knowledge in scientific research.

4.The same model of analysis could be used for studying the relationship between GDP created in agriculture and fixed capital in this economic sector as well as employment in agriculture and rural areas.

5.For the Romania's economy, it would be also useful to continue this analysis approaching the topic of natural capital and its impact in the economy, the effects of population migration from the rural to the rural areas but also abroad, the involvement of foreign investments and their impact in the Romanian economy.

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THE ECONOMIC IMPACT OF MEAT PROCESSING AT EUROPEAN UNION LEVEL – THE DANISH MODEL

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Abstract

The Danish Crown group is an international food producer with production and sales across the world. At present it is the world's third largest and Europe's second largest pig slaughtering business and also Europe's largest meat processing company. The cooperative has achieved this status by setting and observing very high and strict quality standards at all stages in meat processing, which explains why its products are exported all over the world.

Keywords : *cooperative, slaughterhouse, pork, processing, quality, health, veterinary inspection*

INTRODUCTION

The aim of this paper is to present the high quality standards achieved by Denmark in the field of meat processing. Our starting point is The Danish Crown group, an international food producer with production and sales across the world, which is now the world's third largest and Europe's second largest pig slaughtering business, Europe's largest meat processing company, Denmark's largest cattle slaughterhouse business, one of the two or three largest meat exporters in the world and the world's largest exporter of pork.

The first Danish co-operative pig slaughterhouse was established in the town of Horsens in 1887. During the following 40 or 50 years a large number of pig slaughterhouses were established around the country. In 1960 the co-operative slaughterhouses began to merge in order to acquire more strength to handle functions such as sale, marketing, and product development. In 1998 Danish Crown and Vestjyske Slagterier merged. In 2002 Danish Crown and Steff-Houlberg merged, and a large proportion of the original co-operative pig slaughterhouses are included in the new Danish Crown.

MATERIAL AND METHODS

Danish Crown's job is to provide its members with the greatest possible returns on their livestock investment. The modernisation of primary land use farming continues apace, and production from co-operatives is now shared among fewer and fewer players. With this in mind it is vital that Danish Crown is seen to be a professional, engaged partner for the modern farmer that talks and listens.

Today they export 92% of their production to the rest of the world. Growth must take place without spreading their resources too thinly, and this will often mean increasing activity in a market where they are already established.

That is why expansion in the European meat processing sector is their first priority - although they will still keep their eyes and ears open for opportunities to expand in other areas.

As one of Denmark's biggest businesses Danish Crown are required to tackle change.

They must be willing to implement new approaches in their supply chain and production processes, and flexible attitudes towards work and employment practices help to enable this.

As a global player, they have to be able to manoeuvre and alter their position on both a macro and micro scale. Individual market conditions change constantly, meaning that Danish Crown has to constantly react. This includes production costs and wage structures, which must match varying local and national conditions.

Their main markets are the EU, Japan, Russia, and the USA. Danish Crown offers about 200 standard cuts as well as special cuts to the specifications of the customer. Danish Crown pork provides assurance of:

- **Uniform products** - This uniformity has been achieved through more than a hundred years of breeding, which has made Danish pigs world famous for a high meat percentage and a good meat/fat distribution. Uniformity is also achieved by slaughtering the pigs when they are within a narrow weight range, and by carefully sorting the carcasses at the slaughterhouses after slaughtering.
- **Products of high quality** - Quality is the key concept in the production of the farmer as well as when the pigs are slaughtered and processed. The farmer provides optimum conditions for the pigs, resulting in good and healthy growth conditions as well as pork of a high nutritional quality. The slaughterhouses treat the pigs gently, which ensures a high meat quality, and their employees are trained to treat the meat with the utmost care so that it is of pristine quality
- **Products with veterinary approval** - The Danish veterinary inspection is one of the strictest in the world, both in the primary farming industry and at the slaughterhouses. The veterinary inspection at Danish Crown's plants operates independently of the plant, thereby ensuring a strict and objective inspection.

- additional inspection by means of HACCP/in-house inspection - The veterinary inspection is supplemented with in-house inspection according to the HACCP principles. The object is to assure the consumers the maximum hygiene quality, and thus food safety, through preventive measures. All slaughterhouse employees have passed a hygiene course in order to be able to perform the day-to-day in-house inspection.
- dependability of supply - The large tonnage handled by Danish Crown permits them to plan their production accurately and implement efficient logistics, and since they have their own shipping department and co-operate with leading transport companies they are able to assure the customers delivery of the right quality and the volume ordered at the agreed time.

RESULTS AND DISCUSSIONS

Pigs are slaughtered mainly in large slaughterhouses around the country. Pig slaughter consists of a long series of processes, as follows:

Transport and lairage. When a farmer is ready to supply pigs for slaughter, he contacts the slaughterhouse about a week before and tells how many pigs he expects to supply. This provides time for the slaughterhouse to plan collection and slaughter. The day of collection by the haulage contractor, or the previous day, he moves the pigs to a special delivery room, which is separated from the other production. The reason is to avoid that the transport driver, who might have other pigs on the lorry, transfers infection to the herd.

It is most common for the slaughterhouse to plan the collection of the pigs. The transport is done by private haulage contractors, but the slaughterhouse will normally plan the route to ensure that the pigs spend as short time as possible on the lorry. Nearly all Danish slaughter pigs spend less that three hours from the farm to the slaughterhouse - the transport will typically last 1-1 1/2 hours. This is far less than the maximum allowed transport time. According to the regulations animals may be transported for up to eight hours before they are fed and watered.

The pigs are transported to the slaughterhouse in special lorries with slip proof flooring, ventilation and division into compartments so that pigs from different herds do not fight. A few farmers choose to deliver the pigs themselves.

At the slaughterhouse the pigs are driven out of the vehicles and checked by a veterinary surgeon to ensure that they are healthy; they are then driven to the lairage pens.

Stunning and sticking. After a couple of hours in the pens the pigs are driven to stunning. They are stunned with carbon dioxide (CO_2) by being driven into a 'lift', which subsequently is lowered into a pit with carbon dioxide. The pigs become unconscious by breathing the carbon dioxide. The unconscious pigs are lifted up in a hind leg and conveyed to be stuck in the neck artery and die. They are often stuck with a special hollow knife with a hose attached, so that the blood is collected automatically via the knife. The blood is later centrifuged to separate it into plasma (ca. 60%) and haemoglobin, which are both frozen. The total blood is used directly for the manufacture of blood pudding and sausage, but the blood plasma is used as an ingredient for a number of products. The haemoglobin part (red) is used for example as mink feed.

Unclean slaughterline. After stunning and sticking the first part of the process is the unclean section where the carcasses are scalded. They are pulled through a long vessel with warm water (61ºC) where the hairs are loosened. The scalding can also be done with steam; then the carcasses are conveyed through a cabinet, while hot water vapour is blown over them.

The carcasses are then going through the dehairer, where hair and hooves are removed while the carcass passes between two cylinders.

After the dehairer the carcasses are transferred to gambrels with the ends going through each hind leg so the carcass hangs with its head downward. Each gambrel has a number, for example a bar code, a radio chip or a steel plate with punched numbers, which automatically records when the carcass moves through the different processes on the slaughterline.

The carcass is then singed in a kiln with flames that carbonise the outer skin layer. This removes any remaining hairs and contributes to giving the skin the correct texture.

The next stage is the rind treatment, where the black rind from the singeing is scraped off. This is done in several stages - first by the so-called black scraping, which removes the majority, followed by a further scraping and brushing to clean the carcass all over.

The carcass is now ready in the 'unclean' part of the slaughterline and is transferred to the 'clean' part.

Clean slaughterline. The first thing that happens here is that the carcass is 'opened' i.e. cut open with a perpendicular ventral cut. The thorax bone is sawn through so that the carcass is open at the front. The viscera are taken out and divided into pluck (i.e. tongue, oesophagus, heart, lungs, liver and diaphragm) plus stomach and intestines. The viscera are conveyed parallel with the carcass to the veterinary meat inspection.

The carcass is split. First it is cut from the dorsal side at both sides of the spinous processes of the backbone (called 'free cutting'); then it is split with a saw into two halves along its length through the backbone and chest to be joined by the snout only.

The carcass and the viscera are then checked by a veterinarian to ensure that the meat if free of disease. If there is sign of disease, the diseased parts are partly or completely condemned depending on the type of disease. Approved stomachs and intestines are sent to the casing cleaning department, and the other approved parts are being chilled.

Then the carcass is weighed. The supplier's number (i.e. the farmer's number) is registered on a computer together with the carcass weight (carcass without blood and viscera). Then the carcass is classified and is ready for carcass chilling.

Classification and payment. In the classification the lean meat content is measured in each carcass. The meat content ('meat percent') is, in combination with the carcass weight, the basis for the payment to

the farmer. He is paid according to the number of kg lean meat in the carcass. Each week the slaughterhouse companies determine their basic price per kg pig meat.

Measurement of the lean meat content in the carcasses has hitherto been done in a special 'classification centre' where probes are inserted into the carcasses and measure - via light reflection - certain fat and meat thicknesses. Based on these measurements the meat percent is calculated for the carcass and for the major cuts. A new equipment for classification, which is based on ultrasound measurements, has been implemented at one slaughterhouse. The advantage is that the measurement can be done without penetrating the carcass.

The farmer gets the basic price for the pig if the carcass has the basic lean meat content (today 60%) and is within a certain weight interval. If the meat content is lower than the basic, there is a deduction from the payment, and if it is higher, the payment is increased up to 65%, where the payment is not increased further.

If the carcass weight is lower or higher than the optimum interval (typically between 67 and 81-82 kg) there is a gradual reduction in the payment.

If the farmer produces special pigs (for example pigs with a special good eating quality or ethical quality) he gets a special addition to the basic price.

The slaughterhouses determine the criteria for payment according to the qualities required by the markets. It is important for the farmers to supply the pigs for slaughter when the meat content and carcass weight is at the optimum level in order to achieve maximum payment.

Once a year the slaughterhouses pay an additional 'after-payment' to their members; this means that the annual profit is distributed according to the carcass weight supplied.

Health stamps. The last process is to apply health stamps onto the carcasses to certify that they have been checked and to be able to trace back in case of problems.

Meat from slaughterhouses authorised for export, i.e. slaughterhouses fulfilling especially high hygiene requirements, will be stamped with oval stamps (at least 6.5 x 4.5 cm), which among other things show the plant's authorisation number. Meat from plants not authorised for export ('home market plants') are marked with a round stamp, which also contains the authorisation number of the plant.

In addition to the official health stamps, the plants often apply their own quality stamps, for example for the selling classes that are marked A1, A and B.

Chilling. When the slaughter processes of the carcass have been completed, it has to be chilled. The temperature of the carcass is approximately 30ºC after slaughter, and it must be chilled to a temperature below 7ºC within 24 hours.

The purpose of the carcass chilling is to arrest the bacterial development in order to improve the shelf-life and safety of the meat. The chilling also contributes to a reduction of the evaporation, so that the carcasses do not lose so much weight.

At the start of the chilling the carcasses are conveyed through the blast tunnel - a long corridor where very cold air (between -20 and -300°C) is blown onto the carcasses to provide rapid cooling. The surface is actually frozen while the interior is still warm.

After the chilling tunnel the carcasses are taken into a chill room at a temperature of 5ºC. They hang here while the temperature in the muscles and the carcass equilibrates to a maximum of 7ºC in the interior.

Carcass cutting. The day after slaughter, when the carcass has been cooled, it will be cut. First the head and feet are cut off - this completes the separation of the carcass into its two halves. Each of the carcass halves is then cut into three parts: Fore-end, middle and hind leg. The middle is often cut into loin and belly. These primal cuts constitute the basis for the further cutting and boning of the meat according to the customers' specifications.

The Danish pig meat export consists mainly of fresh (chilled) or frozen cuts. The fore-ends are for example sent to Germany and Russia, the middles are cut and exported to Great Britain and Japan and the hind legs are trimmed and/or boned and exported to France, Italy and Sweden.

The cuts are mainly used for further processing in the import countries; for example into cured and cooked meat products.

Processing. Part of the pig meat is used for various processed meat products; for example bacon, cold cuts, sausages, cooked hams and various types of canned meats.

Hygiene. A good hygiene is a prerequisite for healthy products of good quality. The hygiene is influenced by many factors during slaughter, chilling, cutting, boning, processing, retailing and storage in the consumer's home. All links in this chain must understand the necessity of good hygiene.

Basically hygiene is to avoid contamination of the meat with undesired bacteria and to avoid growth of microorganisms. Hygiene is also aesthetics/appetising conditions. Few people will accept that food is made or handled in unappetising conditions.

During slaughter the interior of the carcass will be contaminated due to cutting and handling. Knives, saws and other equipment transfer microorganisms from the surface to the interior of the carcass. Contamination of the meat with bacteria from the pharynx and intestines, where pathogens can occur, is particularly critical. Continuous disinfection of knives and equipment, careful handling of the carcasses during the different slaughter processes and effective chilling are preconditions for a good hygiene with minimum microbiological contamination of the meat. It is not possible completely to avoid bacteria on the meat. However, the bacteria are only on the surfaces of the meat - not inside the muscles.

During cutting and boning further bacteria are transferred to the meat from the equipment and the handling of the products. The shelf-life is reduced because many new surfaces are created. Particularly when the meat is minced, where the surface is increased a lot and good conditions are created for bacterial growth.

Bacterial activity, and thus the quality and shelf-life of the products, is first and foremost controlled by the temperature. An unbroken chain of refrigeration, i.e. a constant low temperature during production, storage, distribution and holding in the shop and at the consumers' homes is a precondition for maintaining a good quality and obtaining a reasonable shelf-life of the meat.

Control. The control of hygiene and health is done by the public veterinary inspection and by the slaughterhouse.

CONCLUSIONS

1. Processed meat products are a broadly composed group ranging from whole muscle products such as cured pork loin, cured veal or marinated chicken portions to comminuted products, for example sausages, and from uncooked products to canned meats. Common for them all is that they have been exposed to a process. The processed meat products comprise cold cuts, sausages, canned products etc.

2. Raw materials. The raw materials for the processed products come from all parts of the carcass. For the expensive products, whole meat pieces are normally used; this is for example the case for bacon, cooked ham, cured pork loin and smoked loin. The processing is often curing and possibly smoking and heat treatment.

Comminuted meat products are made from chopped/minced raw materials. The raw materials are often smaller meat and fat pieces, which are cut off during trimming and boning of the cuts. The less valuable parts of the carcass, for example jowls and shank muscles, are also often used for comminuted products.

During the comminution of the meat, various ingredients are added; for example salt, phosphates, proteins, starch and spices. The meat mixture is used for making sausages and canned meat products, for example luncheon meat (a typical export product).

3. Curing. During curing, sodium chloride (NaCl) is added, often together with water, nitrite salt (i.e. salt with 0.6% sodium nitrite), phosphates, ascorbate etc.

The curing has several purposes: To provide flavour and juiciness and to improve the shelf-life. The salty flavour is important for the correct taste of the products. Investigations have shown that approximately 2% salt is suitable for the majority of modern consumers. Many products were more salty earlier, but the focus in recent years on the

unfortunate effect of salt on the blood pressure has contributed to a reduction of the salt content.

Curing is an old method for food preservation. The salt inhibits the growth of many bacteria and stops some of the enzymes in the meat that contribute to its breakdown. In modern meat products the salt content is, however, so low that the shelf-life is prolonged through refrigeration, packaging etc.

4. Smoking. Smoking is an old traditional preservation method. Smoking will preserve the surface of the product by inhibiting the growth of the bacteria. In addition a drying can occur; this will also contribute to a longer shelf-life. Finally the smoke provides colour and flavour - this is today the main reason for the smoking of meat products.

Smoking can be done in three ways depending on the temperature and time for the smoking:

- Cold smoking, where the temperature is 20-30ºC, i.e. where the smoke is cooled. Cold smoking is for example used for salami sausages. Cold smoking is often done over an extended time period from some days to several weeks.
- Semi-warm smoking, where the smoke temperature is ca. 40ºC. This smoking method is used for bacon, cured pork loin and various cold cuts.
- Hot smoking, where the products are heated to 70-90ºC; the products are therefore cooked and can be eaten without further heat treatment. The process typically consists of drying, smoking and cooking. Hot smoking is for example used for Vienna sausages.

5. Heat treatment. Many processed meat products are heat treated (cooked) as part of the process. Most cold cuts receive a mild heat treatment equal to pasteurisation, i.e. a heating to a core temperature of at least 75ºC. Depending on the packaging method, on whether the products are sliced or sold as a piece, on the storage temperature (maximum 5ºC) etc., the typical shelf-life ranges from some weeks to a couple of months.

Perishable canned meats are products that are cooked in an impermeable pack and have a shelf-life of at least six months when refrigerated. When the pack is opened, the shelf-life is only a few days or weeks under refrigeration.

Fully stable canned meats are products that are heat treated to have a shelf-life of at least one year at room temperature - in practice often considerably more. Heat treatment is done in an autoclave (an industrial 'pressure cooker'), where the core temperature in the products reaches 120-122ºC. Canned meats are nearly always packed in metal cans.

6. Additives. Various additives are used for processed meat products. Statutory regulations determine the permitted types and quantities of additives for each product.

Preservatives are used to increase the shelf-life. For meat it is mainly nitrite, which inhibits the growth of bacteria. Nitrite is used as nitrite salt; a mixture of salt and 0.6% sodium nitrite.

Emulsifiers, stabilisers and thickening agents. Emulsifiers are compounds that make it possible to produce a stabile mixture of fat and water that does nor separate. Some proteins, e.g. soy and milk proteins, are used in comminuted products to prevent fat separation during cooking. Polyphosphates also have an emulsifying effect. Stabilisers and thickening agents bind water and contribute to a firm texture of the products.

Colouring matters are only used in certain products, i.e. salami, Saveloy sausage and hot dog sausages ('red sausages'). The similar products without added colour are South Jutland salami, meat sausage and Vienna sausages.

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ANALYSIS OF EXPORT OF VEGETABLES AND VEGETABLE PRODUCTS FROM REPUBLIC OF SERBIA INTO COUNTRIES OF CEFTA REGION

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Abstract

The goal of this research is to perceive demonstrated trends and export structure of raw vegetables and vegetable products from Republic of Serbia into countries of CEFTA region. Also, goal of research is to look at the possibilities of promotion of foreign trade exchange of vegetables and products based on vegetables. Research period is 2007-2009.Research results showed that fresh vegetables and vegetable products represent significant export products of Republic of Serbia. During analyzed period there was negative foreign trade balance of total export of these products. The lagest influence on this negative balance had exchange with Republic of Macedonia. The authors state that the export of vegetables and vegetable products represent large potential of the country and, for the purpose of its better use, there is a need for larger investing into production and processing as well as introduction and application of marketing concept of business. In the paperwork, authors point out the importance of full implementation of CEFTA for further development of export of mentioned products from Republic of Serbia, as well as significance of trade development with the countries which are signed parties to this agreement.

Key words: *fresh vegetables, vegetable products, export*

INTRODUCTION

Production and vegetable processing have great importance for economy of Republic of Serbia. Trough vegetables we can provide the base for diversification in production of many processed products. It enables the achievement of large production value on a relatively small area. Vegetables production stimulate employment and development of commodity production in agriculture. This production enables creation of conections between natural resources and technical/technological achievements in creation of domestic product, which enables that vegetables become important factor of regional development. Products within the group of fresh vegetables and products based on vegetables have significant share in total export of agro-food products from Republic of Serbia, and in export into countries of CEFTA region.

MATERIAL AND METHODS

Research goal is to consider main characteristics of export of fresh vegetables and vegetable products from Republic of Serbia in CEFTA region countries (Albania, Bosnia and Herzegovina, Croatia, Moldavia, Montenegro, Republic of Macedonia) for period 2007-2009. Analysis includes commodity group 054 and 056 according to standard international trade classification (SITC). Research is based on available data, using "*Desk research method*". Source of data is the publication "*Statistics of foreign trade"*, of Republical Statistical Office, Belgrade, for chosen years. Standard statistical-mathematical methods are applied and the most important features are presented using tables and graphs.

RESULTS AND DISCUSSIONS

During analuzed period (2007-2009), average export of fresh and manufactured vegetables (according to *SITC classiffication commodity sector 054 and 056*) into countries of CEFTA region, had value of 32,2 million US dollars.

In 2009 export of mentioned products reached value of 33,5 million US dollars and comparing to the starting research year it was heigher for significant 5,9 millions, i.e. the increment was 21,3 %. From totaly exported vegetables from Republic of Serbia, the largest part was exported in Montenegro, averagelly 9,1 million US dollars, that is 28,2 % of total vegetables quantity.

It is significant to mention that in the last year of the period, in compare to 2008, export of vegetable and manufactured products in Montenegro has decreased for 12,6%. Besides mentioned country, significant importer of vegetables and manufactured products based on vegetables is Croatia, in which averagely 8,6 million US dollars is exported, that is 26,6% out of totaly exported vegetables in CEFTA countries (table 1).

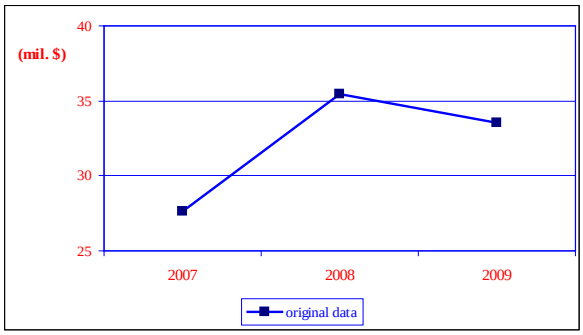
Table 1. Vegetables export from Republic of Serbia in CEFTA countries (2007-2009), 000$

Country	Average value (000$)	Variation interval		Structure total= 100%
		min	max	
Albania	1.167	1.135	1.205	3,6
Bosnia and Herzegovina	7.009	6.610	7.543	21,8
Croatia	8.557	6.770	9.693	26,6
Moldavia	59	42	87	0,2
Montenegro	9.073	7.422	10.562	28,2
Republic of Macedonia	6.313	5.524	7.106	19,6
Total	32.178	27.618	35.416	100

Source: Statistics of foreign trade, Statistical Office of Republic of Serbia, Belgrade

Export of vegetables into Croatia is based on fresh or minimaly processed vegetables. This can be seen trough data that shows that fresh and frosen vegetables, in mentioned country, were exported in the value of 7,1 million, while processed vegetables were exported in the value of 1,5 million US dollars, which was for 78,8% lesser value. The reverse case is with export of vegetables into Republic of Macedonia, where fresh vegetables were exported in the value of 1,5 million US dollars, while processed vegetables was exported in the value of 4,8 million US dollars. About three quarters (77%) out of total value of vegetables export from Repubic of Serbia into countries of CEFTA region is exported into Montenegro, Croatia and Bosnia and Herzegovina.

Vegetables production has good perspectives in facing with competition at foreign market, in conditions of liberalization, but with certain efforts which must be undertaken in the near future.



Graph 1. Vegetables export from Serbia into countries of CEFTA region (2007-2009), million $

Fast capital turnover makes vegetables production attractive for small producers, however large investing in production, storaging and manufacturing capacities for achievement of competitive level of quality, yeald and price, mostly goes beyond their economic possibilities and require credit support and stronger horisontal conection between producers[1]. Products which are competitive at international level from staindpoint of quality are: eatable fresh muchroomes (forest and growed), dried muchroomes, conserved and temporarily conserved, conserved pees, frosen pepper, dried and ground pepper, conserved beens, mixtures of frosen vegetables, black onion, sweet corn in seed, tomato conserved, sauerkraut and fresh broccoli. From the standpoint of the price the following products are competitive: frosen and conserved pees, fresh potato, potato conserved withouth vinegar, sweet pepper (fresh and conserved), crushed and ground pepper, sweet corn, cucumbers and pickels, frosen green beans, frosen spinach, fresh asparagus, beens, fresh peas, fresh cauliflower, sauerkraut, temporarily conserved pepper (except sweet), fresh eggplant, tomato juice and ketchup and tomato sauce.

Products such as vegetables and products based on vegetables which had the largest export value in countries of CEFTA region

[1] Modified by Popović, Vesna, Katić, B. (2007): Uvozna zaštita i podrška izvozu poljoprivrede Srbije u procesu pristupanja STO i EU, Institut za ekonomiku poljoprivrede, Beograd.

were (2009): prepared potato (except in vinegar), frosen peas, dried vegetable mix, frosen green beans and beens, carrot and similar root vegetables, onion, sweet corn, potato flakes etc.

From stated it can be concluded that the largest part of export is represented by primary products or products of lower processing phase. Countries in which export is dominated by primary and half-processed products have unfavorable export structure and lower levell of competitiveness. In such conditions prices of primary products are lower and unstable, and participation and importance of these products in international trade are in constant decrease. On the other hand, countries which export quality final industrial products, that is products of higher processing phase based on modern technology, with significantly higher added value, have favourable export structure and higher level of competitiveness. At the same time, countries with this commodity structure very successfully sell their products at markets of economically developed countries, which additionally increase their profit and stimulate their competitiveness at international level.[2]

Modern and highly productive processing industry is necessary for larger participation of manufactured products in the export structure. To develop processing industry oriented toward export the following is necessary: 1) existence of significant raw material base, that is production of raw material of good quality 2) permanent expansion of assortimant of processed products based on vegetables; 3) new solutions in production and processing technology of vegetables must be searched and find;

There was a lot of time since the beginning of CEFTA implementation, so it can be concluded that all principles of the agreement are not being applied. The largest problem is represented by duty-free barriers which inhibiting free trade in the region. Export barriers do not consist of application of clasical tariff barriers, but of many different limitations, which represents new form of agrarian protectionism measures – quality standards, sanitary policies etc. Duty free barriers, in conditions of inabillity to apply customs in free trade zones, can totaly disturb foreign trade exchange which is enabled by free trade agreement.

Sucessfull export of vegetables and products based on vegetables demands stability and eveness of production, i.e. it is necessary to fulfill the following conditions: products for export should have good quality, should be in enough quantity, should be in continuity and must be permanently under the control - which is harmonized with export standards. To provide enough quantities of products which will be delivered in continuity it is necessary to organize cooperation between raw material producers and economy subjects within agro food industry. From the standpoint of continuous supply of certain segment of international market, individual producers can not produce enough quantities of certain product. Based on previosly said, it can be concluded that cooperation represents one of developmental imperatives of vegetables production in Republic of Serbia, with aim to reduce production expenses, to use better the capacities and to introduce itself more efficiently at the market of CEFTA region.

To increase export of vegetables from Republic of Serbia into countries which are signed parties of CEFTA it is necessary to[3]:

§ Make production growth more dynamic – it is necessary to stimulate production of vegetables and vegetable products using suitable economic measures (it is one of the preconditions of export),

§ Redefine agrarian politics – agrarian politics must be oriented toward export. It considers suitable price politics, land politics, tax system and import-export protection,

§ Stabilize primary production – instability of production tranfer to area of foreign trade exchange. It is necessary to make stabile export surpluses which will, regarding

[2] Đorović, M., Milanović, M., Lazić, V. (2003): *Bilansna analiza spoljnotrgovinske razmene poljoprivrednih proizvoda*, Poljoprivreda i ruralni razvoj u evropskim untegracijama, Poljoprivredni fakultet, Beograd, str. 6.

[3] Modified Vlahović B. (2003): Tržište poljoprivredno prehrambenih proizvoda, specijalni deo-knjiga II, Novi Sad.

quantity and quality, satisfy the needs of foreign buyers,

§ Change export structure – to strive to get as much of the export of vegetable products realized from the higher stages of processing, since this results in higher profitability of exports,

§ Maintain and improve quality of vegetables for export – this is significant because at international market there are extremely strong criteria regarding products quality,

§ Conduct international market segmentation – it is necessary to determine these segments which have special importance for vegetables export, and especialy products based on vegetables. Products must be adjusted to selected market segment.

§ Create recognizable "trade mark" – "Serbian Vegetable", i.e "Vegetables of Serbia" which will guarantee high products quality (which foreign buyers will recognize),

§ Stimulate export – since export is largely determined by economic-sistem solutions and measures of economic politics, governmental help is necessary to facilitate dissaperance of barriers in international trade,

§ Export organicaly produced vegetables – world trend of organic production of agricultural and agrifood products, with the purpose of receiving healthy safe food, it is necessary to use for increment of vegetables export.

§ Harmonize standards and policies with standards and policies of import countries – this considers introduction of system of safety and quality for agro food products (GlobalGAP, ISO, HACCP)

§ Have marketing approach regarding export – this market approach considers exploration of foreign market and production of such products which will satisfy the needs of foreign consumers (regarding quality, assortmant, package size, package design etc.), i.e. it considers leading of such politics which will result in optimal combination of all elements of marketing mix.

Significant problem for vegetables export is the fact that in Republic of Serbia there is small number of producers with production which can satisfy longterm export plans. Mostly there are producers which produce relatively small quantities of vegetables, for own needs and for local market. Withouth producers with larger and continous production we can not expect serious vegetables export. It is notable that lack of production concept according to the needs and demands of foreign (heterogeneous) market. Old technology and equipment in agro food industry, is limitation factor in development and production of new products and expansion of assortment of products made of vegetables. Production of fresh and processed vegetables is characterized with low productivity of work, which as a consequence has relatively high prices of products, which implies low competitiveness of vegetables from Republic of Serbia at the market. In further period it is necessary to work on production of vegetables of good quality with respect of standards in import countries. Also, it is necessary to consider the quality and design of package. Certain perspective exist regading export of early vegetables produced in protected space. Vegetables produced in such way has larger price comparing to vegetables produced and exported in the full season. Significant chance exists in production and export of "healthy safe vegetables", for which in Republic of Serbia there are large potentials, and all in accordance with growing demand for safe and ecologically clean products. It is necessary to expand assortmant of processed vegetable, which should be created accoding to the needs and demands of foreign market. It is necessary to define developmental priorities based on export strategy. New technical-technological solutions in production, processing and packaging of vegetables must be find. Marketing business concept should have dominant place in creation of production and export concept which must be directed toward needs and demands of foreign consumers, toward satisfaction of needs of foreign market and achievement of profit.

CONCLUSIONS

During analysed period, export of vegetables and products based on vegetables into countries which are signed parties of CEFTA

was averagely 32,2 million US dollars and has growth tendency. The most significant export destinations are Montenegro, Croatia and Bosnia and Herzegovina in which there is over 77% of total vegetable export. Export structure is unfavorable because 51% of total export value is represented by primary products or products of lower processed phase. To have successfull introduction at target market, one should change structure of vegetables export, that is one should not strive toward quantity, but toward gradual increase of participation of vegetables of high quality, which will be directed toward defined market segments. It is necessary to join large producers which will sell vegetables and products based on vegetables under common name "Serbian Vegetable", that is "Vegetables of Serbia" which will guarantee high products quality, and all that for the purpose of better positioning at the market of CEFTA region.

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AGRICULTURAL BIOTECHNOLOGY IN PAKISTAN: AN OVERVIEW

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Abstract

Agriculture is the livelihood of rural areas and plays a vital role for the economy of Pakistan. This paper reviews the mechanism governing the research and release of transgenic crops through various research institutions and regulatory authorities. The concise functioning of government agencies in relation with recent approvals has been studied and elaborated. Although Pakistan has many state of the art centres of biotechnology research but the main focus has been on cotton and rice only and so far only transgenic cotton has been approved for wide scale cultivation. There exists a large scope for genetic manipulations of other crops and an effective extension of developed GM varieties from laboratory to farm. The wide spread cultivation of Bt cotton since 2002 demonstrates the need for implementation of biosafety regulations and capacity building in management of GM crops.

