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ATTITUDES OF FARMERS FROM THE AREAS WITH NATURAL CONSTRAINTS TOWARD AGRICULTURAL AND RURAL DEVELOPMENT SUPPORT

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ABSTRACT

Farmers and rural areas, especially those with natural constraints, face a number of challenges, such as lower yields, difficult access to markets, depopulation and devastation of the rural environment. Agricultural policy in Serbia does not provide a special measure for farmers in these areas which is opposite to the practice in the European Union. Nevertheless, farmers in Serbia can benefit from measures that have a specific treatment for farms located in the areas with natural constraints. The aim of this paper is to examine the attitudes of the farmers in the areas with natural constraints toward agricultural and rural development support in Serbia. Data collection was organized using a stratified simple random sampling and it included 371 farms. Face-to-face interviews were conducted during July-August 2018 in the mountainous area of East and South Serbia. The questionnaire contained information about socio-economic characteristics of the farms, attitudes on agricultural and rural policy and future plans. The data were analyzed using descriptive statistic method (measures of central tendency and variability). The results indicate that almost all farmers use direct payments and have enough information and experience to apply for this support. On the other hand, the research reveals a low level of application of rural development support especially for measures aimed at the improvement of the quality of life and diversification of the farm income, as well as measures for environmental improvement. Results provide information for policymakers that can be useful for creating more efficient rural development support aimed at farmers in the areas with natural constraints.

Keywords: *areas with natural constraints, subsidies, attitudes, Serbia.*

INTRODUCTION

The idea of a support scheme for farmers in areas with natural constraints (ANC) in the European Union (EU) is to compensate the farmers for lower income they derive from agriculture production. ANC scheme is designed to maintain agriculture and population levels in rural areas, as well as preserve the environment. In Serbia, some policy instruments have elements that indicate

specific treatment of farms in areas with difficult working conditions in agriculture (ADWCA), but there is no particular measure for farmers in ADWCA. Farmers in ADWCA are supported by dairy premium (lower threshold of milk delivered to dairies) and payments for quality breeding sheep and goats (lower threshold for minimal number of animals on farm). Regarding rural development support, farmers in ADWCA are supported by a bigger share of grant in the total value of the investment (measures for improving competitiveness and measures for the improvement of quality of life and diversification of the farm income). Measures aimed at improving the environment and the countryside do not treat farmers in ADWCA in a specific way. Bogdanov (2014) and Vidojević et al. (2017) highlight that the set of support measures for farmers in ADWCA in Serbia is far from the practice in the EU in terms of policy objectives and instruments for its implementation. Namely, the existing measures are more oriented to economic and social issues, while the environmental ones are not in focus. Also, the delimitation of ADWCA is not aligned with the existing approach in the EU (European Commission, 2013). In Serbia, the criteria used for ADWCA delimitation include all settlements above 500 m a.m.s.l, villages within nature parks, and villages on the territory of municipalities with less than 100 employees/1,000 inhabitants (The Government of the Republic of Serbia, 2016). Since 2019, the third criterion has been changed and now covers the territory of devastated municipalities (The Government of the Republic of Serbia, 2018). However, large ratio of farms in Serbia could benefit from specific support to farms in ADWCA, since according to the ADWCA delimitation from 2016, 40% of the territory, 30% of the total population, 29% of farms, and 24% of the UAA is located in these areas (Statistical Office of the Republic of Serbia, 2012).

This paper aims to investigate farmers' attitudes toward agricultural and rural development support. Attitudes about certain phenomena are studied with the assumption that they can predict future behavior. According to Ajzen (2011), a positive attitude leads to an intention to implement certain behaviors. Therefore, it is expected that understanding the attitudes of farmers from ADWCA will provide some knowledge about motivational factors and barriers related to applying for available support. Also, these findings are important because in Serbia there is no evidence on the number of applications coming from ADWCA and how current support is adjusted to the specific needs of farmers in ADWCA.

MATERIAL AND METHODS

The paper is focused on the results obtained in July-August 2018 through a face-to-face survey in the mountainous area of East and South Serbia (Papić, 2021). Several reasons influence the choice of the research area:

1. Delimitation of ADWCA in Serbia is aligned with the EU definition only in one criterion which refers to mountain areas (The Government of the Republic of Serbia, 2016);

2. Mountain areas occupy 89% of settlements, 74% of farms and 73% of the UAA of the total ANCs territory (Statistical Office of the Republic of Serbia, 2012); and
3. Previous research in Serbia found that mountain areas of East and South are rich in natural resources that are important for the development of the local rural economy and preservation of biodiversity (Bogdanov et al., 2008; Đorđević-Milošević and Milovanović, 2012).

