FARMERS'ATTITUDES REGARDING ASSOCIATION IN AGRICULTURE IN SERBIA

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Abstract

The practice of association and cooperating has a long tradition in Serbian agriculture, while cooperatives are a prevalent form of joining farmers. The necessity of linking farmers in Serbia is a topic pointed out continuously, both in professional and empirical research.
In this paper are presented the most important results of the survey on Serbian farmers' attitudes on possibilities of association in the field of agro-economy. The farmers' attitudes on the achieved level of their organization, on the necessity and readiness for joining, as well as their experience in different forms of association are presented in this paper. Cross-analysis of the results with farmers' socio-demographic characteristics is also provided, in order to identify factors that determine the farmers' willingness to be organized.The research on farmers' attitudes was conducted on a sample of 123 farmers during 2013 and 2014 in six districts of the Republic of Serbia (Zlatiborski, Raski, Macvanski, Kolubarski, Pomoravski and South Banat district). The face to face survey method with prepared questionnaire was used. The obtained data were analyzed in SPSS version 20, using descriptive statistics (percentage, frequency, distribution) and presented in tables and graphs. The chi-square test was used to determine the relationship between selected indicators.According to the respondents, it is necessary to increase the level of organization of farmers to improve not only agricultural production, but also the economic position of the residents of local community. The results indicate insufficient participation of farmers in their organization: every fifth respondent has been a member of some agricultural cooperative, while just 18.7% are or have been a member of the farmers' associations. The absence of adequate organization or distance to those who perform the activity are quoted as the most common reasons for the lack of membership. Finally, actions that could lead to the intensification of farmers' membership in these organizations are suggested.

Key words: *farmers, cooperatives, associations, membership, Serbia*.

1. INTRODUCTION

The practice of association and cooperating has a long tradition in Serbian agriculture, while cooperatives are a prevalent form of joining farmers. From historical point of view, agricultural cooperatives have experienced ups and downs, which reflected on the farmers' motivation to participate in these organizations. During the transition period in Serbia (since 1990s), other models of association have also become significant: farmers' associations and clusters, to a lesser extent. Since the adoption of Law on Associations (2009) legal framework for these organizations was created with more favorable conditions than those given in Law on cooperatives (1996), which is primarily reflected in the smaller number of founders. Apart from some advantages that associations have over cooperatives, one of main differences is that associations do not share profit to its members, founders, employees and persons associated with them. Associations also have limited economic activities and some

other performance in order to make profits. The formation of clusters in Serbian agro-industry is still in the initial phase. Apart from certain activities carried out within the pilot projects and with the help of state authorities, there has been no initiative by the very subjects of economic activities in agro-business for this form of joining.
The necessity of linking farmers in Serbia is a topic pointed out continuously, both in professional and empirical research. One of the main reasons is unfavorable agrarian structure – according to the results of the Census of Agriculture (2012) the average size of utilized agricultural area per farm in Serbia is 5.44 ha, which is fragmented in 6 separate parts. Association of agricultural producers is also highly desirable due to unfavorable financing sources for agriculture and rural poverty.
The farmers' attitudes on the achieved level of their organization, on the necessity and readiness for joining, as well as their experience in different forms of association are presented in this paper. Cross-analysis of the results with farmers' socio-demographic characteristics is also provided, in order to identify factors that determine the farmers' willingness to be organized.

2. METHODOLOGY

The research on farmers' attitudes was conducted during 2013 and 2014 in six districts of the Republic of Serbia (Zlatiborski, Raski, Macvanski, Kolubarski, Pomoravski and South Banat district). The face to face survey method with prepared questionnaire was used.
The questionnaire comprised three parts. The first part comprises nine closed-ended and semi-open survey questions which refer to respondents' and households' characteristics. The second part includes eleven questions of various forms which obtain data about previous joining activities. The third part includes seven questions and analyzes farmers' attitudes for association, as well as the familiarity with different forms of farmers' organization.
The obtained data were analyzed in SPSS version 20, using descriptive statistics (percentage, frequency, distribution) and presented in tables and graphs. The chi-square test was used to determine the relationship between selected indicators. The main results of the research are presented in this paper.
There have been interviewed 123 farmers, farm holders. Due to relatively small size of the sample, it is clear that generalized conclusions about the farmers' attitudes on agricultural association in Serbia cannot be made on basis of this particular research. However, the results may indicate the key problems and represent good basis for planning future activities in the analysis of this issue.