Keywords: *GM crops, research infrastructure, extension, regulations*

INTRODUCTION

The economy of Pakistan is dependent upon agriculture. About 67% of the population is linked with agriculture .It provides 24% of GDP as well as 48.5% of national exports [2]. Due to various factors, agricultural progress is not sufficient to account for national food security. During 2004-2010, average growth rate remained 3.75% per annum.The depletion of agricultural resources demands a 5-6% increase in agricultural output for food security.
The principle aim of this paper is to provide an overview of GM crops research in the country. It covers policy and legislative issues related with agricultural technology.

MATERIAL AND METHODS

The current situation of development and adoption of transgenic crops is assessed by reviewing the already work done in Pakistan. A comprehensive literature on research infrastructure, regulations and approval mechanisms was analysed.

RESULTS AND DISCUSSUIONS

Need of Agricultural Biotechnology. Wheat, rice, cotton, sugarcane and maize are the major crops and they account for more than three-quarters of total crop output. Despite recent increase in agricultural output, the crop productivity is still very low as compared with the potential yield output. (Fig.1).

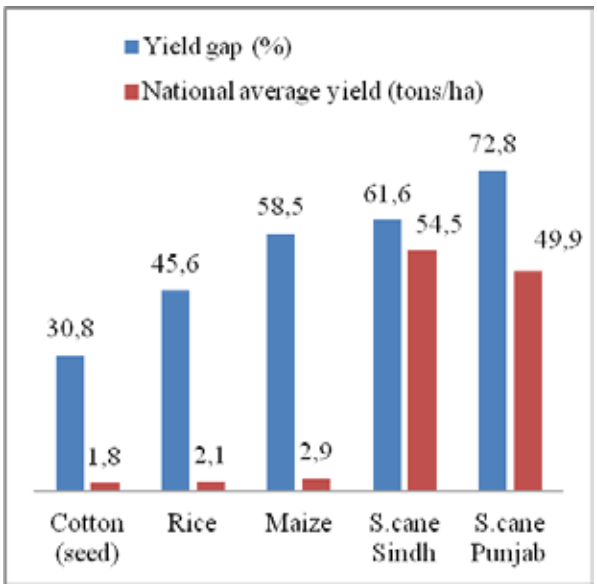

Fig. 1.Yield Gap of Major Crops

It is mainly due to biotic and abiotic stresses e.g. high price of agriculture inputs, high intensity of insects and pests attack, shortage of good quality and varieties of seeds, scarcity of water etc. Biotechnology can help revolutionize farm efficiency through genetic

modifications of local cultivars for various characteristics such as insect resistance, herbicide, salinity and drought tolerance. Similarly soil desertification can be minimised by adoption of transgenic crops with low tillage characteristics to promote soil structure. Due to a lack of effective collaboration among institutes and government departments, the adoption of technologies has been very slow.

Research Infrastructure. Pakistan has a pro-biotech govt. and public where research and introduction of transgenic crops are emphasized. Biotechnology is recognized as priority area of research. In total there are 29 centres conducting biotech research at various levels. There are a number of new transgenic technologies being worked on relevant to major crops. Most are output traits and a few input traits related to disease control and RNA mutations. Several ministries and departments are responsible for biotechnology research, policy and regulation. These include the Ministry of Food, Agriculture & Livestock, the Ministry of Science & Technology Research, Higher Education Commission, and National Commission on Biotechnology, Pakistan Council of Science and Technology, and the Pakistan Atomic Energy. Biosafety aspects are the responsibility of the Ministry of Environment, Local Bodies and Rural Affairs. Although the infrastructure is not well organized a general layout can be drawn as follows:

The Pakistan Council for science and technology (PCST) is the country's central body responsible for formulating policies and projects in support of national development. It works in close consultation with the federal ministries and provincial departments, major R&D organizations, universities and private sector. Its plans are reviewed by the Executive Committee of the National Commission on Science and Technology (ECNCST) before approval from National Commission on Science and Technology (NCST).

Pakistan Agricultural Research Council (PARC), part of the ministry of food and agriculture is responsible to conduct, support, and co ordinate and promote agricultural research. Under its management, a number of Biotech Institutions conduct agricultural research in various agro-ecological zones. The largest of these is National Agricultural research Centre (NARC).NARC tests and disseminates germplasm for various food grains, vegetables and fruit crops. The research activities of NARC are organized into 11 institutes which conduct research on more than130 crops with a focus on national problems.

Ministry of Food and Agriculture (MINFA) deals with the production and release of GM crops. It has developed several Standard Operating Procedures (SOPs) for handling of cases of improvement, approval and release of GM products. The Ministry of Environment heads the National Biosafety Committee (NBC) and is responsible for oversight of all laboratory work and field trials as well as authorizing the commercial release of GM products. National Biosafety Committee (NBC), Technical Advisory Committee (TAC) and Institutional Biosafety Committee (IBC) administer the enforcement of National Biosafety Guidelines, awarding exemptions for laboratory and field work related with bioengineered products.

National Commission on Biotechnology composed of renowned scientists in the field of biotechnology was set up in 2001. This commission advises Govt. on specific measures for the development of biotechnology and it works for collaboration between the Government and the private sector for development of high yielding disease resistant varieties.

The Pakistan Biotechnology Information Centre has been established at Latif Ebrahim Jamal National Science Information Centre, University of Karachi under the patronage of International Service for Acquisition of Agri-Biotech Applications (ISAAA) and National Commission on Biotechnology. It serves as a hub to disseminate information, to support the collaborative efforts and to develop a network of institutions and individuals working in this field.

Regulation and Release of Transgenic Varieties

Pakistan is very vigilant about introduction of transgenic varieties into the environment and

risk assessment needs extensive information on a wide range of potential adverse effects. All GM crops are considered to be new organisms and risks of releasing GMOs into the environment are assessed with the same criteria as the risks of releasing any new species of plant, animal or microbe. The release cannot be granted if new variety might displace native species or damage natural habitats[1].

At present various ministries are handling issues of geographical indications (ministry of commerce), copyrights (Ministry of Education), Biosafety guidelines, Cartagena Protocols (Ministry of Environment) and Plant Breeding Rights (Ministry of Food, Agriculture and Livestock).Many NGOs (Action Aid, Oxfam STIP,SUNGI etc) are also actively involved in raising issues related to biotechnology, GM crops and globalization.

Pakistan has ratified the Cartagena Protocol on Biosafety (CPB).Plant variety protection is regulated by the Plant Breeders Rights Ordinance (2000) which still needs enactment. Amendments to the Patent and Designs Act (1911) and Patent Ordinance (2000) to cover biotechnological innovations are also pending enactment. The Intellectual Property (IPR) Law does not cover live material and the Environment Protection Act does not cover GMOs.

Development of GM Crops

Although Bt cotton has been in cultivation since 2002 in Sindh and Punjab, formal approval was granted in 2010 when 8 Bt cotton varieties, produced by Nuclear Institute of Biotechnology and Genetic Engineering (NIBGE) were released for general cultivation. In January 2011, 3 more Bt cotton varieties, developed by Centre of Excellence in Molecular Biology (CEMB) were approved for next growing season. Research work on other crops is mainly in experimental and field evaluation stages (Table 1).

Table 1. Development of GM Crops in Pakistan

GM Crop	Genetically Engineered Traits	Stage
Cotton	Diamond back moth resistance with Bt genes, virus (ClCuV) resistance with Tr AC gene, virus (ClCuV) resistance with RNA interference RNAi, salinity tolerance, fibre modification, drought, herbicide tolerance	8 varieties approved for commercial release in 2010 and 3 varieties in 2011,Field Trials
Rice	Bacterial blight resistance with Xa21 gene, salt tolerance with yeast and Arabidopsis Na+/H+ antiporter genes, Insect resistance with Cry1Ac & Cry2A genes	Field trials, ready for release
Maize	Drought, herbicide and insect resistance	Experimental
Potato	Virus and insect resistance, salt tolerance	Experimental
Sugarcane	Insect resistance with Cry gene	Experimental
Chickpea	Insect (Bt gene) and virus resistance, Drought and salt tolerance with yeast, Arabidopsis Na+/H+ antiporter genes	Experimental
Sunflower	Drought and herbicide resistance	Experimental
Chillies	Virus resistance	Experimental
Tomato	Virus (TLCV) resistance through RNAi, Male sterility through RNAi male sterility, salinity tolerance	Experimental
Cucurbits	Virus resistance	Experimental
Tobacco	Insect (*Helicoverpa armigera* and *Heliothis vericens*) resistance with a novel synthetic spider venom gene, Salt tolerance with Yeast and Arabidopsis Na+/H+ antiporter genes, Salt tolerance with ArDH, chloroplast transformation	Experimental
Groundnut	Fungal resistance, herbicide tolerance	Experimental
Brassica	Male sterility through RNAi	Experimental

Reasons for delay in adopting transgenic crops include a long delay to develop and approve Biosafety Rules and Guidelines by the Ministry of Environment. Plant Variety Protection Act has still not been enacted and amendment Seed Act 1976 is still pending for

approval. The delay in seed and plant breeder legislation, and poor implementation of Intellectual Property Laws are perceived as a major impediment to investment in Pakistan by multinational seed companies. Reluctance in finalizing this legislation is due, in part; to the desire of Pakistan's research communities to remain autonomous.

CONCLUSIONS

Illegal import and multiplication of Bt cotton seed in Sindh and Punjab created havoc at farmers' field. Absence of biosafety guidelines and awareness at the farm level complicated the issue. To mitigate these issues, following recommendations may be considered.

- Identification of sources for import of elite germplasm.
- Reliable information must be extended to regulators, farmers and producers to help them make decisions based on up-to-date information and knowledge.
- Proper legislation on variety patenting is needed.

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DISTRIBUTION OF MUSHROOMS IN PAKISTAN

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Abstract

A variety of mushrooms is found in various regions of Pakistan. Out of total, 10% are edible and can be commercially grown. For food security, it is vital to propagate mushroom cultivation in Pakistan. It could also solve the problem of disposing of inedible organic wastes leading to environmental rehabilitation. To protect the diversity of these edible mushrooms, more work on the protection of habitats and propagation methods is needed.

Keywords **:** *mushroom spp. cultivation, distribution, Pakistan*

INTRODUCTION

The mushrooms are an important source of food throughout the world. The protein contents of fresh mushroom are 4% whereas that of dates, potatoes, lettuce and banana are 2%,1.4%,1%, and 0.6%,respectively.the protein contents of dried mushrooms have been found to be upto36.7% whereas that of beef is only 21% [8].

Mushroom's proteins contain all nine essential amino acids and amides [6]. In addition to their good protein value, the mushrooms are relatively good source of fat, phosphorus, iron, thiamin B1, riboflavin B12, niacin and biotin. Species differ in the amount of a specific vitamin. Generally mushrooms contain every mineral present in their growth substrate. In general, mushrooms contain significant quantities of phosphorus, sodium and potassium, a lesser amount of calcium and a very low amount of iron [7].They are low in calories, carbohydrates and calcium but high in ascorbic acid (vitamin C) in *Agaricus* and *Ergosterine* (vitamin D) in *Lentinus* and *Volvariella*. The crude fat content of mushroom is as low as 1% and as high as 15-20% of dryweight. Of the total amino acids content 25-40% comprises essential amino acids. Approximately 25-35% of the total amino acids occur as free amino acids, the remainder is combined in the protein.

Ahmed (1941, 1952, 1978) published excellent information about taxonomy and distribution of various fungal groups from Pakistan including edible mushrooms like Morchelles and Tube. Gastromycetes. Kurtzman (1975) suggested some prospects of cultivation of mushrooms from Balochistan, Khan (1975) reported 91 wild mushrooms including 15 edible mushrooms from Pakistan.Batra (1963,1983) collected edible discomycetes from Pakistan, North Eastern India and Afghanistan. Sheikh and Banaras (1991) described morels (Morchella)-hybrid from Azad Jammu and Kashmir.

There is still a long way to go regarding the cultivation of mushrooms because at present only at a few institutes mushrooms are grown. Present study is an attempt to compile all available data on the existing diversity of mushrooms in Pakistan through old work to confirm the availability and distribution of different species. On the whole local people collected four species from Balochistan, five from Sindh, three from Punjab. From Northern Areas only Morchella was collected. While there are more than 10 edible species. Similar situation exists in Azad Kashmir.

MATERIAL AND METHODS

The mushrooms were collected along with the stalks and made in the form of garland. Later they were hanged for drying. They were very light in weight. The mushrooms that were thick in texture e.g. *Boletus so*. And *Suillus*

sp. can be cut into two or four pieces for drying /liquid preservation.

Microscopic observation. Herbarium specimens were passed through 95% ethanol for few seconds to remove air bubbles, and then flooded with water. Suspended in 3% KOH for 3 min. and washed six times repeatedly in tap water. They were sectioned by hand. The sections were examined under the microscope in water and then in the *Lactophenol/Cotton Blue*.Spores were measured in water and other structures in *Lactophenol*. Terminology used follows Korf (1973).The material from Punjab Azad Kashmir and NWFP are located in Pakistan Museum of Natural History (PMNH) Mycological Herbarium.

RESULTS AND DISCUSSION

Out of a total approximately 400 species of mushrooms, 44 are edible that makes 10% of the total. There may be many more but we still have to analyze. Out of 56 the inhabitants collect mostly 7 species of Morchella in Northern Areas, Azad Kashmir and Punjab (Murree) and 4 in Balochistan (Table 1).The market people buy at low rate from local people. The actual interest goes to the middleman. The sharp rise in the world population as a whole and in the developing countries in particular, has called upon producing more food. At the same time there is also a need to consider alternative ways of producing food.

Table 1.Common Mushrooms found in Pakistan

Region	Species
NWFP/ Azad Kashmir	*Agaricus bisporus,A.sylvaticus,Armillaria melae,Boletus edulis,Bovista nigrescens, Cantherallus citsarius, Coprinus comatus, Langermannia gigantean,Lycopredon echinatus, Morchella conica,M.crassipes, M.delicosus,M.elata, M.esculenta, M.miyabeabus, M.semilibra, M.smithiana, M.vulgaris, Pleurotus ostreatus, Truffles, Termitomyces macrocarpus, T.mammyformis, T.microcarpus, Volvariella volvacea, Volvariella speciosa*
Punjab	*Agaricus bisporus, Agaricus sylvaticus, Coprinus comatus, C.atromentarius, Lycoperdon,Pleurotus cornucopiae,P.dryinus, P.ostreatus, Podaxis pistillaris, Volvariella volvacea, V.speciosa, V.bombycina*
Sindh	*Lycoperdon , Langemannia gigantean, Phellorina inquinans , Podaxix pistillaris*
Balochistan	*Agaricus rodmani, Phellorina inquinan, Podaxix pistillaris, Lycoperdon sp.*

Mushrooms have traditionally been considered as a food of high quality with a pleasant flavor, appealing texture and nutritional value. The world data shows that the mushrooms produced from industrial and agricultural discards contain 30-35% protein content on dry weight basis and about 3-4%on fresh weight basis. This proportion is twice of vegetables such as Asparagus and four and twelve times of fruits such as oranges and apples, respectively.

Mushrooms can therefore, immediately supply additional protein to human. As far as the quality of protein is concerned, they are made up of over 20 different amino acids in varying amounts and are qualitatively different. The human body can cover some of these amino acids into others but there are nine amino acids that the body cannot make. These are the essential amino acids (lysine,methionine,tryptophane,threonine,valine, leucine, isoleucine, cystine and phenylalanine). In addition to good protein, the mushrooms are good source of phosphorus,fat,iron,thiamine.(B1)riboflavin(B2) and low calories of carbohydrates and calcium but high in ascorbic acid (Vitamin C),in *Agaricus* vitamin D is found in *Lentinus* and *Volvariella*.

The mushrooms cultivation in Pakistan will have a significant impact on food production and could solve the problems of disposing inedible organic wastes. Organic wastes like cellulose, hemicelluloses and lignin can be broken down into simple substances and other minerals. This will also help in making the soil more fertile. The byproducts which in turn can be used as feed for animals and as fertilizers for other crops.

CONCLUSIONS

To protect the diversity of these edible mushrooms, more work on the protection of habitats and propagation methods is needed. With the rapidly expanding human population, the possibility of using edible mushrooms to assist in reducing the world wide food shortage should be vigorously explored. Because of over collection, road

construction, deforestation, over population some of the species are now rarely found in the area.

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ANALYSIS OF THE POULTRY FLOCKS AT THE LEVEL OF THE EUROPEAN UNION

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Abstract

Poultry farming, a thousands of years old human occupation, was transformed in the USA in the early 1940's into an industry, when intensive industrial poultry farming was started. . This paper provides a review of the flocks in the European Union, taking into account the increasing number of EU member states from 15 to 25 and then to 27, in the period 2000-2009. Following the processing of the statistical data provided by the Food and Agriculture Organization of the United Nation (FAO), it was noticed that at the level of the European Union an increase of 26.6% was registered in the period 2000-2009, but at the level of European Union 15 there was a decrease of 5.3% between 2000-2009, a decrease of 7.5% was registered in the period 2004-2009 at the level European Union 25, while for European Union 27 a decrease of 6.1% was registered between 2007-2009.

Keywords **:** *poultry flocks, European Union*

INTRODUCTION

Due to the importance of the products obtained from poultry, namely meat and eggs, important food because of its energetic and plastic role, but also its dietary quality [1], in the 1940's the USA transformed poultry farming, a thousands of years old occupation, into an industry, applying an intensive industrial farming system.[2] as time passed, and with the help of genetic improvements and modern farming and exploitation technologies, major performances were achieved, and thus the broiler farming ratios doubled and the feed conversion ratios decreased to half.[3,4]

The purpose of this paper is to make an analysis of the number of individuals of the poultry population at the level of the European Union having in view the increase of the number of member states from 15 to 25 in 2004, and to 27 respectively in 2007.

MATERIAL AND METHODS

The study was based on the bibliographic data which referred to the number of individuals of the poultry population existing in the European Union member states, between 2000-2009, taking into account the new states which acceded to the European Union between 2004 and 2007. Based on the statistical data the fixed base indexes and chain base indexes were calculated and the number of individuals of the poultry population in the European Union 15, 25 and 27 was analyzed.

RESULTS AND DISCUSSIONS

If we analyze the number of individuals of the poultry population at the level of the European Union between 2000-2009 we notice an increase of 26.6%.

This increase is due to the accession of the new states between 2004 and 2007. By analyzing the number of individuals of the poultry population of the European Union between 2000-2004 we find an increase of 25.8% of the number of individuals of the poultry population in 2004, in comparison with year 2000. Such increase is due to the accession to the European Union of 10 new states, namely: Cyprus, Estonia, Latvia, Lithuania, Malta, Poland, the Czech Republic, Slovakia, Slovenia, Hungary which brought 235.4 million poultry, namely an increase of

23%. In 2007 2 new states acceded to the European Union, Romania and Bulgaria, which contributed to the increase of the total poultry population by 100 million individuals, namely 8%.

But after analyzing the evolution of the number of individuals of the poultry population at the level of the European Union 15 between 2000/2009 we noticed a decrease thereof by 5.3%; a decrease was also registered for EU 25 between 2004/2009, by 7.5%, while the decrease in EU 27 was of 6.1% for the period 2007/2009.

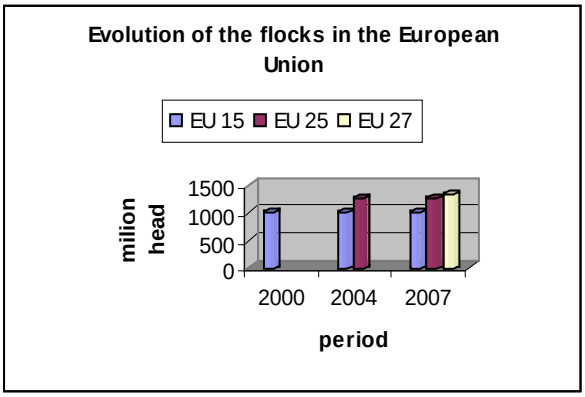

Fig 1. Evolution of the flocks in the European Union

If we analyze the number of individuals of the poultry population at the level of EU 15 we find that France had the highest number of poultry, 233 million individuals in 2000, then this number dropped and got to 176 million individuals in 2009, with a decrease of 24.5% in the period 2000-2009. Despite such decrease, France maintained its first position in the analyzed period. The share France holds of the total population amounted to 23.4% in 2000 and to 18.7% in 2009. (table 1)

On the second place we have the United Kingdom with a population of 154.5 individuals in 2000, while in 2009 the population reached 170 million individuals, which means an increase by 15.5 million individuals, namely 10%. This position was occupied by the United Kingdom during the entire analyzed period. The share held by Germany of the total poultry population existing in the European Union amounted to 10.8% in 2000 and 12.5% in 2009. (table 1)

On the third place we have Spain with a population of 128 million individuals in 2000 and 138 million individuals in 2009, which means an increase of 7.8 %. The share held by this country amounted to 12.9% in 2000 and 14.6% in 2009. (table 1)

On the fourth place we have Germany with a population of 107.6 million individuals in 2000 and 118 million individuals in 2009, which means an increase of 9.6%.(Table 1)

Tabel 1. Evolution of the poultry population of the European Union (milion head)

Specification	2000	2004	2007	2009	2009/2000 (%)
Austria	13,8	12,3	13,6	14,5	105
Belgium	39	36,5	32,7	29	74,5
Bulgaria			17,9	17,5	97,7**
Cyprus		3,5	3,1	2,9	83,6*
Czech		14,2	26,1	24	169,7*
Denmark	21	16,1	16	19,2	91,6
Estonia		1,9	1,6	1,7	91,1*
Finland	7,9	5,6	5,1	4,9	62,11
France	233	197,2	176,5	176	75,5
Germany	107,6	110	114,6	118	109,6
Greece	29,5	30,4	31,7	31,8	107,7
Hungary		37,5	30,3	31,2	83,1*
Ireland	12,7	12,5	13		102,2***
Italy	100	100	100		100***
Latvia		3,4	4,1	4	117,5*
Lithuania		7,8	9,2	8,8	112,3*
Luxembourg	71,8	73,1	81,9	97,4	135,7
Malta		0,1	0,7	0,5	50*
Netherlands	104	85,8	92,7	97	93,25
Poland		148	133,1	124,1	83,9*
Portugal	35	35	37	39	111,4
Romania			82	83,8	102,2**
Slovakia		13,8	12,4	13,2	96,2*
Slovenia		4,3	2,9	4,4	101*
Spain	128	129	137	138	107,8
Sweden	7,3	6,6	7,1	7,1	97,8
United Kingdom	154,5	165,9	157,5	170	110
EU 15	994,2	1016,1	1016,6	942,1	94,7
EU 25		1251,5	1240,2	1157	92,5*
EU 27			1340,2	1258,4	93.9**

Source: FAOSTAT;for Romania INS 2006-2008; MADR 2009

*is referred to 2004; ** is referred to 2007; *** no data for 2009

On the fifth place, in 2000, we have Netherlands with a population of 104 million individuals, and afterwards such population decreased to 97 million individuals in 2009 when Netherlands occupied the 6th place, after Italy. (Table 1)

In 2000 these countries held a share of 73% of the total population.

In the analyzed period, namely 2000-2009 the poultry population of EU 15 registered a decrease of 5.3%, which was especially due to the decrease of the poultry populations of France, such decrease being a quite large one, namely of 24.5%; but the poultry populations of countries such as: the United Kingdom, Spain, Germany, Portugal etc. increased.

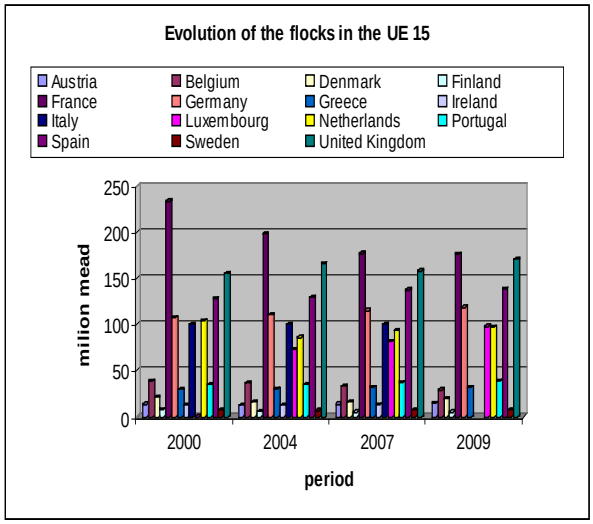

Fig 2. Evolution of the flocks in the European Union 15

If we analyze the number of individuals of the poultry population of the countries which acceded to the European Union in 2004 we find that the largest number of poultry is held by Poland, with 148 individuals in 2004, but such number decreased and reached 124.1 million individuals in 2009. As a matter of fact this country had the largest numbers of poultry populations of the 10 states which acceded to the European Union.

On the second place, at a very large difference from Poland we have Hungary with a population of 37.5 million individuals in 2004 and 31.2 million individuals in 2009. The evolution of the number of individuals of the poultry populations of the 10 states which acceded to the European Union in 2004 can be noticed in figure number 3.

Two new states acceded to the European Union in 2007, namely Bulgaria and Romania. In which the poultry populations of these two countries is concerned, it can be noticed that Romania's poultry population is more numerous than that of Bulgaria.

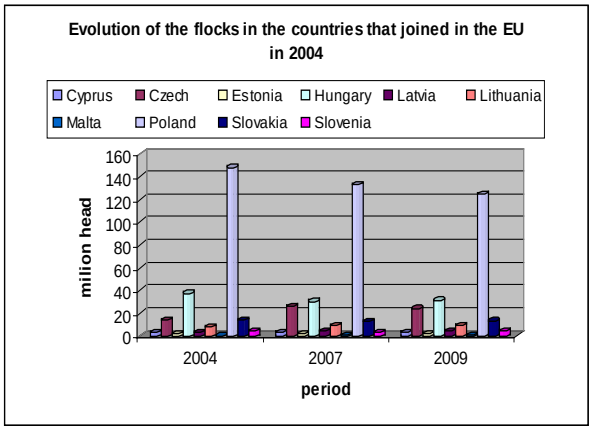

Fig 3. Evolution of the flocks in the countries that joined in the European Union in 2004

In 2007 Romania had a population of 82 million individuals while Bulgaria 17.9 million individuals, while in 2009 the poultry population of Romania increased by 2.2% and reached 83.8 million individuals, while the poultry population of Bulgaria decreased by 2.3%, reaching 17.5 million individuals.

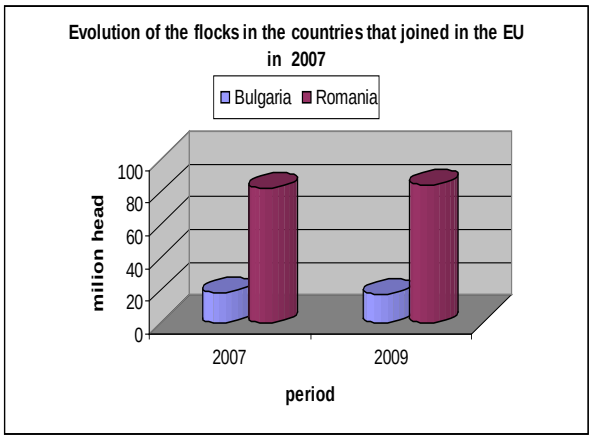

Fig 4. Evolution of the flocks in the countries that joined in the European Union in 2004

If we analyze the number of individuals of the poultry population at the level of EU 27 we notice that the country occupying the first position is the same country which occupied the first position in EU 15, namely France. The share of the total poultry population of the European Union held by this country in 2009 amounts to 14%.

On the second position we have the United Kingdom just like in EU 15, which held a share of 13.5 % in 2009.

On the third place in EU27 we have Spain, with the exception of year 2004 when it

occupied the fourth place; the share held by this country in 2009 amounted to 11%.
The fourth place in EU 27, except for 2004 when it occupied the third place, is occupied by Poland, the only country of the ones which acceded in 2004 which is among the first five countries regarding the poultry populations of the European Union. The share held by this country in the accession year was 12%, and in 2009 it was 10%
On the fifth place, with exception of year 2000, when it occupied the forth place we have Germany, its share in 2009 being of 9.37%.
Between 2004-2009 the share held by the first five countries amounted to approximately 60 %.
In EU 27 between 2000-2009 we noticed a decrease of 6.1%, due to the decrease of the poultry population of France, Poland.

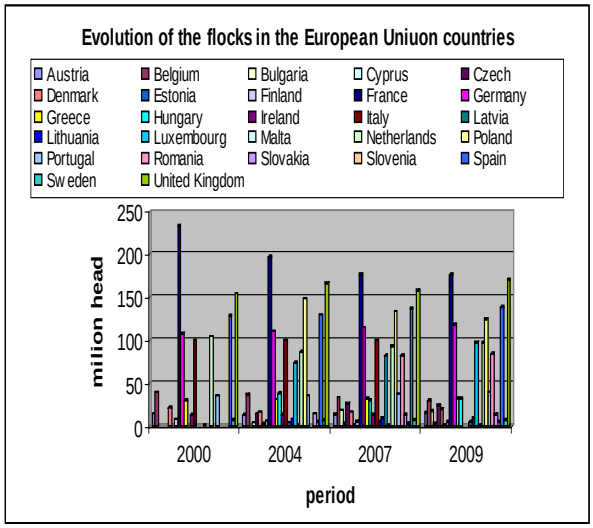

Fig 5. Evolution of the flocks in the European Union countries

CONCLUSIONS

1. The poultry population of the European Union increased between 2000-2009 by 26.6%, increase which was due to the accession of 10 new states in 2004 and 2 more states in 2007.
2. At the level of European Union 15 we noticed a decrease of the populations by 5.3% between 2000-2009, decrease mainly due to the decrease of the populations of France, country with the highest poultry population of the European Union.
3. At the level of European Union 25 we also noticed a decrease between 2004-2009, a decrease of 7.5%, which was due to the decrease of the poultry population of EU 15 states but also of the states which acceded the EU in 2004, and especially Poland.
4. At the level of European Union 27 we also noticed a decrease between 2007-2009, decrease of 6.1% mainly due to the decrease of the poultry population of EU 15.
5. The largest poultry population of the European Union is held by France, which although registered a decrease of 24.5% in the analyzed period, it remains the state with the largest poultry population.

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ANALYSIS OF PRODUCTION OF POULTRY MEAT AT THE LEVEL OF THE EUROPEAN UNION

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Abstract

Population growth and economic development resulted in increased production of meat and poultry meat in particular, which represented the most dynamic sector in the last decade. Thus this paper aims to conduct an analysis of poultry production in the European Union in the period 2000-2009, taking into account the countries that have acceded to it in 2004 and 2007. Analyzing the production of poultry meat in the European Union 15, 25 and 27 on the basis of statistical data processing provided by the Food and Agriculture Organization of the United Nation (FAO) finds its growth with 45.1% during 2000-2009. An upward trend in production of poultry meat is found in European Union 15, 25 and 27, the increase being 11.7%, 11.3% and 9.7%..

Key words**:** *poultry meat, European Union*

INTRODUCTION

The growth of the world population, and the economic development as well, especially in the developing countries, led to the increase of the meat production for all species, but especially for the fowl meat.[1] The fowl meat sector has bee the most dynamic sector in the last decade. Fowl meat is perceived by people as healthier[2], since it has a high nutritious value due to the high content of amino acids, it is dietary in comparison with other types of meat, since there are no fat deposits between the muscle fibers, characteristics which place it at an advantage in the preference of the consumers, leading therefore to an increased consumption.[3,4] Its lower price, in comparison with that of other types of meat, but also the higher conversion rates in comparison to other species, have contributed to the increase of the production of fowl meat. The purpose of this paper is to make an analysis of the production of fowl meat at the level of the European Union, taking into account the new states which acceded to the EU in 2004 and 2007.

MATERIAL AND METHODS

This study is based on the bibliographic data referring to the production of fowl meat in the European Union member states, for the period between 2000 and 2009, taking into account the new states which acceded to the European Union in 2004 and 2007. The statistical data was used to determine the fixed base indexes and chain base indexes and the production of fowl meat in European Union 15, 25 and 27 was analyzed.

