YOUNG FARMERS ATTITUDE TO INNOVATION IN VOJVODINA (SERBIA)

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Abstract

The aim of the work was gathering information on the recent position of Young farmers in order to estimate their intention of innovation, the development of the farm and the possibilities in the increase of their competitiveness. Data came from a broader research in the DKMT Euroregion (Vojvodina, West Romania and South-East Hungary). Young farmers were interviewed (n=20) with a standard questionnaire. The survey was not representative. The answers were processed by Lickert-scale. During the questioning we focused on: the level of mechanization and technology of the farm; the genetic background of the applied varieties and breeds; the used digital technology, information resources, marketing and the factors of motivation to innovate. Most of the answerers were self-employed or family farm. They characterized themselves as: average size farms with average technologies on chernozem soils. They considered important precondition for the innovation of farming the following factors: new and stabile market of agricultural products, predictable economic environment, the use of funds (subsidies), get know new technologies and obtain information continuously (agricultural advisors, farmers' meetings, agricultural programs in television, professional journals and books). They found less important the role of internet sites, research results and the offers of companies. The farmers are hardly ready to cooperate with research institutes, because they are afraid of the risks of the experiments. All of them aware of the advantages and disadvantages of a possible EU accession of Serbia, and the legal regulation of CAP.

Key words: young farmer, innovation, competitiveness, technological development, information resources

In the agricultural sector, the development and innovations relates to products, processing, marketing and organizational changes. The success of a farm or entrepreneur is related to innovation, both financial and non-financial meaning (Botsiu M.G. *et al*, 2012).

Young farmers are a category of persons who involved in agricultural production, their age is between 16 and 41 years. They should run an enterprise with the greater part of income from agriculture and they must achieve a certain level of standard output in the future by a business plan of development. There is a continuous ageing of farmers' society in Europe. There is no theoretical basis for determining a quantitative level at which aging of farmers' community or absence of youth turn into a socially and economically difficult situation (Zagata L., Sutherland L.A., 2015). Appraisal of "young farmers' problem" in Europe needs to consider regional differences between and within countries. The obvious age gap appears particularly in Southern and Eastern European countries (Fieldsend, A.F., 2016) causing problems in the ownership of land, establishing viable, developing farms and innovation in production.

Management success is determined by several factors (Kielbasa, B., 2016):

- entrepreneurship of the farm manager,
- the educational level, the knowledge and experience,
- the available resources and assets,
- prices of agricultural products (supply and demand),
- subsidy system for young farmers,
- legislation and bureaucracy.

In a Dutch survey on farms (Diederen P. *et al*, 2003) was found that innovation activity has positive effects on labour force, attitude to renewal, market position and use of information.

Young farmers generally consider important collective knowledge and cooperation with universities and/or research institutes, professional organizations in order to obtain knowledge and information to develop small and medium enterprises in the agriculture (Drienovski, K.J.,

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2013). This process integrates empirical, technical and scientific knowledge, and facilitated both individual and school system learning. The demand-led research studies let the local stakeholders to improve their learning capacities on their production systems.

Young farmers at the same time feel strongly connected to nature and these people think about themselves as producers of nature in the sense of forming landscape and being conscious in sustainable farming.

The aim of this survey was to prepare a short, general overview on the innovation intent of young farmers in Vojvodina, Serbia.

MATERIAL AND METHOD

Data are coming from a wider survey in the Danube-Cris-Mures-Tisa Euroregion (Vojvodina, West Romania and South-East Hungary). The data of the study were obtained from 26 young farmers in Vojvodina (Serbia) with interview method. In this paper preliminary data are presented. The interviews will be continuing and the comparison of the three countries' data will be processed later. The age of the farmers was less than 40 years. The interviewees were asked by standard questions. This sample is not representative.

The questions were focused on the following:

- General introduction of the young farmers and their farms (Table 1).
- Recent possessions of the enterprise and/or under acquisition.
- Information resources of the farmers.
- Factors of competitiveness considered by the farmers as important.
- Prerequisites of the development.

The answers were given and evaluated in most cases by Lickert-scale (0-5), where 0 meant 'not at all' and 5 meant completely agree. The answers were summing up and an average was calculated.

RESULTS AND DISCUSSIONS

All of the farmers were male in the age of 29 to 41 years. One farmer had primary education. 12 persons were high school educated and 11 farmers educated in agricultural high school. Only two farmers had higher education (diploma), but not in agriculture.

Most of the interviewees run family farm (84.6%). 3 persons were self-employed and only one of them was primary producer.

The average area of the cultivated land was 68.92 ha (the smallest 6 ha and the largest 350 ha). Among the cultivation branches were almost all arable land with only 16 ha of outdoor horticultural area, 5 ha grassland and 2 ha forest. The crops grown in descending orders by the area were: corn, winter wheat, barley, sunflower, canola, tobacco, beans, tomato and paprika.

Animal husbandry was on 15 farms, typically pig, cattle for fattening, poultry and dairy cattle were produced.

Possessions of the business at the moment and/or under implementation

Five farmers have medium-term business plan for the management of their farm, but all of them would like to prepare it irrespectively of tenders for at least three years. They have development ideas, but only five of them have investment credit, and seven of them will ask for it. six farmers use currently innovations and up-to-date know-how, and three additional persons plan to use it in the future.