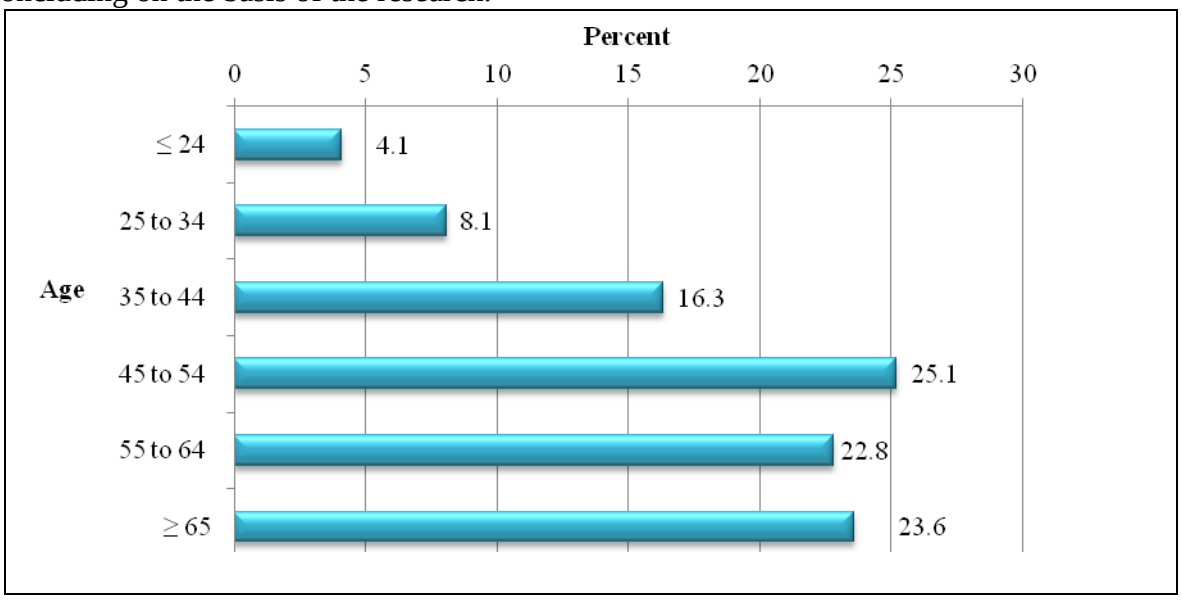
3. RESULTS AND DISCUSSION

3.1. Socio-Demographic Characteristics of Respondents

Most of 123 surveyed farmers were male (94 or 76.4%), and 29 or 23.6% were female. The imbalance between the male and female share in the sample is consistent with the total agricultural population in Serbia. The gender gap in the sample is actually lower than in Serbia in whole, where women are represented with just 17.3% among farm holders (Bogdanov and Babovic, 2014: 47).
Analysis of the age distribution of respondents has reviled indicative information: the share of farmers younger than 35 was merely 12.2%, while there were more respondents aged over 65 years (23.6%). The age distribution of farm holders in Serbia points to an even greater disproportion between groups of young and old: the share of farm holders under 35 years is only 4.8%, while the portion of those over 65 years is 32.8% (Statistical Office of the Republic of Serbia, 2011). Further, the largest share in interviewed sample has a group of

respondents older than 45 (71.6%). The process of aging of the rural population or village senilisation is not limited only to districts covered by the survey; it is typical for the whole Republic of Serbia.

Most of the interviewed farmers were from Zlatiborski district (43.9%), followed by Raski and Kolubarski district with 13.0%, 12.2% is from the Pomoravski district, 9.8% from Macvanski and 8.1% in the South Banat district. The predominant number of respondents from the Zlatiborski district indicates that attitudes and experiences of farmers in mountainous areas has prevailed in the sample, which should also be taken into account when concluding on the basis of the research.