RESULTS AND DISCUSSION

If we analyze the evolution of the fowl meat production in the European Union we notice a continuous increase, from 6,606.2 thousand tons in 2000 to 9,584.5 thousand tons in 2009, the increase of 45.1% being due to the production of fowl meat obtained in the countries which acceded to the European Union in 2004 and 2007. The 10 countries which acceded to the European Union in 2004 (Cyprus, Estonia, Latvia, Lithuania, Malta, Poland, the Czech Republic, Slovakia, Slovenia, Hungary) led

to an increase of the fowl meat production by 20.7%, and the two 2 states which acceded in 2007 (Bulgaria and Romania) led to an increase of 4.9%. (table 1)

The production of fowl meat registered an upward trend between 2000-2009, both in EU 15, where it increased by 11.7%, as well as in EU 25 where it increased by 11.3%; in EU 27 the increase was lower than 9.7%.

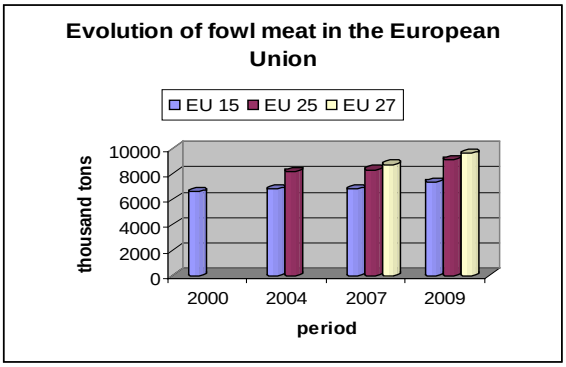

Fig.1. Evolution of fowl meat production in the European Union

If we analyze the production of fowl meat at the level of EU 15 we notice that in 2000 the main producer was France with 1,242 thousand tons, followed closely by the United Kingdom with 1,214.8 thousand tons; on the third place we had Spain with 965 thousand tons; on the fourth place Italy with 761.8 thousand tons, followed by the Netherlands with 697 thousand tons; Germany with 461.5 thousand tons, Belgium with 400.4 thousand tons; the other countries had quite a low production. (table 1)

In 2004, the first place was occupied by the United Kingdom with 1,294.6 thousand tons, namely an increase of 6.5% in comparison with year 2000 and was followed by France, with 1,106 thousand tons, namely a decrease of 10.9%; the third place was occupied, just as in 2000, by Spain with 1,083 thousand tons, namely an increase of 12.2%; the following places were occupied by: Italy with 703.5 thousand tons, the Netherlands with 615 thousand tons, Germany with 609.4 thousand tons, Belgium with 468 thousand tons. (table 1)

In 2007 the first place was occupied by the United Kingdom with 1270.2 thousand tons, on the second place was Spain with 1131 thousand tons, namely an increase of 4.4%, place occupied due to the decrease of the fowl meat production of France by 25.8%, and the rest of the hierarchy was maintained just as in the previous period. (Table 1)

Tabel 1. Evolution of fowl meat productions in the European Union countries (thousand tons)

Specification	2000	2004	2007	2009	2009/ 2000 (%)
Austria	87,1	88,8	95,2	101	116
Belgium	400,4	468	448	469,3	117,2
Bulgaria	-	-	98	103,9	106,1**
Cyprus	-	32,4	27,8	26,9	83*
Czech	-	201	201	188,4	93,7*
Denmark	187,5	187	172,3	168,6	89,9
Estonia	-	14,8	11,5	14,9	100,4*
Finland	64,4	87	95,4	94,8	147,3
France	1242	1106	920,5	1039	83,6
Germany	461,5	609,4	687,7	802	173,8
Greece	110	147	116,1	111,7	101,6
Hungary	-	253,2	195,7	213,3	84,2*
Ireland	86	91	85		98,8***
Italy	761,8	703,5	733	822,3	107,9
Latvia	-	14,3	20,5	23,2	162,4*
Lithuania	-	49,1	63,2	66,6	135,6*
Luxembourg	14,5	10,2	11,6	13,8	95
Malta	-	6,3	4,6	4,7	74,4*
Netherlands	697	615	684	763,7	109,6
Poland	-	704,4	896,5	1059,8	150,4*
Portugal	224,5	196,2	223,4	247,3	110,2
Romania	-	-	312,1	371,4	118,9**
Slovakia	-	84,5	83	75,1	89*
Slovenia	-	43,3	42,6	55,1	127,5*
Spain	965	1083	1131	1179,5	122,2
Sweden	89,9	91,2	105,4	105,2	117
United Kingdom	1214,8	1294,6	1270,2	1463	120,4
EU 15	6606,2	6777,8	6778,7	7381,3	111,7
EU 25		8181,2	8325,2	9109,3	111,3
EU 27			8735,3	9584,6	109,7

Source: FAOSTAT;for Romania INS 2006-2008; MADR 2009

*is referred to 2004; ** is referred to 2007; *** no data for 2009

In 2009 the hierarchy of 2007 was maintained, although the production of fowl meat of France, increased by 12.8% in 2009 in comparison with 2007, no longer

managed to outrun Spain from the second place.

In the analyzed period 2000-2009, almost all the countries registered production increases, with only a few exceptions (Luxemburg, Ireland, France and Denmark, which registered a production decrease). The most significant production increases were registered by Germany 73.8%; Finland 47.3%; Spain 22.2%; United Kingdom 20.4%. (table 1)

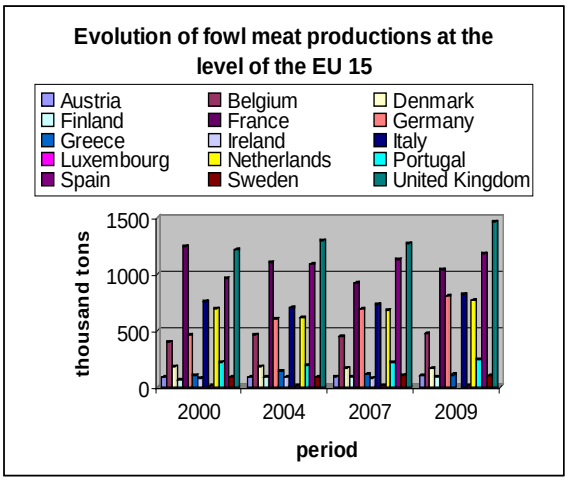

Fig.2. Evolution of fowl meat production in the European Union 15

If we analyze the production of fowl meat in the countries which acceded to the European Union in 2004 we notice that the highest production was that of Poland, with 704.4 thousand tons in the accession year, followed by an increase of 27.3%, namely a production of 896.5 thousand tons in 2007 in comparison with 2004. In 2009 the production of fowl meat of Poland reached 1,059.3 thousand tons, therefore an increase of 18.2% in comparison with 2007. In conclusion, between 2004 and 2009 Poland registered an upward trend in the production of fowl meat, the increase being of 50.4%.

The following positions were occupied by Hungary and the Czech Republic with much lower quantities than the ones of Poland, and between 2004-2009 they registered a decrease of the production, as follows: Hungary 15.8% and the Czech Republic 6.3%.

If we analyze the production of fowl meat in the countries which acceded to the European Union in 2007, namely Bulgaria and Romania, we notice that the highest production was that of Romania, with 312.1 thousand tons in 2007, followed by a slight increase of 18.9%, namely 371.4 thousand tons in 2009.

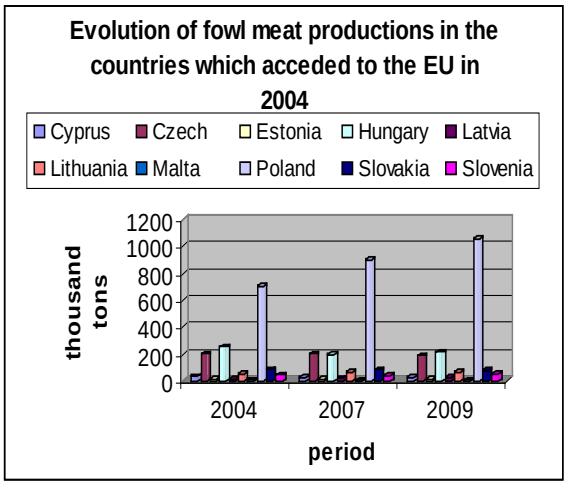

Fig.3. Evolution of fowl meat production in the countries that joined in the European Union in 2004

The production of fowl meat of Bulgaria amounted to 98 thousand tons in 2007 and increased to 103.9 thousand tons in 2009, therefore registering an increase of 6.1%.

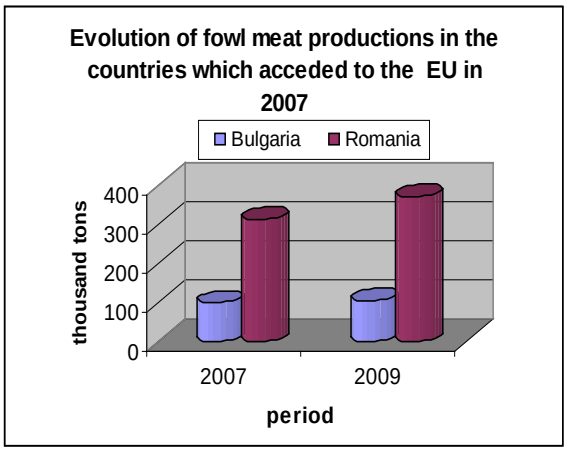

Fig.4. Evolution of fowl meat production in the countries that joined in the European Union in 2007

If we analyze the production of fowl meat at the level of EU 27 we notice that the first positions were occupied by the same countries as in EU 15 with one exception, namely Poland, which in the accession year occupied the fourth place, outrunning Italy. Thus, in 2007 and in 2009 the first place was occupied by the United Kingdom with a share of 14.5% and 15.3% respectively.

Spain was second with a share of 12.9% in 2007 and 12.3% in 2009. The third place was occupied by France in 2007 with a share of 10.5%, and by Poland in 2009 with a share of 11%. The fourth place was occupied by Poland in 2007 with a share of 10.26%, and by France in 2009 with a share of 10.8%. The fifth place was occupied by Italy both in 2007 as well as in 2009 with a share of 8.39%, and 8.57% respectively. The share held by the five member states of the European Union amounted to approximately 60% of the total production of the European Union 27.

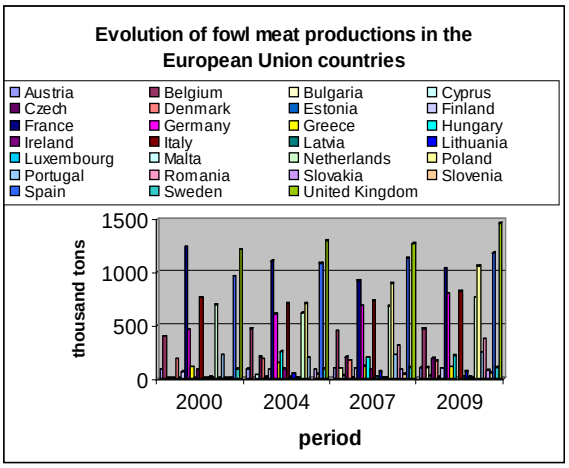

Fig.5. Evolution of fowl meat production in the European Union countries

CONCLUSIONS

1. The production of fowl meat in the European Union between 2000 and 2009 registered an increase of 45.1%, increase due to the accession of new states to the European Union, between 2004 and 2007
2. At the level of European Union 15 between 2000-2009 an increase of the production of fowl meat by 11.7% was noticed, fact which was due to the increase of the production of 12 of the 15 European Union member states.
3. At the level of European Union 25 between 2004-2009 the production of fowl meat increased only by 11.3%, less than in EU 15 since of the 10 states which acceded to the EU in 2004 only five states registered production increases between 2004-2009.
4. At the level of European Union 27 between 2007-2009 the production of fowl meat increased only by 9.7%.

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FINANCIAL INSTRUMENTS TO INCREASE INVESTMENT IN AGRICULTURE

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Abstract

After 2002 in Romania are made first steps to modernize farming and the countryside. The foundations of a coherent agricultural policy based on market economy principles, adapted to the European context. The national rural development programs, SAPARD by 2007 and RDNP by 2008, which are important EU funds allocated for investment projects in agriculture, were implemented. For efficient use of EU funds allocated, having regard to the plight of local agricultural capital and decreased appetite of the private financial banking system for financing in the agricultural sector, were succession created in a series of financial instruments to stimulate the modernization of agriculture. The complexity and diversity of these financial instruments requires the development of a work of synthesis. It was analyzed all relevant legislation, the legislative basis for financial instruments created, were statistically analyzed data collected from central and local institutions involved in developing European and national funds allocated. Were analyzed and described the credit and guarantee mechanisms created, positive and negative effects of the measures applied, the need for continued public support for new production capacities created or upgraded as a result of financial, credit or guarantee instruments studied. In conclusion the paper is an overview of all the public support measures implemented over five years in the pre and post EU accession of Romania, useful both for analysis and their subsequent effects on the development of future public support measures in agriculture.

Keywords: *SAPARD, RDNP, financial banking system, financial instruments, public support, production capacities*

INTRODUCTION

Romania has finally opted for a market economy, competition, based on modern means of production, development strategies in line with the trend worldwide, with the emergence of intent to join the European Union. Because of varied topography, climate and hydrologic regime, Romania has unanimously recognized the agricultural potential at the level necessary to ensure agricultural production for a population of about 80 million. The structure of agricultural production is varied and complete; it can grow and grow most plants and species of domestic animals of temperate climate zones. The current level of development is a direct consequence of steps taken in different social and economic systems. Thus in the last century through the Romanian countryside throughout evolution from an almost feudal primitive system of production from socialist statist system and then resume the process of development based on private proprieties the land and the means of production. In Romania after World War II, the modernization of agriculture coincided with the communist totalitarian regime, land reform has coincided with the abolition of land ownership. For this reason, after 1989, when changing the totalitarian regime in the Romanian agriculture and rural areas recorded the largest overall decline, on the one hand due to restoration of land ownership and the means of production and on the other hand due to rehabilitation market economy, the production system and the alignment of competitive European production standards. The current level of development is therefore the direct consequence of these stages. The result of this state of affairs is the acute need of modernization, revamping, the increasing number of modern commercial farms and restriction of subsistence. Currently the private sector is the main owner of 9.056.3 thousand hectares of arable land with the operation of a total of 9.434.6 thousand hectares. Private farms are organized as follows: Individual households - 3,931,350, with an average area of 2.3 ha per farm; Units

with legal personality - 17,843, with an average area of 269.3 ha per holding and using 4.8 million ha. Romania's agricultural policy could not be disconnected from the reality and that budgetary considerable efforts have been made to overcome major differences compared to other EU candidate countries. There are aspects or tools in PAC mandatory for all Member States (as we talk about a common market, without borders or tariff barriers) and other optional ones, of menu type, of which Member States may choose those who are better fit (primarily, the rural development programmers financed from European funds). These new rules, which, unfortunately, we became aware at decision-making level only after joining the EU, impose a series of limitations on agriculture modernization and efficiency increase, without tarnishing too much of what is typical national products and modes of production.

Table 1. Pre and Post accession EU Financial Instruments

Since 2000, the EU supports the candidate countries of Central and Eastern Europe in their efforts to prepare for accession by three financial instruments: PHARE, ISPA and SAPARD		
Instrument/Domain	**Period**	**Field of action**
PHARE • Institutional development; • Investments to support application of Community law; • Investment in economic and social cohesion.	1090 - 1996	Poland and Hungary transition support
	1996 – 2000	13 states received grants PHARE
	2000 - 2004	Supporting the process of accession of the 10 candidate countries of Central and Eastern Europe.
ISPA (Instrument for Structural Policies for Pre-Accession)	2000 - 2006	The program aims to align the candidate countries to EU environmental standards
SAPARD (Special Pre-Accession Programme for Agriculture and Rural Development) Axis 1: Improving competitiveness of processed agricultural and fishery products Axis 2: Improving rural infrastructure and agricultural development Axis 3: Economic development of rural areas Axis 4: Developing human resources	2000-2006	Supports Romania for participation in the Common Agricultural Policy (CAP) and the European Union's Internal Market. More specifically, the program objectives are: improving the lives of rural communities, creating a competitive sector producing and processing agricultural products, creating jobs in rural areas, providing adequate income of rural residents and ensuring sustainable development of these regions.
Post accession Romanian agriculture and rural development is financed by the EAFRD		
National Rural Development Programme is the document which can be accessed on the European Agricultural Fund for Rural Development and meeting the strategic guidelines of the EU rural development;	2007 - 2013	Program priorities, resulting in four areas (axes) are: Axis I "increase the competitiveness of agriculture and forestry" - 45% of the total EU funds, an amount of EUR 3,246,064,583; Axis II Improving the environment and rural areas "25% of EU funds in the amount of EUR 1,805,375,185; Axis III "Quality of life in rural areas and diversification of the economy Rural - 30% of European funds, totaling the amount of 2,046,598,320 euro; Axis IV "Leader" will receive 2.5% of the amounts allocated to other areas, ie EUR 123462653.

Starting 2000, the European Union supports EU candidate states from Central and Eastern Europe in their efforts to prepare for accession by three financial instruments: PHARE and ISPA and SAPARD programs. Post accession Romanian agriculture and rural development is financed by the EAFRD. European Agricultural Fund for Rural Development (EAFRD) is a created by EU funding to support member countries in Agricultural Policy implementation Commune. EAFRD funding is an opportunity for Romanian rural space in worth about 7.5 billion Euros, from 2007 until 2013. Similar to the SAPARD program, and will be based on the principle EAFRD co-financing private investment projects. Given that grants are not given in advance, but only after the start of the investment and clear presentation of evidence. source of funding is needed to start both investors and to ensure continuity between installments of payment works. Pre and post-accession European financial instruments have been complemented and boosted with national financial instruments. to accelerate absorption of European pre or post accession funds, offering tools to pre and co-financing able to eliminate the existing discrimination between capitalized and beginning investors or without their own financial resources, access to European funds being allowed to all investors who comply with the national and European norms and regulations. The amounts were intended to be accessed and used to credit investments in agriculture, both to co-finance SAPARD/ National Rural Development Programmer projects and to achieve direct investments which are not eligible EU Funds. This paper presents synthetic financial instruments that have orchestrated the absorption of EU funds and statistical investment projects financed situation from the five years about the initiation of these measures.

MATERIAL AND METHODS

In order to characterize financial instruments that have orchestrated the absorption of EU funds and statistical investment projects financed situation from the five years about

the initiation of these, the following indicators were used: type of State aid, the legal basis of its mechanism of action and its control, the number and value of investment projects financed, their percentage share of total European funds amount absorbed, the financial status of projects funded in relation to commercial banks financing or guarantee funds. The period analyzed in this study is 2005 – 2010. The data, collected from Ministry of Agriculture and Rural Development, Commercial Banks, Payment Agency for Rural Development and Fisheries, Guarantee non-bank financial institutions, have been statistically processed and interpreted, building the trend line, raining reconfigured the economic situation of the global financial crisis and setting up the forecast based on simulation models for the period 2004 -2016, compared with the initial mode of action of this financial instruments.

RESULTS AND DISCUSSIONS

Financial instruments created in the second half of 2005 aimed to achieve several major objectives, increasing absorption of EU funds allocated to Romania, increased appetite of commercial banks to finance investments in agriculture, processing as many peasant farms in commercial farming, accelerate modernization of agriculture and rural area. There were created two types of financial instruments that have been made available to investors in agriculture and rural development. There is a mechanism by which the amounts allocated can be run several times, with maximum efficiency to achieve goals.

The first was created financial instrument investment lending, regulated by Law no. 231/2005 on stimulating investments in agriculture, food industry, forestry, fishing and non-agricultural activities. The legislative package adopted (Law no. 231/23005; GD. no. 934/2005 for approving the Norms for the application of its provisions, the annual Order of the Minister of Agriculture and Rural Development to approve the list of investment objectives credits) the program led to the filing, during the period January 2005-July 2006, a number of projects with 20% higher than in any previous period (30 months). Mechanism of development of the instrument was the creation in the Law no. 231/2005, to the Ministry of Agriculture and Rural Development Fund to lend to investment in agriculture, allocation, by Convention Working from this fund banking institutions selected by the auction of the ceilings of which are awarded credits for the financing of investment projects.

Fig. 1. Activation steps of the financial instrument

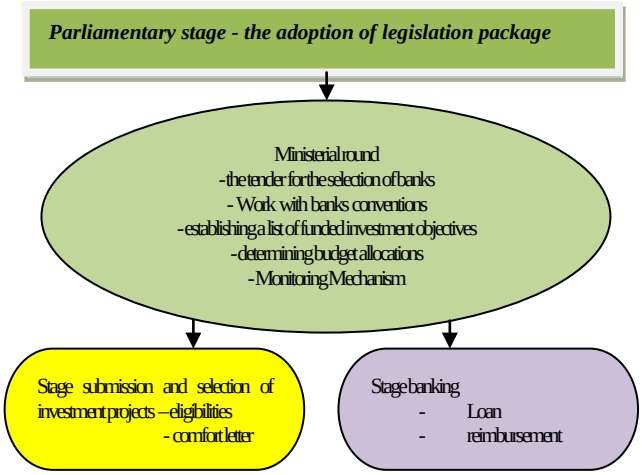


Table. 2. Projects submitted in the action until June 31, 2006 (deadline for submission of projects).

No.	Measure	Number of submitted projects	The total eligible amount stated in the application EURO	Value comfort letter
1	1.1	108	163,379,684.04	53,823,784.74
2	3.1	833	150,952,290.14	81,787,513.33
3	3.4	76	8,171,995.74	4,822,191.67
TOTAL MEASURES		1017	322,503,969.92	140,433,489.73

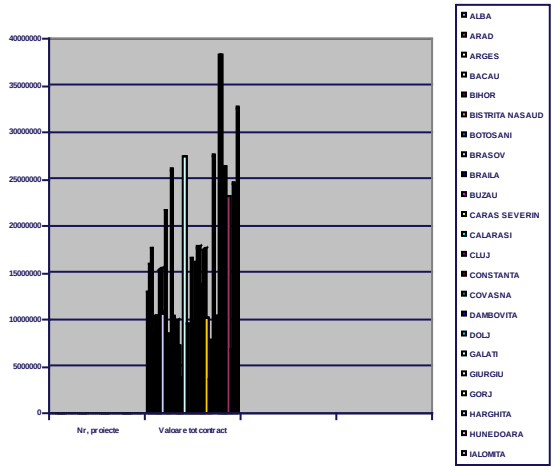
Table. 3. Statement of percentage of number of projects and the amounts used to work ceiling Conventions signed in 2006 with credit institutions selected by tender according to Law 231 / 2005

Amount used Ron	% of total amount allocated by the Convention	Projects submitted	% achieved
584,338,491.83	89,76	1017	95,08

Because the value of public co-financing grants for investment projects within the SAPARD submitted by 31 July 2006 exceeded the fund allocated to Romania through this program was necessary to issue a bill which has been allocated to 1350.0 million lei, the state budget, public co-financing grants to cover, namely the

Government Emergency Ordinance no. 59/2006 regarding the insurance from the state budget grants to public co-financing investment projects within the SAPARD.

Fig.2. Graphic representation of the number and value of projects submitted by counties



Direct investment projects eligible for grants of up to 50% of their value, depending on the objective, to repay the loan.

Financial analysis for granting letters of comfort and loan takes into account the internal rules of lending by banking institutions, subject to conditions imposed by MARD on the life of the loan (up to 10 years), grace period on repayment rates (up to 5 years - depending on the type of investment project), the maximum interest rate of 5% per year (rate of interest charged by the bank was the selection criteria laid auction procedure). This credit program based on Law no. 321/2005 was a success for providing private financing for investment projects secured in 2006 through the SAPARD program. Although it was extended in 2008 and to finance projects submitted by the RDP being allocated significant amounts (720 million), has never enjoyed the same success because the obligation of Romania as a EU member state to observe the intensity of public support given for investments. In the next period of public funds lending is no longer a viable solution to the problems of Romanian agriculture, alternative solution is subsidizing a portion of interest so that the investment process to be supported.

Status credit loans through the program developed under Law no. 231/2005 is presented in Table 4.

Table 4. Their loan granted under Law no. 231/2005 at 5 years from grant (half period)

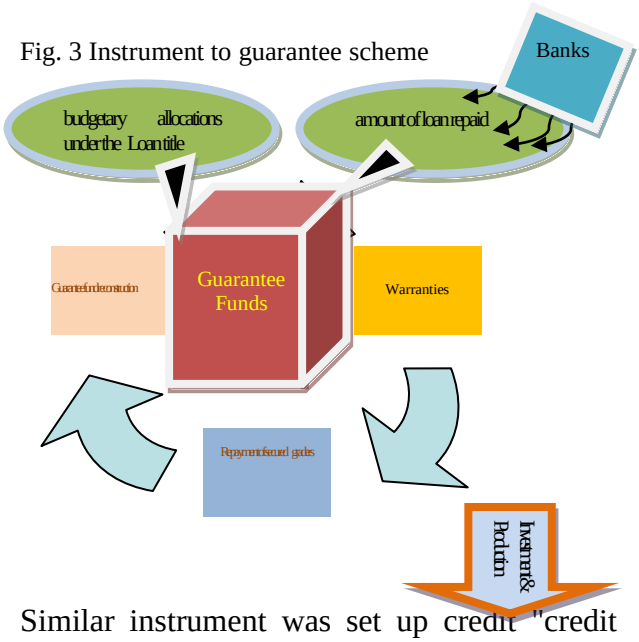
2006-2008 Program – million			
Bank	Allocated	Utilized	Reimbursed
BCR 2005	30,00	29,96	13,82
BCR 2006	478,5	432,33	170,99
CEC BANK 2006	37,50	34,82	20,39
BRD 2006	75,00	63,72	33,16
CARPSIBIU	30,00	30,00	13,63
Total	**651,00**	**590,82**	**251,99**
%	**100**	**90,76**	**42,65**

The second tool created to increase the absorption of EU funds is to guarantee loans through guarantee funds guarantees granted by the limits of public funds allocated by MARD. The legal basis to guarantee instrument is established by Law 218/2005 stimulate absorption of SAPARD funds, the European Agricultural Fund for Rural Development, the European Fisheries Fund, European Agricultural Guarantee Fund, the assumption of risk by credit guarantee funds, GEO. No. 79/2009 regulatory measures to stimulate the absorption of funds under National Rural Development Programmer for renewal and rural development by improving the quality of life and economic diversification in rural areas and Law No. 329/2009 on the reorganization of public authorities and institutions, rationalizing public spending, business and compliance support framework agreements with the European Commission and International Monetary Fund.

Less spectacular this instrument consists of taking a risk by guarantee funds. Law 218/2005 regulates the credit guarantee fund for projects under the SAPARD program and arrangements for the allocation of amounts to FGCR and FG-SME, to create the necessary collateral lending.

Ensuring the security of up to 100% if FGCR and 70% for FG-SME access to EU funds create the premise for investment where there are insufficient guarantees or the beneficiaries.

Fig. 3 Instrument to guarantee scheme



Similar instrument was set up credit "credit guarantee fund" under Law no. 218/2005, the budgetary allocations. This fund has been allocated funds by conventions guaranteeing the amounts needed to work up the coverage level, conditions were established for the granting of guarantees and the amounts allocated exposure (maximum exposure for all funds is 1 / 5). The Fund was reconstituted in amounts corresponding redundant as a result of diminishing credit guarantees were repaid and reused to issue new securities. The Fund was reconstituted in amounts corresponding redundant as a result of diminishing credit guarantees were repaid and reused to issue new securities. From 1 January 2010 the Law no. 218 could not have applied, Law no. 218/2005 being in the category of normative acts governing State aid to the accession of Romania and have been replaced partly by GEO no. 79/2009 (in terms of guaranteeing the APDRP advance received by the beneficiaries of public investment projects submitted as 322 of the RDP) and Chapter VIII of the Law no. 329/2009 (short-term guarantees for loans / credit lines for selling agricultural). Loan Guarantee Instrument is currently the only support for investments.

Table 5. Briefly, the situation guarantees granted for SAPARD co-financing projects is as follows: - Lei -

Explication	*Nr. beneficiary*	*Value guarantees*	*Value of secured loans*	*Average Percent Guarantee*
Guarantee Contracts	**1.250**	**738.231.486,25**	**1.034.263.339,18**	**71,38%**

Table. 6. In terms of destination, guarantees for these beneficiaries is as follows:

Explication	*Value of guarantees-mil.lei*	*%*
Total guarantees given for the SAPARD program, in which:	**738,23**	**100,00**
Measure 1.1	***340,53***	***46,13***
Measure 1.2	***7,12***	***0,96***
Measure 2.1	***19,38***	***2,63***
Measure 3.1	***352,02***	***47,68***
Measure 3.4	***18,27***	***2,47***
Measure 3.5	***0,91***	***0,12***

Table 7. Volume guarantees granted requests according to commercial banks are as follows:

Explication	*Value of guarantees-mil.lei*	*%*
Total guarantees given for the SAPARD program, in which:	**738,23**	**100,00**
Banca Comercială Română SA	440,54	59,68
BRD – Groupe Société Générale SA	175,59	23,79
CEC Bank SA	27,77	3,76
Bancpost SA	46,76	6,33
Bank Leumi SA	1,98	0,27
Banca Italo-Romena Spa	0,24	0,03
Banca Transilvania SA	23,66	3,20
Banca Comercială „Carpatica" SA	21,34	2,89
ATE Bank	0,35	0,05

Among the guarantees granted until they completed 504 by 31.12.2010 guarantees totaling 290,470,370.94 lei, the ceiling being reused properly disbursed to issue new securities.

Table 8. Briefly, the situation guarantees provided for co-financing EAFRD is as follows:

Explication	**Nr. beneficiary**	**Value guarantees*)**	**Value of secured loans*)**	**Average Percent Guarantee**
Contracte de garantare	405	729.094.142,03	832.854.844,35	87,54%

*) including letters of guarantee for commercial banks or APDRP

Table 9. In terms of destination, guarantees for these beneficiaries is as follows:

Explication	*Value of guarantees-mil.lei*	*%*
Total guarantees granted EAFRD Programme, of which:	**729,09**	**100,00**
Measure 121	199,43	27,35
Measure 123	195,76	26,85
Measure 312	4,69	0,64
Measure 313	0,27	0,04
Measure 322	328,94	45,12

Table. 10. Volume guarantees granted requests according to commercial banks are as follows:

Explication	*Value of guarantees-mil.lei*	*%*
Total guarantees granted EAFRD Programme, of which:	**729,09**	**100,00**
Raiffeisen Bank SA	9,69	1,33
Banca Comercială Română SA	159,87	21,93
BRD – Groupe Société Générale SA	66,92	9,18
CEC Bank SA	260,37	35,71
Banca de Export Import a României Eximbank SA	11,73	1,61
MKB Romexterra Bank SA	1,98	0,27
Banca Transilvania SA	2,79	0,38

Banca Comercială „Carpatica" SA	3,61	0,50
Procredit Bank SA	6,03	0,83
ATE Bank SA	0,76	0,10
Banca Millennium SA	8,07	1,11
APDRP	197,27	27,06

Among the guarantees granted until 30.09.2010 ended 73 guarantees totaling 44,866,439.35 lei, the ceiling was re-fired to issue new securities.