Information resources of the farmers

Respondents prefer the study tours abroad against domestic farm visits (*Table 1*), although the frequency of use is not so high. It is self-evident that less developed (less competitive) countries can learn from the experience of their better-off counterparts; on the other hand, that transfer of knowledge and experience can be mutually beneficial (Pantelic D., *et al*, 2012).

The main information sources of them are extensionists, consumers and their own experience. In a survey 55% of the Greek farmers would prefer to be consulted by private extension bureaus rather than government consulting divisions (Andreopoulou *et al*, 2014).

The other information resources in descending order by their importance are the following: agricultural programs on television, books and scientific journals, internet websites and the results of research institutes and universities. Unfortunately, there are farmers who gave 0 mark on the importance on most of the information resources has a personal trust in their own experiences.

On the other hand, a few young farmers recognized the importance of information, but they do not apply frequently them. The lack of up-to-date knowledge not allows them to become flexible in order to better adapt to new facilities. They monitor the system of EU continuously.

It is positive fact that the farmers take into consideration the demand of the market through the opinion of their consumers.

Table 1

Importance of some information resources

Aspects	Average
Importance of study tours abroad	3.08
Importance of domestic study tours	2.73
Relationship with universities and research institutes	2.46
Own observations	3.69
Agricultural programs on television	3.50
Professional websites on the internet	2.85
Books, scientific journals	3.38
Advisory service, extensionists	3.77
Consumers' opinion	3.77

Factors of competitiveness

The main factors of competitiveness considered as important by the farmers are presented in *Table 2*. The mechanization with modern machinery and the development of technology seem to be the most important factors of competitiveness (4.15). The judgement of adaptability and the use of new, intensive varieties and breeds is above the average (4.00 and 3.85).

The level of IT background and the willingness to cooperate are lower than desirable (2.73 and 2.69). The age group of university students or pupils of high schools (next generation) get necessary information via modern ways of communication, such as internet and social networks (Otovic S. *et al*, 2017), but just a few of them prepare actively themselves for their further education.

Unexpected result that the marketing activity and the monitoring of the attitude of competitors are less important for the farmers than it would be desirable.

Prerequisites of development

Some typical prerequisites of the willingness to innovate among the interviewed young farmers are summarized in the *Table 3*.

With the help of this group of questions we wanted to know what kinds of impacts influence the farmers were going to develop or innovate. Most of the farmers consider the subsidies as an important factor (3.38) in development of the business. Obtaining new markets (4.0), the secure or more stable market (3.19) and increasing revenues (4.04) also important factors for young farmers, while the reduction of costs got 3.69 value in average.

Table 2

Main factors of competitiveness

Factor	Average
Mechanization, development of technology	4.15
IT background	2.73
Intensive varieties and breeds	3.85
Marketing	1.96
Competitors	1.88
Cooperation	2.69
Adaptability	4.00

The reduced-interest loans for investment are the least attractive among the agricultural entrepreneurs (1.62). Most interviewees do not have loan at the moment, and they plan to invest from their own money also in the future. In terms of profitability a studied group of English young farmers is systematically the best and the higher geared with the highest levels of debt, loans and liabilities which could be taken as proof of investment (Hamilton, W., *et al*, 2015).

Table 3

Prerequisites of innovation

Factor	Average
Subsidies	3.38
New markets	4.00
Secure, stabile market	3.19
Increasing revenues	4.04
Reduction of costs	3.69
Loans with reduced interest	1.62

CONCLUSIONS

In the preparation period for the EU accession of Serbia the sample farms do not have middle-term business plan, but all of them thought that it would be useful in the future. During the discussions most of the interviewees emphasized that the bureaucracy of the tenders is difficult and they wish for the subsidies, but they consider it risky and the loans as well. They are more confident in their own experiences as information source than in strangers.

Unfortunately, they do not look at the development of IT facilities like that an important factor of competitiveness, but they regard the most important the modern mechanization of the farm. It seems positive that they give preference to extend the market and increase the income instead of the reduction of production costs. Hungarian entrepreneurs emphasized the importance of the

possibility of involving external capital (Benko Kiss A., *et al*, 2010.).

After Romania's accession to the European Union the share of the young entrepreneurs increased among the farmers in rural Romania, and the new funding possibilities facilitated the development of rural business (Saad N., 2002). This opportunity had the greatest impact on young people at the beginning of their farming activity. These processes would be promoted in further favourable direction by the equal distribution of direct subsidy among the member countries (Gosa V. *et al*, 2014). The Serbian young farmers can use this example.

The weaknesses of Serbian system of assistance and protection to farmers Serbia will have to remove, which is one of the conditions in the negotiation process with the European Union. Further progress of agricultural development is impossible without new knowledge and innovations in technology, production of healthy and safe food, networking and association of producers, modernization and improvement of food marketing. Investments in knowledge and science must be significantly greater, as well as technical - technological solutions (Pejanovic R. *et al*, 2017).

The issue of the problem and the preliminary results of the survey coincide with results of other researchers of the region, so it suggests that is it worth to continue the survey more widely in the near future.

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