Graph 1. Share of farm holders by age group

Source: Authors' calculations based on data collected by research

Note: Same source is for all graphs and tables in the paper

Structure of respondents' households was variable; there were households with one to eight members. The average number of household members in a sample was 4.59, which is more than the national average. According to The Census of Population, Households and Dwellings in the Republic of Serbia 2011, the average household size is 2.88 members, or 2.77 members in urban and 3.05 members in other households (Statistical Office of the Republic of Serbia, 2011).

The group of respondents with primary education has a dominant share (43.1%), followed by the group having completed high school (38.2%), while the group of respondents with tertiary education has the smallest part – 16.3%. High share of respondents with primary education in this research is twice the national average: according to The Census of Population, Households and Dwellings in the Republic of Serbia 2011, the share of the population with primary education is 20.76% of the total population over 15 years. The share of residents with tertiary education in whole Serbia was 16.24% of the total population older than 15. Furthermore, unfavorable educational structure in rural areas is not limited only to the area covered by this research. According to the Strategy for Education Development in Serbia 2020, there are significant differences between education in urban and rural areas: merely 77.4% of rural children enter primary school, and have a lower primary completion rate (only 74.14%). All this is not encouraging. Unfavorable educational structure of agrarian population hinders the improvement and modernization of agricultural production and rural development.

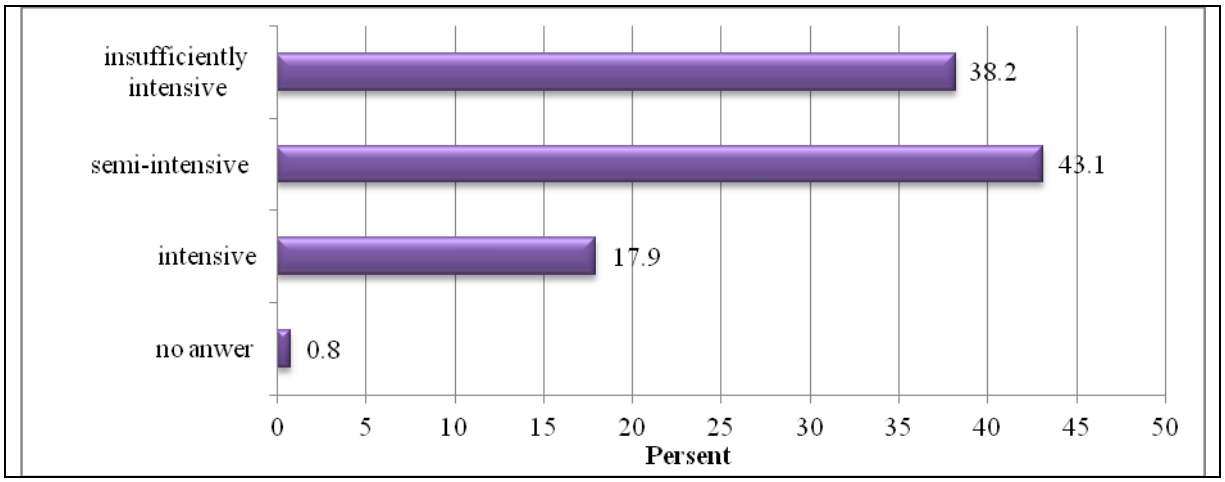
Most of the surveyed farmers (56.9%) marked the economic situation of the residents in the local community as partially satisfactory, while 11.4% were completely satisfied. In contrast,

nearly one third (31.7%) believed that the economic situation of the population in their community is unsatisfactory. As expected, there was a statistically significant relationship between the assessment of the economic position of the population in the local community and district where respondents live, X^2 (10, n=123)=36.755, p=0.000, Cramers' V=0.386.