Table. 11. Briefly, the situations of production guarantees for loans granted are as follows:

Explication	*Nr. beneficiary*	*Value guarantees*	*Value of secured loans*	*Average Percent Guarantee*
Guarantee Contracts total, of which:	1.750	374.840.670,95	760.954.466,14	49,26%
under Law no. 218/2005 - guarantees	*118*	*199.975.288,95*	*426.583.868,26*	*46,88%*
under Law no. 218/2005 - APIA notifications	*920*	*97.744.977,78*	*196.132.211,46*	*49,84%*
under Law no. 329/2009 - waranties and APIA notices	*712*	*77.120.404,22*	*138.238.386,42*	*55,79%*

Table 12. Volume guarantees to each commercial bank is as follows:

Explication	*Value of guarantees - mil.lei*	*%*
Total guarantees granted to finance the costs of production, of which:	**374,84**	**100,00**
Banca Comercială Română SA	158,44	42,27
BRD – Groupe Société Générale SA	62,61	16,70
CEC Bank SA	133,50	35,62
Alpha Bank SA	3,10	0,83
OTP Bank SA	2,00	0,53
Unicredit Țiriac Bank SA	1,12	0,30
Romanian International Bank SA	0,20	0,05
Banca Transilvania SA	7,59	2,02
Credit Europe Bank SA	0,20	0,05
Banca Comercială „Carpatica" SA	3,65	0,97
Procredit Bank SA	1,79	0,48
ATE Bank SA	0,30	0,08
GE Garanti Bank SA	0,34	0,09

Among the guarantees given by 31.12.2010 ended 1089 worth of guarantees 174,046,224.58 lei, the ceiling being reused properly dismissed.

Loan Guarantee Instrument is the most protective of public funds, guarantee funds paid amounts based on which is the guarantee limits are placed on deposit or interest bearing securities, the amounts allocated reunion. Securing investment and production credits will remain on a very useful tool for banks to increase interest in rural lending

CONCLUSIONS

For the first time in Romania after 1989, a financial instrument was created to provide a real chance to make an agricultural investment to any beneficiary wishing indeed to work in this field. It also offered the possibility to modernize the farms, to implement new technologies, and it allowed, for the first time, a coherent strategy to modernize the countryside, increased the exigency of SAPARD projects and PNDR selection, has decisively contributed in 2006 to the absorption of SAPARD funds, and made the banking sector familiar with the problems of financing investments in agriculture. This paper is primarily useful for drafting public policies in the period ahead for further modernization of the Romanian countryside.

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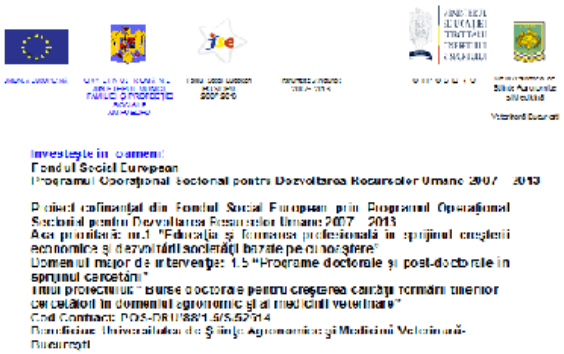

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STUDY ON DEVELOPMENT OF NEW METHODS OF PRODUCTS PROMOTING AND TRADING BY AGRICULTURAL WEBSITES

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Abstract

The influence of internet as well as the way that it opens in business management represents the key of business. Agriculture is one of the industry branches where informatics and informational society are getting slower. Although Romania is in top 10 as net usage in agricultural domain, does not enjoy of a great popularity. This paper aims the study of web in agriculture. The Structure of information within a site plays an important role in visitors drawing, clients and potential business partners.Considering that today any business must be supported by a presentation on the web, the material that is published in this work shows how the information should be organized on the agriculture web sites.Another aspect of this article is represented by the choice/selection of site-designing technologies and their promoting ways as well.

Keywords **:***Internet, web technologies, promoting, information, Romania*

INTRODUCTION

As the industry embraces connectivity offered by web services, and technological barriers disappear, new and different opportunities arise. The offers flexibility IT the businesses they need to succeed, but the technology itself is not the solution. The biggest impact the people have on a company ist o obtain together the moist appropriate results.
People care those who lead the business, meat, with customers, develop new products or services and work for the business to thrive. The appropriate software can help the increasing success and perform tasks better and in a manner that was not possible 10 years ago.
The systemic approach of the farms and using an integrated intelligent management system of the existing resources gives (farmers) managers, the possibility of having a anytime clear picture of the farm they run, allowing them to react promptly and to make decisions Informed Consent. This approach leads to a structural adjustment process, and farm work external environmental conditions that would ensure internal stability.

MATERIAL AND METHODS

The material published in this article was developed following a research on the organization and presentation about agricultural information in cyberspace. Among the methods used in preparing material is counting: Observation and interpretation, linking data and analysis method.
Information published by specialized agencies, literature and the experience of developed countries, there are part of the materials studied to develop the one.

RESULTS AND DISCUSSIONS

The cattle livestock has continuously decreased from 5,381 thousand heads in the year 1990 to 2,680 thousand heads in the year 2007 , as a result of the dissolution of the agricultural units and of the fact that many old cattle have been slaughtered because of their low production. The number of dairy cows has deeply decreased in the analyzed period from 3,200 thousand heads in the year 1990 to 1,440 thousand heads in the year 2007. Therefore, in 2007 , in Romania there were just 45 % of dairy cows compared to the year

1990. Taking into account the dynamics of cattle and dairy cows stock, the share of dairy cows in the cattle stock has recorded a similar decreasing trend . In the year 1990 , dairy cows represented 59.46 % of the cattle stock and in the year 2007 , they registered just 53.73 % (Table 1).

A similar evolution of cattle and dairy cow stock has been noticed in the North Eastern part of Romania in Iasi, Suceava and Botosani counties.

In 1990 Tim Berners-Lee, a physicist at CERN, Geneva, develops communication protocols for the World Wide Web, creating and HTML (Hypertext Markup Language). Even though it was originally a project, for atomic and subatomic physics researchers, his discoveries quickly made vintage, for many people, synonymously with the Internet World Wide Web. It was the first "participation" European Internet development - by then developed exclusively by Americans. The first visible Web pages "in world" were reported in December 1991, at the physics laboratory from Stanford Linear Accelerator Center (SLAC).

We can consider that the years 1991 and 1992 were precursors of the Internet in Romania. In May 1992, a group of ICI (National Research Institute for Informatics). negotiations led to RIPE (Réseaux IP European), for "ro" domain registration, essential step in ensuring of the normal Internet access.

In December 1992, at the ICI has been installed the first Internet node to 9.6 kbps, linked with the University of Vienna. By the year 1995 domenii.ro name registration service was free of charge provided.

Today the Internet is one way worldwide data transmission, a mechanism to disseminate information, and an environment of interaction between humans and their machines, irrespective of their geographical location.

Rules and principles of organic farming became a constant feature of social and agricultural policies, yet they are the future. This current stage of evolution of human society, the replacement of total inputs of natural resources and natural mechanisms, the adjustment has the great disadvantage of agro ecosystems that increases the production costs approx. 60% and reduces yields with 25-30% [1]

Integration of environmental protection in all socio-economic activities increasing economic and environmental performance, and changing patterns, production and consumption, are supported worldwide by through a series of legal, institutional and financial instruments. Environmental fears, human health and animals and genetic engineering are equally important factors that are supporting the niche market for organic products, developing much faster than any other agricultural sector or retail food sales. [1]

Management in Agriculture more than in any other field of activity should judiciously combine the features of science, establishing principles, methods and general techniques whose application to ensure efficient use of human, material and financial potential of farms – with art, which means adapting and translating principles, methods, techniques and conditions, the concrete conditions of farm their continuous improvement, random components in the context of the agricultural environment. [2]

In the U.S. in mid-2009, there were 5274 farmers' food markets. These markets are an integral part of the link between rural and urban, and given the increasing interest of consumers to obtain products directly from the farm. These markets allow consumers to have access at high local via, allowing to the fresh products of farmers, the opportunity to create personal relationships with their customers

Web technologies are evolving rapidly, and the concept of online community, Internet-specific Web 2.0 begins to be used for business growth companies

In Romania, as shown www.trafic.ro portal sites for agricultural products and services, there are in a fairly small number, approximately 70 sites recorded in the agriculture [3].

As shown in Table 1the most visited sites are those of the agriculture ads (anunturiagricole.eu) or the eGovernment (apia.ro). Although the most of them have

several years of operation, visitors on a site very rarely exceed 4000 visitors per day.

Some specialists in the field argue that the effectiveness of a site, is felt when the number of daily visitors is over 1500. However the problem hits websites, varies from case to case. Among the most important which attract a large number of visitors, great importance, have quality information to their importance, information structure.

In 2004 at a conference organized by O'Reilly Media, it was firstly discussed the concept Web 2.0. Although the term Web 2.0, suggests that it would be a new version of World Wide Web, it refers to changes that occur regarding the use Web site by the software developers and end users. [4]

The widespread adoption of video technology and Web 2.0 will depend on how the company's development plans will correlate with the extension requirements activities and obtain competitive advantages. Given the current globalization and dispersal labor, the role of IT will be the transition from simple network management operations to the company's impact by implementing innovative solutions communication and collaboration between employees, customers and business partners.

In 2002 the Czech Republic only 5% of farmers had a web site. To improve the situation by proposing web sites: Using common prepared solutions; Specific solutions for the individual farmer - not only to design a website, but also to achieve a dynamic web site which allows farmers better communication business partners and potential customers.

Zdenek Havlicek said that a necessary requirement for a successful site is represented by a better cooperation between the farmer and IT specialist (web designer) [5]

The increasing widespread adoption of video technology and Web 2.0 companies are becoming increasingly interested by useing of video communications to expand commercial activities, attracting an increasing number of customers collaboration between employees and implement environmentally friendly means of communication. Video and Web 2.0 Technologies, such as blogs wikis, telepresence and web conferencing, helps companies to keep step with highly dynamic changes in the field of IT applications and services. [3]

Approaching presentation distribution of agricultural products in terms of IT technology, lead the research and creation of a region presentation, produced agricultural products but also producers.

Analyzing design and structure of information presented in Table 2 we conclude that an html page would be sufficient for presentation of products and services to farmers in the region. But the number of visitors daily problem solving, should be used for a better defined structure of information.

The analysis of the top 10 sites dedicated to agriculture published on trafiic.ro, conclude that the tops are those that use technology CSS (Cascading Style Sheets).

The name comes from English CSS Cascading Style Sheets from which can be translated as cascading style sheets styles can be defined in the header of a web page and in a separate file, individual. The second option is recommended.

CSS is used by both authors and readers of web pages to define colors, fonts, layout, and other aspects of the documents. Designed primarily is to allow separation of document content as (Written in HTML or Markup Language similar) presentation document (written in CSS).

Tabelul 1 Situația primelor 10 site-uri cu profil agricol
Sursa www.trafic.ro

Nr. Crt.	Site Name	Started	Estimated daily visitors	Most used search engine	Best Web referrer to the last 7 days	Search the most common (7 days)	Day of week most visited
1	Agricultural Announcement reveals vegetation and fruits ... tractors, tractors si drums, agricultural machinery, tools and utensils, food, bee products, fertilizers, pesticides	21-MAR-08	2.183	Google			Luni
2	APIA - Payment and Intervention Agency for Agriculture	18-OCT-07	3.806	Google		apia	Luni
3	WORLD VILLAGE - magazine for agriculture, rural development and socio-cultural information	14-FEB-08	1.601	Google			Luni
4		15-DEC-07	2.017	Google			Duminică
5		08-MAI-03	2.728	Google			Marți
6		02-IUL-06	1.718	Google			Luni
7		14-AUG-03	1.214	Google			Luni
8		08-NOE-08	234	Google			Miercuri
9		08-DEC-09	999	Google			Luni
10		20-FEB-08	867	Google			Luni

This separation can improve the content accessibility to provide a greater flexibility and can reduce the specification of dealing with the maintenance of a website by providing a simpler control. Also CSS, can

reduce the complexity and repetition for tags formatting of content structure. CSS can also enable the same page to be shown in different rendering styles for different media such as a computer screen in print or voice (when played back through a screen reader).

Analyzing the design and structure of information presented in Table 2 we conclude as an HTML page would be enough for products presentation services for farmers in the region. But to solve the problem of daily visitors number, it would be used a better defined structure of the site to increase efficiently.

Introducing Web 2.0 HTML helps towards a better structuring of information.

According to Table 2 the main information that a site should contain for presenting agricultural products is: Information that the site overview, which may also include a map of the site; Information about the region, economic information rural development, infrastructure, culture, tradition; Information relating to agricultural products grown in the area, quantity, quality, price evolutions; A separate section for farmers and for their products; Scientific information, research and dissemination of information; Information about prices history quantity of products obtained; Information on agricultural commodity; Information on major exchange rates.

From studies on the structure of websites it was found that most sites have only Romanian language version. An important aspect is presenting information in at least one international language as it is the case with farm magazine (www.revista-ferma.ro).

Once chosen the structure for presenting the information presentations the entire amount of information must be grouped behind the buttons. The chosen structure for the site is composed of six buttons as shown in Figure 1. (About Us, Research & Development Producers, Agribusiness, Rural Development, Agriculture).

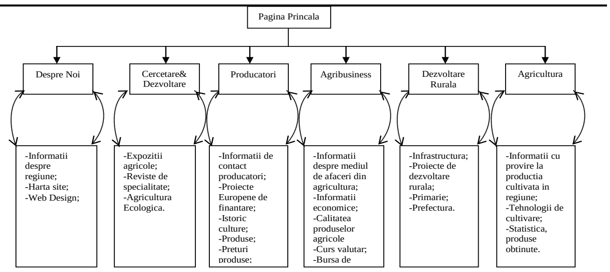

Figure 1. Organization structure information

The Popularity problem of a site has appeared with the emergency and development of search engines. In 96 years, 97 webmasters sites formed a part of the first search engines, this sense optimizes its information content. In the early 2000s, as a way to increase the popularity technologies develop SEO (Search Engine Optimization).

Table 2.A Site Main Information Content

Nr. Crt.	Site Name	Record daily visitors	Content / Information	Links	Language
1	Agro [illegible] cereals, vegetables and fruits, agricultural machinery, birds and animals, Food, bee products, herbicides, pesticides	2.080	Site information, information related to various agricultural ads.	Used Agricultural, Contact, Search button, Add	RO
2	APIA - Payment and Intervention Agency for Agriculture	1.808	Information about releases of Communication Materials Information, Photos, Events, Legislation	Site Map, Home Page Contact, Centre County, Announcements, job vacancies, Forms Legislation, by direction of the agency [illegible]	RO
3	WORLD VILLAGE - magazine for agriculture rural development and socio-cultural information	1.403	Portal Information, Actions, offers various books, Press Releases	Home, About Us, Articles, Activities, Video Room, 10 Anniversary, Special offer, Communication, Contact, Newsletter, Forum	EN, FR, IT, RO
4	www.[illegible].ro	2.897	[illegible] specific [illegible], announcements, Used with agricultural exhibits, Contact Information	Add ads agricultural Agricultural Trade, Location, Contact, Public announcement	RO
5	revista-ferma.ro	2.128	Site Info, and the company that it manages information on subscriptions, Information for buyers (shops), Papers the various agricultural products, contact information, information about markets	Home, Editorial, Agriculture, Advertising, Products, Contact	EN, FR, DE, IT, SP
6	www.[illegible].ro	1.788	Information about the book trade (library)	Link contacts, links to various agricultural fields	RO
7	www.[illegible]	1.281	Information about the site, Used agricultural buildings, Domestic and International Trade	Home, Customer Login, Contact, Site Map, National Exhibitions, International Trade	RO
8	www.agricultura-ecologica.[illegible].ro	234	Information on the possibility founded a business of agriculture based on organic agriculture	-	RO
9	www.[illegible].ro	888	Information about various services scholarship, Law information, Other information specific to agriculture	Trade News, Catalogue of firms, Rural Development, Legislation, Stock Farm, International Events, Announcements Farm, [illegible] farmer	RO
10	www.[illegible].ro	827	Information on various agricultural news, Contact information Information about the site, information about the magazine	Home, Rates, Articles, Races, Production, Archives, Subscriptions, Contact, Newsletter	RO

SEO stands for the Search Engine Optimization Basically this type of services addresses to the owners of sites who want a high traffic by a better position, in search results, through search engines like Google, Yahoo or MSN.

CONCLUSIONS

All the revolutions produce uncertainties breaks and opportunities, and the current revolution is not an exception. The faster we get the European Information Society, the better the chances transform in advantages.[2];

1. Web 2.0 is a real revolution in the computer industry, which assumes that the Internet being a platform is necessary to determine rules that ensure the success of new platforms;

2. Online advertising can be a very effective method for the company image to promoting, of products or services, maintaining or increasing brand image of your site traffic.
3. Companies are opting more increasingly for online advertising because of the great advantages that it has over the traditional advertising: Significantly lower costs than traditional advertising; The target audience is young, dynamic, willing to the new; A very good monitoring system provided by advertising; Can do a better targeting of the target audience.
4. The increased useing of Internet in the World Economies leads to the manifestation of dependence in Internet companies. Today, if an operator is not present in the virtual environment, theoretically it does not exist.
5. The today's market conditions require a business site. It same is also available in the supplying companies, and the agricultural industry.
6. Apart from where your business is widely recognized, having web site is the only thing that helps you make your presence felt in the agricultural market. It also offers to customers the possibility to have easier access to information about business, farmer's products and services. Easy access to this information make your business have apparently become a reliable source for customers.
7. Nowadays, a business that has a website is almost unprofessional.

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RESEARCH FOR DEVELOPING IT TECHNOLOGY IN PURPOSE OF INCREASING ECONOMICAL FARM COMPETITIVNESS

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Abstract

Although the development of information society was made into a galloping pace in our country in the recent years, its penetration in the agricultural sector has done very slowly. In the late of 90's Romanian Agriculture own a very small percentage of using modern computing techniques in agriculture, about 3% used low profile livestock farms, 10% used small industrial holdings, and for the small proportion of plant-profile use was 0. Today the vast majority of small farms owns Internet-connected PCs.A survey among farmers shows that although owning modern computing equipment doesn't use appropriate software problems that occur in the production process. Some of the problems encountered during the production process could be a assessed to solve or to avoid by creating a virtual manufacturing scenario.The advantages of this computerized planning can help the farmer to establish the beginning of agriculture, as it he grows, and will grow lot. According to the yields are intended to be achieved, the farmer will know the monthly costs which they will have to do and when you have to do them to achieve the desired results.

Keywords **:**, *Decision Support Systems, Enterprise resource planning system, planning, decision, software*

INTRODUCTION

The successful farmers are first business people. The long-term resource planning is based on information about cash flow, assets, payments and other financial information.
The precision agriculture requires both significant data collection from various sources (Agricultural equipment, soil sampling, remote sensing) and exchange of information within the farm (From computer management system and process computers) as between the firm and trader, or ethnic environment (advisors, cooperatives, suppliers) [2]
Planning is one of most important aspect of management and business. This is especially true for the farms and agricultural enterprises, due to their complexity and uncertainty inherent. It is essential for managers to have proper time for all their business planning.
Encouraging family farms to adopt planning, for establishing successful strategies and their business customers increased. This will give to incentive farmers the possibility to study the internal structure of business, and then they can develop.

MATERIAL AND METHODS

To prepare this article I studied specialized publications revealing the experience use of software for the planning and decision process at worldwide level. Another studied material was one and IT literature.
Analysis of farm development and the farm experience, from developed countries is the method used for the preparing material.

RESULTS AND DISCUSSIONS

In the United States of America the computer use at farm level is rising. The Financial accounting is the area where the computer it remains the most used for farmers. The Internet is becoming an "important tool" that they operate at a high level.
The department of United States of America Commerce estimated that in 2000 a 54% of the population uses the computer occasionally at least.

A Marvin T. Battle study presents the frequency of use of different software applications, and the degree of importance that have software, for each farmer.

Tabel 1. Frequency of use of various computer applications and percent of farmers indicating each as one of three most important applications on this farm

Application	Percent Reporting Use	Percent indicating as one of three most important applications*
1. Keeping financial records	89.1	76.7
2. E-mail	76.3	31.7
3. Keeping production records (crop or livestock)	75.5	49.1
4. Word processing (correspondence)	75.5	28.0
5. Accessing the Internet for other information	73.0	38.2
6. Commodity price tracking on the Internet	55.1	29.8
7. Computerized tax computation/filing	33.1	9.0
8. Online banking or bill paying	28.6	5.3
9. Buying farm inputs over the Internet	26.4	4.3
10. Online trading of stocks, bonds or other financial investments	16.5	1.9
11. Filing regulatory reports (e.g., pesticide use)	15.6	0.9
12. Selling your farm products over the Internet	12.7	0.6
13.Online trading of agricultural commodity contracts (futures/options)	9.2	0.0

Source: Marvin T. Battle 2003, Computers on Ohio Farms: How Used and How Useful

Marvin T. Battle's work concludes that Ohio state-level adoption of computer technology on farms is:

- increasing with farm size and education level of farm operator;
- increased among farmers who worked on the farm one year (they were interested in using the computer business)

In terms of use Marvin T. Battle shows that the large farms are using PC more than the smallest farmers were involved in livestock using pc longer than those dealing with the plant. The most said Marvin T Battle, PC - is used by farmers and are seeking information on-line transactions. [3]

In agriculture, as shown in a research report of ICADR, "Forecasts (forecast) Farm operates with many elements of uncertainty and unpredictability with random states.

Their need derives from the need to provide information and to prevent the impact of the negative effect, of Natural and biological factors and prices fluctuations on agricultural market and to forecast the possible future. In agriculture, endless and ever changing Combinations complex are possible. [1]

Forecasts need to base agricultural policy options, economic decisions and actions of goods and services should be developed based on new model planning, indicative and coordinated functioning of whole market economy.

In recent years British agriculture and horticulture carries a high interest in respect for the decision support DSS systems as CG Parker and S Champion said in his paper "Improving The Uptake of Decision Support Systems In Agriculture". Vegetable farmers has a huge need for information, by selecting a particular variety of crop. This needed information on the market, prices, the nature of the target yield variety characteristics. [4]

Hana Kopáčková and Markéta Škrobáčková Decision Support System for defining (DSS) as "a software analyzing business information present it in a way in which business users can take decisions more easily. [2]

Another definition of DSS is "A Decision Support System is a software application, computer software that analyzes business information and displays users so that they can make decisions more efficient and easier"

Decision-making is a process of developing and analyzing alternatives, decision making is the choice of available versions. Most decisions are taken in response to a question. The decision may be scheduled or unscheduled:

-Programmed decisions are repetitive or routine and can be resolved by clear procedures, applying the rules to find the best solutions. Most management decisions are scheduled;

-Decisions are extraordinary or unscheduled nonrecruting and are often made in conditions of crisis, involving a large ambiguity, so there are no specific procedures or programs. Therefore, managers must take non-programmed decisions be based on thinking, creativity, and intuition.

In Romania, farm technically point of view, work in agriculture has more features, as follows:

1.Has a diverse character, farmer is required to have knowledge in different areas. Diversity and complexity of required operations increase proportionately with number of crops and agro technologies used.

2.It has a high degree of difficulty, meaning that it takes place in open spaces under the direct influence of climatic factors, working in difficult conditions positive or negative temperature, which requires the adoption of

measures of work organization and protection of agricultural workers in order to improve their work.

3.It varies in time depending on certain calendar period. For example, there are periods of inactivity, the plant so-called "idle", causing difficulties in rewarding temporary worker.

4.It is subject, the objective needs of living beings for example, failure in time of crop treatments that may compromise the final harvest.

Labours in agriculture are different from those of industrial zones or in other economic sectors. From this perspective work in agriculture is characterized by the fact that:

1)It is less specialized One and the same farm worker must complete a series of works (Various harvesting, curing, cutting the dried or green, etc.) resulting in an extremely labor division extremely low, almost impossible;

2)It is a family work, A farmer working his own plot of land thus being motivated to obtain a higher yield, both qualitatively, and quantitatively, the farm or small family farms;

3)It is unsafe for employees In agriculture, labour is seasonal in a constant uncertainty due to disruptions that occur, because of bad time.

By planning it aims at the harmonious combination of the objectives pursued by holding the possibilities of achieving them embodied in production resources or can be purchased in the reference period. While planning aims to establish technical and economic objectives in consistent dynamic farm agricultural products with market requirements for a certain period of time.

Achieving these goals can be materialized only by the development of specialized studies, in terms of market and market players their dynamics and evolution as are. In agricultural societies and especially the family-farms the private planning will be as an essential and exclusive function of their management.

The planning stages and terms for which plans are developed, require different approaches of plans content, restrictions and the methods and techniques used, the background in the first stage of planning, is necessary to clarify the underlying strategy, long-term goals and objectives. In this sense be considered the possibilities and determinate of the restrictions on: land available, labour, capital resources, technical resources and technology, media, economic, social and political. [1]

The ultimate goal of food security for food farmers is to minimize risk, resulting from the production and handling operations.

The planning and decision agriculture plays an important role in the entire business process of a household. Many farms do not keep records of activities the vast majority hardly does use computer for information on Information.

The development and implementation of software technologies farms level can reduce many of the problems, that may arise, can minimize certain risks or may even avoid them.

Using ERP could be a solution for the farms management. ERP systems in accordance with their definition (Enterprise resource planning system) “are essentially a software solution used in integrated organization and enterprise resource planning”. ERP helps to manage effectively, affairs process such as budgeting and planning, stock accounts, sales, finance, and relationships with the clients. [6]

The agriculture Specifics, for ERP systems do not differ much from the other fields of use. Here we want a better governance, by a better control of inventories, costs, risks and communication, timely and transactions with customers and their suppliers.

The major benefits of ERP - sites are

- Preparing a budget priority at the beginning of each growing season, flow of work and planned expenditure, Materials to Improve, flow of work and cash flow;
- Monitoring daily budgets for identification and correction of irregularities;
- Automatic traceability materials and labour used in production;
- Production: planning and monitoring;
- Management: records inventory, suppliers, payments and receipts;
- Wages: wage calculation and personnel management information;
- Accounting: Financial (book keeping);

- Fixed assets: fixed assets and calculation of liquidation;
- CRM: customer relationship management
- BI: reports, analysis, forecasts

In Romania there is the predominant form of farm household or subsistence farm. Although the problems of those small farms are numerous, part of them could be solved by using computing and communication adequate techniques.

Generally the scale I would say that a system for managing financial resources would be enough. But how is the branch of agriculture, comprising most risks, a farm problems are not limited only to business accounts.

„How much will it cost the agricultural year?, Which are my available Chas? What will I crop? To whom I will sell the production? What quantities must I produce?" and the list of questions that a farmer has at the beginning of agriculture continued"

Creating a software, solutions based on the models offered, ERP system may be a solution for managers who run these small holdings. Although the complexity of ERP systems is much higher, I believe that for a Romanian farm it is sufficient to six modules of an ERP Optimization. As shown in Figure 1 the six proposed modules: Finance, Sales, Planning, Inventory, Agricultural Operation, Human Resources.

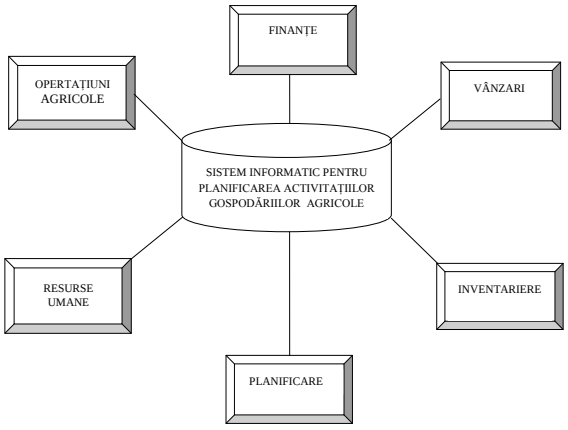

Fig.1 Components of an Information System For farms Work planning

Finance – The Financial management and accounting includes activities related to the use of financial resources necessary to conduct normal production, registration and record the monetary value of economic activity: This module aims at the efficient use of resources, carrying rhythmic activity, that signal the phenomenon that influences the profit level and cost reduce;

Sales-In this module farmer should record information about customers from all available sources,obtaining a complete picture of customers.

Agricultural Activities - This module is strictly linked with the agricultural activity conducted by farmer. Based on the production technology and quantity of product that is wanted to be achieved, the module will provide a scenario where the culture in which each operation will be highlighted/intervention the farmer will have to do and the calendar period in which work must be carried. However this scenario will also provide a growing financial forecast so that the farmer should know how much it would cost approximately, each activity to achieve the desired harvest.

Human Resources - By implementing this module it keeps a strict record of all processes by which an employee, be it seasonal. You can keep a record of labour force used in the season, farmers may have a situation of the number of people used in the crop process, their training, and labour requirements necessary to achieve the objectives.

Planning - It think this it is the most important module in the proposed system. It's bound to link all other modules, and help farmer in results planning at the farm level.

CONCLUSIONS

1.Trying to introduce modern systems of work makes the task to increase farm worker, it became from the simple performer, in a decision factor in use for farm activity, based on an information system of complex equipment.

2.Workforce with limited skills and opportunities existing especially in family farms must be trained so that to use as efficiently as possible with a minimum expenditure of physical and psychological machinery and technical equipment that uses.

3. Although informatics hardly has penetrated in agriculture the farmer-in developed countries, regardless of farm size, use computer, from the simple informational activity to its use as a decision support.
4.The agriculture is the economy branch that has the most risk factors. This makes the decision-making is a difficult process. Using computers in the management process is a compulsory requirement nowadays.
5.Due to the small sized farms in our country the implementation of farm management software is a difficult solution. In this way, in purpose of management, to improve farm activity, it must design the software architecture for strictly farm activities.
Regardless of farm type managers of these units must face the same types of problems: to make decisions and organize activities to ensure that efficiency. A manager uses increasingly more information provided by information systems. [5]

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METHODS AND TECHNIQUES OF THE POSSIBILITIES MODELING AND SIMULATION USED FOR THE ANALYSIS OF MANAGERIAL RISK IN MARKETING ACTIVITY

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Abstract

The purpose of this paper is the researching methods and modeling and stimulation techniques that are used for the managerial risk analysis in marketing activities. The working methods used in the preparation of the article were analysis and deduction. After the researched materials the following results reached were: The present article will analyze the incertitude quantification and evaluation and the market risk that need the use of probabilities. For this purpose the risk analysis is used, that means a group of methods for the confidence degree quantification that can characterize an appreciation concerning the sales, costs and benefits projects. As the major conclusion of this work, we might underline the following: the incertitude and risk analysis permit and substantiate a decision adoption, because it uses various methods to foresee the consequences, actions in various situations.

Keywords: *incertitude, marketing risk, marketing sensitivity, the decision tree.*

INTRODUCTION

To exercise its main powers: the internal and external market research, stating the amount and timing of the proposals on the structure of their products, to propose ways of accelerating and increasing the volume of sales marketing department needs some information from the internal environment and especially an external firm. Routine analysis in marketing develops quantitative characterization significant variables such as market potential, sales, costs and investments on which policy decisions are taken of the marketing mix. These data are the starting point for estimates which are different strategies for marketing activities.

MATERIAL AND METHODS

The working methods used in the preparation of the article were analysis and deduction, analysis of the information and deducing the conclusions reported in the field below.

RESULTS AND DISCUSSIONS

Quantification and assessment of risk and uncertainty in marketing requires the use of probabilities. For this purpose, is used risk analysis, which means a set of methods for quantifying the degree of confidence that can be awarded to sales estimates on projects, costs, benefits [1]. These methods are applied in making decisions of how to new products, improving existing product classification, trade negotiations investment, research and development programs, marketing activities, logistics, transportation systems, etc.

These applications are aimed guiding decisions in the early stages of marketing projects exploring alternative strategies for identifying and assessing risks and behave forecast uncertainty about their own stock market reactions. It aims to reduce the need to postpone making a decision and waiting for the procurement of information, perfect on which can be selected as a marketing strategy.

Uncertainty and risk analysis allows substantiate a decision, because it uses quantitative methods to predict the consequences of actions in different situations.

Quantitative methods for risk assessment in marketing management have evolved from the conventional analytical techniques build, called up to the current methodology based on

risk analysis and simulation technique, allowed the development of computer technology.

Before describing some possible risk evaluation methods to use in marketing is a general approach to risk represented both in the analytical methods applied as well as in the simulation: sensitivity analysis.

If evaluation of each factor influencing the outcome of each marketing project is carried out as a single estimate (valuation most likely) then the conclusion will be incomplete conclusion and even possibly misleading. Consequently, risk assessment is necessary to consider several possible outcomes of the project return on marketing factors and because they do not have the same probability of occurrence.

In economic activity often make decisions not only according to the most remote consequences of a series of future decision-making processes. The evaluation of these decision processes can be accomplished by cascading decision tree method.

In the field of marketing decision tree proves especially useful to support decision in product policy. Using operational risk requires a consideration [2] the uncertainty about its precise situation and the impossibility of forecasting.

The steps to complete the definition of decision situation in the decision tree model are:

-Definition of decision-making processes and random moments, and their sequence;

-Gathering information on alternative action;

-Determining the state of nature and different sequences of events;

-Assessing consequences at the end of each sequence of events and efficiency criteria;

-Finding a policy decision for selecting the alternatives;

-Sensitivity analysis of the optimal solution;

-Final analysis and develop recommendations for the adoption of decision.

Assessing the consequences of decision can be made by one or more economic indicators. In the second case the question of information aggregation in a composite indicator which a unified approach to the process considered or use of utilities. Numerical treatment of preferences is difficult, because each person has his own rating scale of preferences. However, in many cases, marketing strategies can be assessed monetary results, which makes the scale to coincide with the monetary policy decision-market (preference function varies in direct proportion to monetary sizes).

Identifying the optimal solution is equivalent to finding the best path in the tree from the initial to the final nodes. The principals underlying the construction of the tree are as follows: [1]

- Valuation each node even, in which nature chooses (factors beyond the control of decision- maker) depends on future events and not earlier decisions.
- The decision to adopt that alternative hubs to ensure that the superior performance criteria (maximizing profit, minimizing cost, etc.) the principle of rational decision-maker.
- Evaluating the entire system, and determine the best solution is always the final to the initial nodes.

Deployment time decision-making processes at different time to make interim decisions are the final decision and final decision of the accumulated effects of all interim and final decisions. [3]

Successful implementation of the decision tree method depends on the update of the information carrying process as modeled. It is very difficult when elaborating model can be fully evaluated alternatives decision. To avoid major deviations in the shaft is reviewed according to materialize time and reassess the assumptions in the reasoning of the decision-making hubs. Whenever a decision tree size correlated with many variants predisposed.

Risk analysis in marketing decision tree model can be applied with sensitivity analysis showing the probability of the state of nature, its estimate of the cost of various actions, etc. The final nodes, is determined as the amount of variation allowable for these items so that research findings change not to exceed a tolerable level. Another important aspect refers to the fact that the optimal solution is obtained valuation average. Actual level of profit derived from the model version varies depending on the nature of the event states,

between a maximum and minimum, which means the maximum risk associated with the optimal variant. [2]

The limits of the decision tree method refers to the lack of information about the dispersion and shape distribution of all possible outcomes of a marketing actions and about the probabilities associated with these results. The advantage of full description of probability distribution from the fact that decision makers have different reactions and attitudes towards risk and probability distribution form allows shaping the image of risk associated with each alternative.

Marketing risk, as in other can be evaluated, but in no way diminished eliminated regardless of the methods used. He essentially markets you certain of this allocation and an uncertain future.

CONCLUSIONS

1.Quantification and assessment of risk and uncertainty in marketing requires the use of probabilities. For this purpose, is used risk analysis, which means a set of methods for quantifying the degree of confidence that can be awarded to sales estimates on projects, costs, benefits.

2.Quantitative methods for risk assessment in marketing management have evolved from the conventional analytical techniques build, called up to the current methodology based on risk analysis and simulation technique, allowed the development of computer technology.

3.In economic activity often make decisions not only according to the most remote consequences of a series of future decision-making processes. The evaluation of these decision processes can be accomplished by cascading decision tree method.

4.Risk analysis in marketing decision tree model can be applied with sensitivity analysis showing the probability of the state of nature, its estimate of the cost of various actions, etc.

5.Marketing risk, as in other can be evaluated, but in no way diminished eliminated regardless of the methods used. He essentially markets you certain of this allocation and an uncertain future.

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BUSINESS EXCELLENCE MODEL - A HOLISTIC APPROACH TO QUALITY MANAGEMENT

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Abstract

In the current context of globalization, organizations look for new and different ways to become more effective and efficient. Organizations that consistently apply the criteria of performance and efficiency, are focused on continuous quality improvement and customer satisfaction. European Foundation for Quality Management-EFQM brings together European organizations involved in the pursuit of excellence, which have adopted a Joint Model of Excellence, as a strategic tool for general management of the company. Their fundamental objective is to become leaders in their field and get excellent results. The EFQM Excellence Model allows an integrative approach to the quality management, which includes: business results, customer orientation, information management, employee satisfaction. The EFQM Excellence Model allows companies to create measurable benefits by using TQM as an organizational tool. It was entered in the early 1990s in order to serve as a framework for the accession of the organizations in the European Quality Award. Nowadays it is the most widely used organized model in Europe, underlying the majority of national and regional Quality Awards, including the Romanian Quality Award JM Juran. The model is based on the following premise: Leadership build the company's Policy and Strategy, and these are implemented through People, Partnerships, Resources and Processes, to obtain Excellent Results, both in key performance areas, as well as on Clients, Staff and Impact on Society.

Keywords*: TQM, European Foundation for Quality Management, Business Excellence Model, European Quality Award*

INTRODUCTION

In the current context of globalization, organizations search for new and diverse ways to become more effective and efficient. Organizations that consistently apply the criteria of performance and efficiency, are focused on continuous quality improvement and customer satisfaction. To excel in business [1] means to be better than others, particularly through managerial and financial performance. Business excellence refers to performances that give the organization's highest level of credibility in the market. Performance achieved by an organization**,** a**ss**essed and compared with some reference criteria, can express a certain "level of excellence in business". Public recognition of this level of excellence is by granting numerous awards for quality. Whole reference criteria which must be satisfied by an organization to get an award for quality is **Excellence Model Business**. There are many such models in the world, the most important being the model corresponding to the criteria Award Deming (Japan- 1951) National Award for Quality Malcolm Baldrige (USA - 1987) and European Quality Award (1991).

MATERIAL AND METHODS

European Foundation for Quality Management (EFQM) brings together European organizations involved in the pursuit of excellence, which have adopted a Joint Model of Excellence, as a strategic tool for general management of the company. Their fundamental objective is to become leaders in their field and get excellent results.
EFQM goes back more than 20 years, when 14 CEOs joined forces in 1988 to develop a Management tool that would increase the competitiveness of European organizations. Supported by the European Commission in the European Quality Promotion Policy, the

founding members created the EFQM Excellence Model:

- to stimulate and assist management teams in adopting and applying the principles of organization;
- to improve the competitiveness of European Industry;
- to close the gap of competitiveness between European and the USA and Japan.

The EFQM Founding Members are: AB Electrolux, British Telecommunications plc, Bull, Ciba-Geigy AG, C. Olivetti & C. SpA, Dassault Aviation, Fiat Auto SpA, KLM, Nestlé, Philips, Renault, Robert Bosch, Sulzer AG, Volkswagen.

RESULTS AND DISCUSSIONS

The EFQM Excellence Model allows an integrative approach to quality management, which includes: business results, customer orientation, information management, employee satisfaction. The EFQM Excellence Model allows companies to create measurable benefits by using TQM as an organizational tool. It was entered in order to serve as a framework for assessing organizations for the European Quality Award. Nowadays it is the most widely used organizational model in Europe, underlying the majority of national and regional Quality Awards, including Romanian Quality Award JM Juran.

The Fundamental Concepts of Excellence are the underlying principles of the EFQM Excellence Model, which are the essential foundation of achieving Sustainable Excellence for any organization.

Achieving Balanced Results. Excellent organizations meet their Mission and progress towards their Vision through planning and achieving a balanced set of results that meet both the short and long term needs of their stakeholders and, where relevant, exceed them.

Adding Value for Customers. Excellent organizations know that customers are their primary reason for being and strive to innovate and create value for them by understanding and anticipating their needs and expectations.

Leading with Vision, Inspiration & Integrity. Excellent organizations have leaders who shape the future and make it happen, acting as role models for its Values and ethics.

Managing by Processes. Excellent organizations are managed through structured and strategically aligned processes using fact-based decision making to create balanced and sustained results.

Succeeding through People.
Excellent organizations value their people and create a culture of empowerment for the balanced achievement of organizational and personal goals.

Nurturing Creativity & Innovation.
Excellent organizations generate increased value and levels of performance through continual and systematic innovation by harnessing the creativity of their stakeholders.

Building Partnerships.
Excellent organizations seek, develop and maintain trusting relationships with various partners to ensure mutual success. These partnerships may be formed with customers, society, key suppliers, educational bodies or Non-Governmental organizations (NGO).

Taking Responsibility for a Sustainable Future Excellent organizations embed within their culture an ethical mindset, clear Values and the highest standards of organizational behaviour, all of which enable them to strive for economic, social and ecological sustainability.

The EFQM Excellence Model is being implemented by over 30 000 organizations in the world. It is a non-prescriptive assessment framework that can be used to gain a holistic overview of any organization regardless of size, sector or maturity.

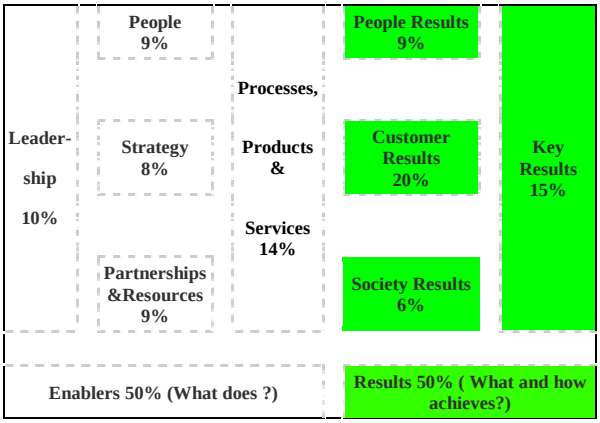

Fig 1, The EFQM Excellence Model

The EFQM Excellence Model is based on nine criteria. Five of these are "Enablers" and four are "Results". The "Enabler" criteria cover what an organization does. The "Results" criteria cover what an organization achieves and how it does it. "Results" are caused by "Enablers" and "Enablers" are improved using feedback from "Results".[4]

The EFQM Excellence Award is Europe's most prestigious award for organizational excellence. It is given to Europe's best performing companies and not-for-profit organizations. It recognizes industry leaders with an undisputable track record of success in turning strategy into action and continuously improving their organization's performance.

The EFQM Excellence Award is the highest form of recognition an organization could receive because it comes from its own peers. Top executives from leading businesses and public service organizations study and visit the candidates, and after a grueling examination select the few outstanding achievers. Exceptional performance in a specific area or subject is rewarded with a prize. If a true role model is identified, if an organization outshines all the others as the example to learn from and to aspire to, they receive the ultimate recognition, the Excellence Award.

EFQM Excellence Award 2010. The year 2010 has been tumultuous on many fronts and the economic recession has continued to affect the economy. For some organizations, the challenges of 2009/2010 have been seen as opportunities and these organizations continue to be successful. The applicants for the 2010 EEA faced the additional challenge of having their performance assessed by experienced teams of EFQM assessors against the 2010 version of the EFQM Excellence Model. [3]

To be an award winner in a specific category, the Jury must be confident that it has identified an exceptional organization with excellent and sustainable results across all areas, and one that demonstrates a highly effective, efficient and continually improved management system. There were five organizations identified by the Jury as winners that received their Recognition in a specific category:

1. **Bradstow School** is a residential special school in the United Kingdom for children with autistic disorders and learning disabilities. They are a Prize Winner in Leading with Vision, Inspiration & Integrity and a Prize Winner in Succeeding through People.
2. **Eskisehir Maternity's Mission** is to treat mother and child illnesses, to guide society in this field and as a result to help the growth of healthy generations in Turkey. They are a Prize Winner in Leading with Vision, Inspiration and Integrity.
3. **Olabide Ikastola Sociedad Cooperativa**, is a Basque school run as a family cooperative. It is a not-for-profit private school, part-funded (grant-aided) by the Basque Government. They are a Prize Winner in Adding Value for Customers and a Prize Winner in Succeeding through People.
4. **Stavropol State Agrarian University** (SSAU) is a federal state educational institution of higher professional education situated in the town of Stavropol They are a Prize Winner in Nurturing Creativity & Innovation and a Prize Winner in Leading with Vision, Inspiration & Integrity.
5. **VAMED-KMB** is one of Europe’s biggest facility management companies providing technical, administrative, and infrastructural services. They are a Prize Winner in Succeeding through People.

Romanian Excellence Award. Juran Award is the model of excellence in Romania, initiated by the foundation "Award for Quality Roman JM Juran", member of European Foundation For Quality Management. To the ninth edition of the national competition Excellence Awards JM Juran (November 2009), in Romania were 50 organizations which have assimilated and applied that managerial know-how, acquiring significant competitive advantages in economic relations.

Table 1, **Romanian Award winners during the years 2000-2008**

Year	2000	2001	2002	2003
Prize Winner	No winner	No winner	SC CASIAL SA Deva	1. SC Electrica Banat SA 2. SC Romaqua Group SA Borsec 3. SC Search Corporation SRL

Year	2004	2005	2006	2007	2008
Prize Winner	BCR	Institutul National de Medicina Aeronautica si Spatiala (INMAS)	CN Trans-electrica SA	No winner	Primaria Sector 2, Bucuresti

CONCLUSIONS

Appropriate models for Quality Awards are also considered models for Total Quality Management because it provides organizations a coherent set of criteria for assessing TQM implemented. Typical benefits of using the EFQM Excellence Model include:

For Leaders:

§ Help deliver the strategy;

§ Understand what is important to do as a leader;

§ Develop a unique culture where Sustainable Excellence is the norm.

For Management:

§ See the link between strategy and operations;

§ Engage employees in change;

§ Lead improvements.

For Employees:

§ Provide their input to bild a common direction;

§ Understand the impact of their action;

§ Contribute to progress.

A competition to identify exceptional organizations with excellent and sustainable results offer benefits:

§ **for the winners**, which increase their credibility, increasing revenue and profits;

§ **to unqualified candidates**, which know where they stand in relation with the best;

§ **for non-candidate organizations** which learn first-hand how and what to do to get performance Winners.

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COMPARATIVE ANALYSIS OF ECONOMIC PERFORMANCE IN FARMS WITH DIFFERENT FORMS OF ORGANIZATION

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Abstract

The demand for vegetables made in Romania is increasing. It requires the analysis about activity and economic results, obtained in farms with different forms of organization. The companies which are deeply rooted in agricultural world, have need for machinery and equipment, a relatively easy access to credit for business and investment, have firm supply contracts with suppliers of brand, that use scientific technologies for vegetables and sell your products to wholesalers or supermarkets. Small family farms, without legal personality, have difficulties due to: low self-financing capacity, impossible lending, insufficient working capital, expensive inputs, relatively small production, limited markets, and lack of knowledge on current technologies. All these difficulties do not allow extension activities in small farms and moving to a new form of organization. The achieved analysis is based on determining the level of expenses, costs, revenues and economic results in two farms with different forms of organization (profit versus profit, entrepreneurial profit).

Keywords*: agricultural companies, farms, economic results, profit, entrepreneurial profit.*

INTRODUCTION

Under the conditions in which the demand for local leguminous products is increasing in Romania, the analysis of the economic activity and results obtained in the production farms is required, with different organization forms. Agricultural trading companies are deeply rooted in the agricultural world have a developed technical-material basis, easier access to credits for their activity and investments, it is supplied based on firm contracts by outstanding suppliers in the field, they apply scientifically-based cultivation technologies, and their products marketing is certain, through the existence of delivery contracts to the large commercial chains. Smaller family farms that are not legal entities are faced with problems related to their limited self-funding capacity, the impossibility to obtain credits, the insufficient current assets, the high input prices, low production competitiveness and the market limitation, the lack of information on the new existing technologies. All these difficulties do not allow small farms to expand their activity and progress to a new organization form.

MATERIAL AND METHODS

The analysis we propose is based on calculating the economic indicators using a practical method: we start from calculating the Gross Margin (GM) by deducting the proportionally variable expenses specific to activity/crop from the gross product [1]. In the actual case of the various agricultural businesses, the capital factors, labour and land, may be optionally variable or fixed. In case there are capital expenses (on current assets), labour (in production), land and other variable expenses, according to the practical method they are not included in the step-by-step calculation and the GM I, II, III are calculated. The factors of production may originate from the agricultural business' own or external sources. For their own factors, different usage expenses may be taken into account, estimated on the basis of usage alternatives (opportunity costs). In calculating the profit of an activity/crop [2], they are not included in the opportunity costs for capital, labour, land. The difference between the entrepreneurial profit and profit is that all these expenses are included in calculating the entrepreneurial profit, which causes the profit to be larger than the entrepreneurial profit all

the time. In order to express the efficiency of the employed factors as accurately as possible and to compare the versions, the remuneration per each factor unit employed is calculated. If we add the expense on a certain factor of production to the entrepreneurial profit and report this to the employed factor quantity, we calculate the long-term remuneration of the respective factor. When we consider the variable expenses and the gross margin we calculate the short-term remuneration for a factor of production. An activity's economic efficiency may be checked by comparing the price of the respective product with the production expenses per unit, considered at various levels expressed in the long-term threshold price (corresponding to the profitability threshold) and the short-term threshold price (corresponding to the production threshold). The economic indicators and results were calculated to the year 2010 for the early potato crop, in two legume farms, respectively in an agricultural trading company and a family farm – which mainly use their own factors of production (capital and labour).

RESULTS AND DISCUSSIONS

Overall expenses, entrepreneurial profit and profit

By deducting the production expenses from the gross product, we calculate the profit and the entrepreneurial profit for each activity/crop (per ha and year). The expenses that are relevant in calculating both indicators are added step by step to the variable expenses calculated previously in the gross margins, as presented in Table 1 and Table 2 for the two farms. The positive profit value shows the amount of money available to each business so that it can remunerate its own factors of production (family labour, own capital, own land). The positive value of the entrepreneurial profit made in the trading company shows that the factors of production are remunerated entirely, and the own factors are better remunerated in this type of usage than in the previous one.

In the family farm, a positive profit was made, but the entrepreneurial profit is negative, which means that all the external factors of production: salaries, interest and lease were paid, but little money was left to remunerate the own production factors properly.

Table 1

Overall expenses, Entrepreneurial profit, Profit — Potato -small family farm, 1 ha

Basic data:			Inputs:		External-%	Own-%
Main production	15.000	kg/ha	Current assets	5.242 lei	50%	50%
Price	1,00	lei/kg	Fixed assets	5.410 lei	28%	72%
Secondary production		lei/ha	Labour (for prod.)	228 hours	76%	24%
Proportional direct payments		lei/ha	Labour (adm+ dest)	48 hours	0%	100%
Proportional variable expenses	10.483,00	lei/ha	Used area of land	1 ha	30%	70%
Direct (general) payments	200,00	lei/ha				

lei/ha			Expenses		Entrepreneurial-profit		Profit
Overall production *)			———		15.000		15.000
± Proportional variable expenses **)			10.483	–	10.483	–	10.483
= **Prop.var.exp. / Gross margin **)**			= **10.483**	=	**4.517**	=	**4.517**
± **Capital exp. Current assets**							
External:	2.620,75 lei	× 10,0 %	262	–	262	–	262
Own:	2.620,75 lei	× 5,0 %	131	–	131	–	———
= **Variable expenses I / Gross margin I**			= **10.876**	=	**4.124**	=	**4.255**
± **Expenses on labour (production)**							
External:	173,28 hour	× 6,5 lei/hour	1.126	–	1.126	–	1.126
Own:	54,72 hour	× 7,2 lei/hour	394	–	394	–	———
= **Variable expenses II / Gross margin II**			= **12.396**	=	**2.604**	=	**3.129**
± **Expenses on the used area of land**							
External:	0,30 ha	× 1000 lei/ha	300	–	300	–	300
Own:	0,70 ha	× 1000 lei/ha	700	–	700	–	———
± **Expenses on other proportional factors**							
External:	____	× lei/____	0	–	0	–	0
Own:	____	× lei/____	0	–	0	–	———
= **Variable expenses III / Gross margin III**			= **13.396**	=	**1.604**	=	**2.829**
on direct payments amounting to	*200,00*	*lei/ha*	*13.196*		*1.804*		*3.029*
Fixed and indirect expenses:							
± **Amortisation, insurance, building maintenance, etc **)**							
Technica	10.819 lei (A)	× 9,49 %of CA	102.689	–	1.027	–	1.027
Buildings	lei (A)	× %of CA	0	–	0	–	0
± **Capital exp. on fixed assets**							
External:	1.514,67 lei	× 10,0 %	151	–	151	–	151
Own:	3.894,86 lei	× 5,0 %	195	–	195	–	———
± **Expenses on admistrative labour**							
External:	hour	× 6,5 lei/hour	0	–	0	–	0
Own:	48,00 hour	× 7,2 lei/hour	346	–	346	–	———
± Other special expenses		23,0 lei/ha	23	–	23	–	23
± Other indirect expenses		15,0 lei/ha	15	–	15	–	15
= **Overall expenses / Entrepreneurial profit/Profit**			= **116.815**	=	**-153**	=	**1.612**
on direct payments amounting to	*200,00*	*lei/ha*	*116.615*		*47*		*1.812*
For comparison: the sum of the expenses on using own factors							1.765,36

*) Main production = Price × Secondary production + proportional direct payments

**) without interest, salary and lease

***) Purchase expenses + cost per year rate

Table 2

Overall expenses, Entrepreneurial profit, Profit — Potato - agricultural company 1 ha

Basic data:			Inputs:		External-%	Own-%
Main production	25.000	kg/ha	Current assets	7.798 lei	50%	50%
Price	1,00	lei/kg	Fixed assets	7.791 lei	70%	30%
Secondary production		lei/ha	Labour (for prod.)	259 hours	85%	15%
Proportional direct payments		lei/ha	Labour (adm+ dest)	48 hours	0%	100%
Proportional variable expenses	15.595,50	lei/ha	Used area of land	1 ha	70%	30%
Direct (general) payments	200,00	lei/ha				

lei/ha			Expenses		Entrepreneurial-profit		Profit
Overall production *)			———		25.000		25.000
± Proportional variable expenses **)			15.596	–	15.596	–	15.596
= **Prop.var.exp. / Gross margin **)**			= **15.596**	=	**9.405**	=	**9.405**
± **Capital exp. Current assets**							
External:	3.898,88 lei	× 10,0 %	390	–	390	–	390
Own:	3.898,88 lei	× 5,0 %	195	–	195	–	———
= **Variable expenses I / Gross margin I**			= **15.180**	=	**8.820**	=	**9.015**
± **Expenses on labour (production)**							
External:	220,15 hour	× 6,5 lei/hour	1.431	–	1.431	–	1.431
Own:	38,85 hour	× 7,2 lei/hour	280	–	280	–	———
= **Variable expenses II / Gross margin II**			= **17.891**	=	**7.109**	=	**7.584**
± **Expenses on the used area of land**							
External:	0,70 ha	× 1000 lei/ha	700	–	700	–	700
Own:	0,30 ha	× 1000 lei/ha	300	–	300	–	———
± **Expenses on other proportional factors**							
External:	____	× lei/____	0	–	0	–	0
Own:	____	× lei/____	0	–	0	–	———
= **Variable expenses III / Gross margin III**			= **18.891**	=	**6.109**	=	**6.884**
on direct payments amounting to	*200,00*	*lei/ha*	*18.691*		*6.309*		*7.084*
Fixed and indirect expenses:							
± **Amortisation, insurance, building maintenance, etc **)**							
Technica	15.581 lei (A)	× 9,49 %of CA	147.886	–	1.479	–	1.479
Buildings	lei (A)	× %of CA	0	–	0	–	0
± **Capital exp. on fixed assets**							
External:	5.453,35 lei	× 10,0 %	545	–	545	–	545
Own:	2.337,15 lei	× 5,0 %	117	–	117	–	———
± **Expenses on admistrative labour**							
External:	hour	× 6,5 lei/hour	0	–	0	–	0
Own:	48,00 hour	× 7,2 lei/hour	346	–	346	–	———
± Other special expenses		23,0 lei/ha	23	–	23	–	23
± Other indirect expenses		15,0 lei/ha	15	–	15	–	15
= **Overall expenses / Entrepreneurial profit/Profit**			= **167.823**	=	**3.584**	=	**4.821**
on direct payments amounting to	*200,00*	*lei/ha*	*167.623*		*3.784*		*5.021*
For comparison: the sum of the expenses on using own factors							1.237,12

*) Main production = Price × Secondary production + proportional direct payments

**) without interest, salary and lease

***) Purchase expenses + cost per year rate

In order to be able to deduct the factors' economic efficiency based on their remuneration calculations, the factors' remuneration is compared to the factors' expenses. The use of the factor is profitable if its remuneration is equal or larger that the expenses, as it happens in the case of the potato crop in the commercial farm. (Table 3 and Table 4).

Table 3

Economic efficiency indicators of the crop — Potato -small family farm, — U.m.: 1 ha

Name	Number / Quantity	Expenses on u.m.	Expenses	MB / Entrepren profit	Remunerating factors of prod. Capital (lei)	Remunerating factors of prod. labour (hours	Remunerating factors of prod. Land (ha)	Minimum-price
Main production (Production ×	15.000 kg ×	1,0 lei/kg		+ 15.000,0	+ 15.000,0	+ 15.000,0	+ 15.000,0	
Secondary production (with proportional direct		lei		+	+	–	–	+
Variable exp. (without interest, salaries, lease)	10.483 lei		+ 10.483,0	– 10.483,0	– 10.483,0	– 10.483,0	– 10.483,0	+ 10.483,0
Gross margin (without interest, salaries, lease)				**+ 4.517,0**				**+ 10.483,0 => 0,70** / 1 kg
Exp. on current assets interest	5.242 lei ×	7,50 %	+ 393,1	– 393,1		– 393,1	– 393,1	+ 393,1
Production threshold I			**+ 10.876,1**	**+ 4.123,9**				**+ 10.876,1 => 0,73** / 1 kg
Labour salaries (external):	228,00 h ×	6,67 lei/h	+ 1.520,3	– 1.520,3	– 1.520,3		– 1.520,3	+ 1.520,3
Production threshold II			**+ 12.396,4**	**+ 2.603,6**				**+ 12.396,4 => 0,83** / 1 kg
Land use expenses:	1 ha ×	1.000 lei/ha	+ 1.000,0	– 1.000,0	– 1.000,0	– 1.000,0		+ 1.000,0
Other usage expenses		lei	+	+	+	–	–	+
Output- factors (short term)					**+ 1.996,7**	**+ 3.123,9**	**+ 2.603,6**	
/ Factors of production (Capital, hours, ha)					+ 5.241,5	+ 228,0	+ 1,0	
Production threshold III			**+ 13.396,4**	**+ 1.603,6**	**38,1%**	**+ 13,7**	**+ 2.603,6**	**+ 13.396,4 => 0,89** / 1 kg
Technique: amortisation, Insur	10.819 lei ×	9,49 %	+ 1.026,9	– 1.026,9	– 1.026,9	– 1.026,9	– 1.026,9	+ 1.026,9
Buildings: Amortization, Mainte	lei ×	%	+	+	–	–	–	+
Exp. On fixed assets interests	5.410 lei ×	6,40 %	+ 346,2	– 346,2		– 346,2	– 346,2	+ 346,2
Labour salaries (admin.):	48 h ×	7,20 lei/h	+ 345,6	– 345,6	– 345,6		– 345,6	+ 345,6
Other special fixed expenses		23,00 lei	+ 23,0	– 23,0	– 23,0	– 23,0	– 23,0	+ 23,0
Proportionale indirect expenses (without labour		15,00 lei	+ 15,0	– 15,0	– 15,0	– 15,0	– 15,0	+ 15,0
Output- factors (long term)					**+ 586,2**	**+ 1.712,8**	**+ 846,9**	
/ Factors of production (Capital, hours, ha)					+ 10.651,0	+ 276,0	+ 1,0	
Profitability threshold			**+ 15.153,1**	**– 153,1**	**5,5%**	**+ 6,2**	**+ 846,9**	**+ 15.153,1 => 1,01** / 1 kg
Production threshold III with direct payments		200 lei		*+ 1.803,6*	*41,91%*	*+ 14,6*	*+ 2.803,6*	*+ 13.196,4 => 0,88 / 1 kg*
Profitability threshold with direct payments		200 lei		*+ 46,9*	*7,38%*	*+ 6,9*	*+ 1.046,9*	*+ 14.953,1 => 1,00 / 1 kg*

Table 4

Economic efficiency indicators of the crop — Potato - agricultural company — U.m.: 1 ha

Name	Number / Quantity	Expenses on u.m.	Expenses	MB / Entrepren profit	Remunerating factors of prod. Capital (lei)	Remunerating factors of prod. labour (hours	Remunerating factors of prod. Land (ha)	Minimum-price
Main production (Production ×	25.000 kg ×	1,0 lei/kg		+ 25.000,0	+ 25.000,0	+ 25.000,0	+ 25.000,0	
Secondary production (with proportional direct		lei		+	+	–	–	+
Variable exp. (without interest, salaries, lease)	15.596 lei		+ 15.595,5	– 15.595,5	– 15.595,5	– 15.595,5	– 15.595,5	+ 15.595,5
Gross margin (without interest, salaries, lease)				**+ 9.404,5**				**+ 15.595,5 => 0,62** / 1 kg
Exp. on current assets interest	7.798 lei ×	7,50 %	+ 584,8	– 584,8		– 584,8	– 584,8	+ 584,8
Production threshold I			**+ 16.180,3**	**+ 8.819,7**				**+ 16.180,3 => 0,65** / 1 kg
Labour salaries (external):	259,00 h ×	6,61 lei/h	+ 1.710,7	– 1.710,7	– 1.710,7		– 1.710,7	+ 1.710,7
Production threshold II			**+ 17.891,0**	**+ 7.109,0**				**+ 17.891,0 => 0,72** / 1 kg
Land use expenses:	1 ha ×	1.000 lei/ha	+ 1.000,0	– 1.000,0	– 1.000,0	– 1.000,0		+ 1.000,0
Other usage expenses		lei	+	+	+	–	–	+
Output- factors (short term)					**+ 6.693,8**	**+ 7.819,7**	**+ 7.109,0**	
/ Factors of production (Capital, hours, ha)					+ 7.797,8	+ 259,0	+ 1,0	
Production threshold III			**+ 18.891,0**	**+ 6.109,0**	**85,8%**	**+ 30,2**	**+ 7.109,0**	**+ 18.891,0 => 0,76** / 1 kg
Technique: amortisation, Insur	15.581 lei ×	9,49 %	+ 1.478,9	– 1.478,9	– 1.478,9	– 1.478,9	– 1.478,9	+ 1.478,9
Buildings: Amortization, Mainte	lei ×	%	+	+	–	–	–	+
Exp. On fixed assets interests	7.791 lei ×	8,50 %	+ 662,2	– 662,2		– 662,2	– 662,2	+ 662,2
Labour salaries (admin.):	48 h ×	7,20 lei/h	+ 345,6	– 345,6	– 345,6		– 345,6	+ 345,6
Other special fixed expenses		23,00 lei	+ 23,0	– 23,0	– 23,0	– 23,0	– 23,0	+ 23,0
Proportionale indirect expenses (without labour		15,00 lei	+ 15,0	– 15,0	– 15,0	– 15,0	– 15,0	+ 15,0
Output- factors (long term)					**+ 4.831,3**	**+ 5.640,6**	**+ 4.584,3**	
/ Factors of production (Capital, hours, ha)					+ 15.588,3	+ 307,0	+ 1,0	
Profitability threshold			**+ 21.415,7**	**+ 3.584,3**	**31,0%**	**+ 18,4**	**+ 4.584,3**	**+ 21.415,7 => 0,86** / 1 kg
Production threshold III with direct payments		200 lei		*+ 6.309,0*	*88,41%*	*+ 31,0*	*+ 7.309,0*	*+ 18.691,0 => 0,75 / 1 kg*
Profitability threshold with direct payments		200 lei		*+ 3.784,3*	*32,28%*	*+ 19,0*	*+ 4.784,3*	*+ 21.215,7 => 0,85 / 1 kg*

Knowing that the entrepreneurial profit must be at least zero in order to reach the economic limit, the main product's price (the threshold price) for which profit could be made was calculated. From the calculations it resulted that the lower limit of the short-term price was of 0.76 respectively 0.89 lei/kg. The long-term threshold price was calculated as 0.86 and respectively 1.01 lei/kg.