3.2. Characteristics of Agricultural Production on Respondents' Households

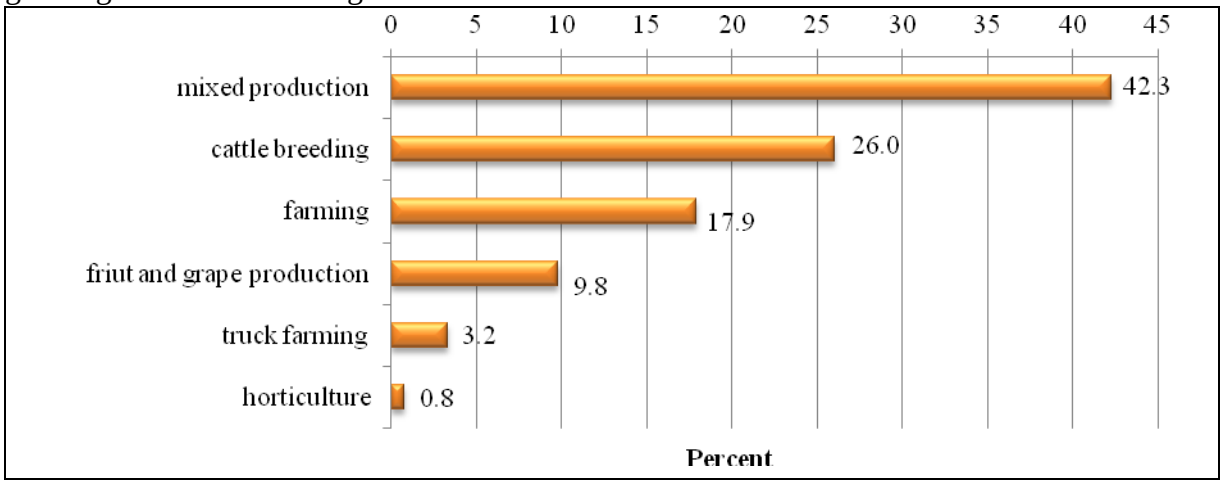
The average size of utilized agricultural area of surveyed farmers was 19.1 ha, which is significantly higher than the national average. The utilized agricultural area includes both owned and leased land.

The farmers' attitudes on levels of intensity of agricultural production on their farms are particularly important. Even 38.2% of the surveyed farmers estimated their production as not intensive, and 43.1% as semi-intensive (Graph 2). These attitudes are very indicative when the size of land is considered: despite having more utilized agricultural area of the national average, respondents estimated their production mainly as insufficiently intensive or semi-intensive.



Graph 2. Farmers'attitutes regarding agricultural production on their farms

One of the possible reasons why respondents estimated production on their farms as insufficiently intensive is the low level of specialization – 42.3% of the farmers said that mixed production was dominant on their farms. Thereby, different sectors of agriculture were presented: mostly crop and livestock production combined (mixed production), but some respondents stated that were occupied with the fruit and vegetable production, or fruit growing and cattle breeding.



Graph 3. The most dominant sector of agriculture on surveyed farms

Almost seventy percent of surveyed households (69.9%) were registered, while 30.1% of the farm owners have not made registration. As agricultural producers who have not register their

farm are not able to get any subsidies available to farmers; this research finding is not encouraging and indicates that part of respondents do not use all available resources for the systemic improvement of production at farms.

The correlation between the decision to register farm and certain features has been examined using the chi-square test. It was found that there was no statistically significant relationship between farm registration and sex, age and education of the respondents, as well as dominant production on farm. However, there is a strong correlation (Cramer's V=0.415) between the possession of agricultural mechanization and farm registration, giving that 90.7% of the farmers who own agricultural mechanization, have performed the farm registration. It is not surprising that these two factors are connected, knowing that the purchase of agricultural machinery require significant funds, and that registered farms can use credits with subsidized interest rates. This connection actually refers to the strong commitment and dedication to agricultural production improvement of this group of respondents.

The decision on farm registration was significantly correlated with the respondents' assessment of production intensity (Table 1), wherein the bond between these two factors is moderately expressed (Cramer's V = 0.266).

It is interesting that farmers who haven't performed registration, mainly dispose of smaller size of total utilized agricultural area: 86.5% of respondents from this group have up to 10 hectares of land. Further analysis have shown strong statistically significant relationship between the size of utilized agricultural area and farm registration ($\chi 2$=31.408, df=4, p=0.000, Cramer's V=0.505).