If the product's price is equal to the lower limit of the long-term price (the profitability threshold) we obtain as result a null entrepreneurial profit (achievements = overall expenses) and precisely the remuneration for the necessary expenses on labour, land and capital (on average).

If we establish the expenses for one of the capital factors, labour or land, at the value of the issued remuneration, we obtain as result the null entrepreneurial profit (achievements = overall expenses), for the factors' remuneration precisely the expenses obtained (on average) and as a price lower limit precisely the current product price. These connections are valid even for a longer interval (entrepreneurial profit and the profitability threshold), as well as for a short interval (gross margin l, ii, iii and the production threshold l, ii, iii).

CONCLUSIONS

In the case of a family farm, because the entrepreneurial profit is negative, and Gross Margin III is still positive, it means that some of the fixed expenses can be covered. This implies that: a) on the long terms, continuing the production is not profitable; b) increasing or changing the production capacity in a complete investment is not profitable; c) on the short term, continuing the production may be worthwhile, as long as the fixed factors (cars, buildings, etc.) are still at the farm's availability, because these factors generate lower expenses than in the case of alternative use.

The ling-term factors' remuneration is lower than the expenses on them, which means that for the own factors of production a long-term alternative could make sense. All these difficulties d not allow the small farms to expand their activity and progress towards a new organisation form.

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EVALUATION OF FARM PROFITABILITY BY MANAGEMENT INTERMEDIARY BALANCES

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Abstract

The annual financial statements prepared by the agricultural company provide information on potential cash balances concerning exploitation, financial and extraordinary activities. These balances, entitled Management of Intermediary Balances (MIB) are expressed by the indicators characterizing the operation and profitability of the farm: commercial margin, production of financial year, value added, the surplus / deficit gross working surplus, the results of the exploitation, the current result, gross and net results of the financial year. Each MIB reflects the state of financial results determined at a certain level, having function to illustrate the remuneration of production factors and financing the future activity.

Keywords**:** *Management of Intermediate Balances, profitability, commercial trading, value added, results of the exploitation, current result, net result of the financial year*

INTRODUCTION

The presentation of the financial results in accounting is based on structuring an organisation's activity into operation, financial and extraordinary activities, which, on the basis of this synthesis situation, allow the creation of certain values that characterise the economic behaviour of the respective agent, called intermediary management balance sheets (SIG cascade). [1] The need to determine SOG within SC OANCEA OMV SRL is good in determining the farm's capacity to make profit and eventually in determining its performance. The agricultural producer's major objective is both the increase in his possessions and the increase in the farm's value, to ensure its own development. [2] Achieving this objective is conditioned by performing a *profitable* activity, which allows the *remuneration* of the production factors and capitals used, regardless of their origin. [4]

MATERIAL AND METHODS

The paper synthetically presents the intermediary management balance sheets, as the main economic-financial indicators established according to crops (early potato, autumn cabbage and pickled cabbage) and total farm, with whose help we characterise the way in which the material, financial and human resources of SC OANCEA OMV SRL, village of Lunguletu, Dambovita county are used. An intermediary management balance sheet is calculated as the difference between two values. Indicators under the form of balance sheets, also called margins, SIG emphasise the stages in creating the intermediary balance sheet, in close connection to the revenues and expenses structure associated with the activities from SC OANCEA OMV SRL. Through successive deductions, we obtain indicators which characterize the profitability and management of the analyzed agricultural business, some being found directly in the profit and loss account, others being calculated in the case of intermediary management balance sheets (SIG).

RESULTS AND DISCUSSIONS

The profit and loss account reflects the company's *performance*, or its capacity to generate profit, expressed in its ability to

generate future cash (revenue) *flows* by means of using the existing resources (expenses in the interval), allowing to establish the *efficiency* level in using new resources. [3] the intermediary management balance sheet cascade has the features of the company and they are *value indicators* of the production and marketing.

Table 1.Intermediary management balance sheets SC OANCEA OMV SRL

No	Specification	Early potato	Autumn cabbage	Picked cabbage	TOTAL FARM
1	Revenues from selling the merchandi	-	-	-	-
2	Expenses regarding the merchandise	-	-	-	-
3	Gross margin (1-2)	-	-	-	-
4	Sold production	750,000	420,000	18,000	1,188,000
5	Stick variation	-	-	42000	42,000
6	Own work capitalized	-	-	-	-
7	Intermediary balance sheet (3+5+6)	750,000	420,000	60,000	1,230,000
8	Seeds / Seedlings	116,250	30,000	-	146,250
9	Fertilizers	58,500	-	-	58,500
10	Pesticides	19,350	4,800	-	24,150
11	Other material expenses	13,088	5,230	12,767	31,085
12	Works and services performed by thi	3,000	1,500	-	4,500
13	Overall intermed consumptions and t	230,188	41,530	3,267	274,985
14	Added value (8+7-13)	516,813	378,470	27,233	925,515
15	Revenues from operation subsidies	3,000	1,200	-	4,200
16	VAT	82,995	60,828	4,348	147,771
17	Land tax	900	360	-	1,260
18	Buildings tax	-	-	-	-
19	Machines tax	1,071	429	-	1,500
20	Other taxes	-	-	-	-
21	Overall expenses on taxes	84,967	61,217	4,348	150,532
22	Salaries	25,831	61,000	3,590	90,421
23	Salary contributions	4,661	10,980	635	16,276
24	Overall personnel expenses	30,554	71,980	4,165	106,699
25	Gross operation excess/deficit	402,292	246,474	18,719	672,485
26	Other operation revenues	-	-	-	-
27	Other operation expenses	1,571	1,429	-	5,000
28	Expenses on depreciation and provisi	15,280	5,471	7,467	28,218
29	Operation result(25+26-27-28)	388,440	239,574	11,253	639,267
30	Financial revenues	-	-	-	-
31	Financial expenses	1,290	516	-	1,806
32	Current result (29+30-31)	387,150	239,058	11,253	637,461
33	Extraordinary revenues	-	-	-	-
34	Extraordinary expenses	-	-	-	-
35	Extraordinary result (33-34)	-	-	-	-
36	Gross intermediary balance sheet res	387,150	239,058	11,253	637,461
37	Corporate tax	61,944	38,249	1,800	101,994
38	Net intermediary balance sheet resul	325,206	200,809	9,452	535,467

The commercial margin (MC) or gross margin is the first intermediary management balance sheet and it refers to the commercial activity performed by various economic agents. In the case of SC OANCEA OMV SRL, this indicator is null because the agricultural activity performed by the agricultural producer involves production, therefore obtaining finished products and not only trade (merchandise). This indicator becomes significant in the case of distribution (trading) companies within which it is important to be determined in detail, according to products or groups of products.

The intermediary balance sheet (PE) is an indicator with applicability in agricultural companies and it includes the finished agricultural products value meant to be sold, stored or used for the own needs. Consequently the intermediary balance sheet will include three elements: sold production, stored production (stocks variation) and own work capitalized.

Thus, within SC OANCEA OMV SRL, the intermediary balance sheet is composed of 1.230.000 lei per total farm, of 60,97% the intermediary balance sheet in early potato, 34,14% the intermediary balance sheet in autumn cabbage and 4,87% in pickled cabbage, in which 30% is the production sold by 31.12.2010 and 70% the stock variation.

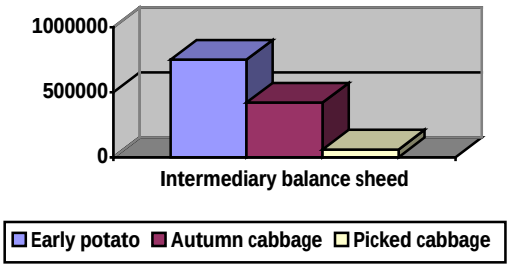

Fig 1. The intermediary balance sheet

Since it is not an intermediary management balance sheet, but an entry in the results account, *the turnover* is a global indicator of the sales resulting from the trading and production activity (obtained by adding the merchandise sales and the production sold). Because the agricultural producer does not sell merchandise, his basic activity being the agricultural production, the turnover level is the same as the sold production level, amounting to 1.188.000 lei at the end of 2010.

The added value (VA) expresses the creation or increase in value brought by the agricultural producer to the goods or services from third parties. This intermediary management balance sheet is a gross added value which makes the connection between micro and macroeconomic. The added value allows for the comparison between farms in order to better measure their contribution to agriculture. The agricultural producer who records a higher added value, implicitly makes a more important contribution. At farm level, the added value is an indicator which allows for measuring its economic power, which was determined by the difference between the global intermediary balance sheet (obtained by adding the gross margin and the intermediary balance sheet) and the

consumption of goods and services provided by third parties for the respective production.
It is noticed that SC OANCEA OMV SRL achieved a money accumulation margin (VA) of 925.516 lei composed of 56.16% value added to the early potato, 40.89% value added to the autumn cabbage and 2.95% value added to pickled cabbage.

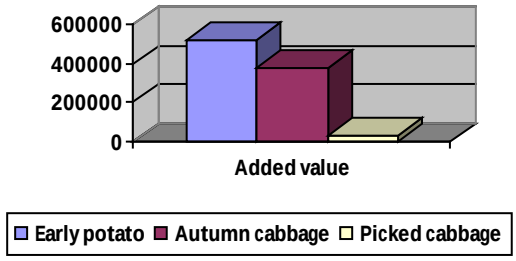

Fig. 2 The added value

The money accumulation margin (VA) is of special interest because:
• it makes the connection between the micro and macroeconomic level.
• it represents a criterion in assessing the specific contribution of the farm to its production. The added value is a more synthetic indicator than the turnover, emphasizing the commercial performance of the company, respectively its capacity to sell and produce.
• it reflects the degree of using the factors of production.
The gross operation excess/deficit of the business (EBE) corresponds to the economic result of the farms generated by the operations independently from the financial activity, the depreciation method used and the creation of provisions or not, which makes it be consider as an essential indicator in the management analyses and in performing comparative analyses between agricultural trading companies.

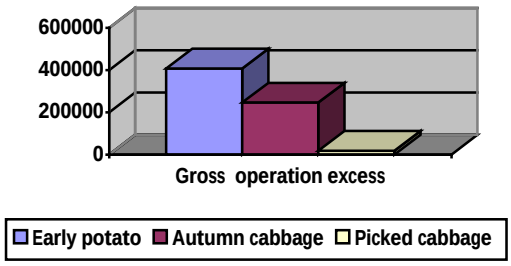

Fig.3 Gross operation excess

The gross operation excess within SC OANCEA OMV SRL amounts to 672,485 lei and it is composed of 60.56% operation excess for the early potato, 36.65% operation excess for the autumn cabbage and 2.79% operation excess for pickled cabbage.
The role of the gross operation excess may be seen in three aspects:
- it is the measure of the agricultural company's economic performances: based on calculating it, the agricultural producer may decide or not to renew his fixed assets through depreciation, covering risks from established provisions and ensuring his funding which involves financial expenses, and the difference will be distributed to the state (corporate tax), to the shareholders (dividends) and/or preserved through self-funding.
- EBE is independent from the financial policy (it is not influenced by revenues and expenses), the investment policy (it does not take account of the company's decisions on ways to calculate the depreciation), the individual policy (the company's decisions regarding the net profit allocation), the fiscal policy and the exceptional elements (it does not consider the corporate tax and the exceptional result)
- EBE is a fundamental financial source for the company.
- EBE is the first level of the analysis regarding the creation of the company's global treasury, therefore the starting point in the treasury flows picture.
The operation result (RE) assesses the economic profitability of the analyzed farm and corresponds to the normal and current activities of the company, including the operations performed in the previous balance sheets but associated with the current balance sheet. The activity corresponding to the financial and extraordinary operations is not considered. This result is used in comparing the agricultural companies' performances with various financial policies. This indicator was calculated based on the relation:

$$RE = EBE+AVE-ACE-CAP$$

In which RE- the operation result, AVE – other operation revenues, ACE – other operation expenses, CAP – expenses on depreciation and provisions.

Calculating the operation result for SC OANCEA OMV SRL, led to the following results: for total farm, its absolute value is of 639,267 lei, composed of 60.76% early potato, 37.47% autumn cabbage and 1.77% pickled cabbage.

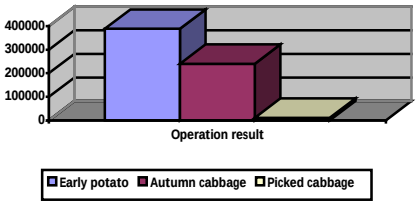

Fig 4. The operation result

The current result (Rc) is the result of all the current, regular operations of a farm, being determined both by the current operation result and by the result of the financial activity, also allowing the assessment of the agricultural company's financial policy impact on profitability. Because it is not influenced by extraordinary elements, this balance sheet allows for the analysis of the agricultural company's current result dynamics along several balance sheets.

Considering that the analysed agricultural company does not have financial revenues, and its financial expenses are reduced to the bank interests to the credit purchased for a means of transport, the current result is not much more different from the operation result and it represents the absolute value of 637,461 lei per total farm.

The lack of *extraordinary result* was reflected in the equality between the current result and the *gross result*, whose absolute value is 637,461 per farm and composed of 60.73% gross result of the balance sheet for the early potato, 37,50% gross result of the balance sheet for the autumn cabbage and 1,76% gross result of the balance sheet for the pickled cabbage.

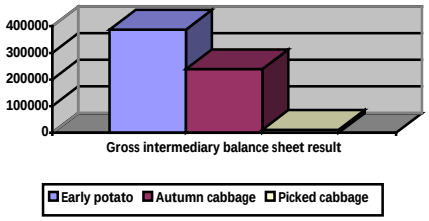

Fig.5. The gross result of the balance sheet

By applying the corporate tax (16%) on the gross result of the balance sheet, we calculated the net result of the balance sheet amounting to de 535,467 lei per total farm, and composed of 60.73%, for the early potato, 37.50% for autumn cabbage and 1.77% for pickled cabbage.

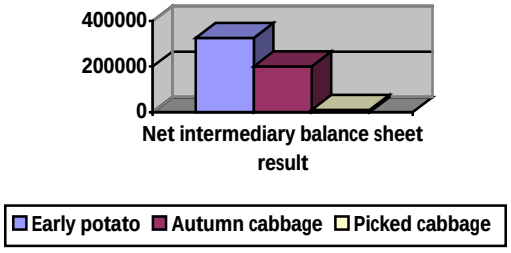

Fig.6. The net result of the balance sheet

CONCLUSIONS

1. The profit and loss account allows for the assessment of the company's performances, by means of establishing a connection between the economic activity intermediary balance sheets and the balance sheet flow, starting from the added value.
2. We notice that in creating the net result of the balance sheet, as well as the other indicators in the flow, the early potato crop makes the highest contribution, with over 60%.
3. Autumn cabbage makes a contribution of 37.5% to the net result of the balance sheet per farm, due to the fact that this crop is cultivated on only 6 ha of the total far area (15ha).
4. For the pickled cabbage production, its contribution to the SIG cascade is minor because the agricultural producer has stocks which he markets during the current year.

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CHARACTERISTICS OF INVESTMENT PROCESS IN REPUBLIC OF SERBIA – OVERVIEW ON MUNICIPALITIES APATIN, INĐIJA AND ZRENJANIN

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Abstract

Republic of Serbia is in central phase of transition which represents radical turn in future development of domestic economy. Development of market economy can be accelerated up by inflow of assets trough investing into new enterprises, recapitalization of present enterprises and consolidation of financial system. Thanks to adoption of large number of policies, starting from 2001 untill today, business ambient in Republic of Serbia is significantly improved. Main goals of legal reformes, which are in accordance with EU regulatives, are directed toward simplicity of business and safety of investing. However, macroeconomic indicators of investing trends show high risk of investing in domestic enterprises, which enables more dynamic investing.In this paper, we gave comparative analysis of previous investing at regional and national level. Research included realized investments in capital assets at level of municipalities: Apatin, Inđija and Zrenjanin. Also, we gave insight into characteristics of investing process in economy at territory of West Bačka District, AP Vojvodina, and Republic of Serbia in total.

Keywords **:** *investing, capital assets, Republic of Serbia, municipalities of Apatin, Inđija and Zrenjanin*

INTRODUCTION

Thanks to adoption of large number of policies, starting from 2001 untill today, total business ambient in AP Vojvodina and Republic of Serbia is significantly improved. Main goals of legal reform, which are in accordance with EU regulative, are directed toward simplicity of business and safety of investing. In the process of EU accession we can expect adoption of new reform processes. For investors the largest impact have policies in the field of soil and construction, as well as regulative related to industrial and technological parks. (*Subic et al, 2009*)

Market size, macroeconomic stability, business expenses, human resources, geographical position and investing infrastructure are the most important factors which make municipalities Apatin, Inđija and Zrenjanin a very attractive locations for business, in this part of south-east Europe. Municipalities offer to all investors relatively good seling potential of large number of industrial and agricultural products at world market and domestic market, and that comes from duty-free approach to markets of EU, SAD, Russia and south-east Europe which count nearly billion people. So, there is openness toward every investor, which is especially directed toward attraction of foreign direct investments, which should significantly increase growth rate of domestic product and reduce unemployment rate.

Business expenses in Republic of Serbia are favorable in compare to other states in the region which is result of:[1]

§ ***Low tax rates***, such as tax on profit (10%), value added tax (8 or 18%) and income tax (12%);

§ ***Numerous incentives for investing***, such as state subventions for direct investing, between 2.000 and 10.000 euros per new working place, than release from paying of profit tax in period of 10 years for large investing, as well as exception from paying of income tax and contributions for social insurance for workers younger that 30 and older than 45 years of age;

[1] www.siepa.sr.gov.rs

§ ***Cheaper communal products and services***, such as electrical energy, gas or water;
§ ***Quality and price of labor*** which are, by general estimation of investors, one of key reasons for investing in Republic of Serbia in total.[2]

Dairy farming is an important branch of animal husbandry with a long tradition in our country. After 1989, the number of cattle stock has seriously decreased due to the dissolution of the state enterprises and cooperatives and numerous slaughtered animals [1]. At present the number of dairy cows counts for about 2,600 Million heads and are mainly raised in private subsistence households [2]. In the North East region of Romania contributes with more than 10 % to total milk production in the country [3]. In this context, the paper present an analysis of the evolution of milk production in the North East region of Romania, in order to put into evidence the evolution of the number of dairy cows, milk yield and total milk production in the period 1990-2007 [4].

MATERIAL AND METHODS

In order to characterize investing activity in three elected municipalities in Serbia, the following indicators were used: inflow of direct foreign investments in Serbia, spatial distribution of totaly achieved investments, realized investments per inhabitant, realized investments per active inhabitant and realized investments per employee. The period analyzed in this study is 2000-2007. The data, collected mainly from statistical publications, have been analyzed and interpreted.

RESULTS AND DISCUSSIONS

Investing trends in period 2000-2007 show strong correlation between political credibility of the country and investing risk. In mentioned period, inflow of direct foreign investments (DFI)[3] in Serbia was subjected to significant oscillations (*Table 1.*). So far, DFI in Serbia were mostly directed toward accessing of domestic market trough production, providing of services (banks, trade houses, insurance companies, leasing companies, etc.), as well as acquirement of some assets (real estate, objects) that has effects on domestic market [7].

Table 1. Inflow of DFI in the world and in Serbia, in period 2000-2007 (in billion USD)

Year	DFI inflow in the world	DFI inflow in Serbia	Participation of DFI inflow in Serbia in DFI inflow in the world (%)
2000	1.392.95	50	0,0036
2001	823.825	165	0,0200
2002	716.128	475	0,0663
2003	632.599	1.365	0,2158
2004	742.143	966	0,1301
2005	958.697	1.550	0,1617
2006	1.411.018	4.387	0,3109
2007	1.833.324	2.195	0,1197

Notice: methodology of recording of DFI inflow in the world given in UNCTAD, ''World Investment Report 2008'', New York and Geneva, 2008., pg. 250; data of UNCTAD regarding DFI inflow in Serbia are different than data of NBS.
Source: World Investment Report 2003. UNCTAD, New York and Geneva, 2003; World Investment Report 2005. UNCTAD, New York and Geneva, 2005; World Investment Report 2007. UNCTAD, New York and Geneva, 2007; World Investment Report 2008. UNCTAD, New York and Geneva, 2008; Statistički bilten 2008. NBS, Beograd, februar 2008.

Data analysis which refers to DFI inflow in the world and Serbia (in period 2000-2007), direct to the fact that share of DFI inflow in Serbia in DFI inflow in the world was very modest. According to that, mentioned indicator had the lowest level in 2000 (0,0036%), while its largest level was recorded in 2006 (0,3109%). However, even in 2006 when there was maximal DFI inflow in Serbia (4.387 million USD), that amount was lesser than DFI inflow in Bulgaria (7.507

[2] Human resources in our country are characterized by: high productivity rate which, within industry, grow averagely for 11% per year; good technical education, where 1/3 of about 14.000 graduated students every year comes from natural science faculties; significantly lower expenses which are less than 1/2 of expenses for incomes in new EU members from East Europe.

[3] *Direct foreign investments* are investments in building of new capacities in production sector, in research and development sector, and in sector of services which can be the subject of international trade. They represent the form of investing of capital which provides to foreign investor acquisition of the ownership, control and management of the capital invested.

million USD), Romania (11.366 million USD) and Hungary (6.790 million USD).[4]

So far, the largest part of DFI in Serbia was directed toward financial sector, real estates businesses, trade and other business services so its impact on increment of industrial and agricultural production, employment and export is limited, considering that enterprises, banks and other economy subjects invested by foreign capital are oriented toward domestic market and import. Still, there is no larger input of modern technology, equipment and production management, and therefore no growth of technological and innovative capacity in Serbia, although there are some exceptions [2].

For the purpose of getting the realistic picture about previous investing in municipality of Apatin, we gave overview of investing at regional and national level in the following tables and graphs. Research included perennial investing trend in economy of municipalities: Apatin, Inđija and Zrenjanin. Also, research included characteristics of investing process in economy at territory of West Bačka District, AP Vojvodina and Republic of Serbia in total.

Observing period 2000-2005, it can be seen that Municipality of Apatin is characterized by weak and insufficient investing activity. However, total realized investments at the level of Municipality of Apatin in 2005 were more than tripled according to achieved value in previous year. In 2005 they were 1.887.135 thousand dinars, in compare to 547.869 thousand dinars of achieved investments in 2000 *(Table 2.*).

On the other hand, total realized investments of the Municipality in 2005 include 47,28% of realized investments at the level of West Bačka District, that is hardly 6,34% of totally achieved investing at the level of AP Vojvodina, or 1,15% at the level of Republic of Serbia in total.

Investing in Municipality of Apatin in compare to investing in Municipality of Inđija, during all analyzed period, was at higher level (with special accent on 2000, when ratio was 7,54:1,00). On the other hand, comparing to investing in Municipality of Zrenjanin, realized investments in Municipality of Apatin show oscillations which follow certain time intervals: in 2000, the level of investing in Municipality of Apatin was above investing at the level of Municipality of Zrenjanin (comparing to 1,74:1,00); during period 2001-2003, the level of investing in Municipality of Apatin was below investing at the level of Municipality of Zrenjanin (with special accent on 2003, when the ratio was 1,00:2,91); in the period 2004-2005, the level of investing in the Municipality Apatin was above investing at the level of Municipality of Zrenjanin (with special accent on 2005, when the ratio was 3,02:1,00).

Table 2. Spatial distribution of totally achieved investments*, in period 2000-2005 (in thousand dinars)

Years	Unit	Territory					
		Republic of Serbia**	AP Vojvodina	West Bačka District	Municipality of Apatin	Municipality of Inđija	Municipality of Zrenjanin
2000	din.	39.874.609	8.508.582	1.039.538	547.869	72.620	314.506
	%	100,00	21,34	2,61	1,37	0,18	0,79
2001	din.	55.188.399	13.348.396	1.412.649	475.135	127.405	609.047
	%	100,00	24,19	2,56	0,86	0,23	1,10
2002	din.	102.860.663	23.302.691	2.142.594	561.807	244.494	812.595
	%	100,00	22,65	2,08	0,55	0,24	0,79
2003	din.	115.662.223	25.685.814	1.535.007	438.508	119.247	1.275.240
	%	100,00	22,21	1,33	0,38	0,10	1,10
2004	din.	152.929.464	29.484.398	3.529.428	1.737.779	121.154	1.052.634
	%	100,00	19,28	2,31	1,14	0,08	0,69
2005	din.	163.549.507	29.773.399	3.991.569	1.887.135	195.342	624.964
	%	100,00	18,20	2,44	1,15	0,12	0,38

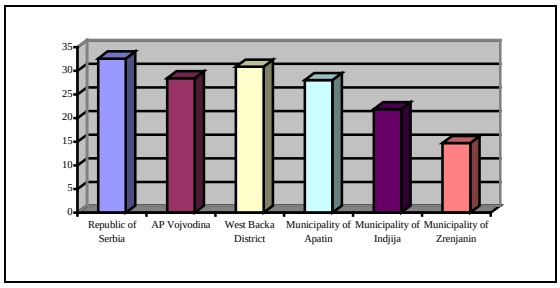
* Investments in capital assets (data refer to social, cooperative, mixed and state property), in current prices.
** without data for Kosovo and Metohia.
Source: Investicije Republike Srbije, 2000-2005. RZS, Beograd, 2001-2006.

On the other hand, during period 2000-2005, investing in Municipality of Apatin was averagely above investing in municipalities of Inđija and Zrenjanin. Having in mind the role of investing in social-economic development, we can conclude that in the observed period Municipality of Apatin had larger economical growth and better social security comparing to municipalities of Inđija and Zrenjanin.

Based on perennial trends of total investments (in their absolute values), we can calculate average annual growth rates for selected territories. In that context, we have average

[4] *World Investment Report 2008*. UNCTAD, New York and Geneva, 2008.

annual growth rates of totally achieved investments at the level of municipality of Apatin (28,06%), West Bačka District (30,88%), AP Vojvodina (28,47%) and Republic of Serbia in total (32,61%). In all cases there were positive annual growth rates, while the largest value was recorded for Republic of Serbia in total (*Graph 1.*).



Graph 1. Average annual growth rates of totally realized investments*, in period 2000-2005 (in %)

* Investments in capital assets (data refer to social, cooperative, mixed and state property), in current prices.
** without data for Kosovo and Metohia.
Source: Investicije Republike Srbije, 2000-2005. RZS, Beograd, 2001-2006.

For the purpose of comparative overview, we determined annual growth rate for municipality of Inđija (21,88%), and Municipality of Zrenjanin (14,72%). In both cases, annual growth rates are below average annual growth rates in Municipality of Apatin. This is one more fact which confirms better positioning of Municipality of Apatin at the level of social-economic development in compare to municipalities Inđija and Zrenjanin.
Since 2006, Statistical Office of Republic of Serbia gives data about investing in capital assets of legal persons of all property forms in Serbia, in current prices. In accordance with new methodology, total investing at the level of Municipality of Apatin in 2007 were tripled in compare to previous year. So, in 2007 they were 1.602.549 thousand dinars, in compare to 578.277 thousand dinars in 2006 *(Table 3.*). On the other hand, total investing of the Municipality in 2007 include 23,99% of investing at the level of West Bačka District, i.e. 1,39% of total investing at the level of AP Vojvodina, or 0,33% at the level of Republic of Serbia in total.

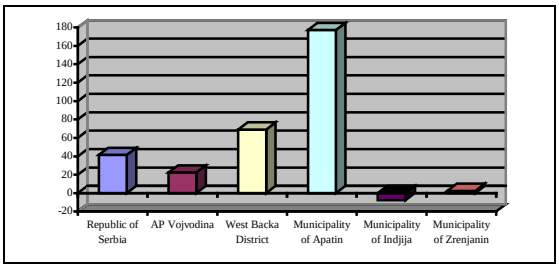
Table 3. Spatial distribution of totally realized investments*, in period 2006-2007 (in thousand dinars)

Year	Unit	Territory					
		Republic of Serbia **	AP Vojvodina	West Backa District	Municipality of Apatin	Municipality of Inđija	Municipality of Zrenjanin
2006	dinar	340.795.050	94.317.316	3.952.236	578.277	1.439.789	3.322.168
	%	100,00	27,68	1,16	0,17	0,42	0,97
2007	dinar	482.340.888	115.475.861	6.679.181	1.602.549	1.228.146	3.493.634
	%	100,00	23,94	1,38	0,33	0,25	0,72

* Investing in new capital assets (data refer to all legal persons, except those, which are in accordance with article 7 of Law on accounting and review, categorized as small), in current prices.
** Without data for Kosovo and Metohia.
Source: Investicije Republike Srbije, 2006-2007. RZS, Beograd,2007-2008.

Investing in Municipality of Apatin in compare to investing in Municipality of Inđija, showed annual oscillations: in 2006, the level of investing in Municipality of Apatin was below investing at the level of Municipality of Inđija (in ratio 1,00:2,49); in 2007, level of investing in Municipality of Apatin was above investing at the level of Municipality of Inđija (in ratio 1,30:1,00). On the other hand, investing in Municipality of Apatin in compare to investing in Municipality of Zrenjanin, was at lower level during all observed years (with special accent on 2006, when the ratio was 5,74:1,00). In period 2006-2007, investing in Municipality of Apatin was averagely below investing achieved in municipalities of Inđija and Zrenjanin. Having in mind the role of investing in social-economic development, it can be concluded that during observed period Municipality of Apatin had smaller economy growth and achieved poorer social security comparing to municipalities of Inđija and Zrenjanin.
Based on perennial trends, total investing in absolute values, can be presented as average annual growth rate for elected territories. In that context, we have average annual growth rate of total investing in Municipality of Apatin (177,12%), West Bačka District (69,00%), AP Vojvodina (22,43%) and Republic of Serbia in total (41,53%). In all cases there were positive annual growth rates,

while the highest value was recorded for Municipality of Apatin (*Graph 2.*).



Graph 2. Average annual growth rates of totally achieved investments*, during period 2006-2007 (in %)

* Investing in new capital assets (data refer to all legal persons, except those, which are in accordance with article 7 of Law on accounting and review, categorized as small), in current prices.
** Without data for Kosovo and Metohia.
Source: Investicije Republike Srbije, 2006-2007. RZS, Beograd,2007-2008.

For the purpose of comparative overview, there is annual growth rate for municipality of Inđija (-7,64%), as well as annual growth rate for Municipality of Zrenjanin (2,55%). In both cases, annual growth rates are drastically below average annual growth rate for Municipality of Apatin. This confirms better positioning of Municipality of Apatin, at the level of social-economic development, comparing to municipalities of Inđija and Zrenjanin.

For the purpose of estimation of investing in economy of Municipality of Apatin, the following indicators will be used:

– realized investments in economy per inhabitant;
– realized investments in economy per active inhabitant;
– realized investments in economy per employee.

For the purpose of getting the realistic estimation of investing in economy of Municipality of Apatin, in the following overview (*Table 4.*) are indicators given at the regional and national level (in 2007).

Results shown in Table 4 lead to conclusion that in all observed situations the largest value was achieved in the case of investments per employee, while the smallest value is achieved in the case of investments per inhabitant:

- Republic of Serbia (3,74:1,00);
- AP Vojvodina (3,84:1,00);
- West Bačka District (4,69:1,00);
- Municipality of Apatin (5,37:1,00);
- Municipality of Inđija (5,07:1,00);
- Municipality of Zrenjanin (4,25:1,00).

Table 4. Estimation of realized investments* in economy (dinar)

Indicator	Territory					
	Republic of Serbia**	AP Vojvodina	West Bačka District	Municipality of Apatin	Municipality of Inđija	Municipality of Zrenjanin
Realized investments per inhabitant (census 2002)	64.329,26	56.828,90	31.209,52	48.838,84	24.756,52	26.456,70
Realized investments per active inhabitant (census 2002)	141.938,98	126.507,30	71.863,97	111.002,91	55.307,94	57.290,53
Realized investments per employee (annual average - 2007)	240.888,12	218.129,63	146.290,40	262.454,80	125.410,60	112.516,39

* Investing in new capital assets (data refer to all legal persons, except those which are, in accordance with article 7. of Law on accounting and review, categorized as small), in current prices.
** Without data for Kosovo and Metohia.
Source: Investicije Republike Srbije, 2006-2007. RZS, Beograd,2007-2008.

In accordance with chosen indicators and ratio of investing, it can be concluded that the highest investing per employee is in Municipality of Apatin. This only confirms the fact that participation of number of employed in total number of inhabitants is the lowest in Municipality of Apatin (18,61%), comparing to other observed territorial units (Municipality of Inđija: 19,74%; Municipality of Zrenjanin: 23,51%; West Bačka District: 21,33%; AP Vojvodina: 26,05% and Republic of Serbia in total: 26,71%). Besides that, this is indicator can be the proof that Municipality of Apatin has higher unemployment comparing to other territorial units, i.e. it should increase openness toward domestic and foreign capital, to increase its perspectives especially regarding employment (opening of new work places).

CONCLUSIONS

The analysis showed that many enterprises in Republic of Serbia have unfavourable business performances which are being manifested

trough decrement of market share and profitability, increment of indebtedness, inadequate investing and increased number of diversified business activities at the expense of primary work[5]. Although there is an increasing investing trend, macroeconomic indicators of investing trends in Serbia show high investing risk into domestic enterprises, which disables more dynamic investing. Reduction of risk would increase the attractiveness of investing, which is a stimulant for domestic and foreign investors.

Research results related to comparative review of investing in capital assets, indicate the following:

– During period 2000-2005, Municipality of Apatin is characterized by weak and insufficient investing activity. On the other hand, realized investments in Municipality of Apatin were averagely above realized investments at the level of Municipality of Inđija and at the level of Municipality of Zrenjanin;
– Also, during period 2000-2005, there are positive growth rates in all observed territorial units. Municipality of Apatin had better positioning at scale of social-economic development comparing to municipalities Inđija and Zrenjanin.
– Analyzing period 2006-2007, total realized investments at the level of Municipality of Apatin are significantly increased in compare to previous years (but they are still relatively modest). At the same time, realised investments in Municipality of Apatin were below achieved investments, in average, comparing to Municipality of Inđija and Municipality of Zrenjanin.
– Although average annual growth rate of realised investments in Municipality of Apatin, during period 2006-2007, are significantly above average annual growth rate of observed indicator at given territory, the participation of realized investments of Municipality of Apatin in realized investments of Republic of Serbia in total, were nearly three times lower in the same period comparing to time interval 2000-2005. At the same time, average share of realized investments of municipalities of Inđija and Zrenjanin in realized investments of Republic of Serbia in total were larger in period 2006-2007 comparing to time interval 2000-2005. In other words, there is a decrease of investment activity which reduced economic growth of municipalities comparing to economic development in our country and selected municipalities.
– In compare to other observed territorial units, participation of number of employees in total number of inhabitants was the lowest in Municipality of Apatin (so it has greater unemployment). So, Municipality of Apatin must increase its openness for domestic and foreign investors, to increase its perspective, especially regarding opening of new working places.

In years to come, we should expect larger direction of monetary flows for investing in those economy branches which can be important for sustainable development of not only municipalities of Apatin, Inđija and Zrenjanin, but also for Republic of Serbia in total.

[5] Period of breakup of former Jugoslavia, wars at its territory, and after that and transition, caused termination of many enterprises (or working with significantly reduced capacity) in Municipality of Apatin (Source: *Strategy of development of social protection of Municipality of Apatin for period 2008-2013*).

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THE PERSPECTIVES OF THE INNOVATION DEVELOPMENT IN THE AGROINDUSTRIAL SECTOR IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT OF THE COUNTRY

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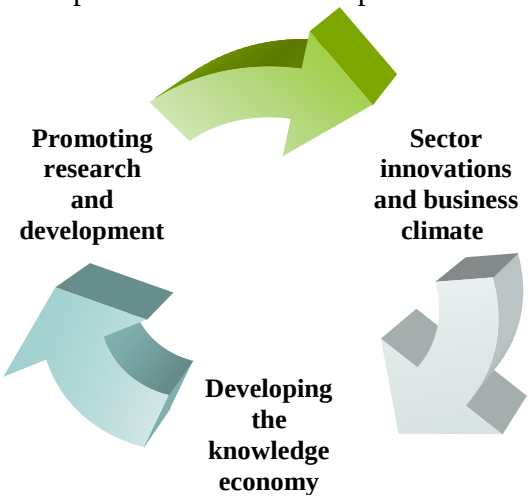
Abstract

To build a "knowledge economy" innovation should be a high priority for both theoretical research and for scientific and technological development strategy of our country in the near future, surpassing investment as the main driver of growth. The article analyzed the overall situation innovative entrepreneurship that was formed in agro-business sector in the country. The article argues the necessity to evaluate the innovative process in this area, its main objectives, main directions and stages of implementation.

Key words: *knowledge economy, research, innovation, the innovative entrepreneurship, scientific and technological development*

INTRODUCTION

Sustainable development in Moldova is unthinkable without the contributions from research and innovation. For nearly two decades, scientific research proves to be around world, the central component of the new economy and knowledge society.
Being the key engines of economic development knowledge, innovative activity it is indispensable to the development research.



That is why development of innovations is dependent on the sector research - development. For activation of innovation activity and improve the business climate, it is necessary to intensify research - development.

RESULTS AND DISCUSSIONS

National Innovation is an area of economic knowledge, which examines the factors and policies that affect a nation's ability to create and maintain an environment that supports innovations for its enterprises, and which provides more prosperous life for population. This means that companies depend largely on their operating environment. Some nations support innovation more than others by creating an environment that facilitates innovations of economic operators and encourages operators long-term sustainability.
However, we cannot reduce innovation while we introduce something new because the access is favoured by the political, social and cultural aspects. Thus, economies should provide an environment that has the most efficient structure, institutions and policies that encourage innovation in businesses. That is why innovation is required to be analyzed with the tools and methods that lead to the characterization of innovative spaces.
One of the main problems in agricultural innovation activity is the development of infrastructure through which actually takes place and promote innovation in the economy. Success in creating innovative and effective functioning of structures (parks, incubators,

scientific and technical centers, etc.) according to foreign experience will be achieved only, when this process will be accompanied by the creation of appropriate structures and venture funding of projects completed within them.

In Moldova networks for scientific and technological parks and innovative incubators, as exemplified by the developed countries, unfortunately does not always allow achieving successful innovation projects, although it is provided an economic effect from their realization, because of their total lack of such mechanisms and structures. Talking about the financing of innovative projects that differs from projects in sectors of the traditional economy. Usually production company attracts investment of resources in the form of credit or finance from outside investors, suggesting the existing heritage as collateral. In such a formula business innovation investment is not possible. Scientist or inventor owns the patent or certificate of invention or development, it proposes to implement. Also there is a risk that that innovative products obtained as a result of their implementation may not be commercially successful. [3].

In conformity with agro-industrial complex organizational economic essence of innovative processes is connected with the purposes and problems of their development which consist of the constant organizational, economic, technical and technological updating of agroindustrial manufacture directed to its perfection taking into account achievements of science, techniques and world experience. An ultimate goal of innovative development of the branch is formation of agrarian economy of innovative type.

The essence of innovative activity has no differences of principle with reference to various branches and spheres of national economy. However character and directions of innovative process can have essential distinctions in them.

In particular, innovative process of agroindustrial complex has his specificity, which is conditioned, first of all, by features of agroindustrial manufacture and, in particular, by its agriculture.

Innovative process in agroindustrial complex can proceed in different forms. In particular, it can intensively develop; with slowed down rates or very slowly, in other words, extensive.

In Moldova took place some attempts of acceleration of tempos of development of innovative process at certain stages of agricultural development. A typical example of such attempt is mass introduction of intensive technologies in agriculture in first half 1980th. Intensive technologies of cultivation of agricultural crops are eventual result of scientific researches in field of manufacturing method of agricultural production.

Despite considerable work spent on mass introduction of intensive technologies, outstanding results have not been reached in the country, though productivity of basic agricultural crops and efficiency of animal industries not risen these years.

Now, after the lapse of many years after that stage, it became obvious, that it was unique and right direction of agriculture's development. Those years the innovative sphere of agrarian and industrial complex became considerably more active and it was possible to expect that such direction will lead to manufacture increase, and consequently, and to consumption of agricultural production.

Nevertheless the course of innovative process in agroindustrial complex can be characterized as extensive, smoldering, though there were observed the certain tendency to growth of efficiency of earth's use and manufacture's increase of agricultural production in pre-reform period.

Analysis of this data has shown that agriculture gross output in dynamics naturally grew in comparable prices as a cumulative indicator of technological efficiency, in pre-reform period. It became the result of intensification of manufacture according to the basis of scientific and technical progress. Scientific researches, numerous forecasts of scientific institutions and various departments have shown what even preservation of such

rates of increase and further increase of innovative activity were quite possible by 2000 and furthermore it was possible to come nearer to indicators of safe developed countries at level of production and consumption per capita for more remote period.

During fifteen years, so-called "dead season" (1976-1990) rates of innovative activity in agrarian and industrial complex, despite some attempts to strengthen them, turn out to be low. In 1986 — 1990 in comparison with 1976-1980 the agriculture gross output in comparable prices has increased in 17 %, that is hardly more than 1 % a year. And nevertheless the basic indicators of productivity of agricultural crops and efficiency of animal industries have naturally increased. Undoubtedly, such rates of increase did not suit the Soviet state; consequently attempts were made for artificial forcing of innovative process by expansion of intensive and industrial technologies' introduction in manufacture. All this was accompanied by perfection of existing organizational forms and by creation of essentially new organizational forms of innovative process**.** There were scientific and production and industrial systems created on the basis of research establishments and advanced agricultural enterprises, scientific and production associations, integrally combining research process with manufacture of high technology production. Centres of scientific maintenance of agroindustrial complex began to be formed and to actively work in regions. All these rather new forms of scientific and production integration were prototype of formation subsequently of techno-parks formations (agrotechnoparks, agrotechnopolises).

Unfortunately, position in relation to agroindustrial complex has sharply changed in connection with transition to economic reforms in the country and to basic change of general policy of the state.

The agrarian reform which has drawn agricultural commodity producers in the hardest economic situation, has not only broken innovative process, but also has led to a catastrophic condition of all scientifically-innovative sphere of agroindustrial complex**.** Rates of recession of production's level, connected with downfall of efficiency in plant growing and animal industries within 1991 1996, so-called reforming, have considerably exceeded rates of its lifting which was observed in 1970-1980th of pre-reform period.

And this falling is characteristic for all regions and for overwhelming majority of agricultural commodity producers irrespective of proprietary and managing form.

Carried out reforms assert negative influence over scientifically-innovative sphere that has affected catastrophic falling of innovative activity at all levels of management of agroindustrial complex — from federal level to level of a separate agricultural enterprise. And it's regular, as it is connected with a complex of reasons, which has socially-psychological, economic and organizational character.

The complex of socially-psychological reasons of falling of innovative activity of agroindustrial complex includes so-called «a psychological shock»of all direct executors concerning innovative process, — from direct agricultural manufacturers to experts of administrative personnel of district, provincial and regional levels. Manufacture reforming, shock therapy in financial and economic sphere, unprepared and avalanchine repartition of property, political instability, threat of uttermost disintegration of enterprises have generated economic insecurity and certain confusion in consciousness of workers at all levels, that, naturally, has created a serious obstacle for systematic innovative activity.

Not least important were macroeconomic reasons of decrease in innovative activity. Agricultural commodity producers which did not differ earlier with high innovative activity, in connection with disparity of prices at realizable agricultural and purchased industrial output have appeared in such economic situation that practically had no possibility to conduct even a simple reproduction.

The organizational problems which have arisen during reforms, at all levels of

management have led to loss of elementary functional preciseness. Enough accurate and certain functions of all controls (from the concrete enterprise to the Ministry of Agriculture) have appeared at reforming vague and broken that has led to irresponsibility for practical realization of an innovative policy and course of innovative process.

At the same time experience of countries with developed intensive agricultural production testifies that all society bears responsibility for scientific and technical progress in this specific branch, consuming its production.

Agriculture owing to specific features and limited organizational-economic and technical possibilities cannot effectively function without aid of state which should not only have own innovative policy, but should also carry out direct regulation of innovative process.

Preparatory to formulate basic directions of increase of innovative activity which logically follow from above mentioned conditions and factors of development of given process, it is necessary to pay attention to developing tendency of carrying over of responsibility for innovative process in agroindustrial complex directly to agricultural commodity producers.

Innovative activity in the agribusiness sector in Moldova is poorly developed, in our opinion, because of the following reasons:

• Innovative low economic potential, low perceptibility of enterprises to innovation, lack of qualified personnel, lack of own financial resources;

• The absence and a low capacity of national innovation market;

• High value and high return on investment period;

• High economic risk;

• Imperfect legislative base, particularly normative-legal acts regulating the whole innovation cycle.

In this connection it is necessary to allocate the basic directions of increase of innovative activity in agroindustrial complex:

- State support of scientifically-innovative sphere;
- Approach of activity of scientific institutions directly to inquiries of manufacture;
- Activation of functioning of all organizational forms of innovative process in rendering assistance in the field of introduction of achievements of science and technology in manufacture;
- Development of specialized information service of agroindustrial complex.
- Organization of mass retraining of personnel.
- Elaboration and introduction of system of economic incentives for activization of development of innovative process in agroindustrial complex;
- Realization of target state (branch) scientific and technical programs;

It is known that Moldova lacks natural resources for economic development consistent state. But a well known is the fact that in current conditions importance of endowment with natural factors in ensuring success and competitiveness of a state is steadily decreasing.

Today in greater resource efficiency matters, regardless of their origin and provenance.

Country's wealth increases to the extent that increases the industriousness of its people and enhance business activities. Today this would need to increase labour productivity and the economy towards export orientation. And it depends, as I noted above, promoting knowledge and innovation in all fields, including the country's economic development. Thus, we conclude that building the knowledge society has become a reasonable goal for all countries, including Moldova. This is currently the only way to competitiveness and economic prosperity.

CONCLUSIONS

1. Stabilization of position in agro-industrial complex of Republic of Moldova, exit of the branch from crisis state are impossible without essential increase of innovative activity at all stages of innovative process and management levels.

2. Innovation process in Moldova will be successful only if the innovations will be assimilated.
3. To support research, innovation, economic effect must be established based on analysis of efficiency and profitability.
4. Insufficient contribution to self research and innovation activities, slow renewal technological base, poor quality of infrastructure, low competitive performance of products and services offered on the market, insufficient capacity to adapt to global market requirements remain the main causes that affects both productivity and resource use efficiency in agriculture by enterprises.
5. Basic directions of increase of innovative activity in agro-industrial complex consist not only in activation of activity of direct executors of innovative process, but also in system of certain state actions oriented to activation of the process.

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PROBLEMS OF THE EVALUATION INNOVATION ACTIVITY IN THE AGRO-INDUSTRIAL SECTOR IN THE REPUBLIC OF MOLDOVA

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Abstract

The evaluation of the innovation activity reflects country competitiveness and it position regarding the expenditure of science. Better comprehensions of the factors that contribute at the success in these fields are helped by using proper indicators like instruments of identification of the best practice. In this article on analyzed the overall situation innovative entrepreneurship that was formed in agro-business sector in the country.For a better presentation of indicators in domain of science, innovation and technological transfer it is necessary to use a unique methodology (base on the principle of OECD, EUROSTAT, UNESCO).

Key words: *knowledge economy, research, innovation, the innovative entrepreneurship, scientific and technological development*

INTRODUCTION

In present days innovational activity is declared as a national priority for all the countries in the world. There for it is necessary to monitor innovational processes and measure innovational parameters. One of the reasons of gathering information about innovation is the tendency for a more clear understanding of innovational process, and of the effects of the innovations on long term economic development. International experts consider that statistic information regarding innovation should take in consideration and other sectors of the economy , which belong to the agro-industrial sector as bio-technology and eco-technology, providing information for the new request coming from the users , which especially refers to a better evaluation of the eco-innovation.

RESULTS AND DISCUSSIONS

Due to techno-scientific progress and a major increase in the informational flow, knowledge is more and more examined as a driving force of economic growth.
In the context of knowledge based economy, it is of a major importance to have a system which would allow the measurement of the performances, which from a practical point of view reflects the level of innovational development of the agro-industrial sector and its effects other the entire economy.
In this context all the developed countries and the countries who chose the innovational way of development have started to effectuate innovational activity analysis, innovation measurement.
National innovation analysis is a difficult activity and non unequivocal but obligatory from economic and social perspective in the actual European context. They say that if you cannot measure, you cannot manage. This implies the existence of a measurement system, based on development level indicators, performance level evolution in dynamics to make clear the trend of development. Having a measurement system we can analyze the causes of deviations and propose in good time solutions for their regulations.
Nowadays, more and more often the society wants to understand clearly what is the impact of the research and innovation on economic development, what are their effects, especially in Republic of Moldova which has a long history of agricultural country. We cannot

neglect this tendency. In these conditions, particularly in this sector, innovation becomes an element of competitiveness and those who develop research and innovation also develop competitiveness on the global market. That's why, apart from the fact that it is necessary to measure the performance of this sector, besides the fact that we want to understand in which direction we are moving, in terms of economic development in general, we also need to measure, to understand which is our capacity to create new products and services and our ability to assimilate them.

This is the cause why it is necessary to have a system of measuring statistic data, which would allow us to measure the progress and to understand what our position is. Now appears a question **– How should these measurements be?** Each country has its own measurement system, in Europe are several systems which in some places overlap each other, in other places complete each other. But life shows that trying to copy other countries measurement system, even EU systems, has no desired results. This is why we must clarify which are the problems, what is the cause why we don't have a statistic of innovation: we don't want or we are not able to measure and what should we do to organize this measurement system?

This is why we must try to adapt European indicators, to understand which of them can be used in Moldova and relying on them we should establish the position of our country among other countries.

At the moment the global statistic proposes to examine the process of research and innovation in resources indicators (financial, material, informational, human) and results (patents, licensing, elaborations and the implementation of innovation). The role played by statistics in the socio-economic system don't limit only on the simple registering of these factors. Due to a methodological basis, definitions and classification, the statistics of innovation activities can actively participate in the progress registered in the humanity development. As an example of this serves the development of innovation statistics of the world countries.

In present days in Republic of Moldova there is no innovation statistics, and the innovation activities have not been yet declared as an official priority of socio-economic development: in the national economy are no signs of great technological progresses and no intensive implementation of the scientific research results. A low innovation activity features all economic activities especially the tertiary sector: Industry and Agriculture. Trying to implement the scientific results, technological transfer projects not always bring to successful cases**.**

Following this idea for the evaluation of the innovation impact over the agro-industrial sector and over society's development, for evaluating the level of country's performance, competitiveness we need a complex analysis, done relying on genuine data of a well structured statistic system, comparable to the international statistic systems.

In conditions in which the current statistical system doesn't provide the colection of data on innovation in Moldova, research and innovation through adaptation, modernization and integration of the innovative statistic in RM in the conception of European statistics.

As a first step at the initial stage, it should be created this direction within the structure of official statistics in Moldova.

The methodological approach must be focused on the development of surveys with the introduction of innovative development indicators related to national economy sectors and agribusiness sector. Next steps will provide the elaboration of several programs and statistical research methodologies in innovation according to foreign experience in this field.

Next we will analyze some of the indicators, relevant to science and innovation, which are currently available in Moldova.

Analyzing foreign experiences, we observe that the indicators used by Trend Chart on Innovation (TCI), are divided into two groups – input and output.[2]

Input indicators – potential of innovation process and of the actors of this process – reflect the level of education and human resource structure.

Output indicators – processes related to the implementation of innovation and indicators that characterize the sphere of intellectual property.

The indicators of the implimentation of innovations are the most important for evaluation innovative activity because they don't measure the innovation potential which is contributing to the realization of innovations, but the result of innovative activity: products and technologies.

Following the existing experience, there are especially used the most prevalent indicators which characterize the overall innovation system in the country.

- The share of internal expenditures for R&D in gross domestic product;
- The proportion of enterprises with innovation activity in the total number of enterprises in the country
- The share of innovative products in total sales on the domestic and foreign markets;
- Export-import balance of technologies.

It should be noted, however, that at present the balanced system of monitoring the entire process of innovation at all levels is not yet used. A lot of companies usually don't have a sufficient expertise to evaluate the innovative activity in general and innovation in special.

This is the reason why it is necessary firstly to identify those groups of indicators that are essential for a balanced characterization of innovation activity in general and innovation in agrifood sector in special.

Indicators that characterize the innovation activity:

1. Profitability coefficient of innovation (ROII - return on innovation investment)
2. Share of income from the sale of new products and the total profits other the last N years.
3. Modification of the relative market value of the enterprise in relation with relative increase of market industry in the last N years.
4. Number of new products, services and business that the company has brought on to the market in the last N years.
5. Number of innovative ideas put forward by the company's employees in the last N months
6. Report of made innovative ideas and the total number of submitted proposals.
7. Time past from initiation of a new proposal until the launch of a new innovation project.
8. Report between the numbers of clients who consider this company innovative and the total of enterprises.
9. Innovation index – the indicator which characterize the general capacity of the organization for an innovative activity.

   Usually it is composed of several indicators:

   - Number of submitted innovative ideas;
   - The rate of involvement of the staff in innovation process;
   - The growth of the sales, as a result of innovative activity and the number of patents obtained by the company.

The succes of innovative development depends on efficiency of the interaction of the indicators listed of innovation activity, which are in a close interdependence.

The proposed system of indicators allows not only to analyse innovation activity and to determine the potential for innovation , but also to identify opportunities and growth stocks, to determine the policy directions of goverment in stimulating and promoting innovation in particular sectors of interest.

So comprehensive evaluation of innovation activity includes:

- a system of indicators scientific reasoning;
- existence of the statistical basis.

Hence, for carrying out a complex analysis of the innovation process in Moldova developed the system of indicators is necesary to develop statistical and methodological investigation for conducting astatistical research on the innovative activity of national economy sectors.

It should be noted that indicators of innovative activity assessment not only determines the further development of agro-industrial sector (particularly) and country (generally), but also characterized the country's readiness for the creation, assimilation and the emergence of different types of innovations.

Here's why in order to develop and implement effective policies and strategies on priorities, the country's development objectives, it is necessary to conduct monitoring of innovative activity and to known performance in the field. In this context it is necessary to create a new way of statistics-statistics innovations, the priority task is the creation and improvement of statistical observation of innovation activity. Currently in Moldova there is no statistical information on the innovative activities of enterprises assets (their share in total number of small and medium entreprises) are not defined statistical indicators characterizing made innovative production.

Situation in the official statistics on science and innovation is deplorable because the circle of indicators that would reflect the research scope is very small and dispersed, and official statistics on innovation completely missing.[4]

CONCLUSIONS

1. Innovative activity in Moldova in general and agro-good sector, in particular, must stay in the attention of administrative institutions.
2. Priority directions of development policy in the sphere of innovation system to be examined as a set of measures aimed at creating an integrated system of organizational conditions, legal and economic stimulation of innovation. Among them- the creation of statistical research in the field of innovative activity not only in industry but also in agro-food.
3. The methodology of statistical research and innovation activities in Moldova and the methodology used must to ensure adequate coverage of the national economy with emphasis on specific county's agribusiness sector.
4. It is necessary that the observation of statistical features of innovation activity to reflect the organization of national statistics, while achieving maximum compliance with the recommendations of a standardized international organizations – OECD and EUROSTAT.

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FINANCIAL INFORMATION: CAUSES, TECHNIQUES, CONSEQUENCES OF FRAUDULENT FINANCIAL INFORMATION AND IMPACTS ON FINANCIAL INFORMATION USERS

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Abstract

Financial information is an important issue when making rational decisions in economics and securities markets. In order to make rational economic decisions financial information must be reliable and accurate. Misleading financial information always has a negative impact on economic decisions taken by users. For this reason financial information manipulation is as important as other types of manipulations, and must be prevented so that the users of the financial information can make rational decisions. Fraudulent or manipulated financial information leads the users of that financial information to make unwise economic decisions. Manipulative actions may also send false signals to users of financial information, and cause them to take unhealthy decisions. This can cause the allocation of resources to the wrong areas and bankruptcy will be inevitable- consequently people suffer from fraudulent financial information all over the world. The purpose of this paper is to identify the causes of manipulated and fraudulent financial information, to find out what techniques are used to manipulate, to monitor the consequences of manipulative actions and to conclude with the impacts on financial information users. Also evidence will be presented to support the issue.

Keywords: *financial Information, fraudulent, manipulation, decision*

INTRODUCTION

Arens and Loebbecke (2000) define fraudulent financial reporting as: "intentional misstatements or omissions of amounts and disclosures in financial statements to deceive users" [1]. According to common sight of the scientifics, in legal terms, fraud is a generic category of criminal conduct that involves the use of dishonest or deceitful means in order to obtain some unjust advantage or gain over another. In business terms, fraud is sometimes difficult to define as it extends, for example, from conduct as trivial as an employee having an extended lunch break without permission, to large-scale misappropriation of funds by a company accountant involving many millions of dollars.

First of all this study assesses the importance of the financial information for its`users. Besides the purpose of this paper is to identify the causes of manipulated and fraudulent financial information, to find out what techniques are used to manipulate, to monitor the consequences of manipulative actions and to conclude with the impacts on financial information users. Manipulated financial information indisputable has fraud in it. So any fraudulent in the financial situation induce the users to make unrational decision for company. That is why the manipulation of the financial information must be prevented otherwise the collapses will continue. An investment decision based on false financial information causes the investors suffer losses as was experienced in Enron and Worldcom cases. And these collapses have not only negative effect local but also all over the world as we live in a big village.

Fraud detection is among the highest priorities for the accounting profession and standardsetters[2].The transparency, reliability and accurate information allow users of the financial information such as investors, creditors to make intelligent decisions. "Audited financial statements provide the foundation for securities markets. Audited financial statements allow investors to make

decisions on whether to buy, hold, or sell a particular security"[3]. "Accurate information also improves the quality of markets by allowing markets to discover the true price at which specific securities trade"[4]. Fraudulent financial reporting has become a very problematic issue which damages todays` economy. As technological developments and expectations of people have caused the inevitable changes in the economic structure, whilst trying to provide the maximum benefit with limited resources.

CAUSES OF FRAUDULENT FINANCIAL INFORMATION

Every action is done for any purpose. Surely committing any false action to achieve the target in order to get benefit from false action will not give any opportunity to investors, public etc. From point of false financial action the fraud is considered quite different. One of the most important benefit of the financial information to reduce the financial cost of any company. As suggested by Dechow, Sloan and Sweeney (1996), the desire to raise outside financing at low cost can lead firms to manipulate earnings in the first place[5].The main objectives of manipulated financial information are : obtaining low-cost resources and avoid failure of lending and borrowing contract conditions.

Analyzing the purposes (motivations) of the financial manipulation highlighted in the special literature, we can notice:

•*The influencing of the price per share and of the risk,*

•*Maintaining favorable relations with creditors, investors and workers,*

•*Manipulation of the managing board salaries,*

•*Elimination of risks coming from policy and administration,*

• *Providing an advantage in taxation.*

•*Transmission of some positive signals regarding the future performance of the Company*

The purposes of the financial information manipulation presented above or the factors stimulating them are analyzed within the following titles shortly.

Influencing the shares' prices. Within the financial information manipulation purposes, the most important thing is the influence of the price per share. And this, because within the financial information manipulation applications the purpose is to keep and increase the value per share by reflecting an increased profit, or, in case of recording losses, declaring a small loss.

Compliance with Debt Covenants Clauses. The high profit declared by a Company means a great fortune, fewer responsibilities, an increased own capital in line with the high profit, which indicates a higher credibility and capacity of the Company regarding the rating. As a result, the pronouncement, by financial information manipulation of the profit and the other increased financial indicators the Company's obligations are decreased. A typical Credit Contract includes certain conditions. These conditions can be under the form of the Company's financial situation monitoring and the restriction of some operations in order to protect the creditor. *The typical loan covenants* imply the fulfillment by the Company of the minimum and maximum financial conditions.

Managers` salaries and bonuses.A typical practice regarding the remuneration packages (stimulation bonuses) intended for the Company's administration and for certain employees is the option of the cash payment of the share and/or in relation to the share's value. Within this stimulation system, the Company's leaders are offered as first option the purchasing of shares at a lower price or they are made payments in cash in accordance with the shares' price. Conclusively, if the salary packages of the Company's administration or the stimulation bonuses are changed according to the publicly declared profit, the Companies' leaders may appeal to the application of financial information manipulation in order to increase their salaries or the stimulation bonuses. Thus, the increase of the Companies' leaders' salaries is highlighted as a purpose of the financial manipulation.

Minimizing of certain costs from political or organizational reasons. In large

Companies with profit potential, there is the tendency of showing a low profit in order to avoid drawing the attention of the competent authorities. An example of such situation encountered in last years has been the one regarding the American Company Microsoft. This Company that *holds 90%* of personal computers market sustained in front of a Federal Law Court in its defense that *it does not have monopoly power*. It had a quite conservatory attitude for declaring a low profit, the same as the oil companies in the years 1970.

In a survey Lim and Matolcy (1999) reached the conclusion that in Australia the companies whose products were subject of a control from the prices point of view, in order to require the increase of their products' prices, applied to the financial information manipulation (by using the forced transfers) communicating a low profit to the public [6].

Decrease of the due taxes quantum. According to Maydew (1997), because the companies that are by definition profitable pay lower taxes, they manipulate financial data by reducing the profit of the activities [7]. According to Eilifsen, Knivsfla and Saettem'e (1999), if the taxable income is related to the accounting profit, in this case we speak about an automatic security mechanism as response to the financial information's manipulation [8].

The special literature contains no other surveys regarding the use of the financial information manipulation except the purpose of decreasing the taxation basis. In order to decrease the profit of a certain period, there have been applied manipulation techniques of the financial information. Although the purpose of this application intended to diminish the profit is the profit transfer from a Company opened, by definition, to the public towards a Company or Companies that are prevalently closed to the public, one of the purposes of the hidden transfer of profit being the payment of an as small as possible tax. Thus, one of the general opinions in Romania and Turkey is that the financial information manipulation has as purpose the payment of an as small as possible tax by a group within which are both opened and closed Companies to the public. Thereby, in countries such Romania and Turkey we can say that one of the most important goals of the financial information manipulation is represented by the reduction of the due tax.