Table 1. Relationship between registered and non-registered holdings and agricultural machinery possession

		Registered (%)	**Not registered** (%)	χ^2	**df**	**p**
Possession of Agricultural Machinery	Own	90.7	56.8	19.857	2	0.000
	Do not own	8.1	43.2			
	No responce	1.2	0.0			
Assessment of the production intensity on farm	Intensive	20.9	10.8	8.676	3	0.033
	Semi-intensive	47.7	32.4			
	Insufficiently intensive	31.4	54.1			
	No responce	0.0	2.7			

When it comes to availability of machinery, 80.5% of farms had its own machinery, while 18.7% did not, meaning they use services of others agricultural mechanizations. It is important to consider these results from the perspective of farm registration. Further analysis revealed that most of the owners who carried out farm registration (90.8%) had their own machinery, which indicates that agriculture is their primary occupation. It is particularly indicative that all the respondents who rated production on their holding as intensive have their own equipment (Table 2).

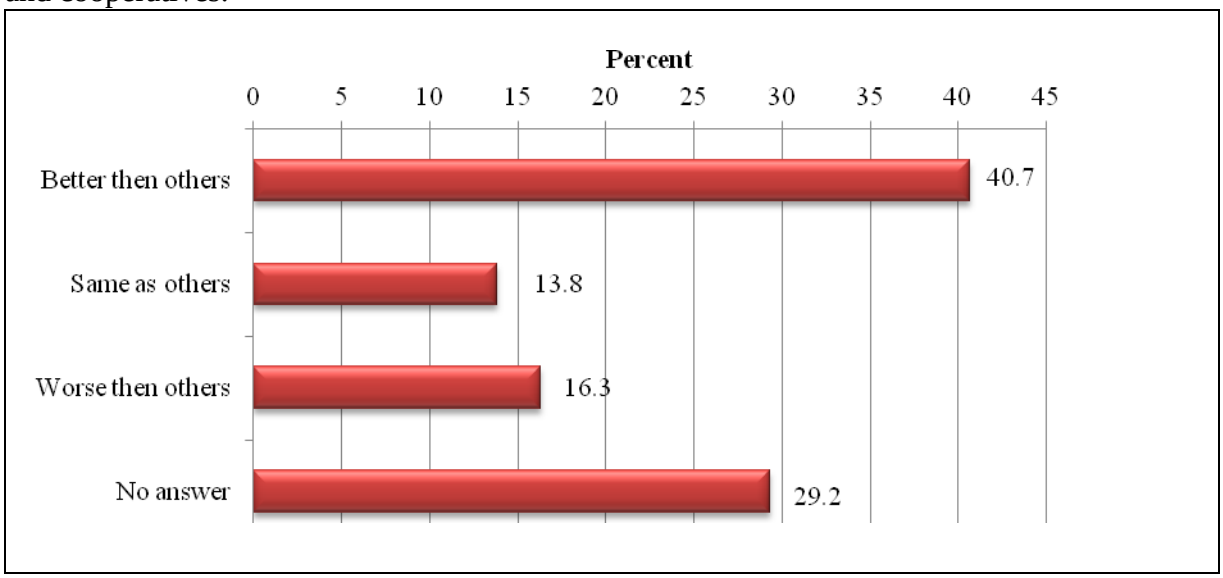
Table 2. Contingency table on agricultural machinery possession and assessment of the production intensity on farm

		Do you have your own agricultural machinery?			Total
		Yes	No	No answer	
How do you	Intensive	22	0	0	22
	Semi-intensive	48	4	1	53

asstimate production on your farm?	Insufficinetly intensive	28	19	0	47
	No answer	1	0	0	1
	Total	99	23	1	123

3.3. Attitudes about Associations and Cooperatives

Organization of farmers in the village was estimated as unsatisfactory by almost half of the respondents (48.8% of farmers estimated it as unsatisfactory; 39% as partially unsatisfactory). Furthermore, half of the respondents (40.7%) declared that cooperatives are better than other forms of agricultural production organization (Graph 4). These findings suggest that there is developed and widespread awareness among farmers about the necessity of their organization, as a significant predisposing factor of the development of associations and cooperatives.