Providing the better performance in the future for company`s financial pictures. The change of the company's top management is a major opportunity for the removal from the registers of some non-performing assets. The reasons are, on one hand, the blaming of the former management for lack of performance and, on the other hand, the possibility of easily fulfilling by the new management of the commitment regarding the increase of profitability of the company's assets for the next periods of time. A similar situation can also be seen during the periods the companies go through restructuring period. When companies are during restructuring, they anticipate the expenditures, recording part of them as expenditures of the current period. Considering that restructuring will increase the company's profitability, as Levitt said, Wall Street will not be concentrated upon the loss in a certain period, but on future profits, by estimating increased expenditures in the beginning and the recording of bigger expenditures within the current period and, implicitly, lower expenditures in the future, in addition to the restructuring gain, the supplementary recording of *"the income adherent to the expenditures whose object is no longer valid"* being possible. This means a higher profit and profitability for the next periods.

TECHNIQUES FOR FINANCIAL INFORMATION MANIPULATION

Financial information manipulation can be called also accounting manipulation but it is relatively different from earnings management and creative accounting. Beneish (2001) gives three different definitions of earnings management that he compiled from several studies.

a. Managing earnings is the process of taking deliberate steps within the constraints of generally accepted accounting principals to

bring about a desired level of reported earnings.

b. Earnings management is a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain.

c. Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

When we analyze the definitions there are differences between definitions. In the first definition the managers are acting within the constraints of the accounting standards. But the second and the third definition is not clear if the managers are acting within the limits of the accounting standards. So we will focus on the second and third definition made by Beneish.

The easiest way to manipulate the financial information is to use the flexibility proved by the accounting Standards. The accounting Standards should be construed in accordance with the purpose assumed by the financial reporting, a misleading reporting not being wanted for the financial statements users. Obviously, the manipulation of the financial information aims the valuations' ambiguity, the difficulty in representing some complex transactions, and, especially, the false presentation of some routine transactions and events. From a survey conducted by SEC with regard to the financial information manipulation through misleading reports, it results that 70% are manipulation in order to maximize the profit.

Usually, in the financial information manipulations there are used two basic techniques. The first consists in changing the presentation of certain elements within the financial statements and within the annual report and the second aims the transfer of incomes and expenditures from one accounting period into another. Within this context, operations such as the recognition as extraordinary elements of some ordinary incomes, the transfer of incomes from the future into the current accounting period or the transfer of some incomes or expenditures from the current accounting period into a period from the future are performed.

The manipulation of the financial information in order to optimize the financial performance may be done by many ways. Two of them are very bid: - the first consists in reasonless selecting, distorted interpretation and intended application of some valuation bases and, respectively, of some valuating techniques intended for the false interpretation in applying the valuation dispositions of the accounting Standards during the financial statements' preparation (artificial-accounting smoothing); - the second aims the manipulation of the financial information regarding the operations or activities in connection with investments, production or sales (real smoothing-transactional or economic smoothing).The manipulation techniques of the financial information can be defined as follows:

Financial information manipulation techniques regarding the incomes. This kind of technique is used very often to manipulate the financial information in order to show the best performance for any company. Manager may increase or decrease the levels of accounting accruals (such as accounts receivables, inventory, accounts payable, deferred revenue, accrued liabilities, and prepaid expenses) in order to reach a desired profit. But anyway benefits from this technique is temporary. We can identify the area where can be used this technique

a- Incomes' accounting before their recognising
b- Acknowledgment of incomes adherent to the goods handed over under consignment regime
c- Accounting of incomes from software
d- Manipulation of the advance percentage of works
e- Recording of fictive incomes

Manipulation techniques in accounting regarding the expenditures and provisions. This kind of technique is used very often for avoiding of taxes and extra charges. Some of the area is given for applying this technique.

a- Illegitimate capitalization of expenditures
b- Manipulation of the redemption duration and method
c- Redemption of the commercial fund
d- Transfer of profit for future years by reporting higher provisions
e- Accounting of expenditures regarding the research and development studies which not completed yet
f- Special expenditures

Modification of the classifications regarding the account component within financial statements

This kind of technique is often used for recording the fictive incomes.

a- Change of account components' classification within the profit and loss account
b- Change of elements' classification within the cash-flow table

Non-recognition or wrong recognition of some assets and liabilities **.**This kind of technique is usually used for modifying the value of assets as stocks. If the company feels that the company is not able to reach desired profit so it tries to increase the value of securities or fixed assets in order to create the income and then it reaches the desired profit. We can give two main title for it.

a. Making extraordinary transactions to create incomes.

b. Dissimulation operations of the financial information manipulation practices.

IMPACTS AND LOSSES CAUSED BY THE FRAUDULENT FINANCIAL INFORMATION

Fraud is a serious social and economic problem that adversely affects a broad range of stakeholders, including audit committee and board members, top managers, employees, auditors, creditors, shareholders, and pensioners [9]. The extent and quality of monitoring by the board of directors, audit committees, auditors, institutional investors, and financial analysts can have a significant impact on the probability of prevention and detection of financial statement fraud [10].

In this case the managers of the companies are always the manipulators in financial information manipulation whereas mainly the other investors are the manipulators in other types of manipulations. To prevent the manipulation of the financial information is not so easy and costly. But if we look at the numbers of losses it is worth to pay for preventing the fraud in the financial information. First of all the people who involve in financial reporting process should be trained and then officials must to set a stable detecting mechanism in order to prevent the manipulation in the financial information. Otherwise losses will not be preserved caused by the manipulation of the financial information.

According to the Association of Certified Fraud Examiners (ACFE) the cost of fraud is difficult to quantify for a number of reasons: 1- not all fraud is detected; 2- of that detected, not all is reported; 3- in many fraud cases, incomplete information is gathered; 4- information is not properly distributed to management or law enforcement authorities; and 5- too often, business organizations decide to take no civil or criminal action against the perpetrator (s) of fraud [11].

In any event, it is undeniable that the overall cost of occupational fraud is immense, certainly costing organizations hundreds of billions or trillions of dollars each year. These three types of fraud have been illustrated in charts. As we see in the Fig.1 the asset misappropriation is most frequent but least costly form of fraud besides the financial statement fraud is less frequent but most costly form of fraud. Corruption is in the middle of two fraud types.

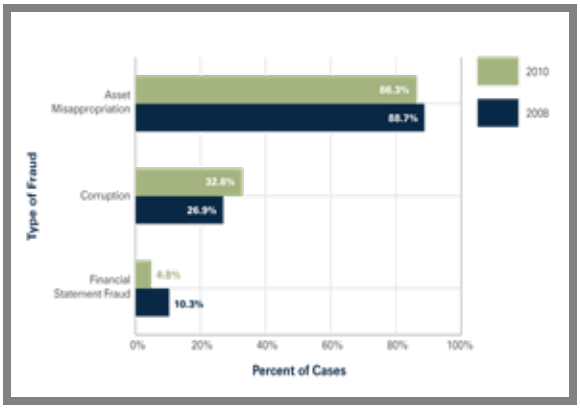

Fig.1:Occupational Fraud by Category – Frequency

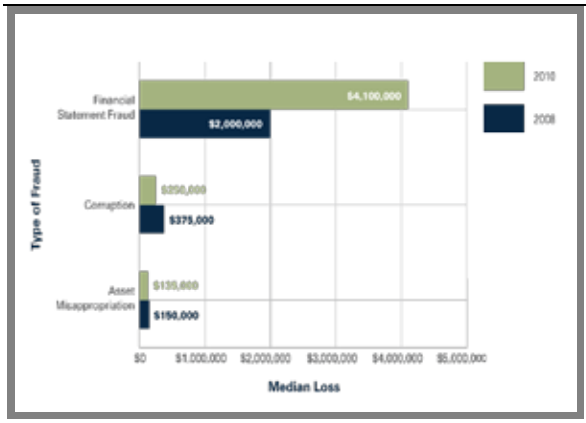

Fig.2: Occupational Fraud by Category–Median Loss

As indicated in the figures above although the percentage of cases of financial statement fraud decreases in 2010 against 2008 but the losses increased significantly. So this situation arises the question that something should be done in order to prevent the financial statement fraud. Otherwise financial crisis will be inevitable and the financial system will be fatal. On one hand the flexibility is the method unblocking the economically development on the other hand flexibility of the accounting standards encourage the perpetretors to manipulate the financial information but the flexibility of the accounting standards should not misused in order to gain for short-term.

CONCLUSIONS

Fraud is a global problem. Findings differ from region to region but the anti-fraud controls are similar. In their 2006 *Report to the Nation on Occupational Fraud and Abuse*, The Association of Certified Fraud Examiners *(*ACFE) estimates annual fraud losses to be approximately $652 billion, approximately 5 percent of the annual revenues of all U.S. organizations. We can see also the same result for all over the world in „Report to Nation on Occupational Fraud and Abuse 2010". According to the AFCE investigation annually loses 5% of its revenues to fraud. If we apply this percentage to the 2009 estimated Gross World Product of $58.07 trillion would result in a total global fraud loss of more than $2.9 trillion. This percentage is rather big. Also this investigation gives us an idea that someone getting rich while someone become poor. Economic situations are connected to each other all over the world. So, financial crises in the dominant American economy trigger global financial crises. Managers are main responsible for the errors and the fraud in the financial information. Financial information manipulation should be prevented because the users` decisions base on the financial information. Therefore decisions based on timely and accurate financial information results in the efficient implementation of the allocated resources in an economy, and contributes to improve the economy, but decisions based on wrong and false information leads to a waste of the resources in an economy.That is why the scientists and the researchers express their thoughts on detecting the financial information manipulation. Some models have been developed for many years to detect the frauds in the financial statements. Models can also be used by the independent auditors who issue reports on the fairness of the financial statements that are used by the investors. One of the important models to detect the frauds in the financial statement is statistical models. On one had these models detect the fraud and on the other hand contribute to prevent the fraudulent financial information. Models should be developed according to the rules and laws otherwise the probability rate finding the fraud will be less. Besides, national income will not be allocated justly and this may cause chaos in public as we experienced in the last decade financial crises.

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INCREASING THE ECONOMIC EFFICIENCY OF BREAD-BAKING UNITS

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Abstract

There are some ways to improve the activity of the company as follows developing a marketing department, identifying the constant clients which respect the deadlines for the payment allocating a considerable budget for the commercial activities and for the publicity employing young staff; training the staff for applying for an upper level; introducing a motivating programme. This study has been developed at the level of representative company from S.C. LUJERUL S. A.

Keywords **:** *management activity, bread-baking units, economical financial indices, ways for improving economic efficiency*

INTRODUCTION

In order to make this study, some accounting data from the Accounting Department of the company for the period 2005-2009 were used. The economic and financial indicators were calculated for the analysed period using the existing methodology for economic and financial analysis. The decision factors can decide on the appropriate measures to improve the management activity and the profitableness of the company, taking into consideration the values of these indicators.

MATERIAL AND METHODS

Table 1. The evolution of profit and turnover during 2005-2009
- lei-

Specification	Years 2005	2006	2007	2008	2009
Turnover	1831530	5000000	14000000	13788502	16077344
Profit	104555	300000	900000	536304	212847
Percentage the turnover in the profit	5,5	6,00%	6,40%	3,90%	1,32%

Analysing the data from the table, we notice a decreasing evolution of these indicators beginning with 2008, situation which needs radical measures to make the company more profitable.

Table 2. Financial profitableness rate in the period 2008-2009

Indicators	Year 2008	Year 2009
Income	18429858	21800300
Total assets	5531121	5539302
Proper capital	3588119	3769002
Net profit	536304	212847
Financial efficiency	14,94%	5,64%
Assets rotation speed	3,29%	3,93%
Financial lever	1,54	1,46
Net profitableness of income	0,029	0,009

A significant decrease with 9,3% of the financial profitableness rate was registered in comparison with the previous period.

Table 3. The situation and dynamics of the income, expenses and profit in the 2008-2009 period

Indicators	Year 2008	2009	2009/2008 %
Turnover	13788502	16077344	116,59
Brought to day turnover	1516735	1125414	74,19
Other sources of income	10868	23795	218,94
Overall exploitation income	18358256	21654914	117,95
Overall exploitation expenses	17202488	21186598	123,16
Gross margin from exploitation	1155768	468316	40,51
Exploitation expenses -human resources -others	17202488 3416367 15095	21186598 3491381 11715	123,16 102,19 77,60
Financial expenses	34673	169252	488,13
Exceptional expenses	224482	87228	38,85
Exploitation result	1155768	468316	40,51
Financial result	7705	-	-
Exceptional result	-	27133	-
Overall income	18429858	21800300	118,28
Overall expenses	17461643	21443078	122,80
Profit before taxation	968215	357222	36,89
Profit tax	431911	144375	33,42
Net profit	536304	212847	39,68
Brought to day net profit	5899344	1489929	25,25

RESULTS AND DISCUSSIONS

In conclusion, in the last years, S.C. LUJERUL S.A. made profit, but both the turnover and the profit obtained in 2009 are situated under the values from the preceding year.

Table 4. Financial profitableness rate in the period 2008-2009

Indicators	Year 2008	Year 2009
Income	18429858	21800300
Total assets	5531121	5539302
Proper capital	3588119	3769002
Net profit	536304	212847
Financial efficiency	14,94%	5,64%
Assets rotation speed	3,29%	3,93%
Financial lever	1,54	1,46
Net profitableness of income	0,029	0,009

Table 5. Indicators used for debts –obligations diagnosis

Indicators	2008 Thousand lei	%	2009 Thousand lei	%
Turnover	1378502	100	16077344	116.6
Debts	563101	100	377970	67.12
Obligations	2744704	100	2420882	88.20
Debts/obligation relation	0.20		0.15	

In conclusion, in the analysed period, the debts and obligations decreased, while the turnover increased, which favourably influenced the flow of reserves. This influence is also showed in the debts /obligations relation.

Table 6. The situation of the liquidity and solvency indicators

Indicators	2008	2009
General liquidity	0,56	0,63
Immediate liquidity	0,36	0,29
General solvency rate	2,84	3,12

The size and the evolution of the indicators show that, the company while regarding the solvency is in a better situation, the values of the liquidity indicators show an alarming situation**.**

Taking into consideration the values of the economic and financial indicators determined through the known methodology and information picked up on an interview basis at the level of the company a few recommendations can be made regarding the aspect of improving the activity of the company in order to increase its profitableness.

Recommendations for improvement

Among the proposals which could immediately be solved are:

-creating a new marketing department;

-finding new clients who will increase the production orders towards a maximum capacity;

- modernisation and development of the distribution and selling system;

-developing the base for materials, additional materials and auxiliary materials coming from importation

-implementing new and efficient motivating methods

-promotion on a competence basis;

- increasing the budget for advertising the products and for publicity;

Research and development

-organizing activities with a main concern on:

-creating new products and technologies;

-implementing new technologies and using substituted and value added products;

CONCLUSIONS

1. Employing new qualified staff in the company's departments represents a necessity within S.C. LUJERUL S.A.
2. What is really in order to promote a modern management, is implementing new, efficient motivating methods
3. Modernizing and completing the management instrument, anew quality at the decision level needs a radical transformation and reconsideration of the range of the management methods is needed as well as real methods of utilization at the level of all organization phasing within the companies
4. Increasing the budget for the advertising the products and for publicity represents a solution for earning new clients and regain the market.
5. Developing the base for raw materials, additional materials and auxiliary materials coming from importation is a very important issue in a strategic supplying with material resources

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RURAL BUSINESS DEVELOPMENT IN DIGITAL ERA USING WEBSITES

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Abstract

The main aim of this paper is to underline the importance of using websites as items to present, develop or put in a virtual environment rural businesses, but not only. The paper presents also some surveys that emphasize the increasing number of internet users and their behavior at a minimal level in Romania and in other countries in Europe. The result is that we have a very clear mirror of what can be a website for a business in general but mainly for a rural business and which are the most used methods to gain more clients for a specific product for that business. It presents also the types of websites that can match with some different types of businesses: online business card, informational or catalogue style, E-commerce sites and land web pages.

Keywords: *website, e-commerce, business, rural, company*

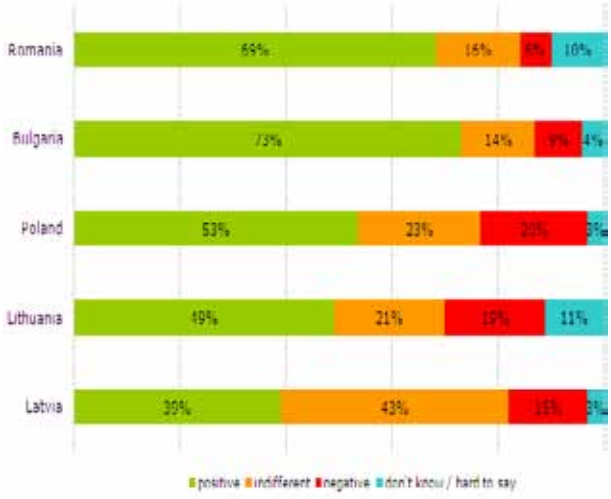
INTRODUCTION

Why is it so important for business in general and for rural business in special to be not only using the web, but using it as a major part of their marketing mix? What makes the net so special over all the other ways that a business can market itself to existing and potential clients? There are a few parts to that answer, but what it comes down to is that the net is: 1. Where the customers are, 2. The easiest and cheapest place to access your customers, 3. Somewhere your customers want you to be and, 4. Somewhere you can get all the information on what those customers want, need, are doing, aren't doing, think of your product and everything else you could ever want to know.

MATERIAL AND METHODS

In December 2008, there were over one billion internet users worldwide and that number is only going to get larger and larger. In Europe there are almost 283 million internet users and in Romania, in June 2010, were 7,786,700 Internet users. [1]
According to studies, 81% of Romanian internet users have said they've used the internet to research a product they were planning to buy, with 20% saying they do online purchase research on an average day. In addition, 55% said they have purchased something online.

Graph 1. Attitudes toward shopping among Romanian, Polish, Latvian, Bulgarian and Lithuanian internet users – "Apart from usual everyday shopping, what is your general attitude towards shopping?"



Positive – equals "love" and "like" answers, Negative – equals "don't like" and "hate" answers
Source: Romania – gemiusReport, June-July 2009, N = 1,500; **Poland** – gemiusReport, May 2009, N = 1,700; **Latvia** – gemiusReport, April 2009, N = 1,500; **Bulgaria** – gemiusReport, April 2009, N = 1,500; **Lithuania** – gemiusReport, May 2009, N = 1,500.

These are very important statistics for obvious reasons. People are buying online, a lot of them, and even more are using the web to research purchases they plan to make whether it be online or a real setting. Companies simply can't ignore the fact that the very people they are trying to sell to are almost certain on the net (especially if the rural companies are selling to the ever profitable 18-35 male demographic, in which chase they actually live on the internet.) [2]

The internet is the perfect place to engage rural companies' customers with marketing messages because they have four great ways of reaching them that are unobtrusive and enjoyable for them. First of all, they have search engines and local business listings. The local businesses also have a lot of other ways to engage their potential customers and clients on the net, most of which focus on being there with your marketing messages when their potential customers want to see them. This includes participating in online communities, using social media, providing valuable content (whether that means enjoyable entertainment, highly useful information or something else), and more. About the cost effectiveness, that is probably one of the places where the web really stands out the most. Advertising and marketing on the web are incredibly cheap. Whether the rural companies are trying to do market research, to present some new items or trying to sell their last products.

Every major corporation, but not only, has a web site for each of their major brands, and in many cases even unique sites for individual product lines. A website can be the company face on the internet and without one this has no representation on the web. When the company meets a potential client, or discusses with an existing one in real life, the firm or its employees are the face of the business. They represent the company business, what it stands for and the quality of company products and services. This is exactly the function that the website of the rural company serves on the internet. It is online ambassador between the rural business company and its customers. It is important to note that not all business websites are alike, and quite often there simply isn't one fit-all solution for all things marketing. The rural business website might be a simple "business card" style site, which is basically just a simple site with only few pages that is intended solely to give business a presence on the web so that potential customers can get vital information like the location, contact information or business hours. Or the rural business website might be designed as an e-commerce site where physical products are sold, giving potential customers both locally and on a larger scale the ability to purchase from the rural company right on the website and have their orders shipped to their homes. Or the site could be an online catalogue providing detailed information on rural business products or services for the many web users who do their purchase research online.

There are many things a business site can do and it's amazing that a website is so much more versatile and so much more functional than any newspaper ad or other print ad, and yet so many businesses completely ignore them, either not having one, or having a poor one that they let go under-utilized.

The most important step a manager can take in the early development stages of getting the company's website built and up running online is to set clear goals for what he or she wants the website to accomplish both now and in the future. A website that is just thrown up without direction, assuming it's designed well, is still better than nothing, but the company can't truly reap the full benefits of being on the web unless the marketing efforts have direction, and setting clear, precise, measurable goals for the site is the first step in doing so. The importance lies in the fact that not every site is going to be able to accomplish every goal, and the developer may need to design and built certain sections of the site differently in order for them to perform and meet goals the manager set out. [3]

RESULTS AND DISCUSSIONS

The online business card is probably the least complicated type of site that a business can put up. Simply put, the goal is to provide the vital information of a business, such as their

name, location, business hours, phone number, email address, and the like. These kinds of sites are often the starting points for the companies just getting on the web because they don't take much to plan, don't take much to set up, and they do serve a very important purpose, namely giving web users somewhere to land that will provide them with more information about the rural business, albeit in slim amounts.

Regardless of whether or not a company sells tangible products or intangible services, that company can benefit greatly from having a more in depth, information filled site explaining in detail exactly what it is that company do or sell. As opposed to a simple business card site, this site will generally contain quite a few more pages, and quite a bit more information. It will still have all of the important information that a business card style site will have, but the goal of this type of site it to give the company site visitors all the information they need on the products or services.

Catalogue sites are perfect for companies that sell products or services that require a degree of research on the part of the buyer, but might not be the best choice for businesses that provide products or services that don't require as much though from the purchaser. For instance, a business selling specialized agricultural equipment will definitely want to have a solid amount of information listed on their website so that potential buyers can research their products easily.

One very effective way to do a catalogue site is to provide both short length descriptions and full descriptions of company products or services.

E-commerce sites are websites that are designed to allow the visitor to purchase directly from the site without having to visit the store or business to make the transaction. Depending on rural business and rural company products or services, this can be a very good way to increase sales at a relatively low cost, and many businesses have even opted to go fully electronic and close their real stores because of the huge cost advantages of selling online. After all, an online store doesn't require a lease, or utilities, or many of the other overhead costs associated with selling in the physical world.

E-commerce sites require a shopping cart system to be installed on the site. A shopping cart system is essentially a piece of software the developer install on the company site that allows the company to add its products to its online store, and allows users to browse those products, add them to their "virtual cart" and then check out and pay. The company website also needs to be able to process credit card transactions.

Shipping is something a company will need to deal with if it decides to sell online. No customer is going to want to make their purchase online and then have to go into the store to pick it up (although some larger big-box stores offer this as an option, it needs to be an option, and not the only option). So if the rural company doesn't have a shipping department (or time to do the shipping itself) then it will need to consider that.

The beauty of e-commerce sites is that they give the visitors the option to buy right then and there, when their interest is at its highest. With an e-commerce site, the company can give them the option of making their purchase right away.

Landing pages are pages specifically designed for visitors to "land" on from a certain offer. That offer could be an ad on the net that they click on, or a call to action in one of the company print material that gets them to type in a URL. The key with a landing page is that it is very, very specific. It isn't a general page with a lot of information on different things. It is a single page devoted to a single offer, and ideally with a clear action the company want the reader to take.

Landing pages are not generally stand-alone sites on their own. They can be, but they work much better as supplements to your main page. The reason for this is that because landing pages are so specific, unless the business sells only one single product or service, a landing page just won't be good enough to serve your entire business. They are so incredibly effective though for promoting individual offers and the reason they are so effective is that the company is focusing the reader. It is containing them to exactly the

offer the company wants them to see without distracting them in any way.

Local customers are the lifeblood of vast most small and medium businesses. For most small businesses, there is no other type of customers and reaching out to them is the key to success. Online advertising is an incredibly effective way to reach out to your customer base, both existing clients and potential clients. Because of the amazing degree with which online campaigns can be narrowed down, companies can target their ad campaigns to very specific geographical locations, ensuring that the companies aren't wasting any time or effort on users who are outside of their range. It's just one more using the web is a great way of ensuring that company marketing and advertising efforts are being target specifically to only the most qualified prospects.

CONCLUSIONS

1. Companies simply can't ignore the fact that the very people they are trying to sell to are almost certain on the net
2. The internet is the perfect place to engage rural companies' customers with marketing messages
3. The online business card is probably the least complicated type of site that a business can put up.
4. One very effective way to do a catalogue site is to provide both short length descriptions and full descriptions of company products or services.
5. E-commerce sites give the visitors the option to buy right then and there, when their interest is at its highest.
6. Land pages are incredibly effective though for promoting individual offers because the company is focusing the reader.

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ACTUALITY OF THE ORGANIC FARMING IN A KNOWLEDGE BASED ECONOMY AND THE PERSPECTIVES OF THE REPUBLIC OF MOLDOVA IN THIS DIRECTION

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Abstract

Even though we live in a knowledge based economy, we should not overestimate the role of innovations in agriculture. The development of science and technology has brought many negative results especially to foodstuff, that's why the organic products are strongly appreciated all over the world. In this context, even a small country as Republic of Moldova can obtain a benefit if we will learn how to take advantage of our fertile lands.The article analyzes the overall situation of the organic farming and its perspectives to be developed in Republic of Moldova so we could produce and sell high quality organic food.

Key words: *organic farming, knowledge economy, research, innovation, organic food, foodstuff crisis, biological management*

INTRODUCTION

In time of crisis, particularly when we talk about agriculture, the role of innovations should not be overestimated. This is the reason why the authorities of the Republic of Moldova must create and guarantee all the needed conditions to accomplish this task.
It is important to survey this direction in terms to find advices and effective recommendations and measures that are necessary to be done in order to occupy one of the leading positions in producing and selling organic food, this way beginning to have an important role in global economy.
Innovation is one of the most significant factor of economic growth, even in agriculture. The World Bank (2007) [1] defines innovation system as a network of organizations focused on bringing new processes and new forms of organization into social and economic use, together with the institutions and policies that affect their behaviour and performance.

RESULTS AND DISCUSSIONS

The number of innovations all over the world notably increases. The speed of innovation will never slow down, it will always continue, especially in agriculture. Through new advanced industrial technologies, in agriculture we can produce new crops, animals and much more.
In the context of economic crisis, another problem which is not less important is the foodstuff crisis. Approximately 1.1 billion people were living on less than $1 a day and 923 million were undernourished, even before the food, fuel and financial crisis. Even if the high technologies assure the most efficient and beneficial services and products, food prices remain volatile. Local food prices in many countries haven't come down, although international food prices have fallen. [2] One of the future humanity dangers will be the lack of drinking water and healthy food.
In world history, the development of science and technology has brought also negative results. Today's farmers produce higher

valued products as a result of technological improvements in agricultural production and food processing systems, as well as better information on changing consumer preferences. Farmers have improved control over their farming operations, spending more on management services and efficiency-producing inputs, such as chemicals and irrigation, and less on traditional inputs, such as machinery.[3]

The utilization of artificial materials of growth, genetic modifications, herbicides, hormones, size growth of vegetables etc. has increased only quantitative, not qualitative characteristics.

The backwardness of Moldavian economy may be an advantage and an opportunity to not repeat mistakes of other countries. Using the experience of other countries we can avoid risks and faults. That's why in our opinion the direction towards natural organic farming will have a great success in future. Organic farming systems are relying on ecologically-based practices, as cultural and biological pest management. This means the exclusion of the use of synthetic chemicals in production of crop and the prohibition of the use of antibiotics and hormones in livestock production. The artificial food products newly appeared in shops has a rather low cost, while organic ecological food products are more expensive. The Republic of Moldova has the opportunity to develop agricultural sector in this direction. Thanks to permanently growing consumer demand for organic food, the Republic of Moldova has a real opportunity to have a significant role in the global economy as one of the leaders in producing and selling high quality expensive agricultural products.

To make this real Republic of Moldova needs an all-out effort. All innovation activities must be well-planned. The decisions should be efficient.

To reach this goal Republic of Moldova should set certain tasks and implement them. A clear definition of the problem and efficient solutions can lead to results.

We think that the following tasks and measures for implementation of innovations, taken in that Republic of Moldova can bring success in the direction of organic farming in a knowledge based economy.

It is important for Republic of Moldova firstly to develop an own innovation statistical system, which will offer all the needed indicators for the evaluation of the research and innovation activity. When Republic of Moldova will have a well developed innovation statistical system, it will be much easier to analyze the innovation in different economic fields, such as agriculture.

Secondly it is important for Republic of Moldova to provide fair-sized financing in the innovational activity.

Even if Moldova has an agricultural economy history, it needs improvements and modifications.

The lack of new and expensive technologies reduces profits in agriculture. Despite expensive prices of advanced technologies, it is more profitable to invest in them, because their amortization period is shorter. This offers remarkable perspectives. It means that Republic of Moldova needs fair-sized capital investments. Advanced technologies brought from abroad will provide new improvements and the creation of our own ones.

Joseph F. Engelberger, paraphrasing the conclusion of the 1967 US DoD program "Project Hindsight", said that innovations require only three things [4]:

1. A recognized need;
2. Competent people with relevant technology;
3. Financial support.

With authorities assistance, Moldavian agriculture can satisfy and connect all these three requirements which will lead to new innovations in organic farming.

Authorities of Republic of Moldova must assure the necessary security for Moldavian cultivated lands. Our fertile lands are causing an increased demand from foreign investors. Anyways authorities must protect our lands by setting quotas for their purchase and lease for foreign investors. The majority of cultivated lands must belong to government and private enterprises. The payments taken from rent made by the foreign investors must be used in the financing of our own lands.

As well the Republic of Moldova authorities must guarantee all the needed conditions for creation and development of innovations in science and education. The problems in this direction are connected with the financial problems of our country. For new innovations we need well equipped investigation centers, laboratories. It is important that innovations to be ordered not only by state institutes but also by private enterprises. [5]

We should raise the interest in innovations in organic farming among students and young specialists, scientists by motivating them. The main task is to make this domain attractive. If we want have professional people in organic farming and agriculture we need to have a high standardized education and an attractive social policy with lots of benefits for young people, studying and working in this sphere.

It is important to open our country for the international scientific collaborations, by the organization of scientific conferences with the presence of foreign experts in chemistry, biology, genetics, engineering in order to get more experience. Technologies from abroad can be effectively adapted in Moldova: biotechnology, broad band internet, silent sound technology, GPS, computerization and so on. Computers, satellites, microchips give to farmers better information and make machinery smarter and more powerful to get the most from every input.

To achieve a real success in this Republic of Moldova needs organization and control of innovational activity in organic farming.

To realize all the mentioned tasks, we need a qualified management to predict, to organize, to coordinate, to motivate and to control. Organization and control are the major tasks in this case, because Republic of Moldova has not extra resources. All the activity must be to efficient on every level of innovation activity.

CONCLUSIONS

1.Every economical activity in a knowledge based society, to obtain a successful result needs to be based on innovations.

2.The foodstuff crisis will cannot be avoided for a long time, that's why the organic farming is one of the main attraction in finding efficient vital solutions for humanity.

3.Republic of Moldova authorities should pay more attention to the real opportunities of the development of organic farming in Moldova. We are extremely lucky to hold fertile lands, scientific potential in perspective and a resourceful nation. Creating innovations in agriculture is the best method to develop producing and selling organic food.

4.Republic of Moldova should develop a complex innovation statistic system with indicators which will allow the analysis of the Moldavian innovation in agriculture by comparing it to other countries.

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