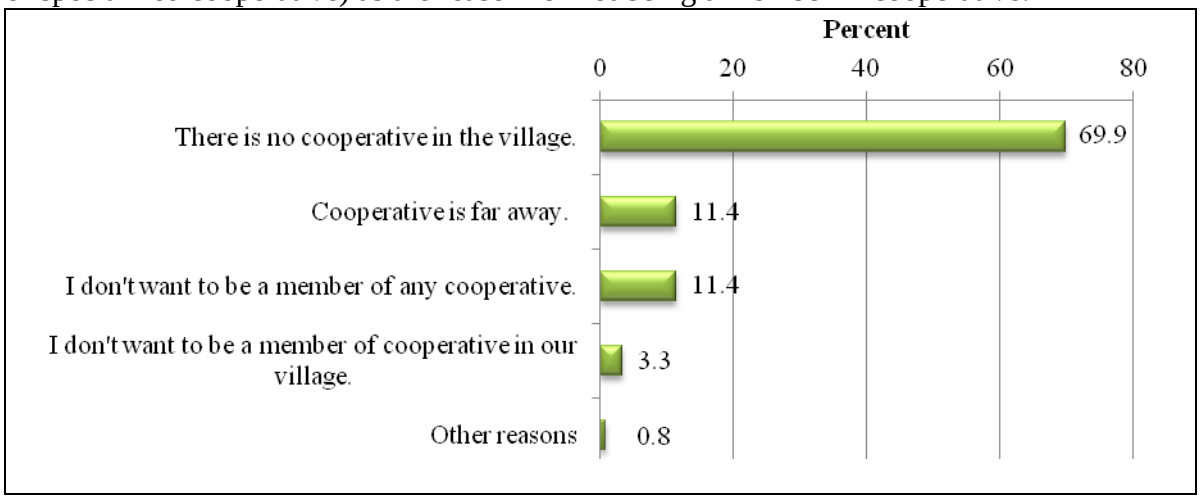


Graph 4. The farmers' attitudes on cooperatives' benefits in relation to other economic subjects

All the respondents who didn't answer the question about cooperatives' benefits, were not members of any cooperative, therefore the lack of this response is fully justified.

Further analysis, however, have shown that farmers' positive opinion on cooperatives hadn't result with their membership, giving that almost ¾ (73.2%) of respondents have never been members of a cooperative; 20.3% had previously been a member in a cooperative, while one respondent (0.8 %) did not answer. The fact which is particularly worrisome is that 96.7% of the interviewed farmers were not members of any cooperative at the time when this research was conducted. This means that the number of members in agricultural cooperatives is drastically reducing in the surveyed area. When considering these results, it should also be aknowledged that respondents from hilly and mountain areas and from the territory of Central Serbia dominated in the sample, while cooperatives are more present in the territory of Vojvodina (Ševarlić and Nikolic, 2012). Membership in farmers' associations was even less represented: 81.3% have not been members of any association, and merely 18.7% was a member or had previously participated in the work of these organizations. There were 17 respondents (13.8%) who were members of farmers' associations at the time when the survey was conducted, and those associations are usually organized on a territorial principle. A larger number of members of associations in relation to those of agricultural cooperatives can be explained with increased interest in farmers' associations, as well as with more favorable conditions for their establishment.

The lack of a network of cooperatives is the dominant reason why surveyed farmers were not members of any cooperative – 69.9% of respondents were not a member because there was no such organization in their village (Graph 5). Respondents indicated that there was a large distance between their farms and present cooperative (11.4%), or other causes (e.g. the lack of specialized cooperative) as the reason for not being a member in cooperative.



Graph 5. The reasons for the lack of membership in cooperatives

Finding that 11.4% of respondents pointed out that they didn't want to be members of any cooperative is disturbing. This attitude expressed mainly elderly farmers (over 45 years) with primary or secondary education, and of which only one half have had prior contact with cooperatives (either as associated members or as members). In this case, those respondents were the ones who hadn't got any direct contact with cooperatives, so they based their views on information available from neighbors or other farmers. It is therefore possible that these respondents would change their opinion on the basis of their own positive experience, if a successful agricultural cooperative operated in wider area. This is exactly the reason why sharing the best cooperative practice is necessary.

A smaller number of respondents (3.3%) expressed the view that they didn't want to be members of cooperatives present in their village. Although the share of these respondents is small, this finding is still indicative as it suggests that there was some dissatisfaction with the work of the cooperative. It is necessary to emphasize that all the farmers who responded in this way lived in the same village; therefore, it was about one specific cooperative.

Far more interesting is the phenomenon on which this research has indicated: despite the presence of awareness of the need for better farmers' organization, farmers hesitate to participate in the work of cooperatives. Merely 17.9% of the surveyed farmers assessed the farm production as intensive, which means that others remained were partially or totally dissatisfied with the level of intensity. Moreover, just 12.2% of the surveyed farmers believed that farmers were well organized. This indicates that it is necessary to improve agricultural production by making advantage of farmers' association. Nevertheless, there is a lack of initiative of those farmers to unite and organize themselves.

As cooperatives are primarily organizations of its members, the initiative of their members to form this organization, to cooperate among themselves and to make networks is necessary. The reluctance of farmers to participate in cooperatives operating in neighboring village can, therefore, be interpreted as their reluctance and lack of initiative to engage in these organizations. In fact, one could argue on how many of these farmers would actually be willing to participate in the work of the cooperative, if it was organized in their village.

In this regard, it is necessary to present the advantages of different forms of association to the rural population, particularly the advantages of agricultural cooperatives. Agricultural extension service can play a significant role in this process. However, it is especially

important to point out examples of best practice to familiarize farmers with the advantages of working in cooperatives. One of the actions that are aimed in this direction is the organization of The First Parliament of Cooperative Members and Associated Farmers in Serbia, on July the forth, 2015, on the International Day of Cooperatives in Belgrade. A number of cooperatives and their products, as well as the advantages of association, were presented at this event.

3. CONCLUSSION

The results of farmers' attitudes on the need and possibilities of association in the agro-industry in Serbia are presented in this paper. Particular attention was given to the membership in cooperatives and other forms of association, in addition to socio-demographic characteristics of respondents. Only one fifth of respondents (20.3%) have previously been a member of the cooperative. However, the trend of decreasing of membership could be observed, given that merely 3.3% of the respondents were a member of the cooperative at the time when the research was conducted. Membership in associations of farmers is less common, bearing in mind that less than a fifth (18.7%) of respondents were or had previously been a member of the association at the time when survey was realized. At the same time, we should remark the limitations of the research, namely the fact that a majority of the respondents are from the territory of Central Serbia, mostly from the Zlatiborski district.

Interviewed farmers were aware of the need of better organization, since almost half of them (48.8%) evaluated the organization of farmers in the village as unsatisfactory. However, the fact that they were not a member in cooperative or some other farmers' organization, they explained with the absence of such organizations in their village, a large distance from existing cooperatives, and similar.

Based on the research results of this study it can be concluded that farmers showed relatively low participation in their organizations, despite the awareness of the need for their better organization. This phenomenon is worthy of attention and is an interesting problem which cause should be investigated in more detailed manner. Awareness of the need for the farmers' organization is a good start and represents good potential for the development of cooperatives and association. However, in order to develop this potential in practice there has to be an initiative of farmers to invest effort in the organization, association and cooperation. Bearing in mind the experiences of co-operative developed countries and the situation in the cooperative sector in Serbia, it requires transparent and concrete assistance from the competent national authorities to assist the restoration and development of agricultural cooperatives.

According to above mentioned, in order to increase farmers' initiative and motivation to join farmers organizations it is necessary to inform them about their advantages. An important role in this process could have a various informal forms of adult education (Arsenijevic and Nikolic, 2010), within which significant attention should be given to the need of association, characteristics and advantages of particular forms of associations, provide guidance for their establishment and perform advisory work. In addition, it is necessary to point out examples of good practice in association of farmers.

Another way of raising farmers' motivation and initiative is possible through the promotion and popularization of association through information channels to the rural and total population – the public media. Therefore, efforts must be directed from the level of system, through the provision of association promotion and popularization; from the institutional level; as well as from the individual level, by strengthening initiative for the organization and networking.

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