Data collection was organized using a stratified simple random sampling. The sample included 371 farms. Sample selection criteria, that ensured the survey covers economically and demographically viable farms, were: 1. rural households had at least three members and 2. one member of households was younger than 50 years of age (Papić, 2021). Similar selection criteria were used in previous rural research in Serbia (Kotevska, 2015; Bogdanov, 2007). Therefore, the sample included farmers that would probably stay in the agricultural sector and who will be the beneficiaries of agricultural policy measures. The questionnaire contained information about socio-economic and structural characteristics of farms, attitudes on agricultural policy and future plans. Analysis was focused on questions about application and attitudes toward agricultural and rural development support. These attitudes were measured through a 5-point Likert scale (1 – strong disagreement and 5 – strong agreement). Also, the paper contained analyses of socio-economic characteristics of farms. The data were analyzed using descriptive statistics method: percentage response distributions; measures of central tendency – average value (hereinafter AV) and median (hereinafter Me); dispersion measures – standard deviation (hereinafter SD). The results are presented in the figures and tables.

RESULTS AND DISCUSSION

Socio-economic characteristics of surveyed farmers

The average farm size in the sample is 12.7 ha, but high values of standard deviation (±9.9) indicate large variability in the data. The analysis of the sample showed that all farms have areas under permanent grasslands (meadows and pastures), as well as a high share of areas under arable land (97.6%). A quarter of the surveyed farms has areas under orchards and vineyards. On average, the farm in the study area owns 6.4 ha under arable land; 6.1 ha under meadows and pastures; and 0.8 ha under orchards and vineyards. High values of standard deviation are expressed in all land categories, especially in pastures (± 13.9) (Table 1). Cattle and sheep are the two main animal productions in ADWCA (Table 1). The average number of cattle is equal to the national average (6.3 Livestock unit – LSU/farm) and higher than the average of the Southern and Eastern Serbia region (4.2 LSU/farm) (Statistical Office of the Republic of Serbia, 2018). The situation is different with sheep production. The average number of sheep on farm is smaller than the national average (i.e., 3.2 LSU/farm in relation to 13.0 LSU/farm) as well as the average of the Southern and Eastern Serbia region (11 LSU/farm) (Statistical Office of the Republic of Serbia, 2018).

Table 1. Main characteristics of surveyed farms

Indicators	AV	SD	Me	% farms in the sample that own listed resources
Utilized agricultural area UAA (ha)	12.5	±9.9	10.0	100.0
Arable land (ha)	6.4	±5.2	5.0	97.6
Permanent grassland (ha)	6.1	±8.2	4.0	100.0
Land under permanent crops (ha)	0.8	±0.9	0.4	23.5
Total Livestock Unit (LSU)	8.5	±7.5	6.4	100.0
Cattle (LSU)	6.3	±5.7	4.7	87.8
Sheep (LSU)	3.2	±4.4	1.3	64.9
Pigs (LSU)	1.4	±2.0	1.1	43.2
Goats (LSU)	1.2	±1.7	0.5	14.6

Note: The total number of livestock units includes cattle, sheep, goats, pigs, poultry and horses.

*Source: Author's calculation based on the survey data; Papić, 2021

The majority of farm holders in ADWCA are men. However, the percentage of women holders is higher than the national average (19.9%) as well as the average of the Southern and Eastern Serbia region (21.9%) (Statistical Office of the Republic of Serbia, 2018). Previous research explains that a high percentage of women holders in this region is caused by the unfavorable age structure of holders, longer life expectancy of women and higher share of small farms whose holders are mostly women (Bogdanov and Babović, 2019). Farmers are with a low level of education, given that a quarter of the respondents has only primary education (Table 2), which is a great limitation for the expansion and penetration of new technologies into the agricultural sector.

Household income is an important determinant of livelihood diversification (Piennar and Traub, 2015). For about 60% of the holders (regardless of gender and age), agriculture is the most important household income. These results indicate that for farmers in ADWCA, agriculture is an important factor of social security and food supply. Salaries represent the most important income for around 20% of households, but it is important to note that 54% of households have members who have employment outside agriculture. This finding shows the importance of off-farm activities, especially for those households that cannot earn enough income from agriculture, as well as for those who want to reach a higher standard of living. Similar findings are confirmed in previous research in the Southern and Eastern Serbia region (Papić and Bogdanov, 2015). The most important income from agriculture is the sale of animal products (usually milk and cattle), while the sale of plant products as well as processed products have a modest share in responses (Table 2). According to Bogdanov (2007) farms, with significant sale of livestock and milk are those whose land does not provide sufficient competitiveness in farming, as well as farms with high hidden unemployment.

Table 2. Farmers profile and main characteristics of households

Indicators	**Men holder**	**Women holder**	**Young holder (less than 40 years)**
Farm holder (%)	74.1	25.9	11.1
Age (AV±SD; Me)	53.7±12.2; 53.0	56.7±1.3; 57.0	34.3±0.6; 35.0
Primary education; Secondary school; College and University (%)	21.2; 75.5; 3.3	36.5; 58.3; 5.2	4.3; 89.4; 6.4
Main household income (%):			
Agriculture	66.1	60.4	68.1
Salaries	24.8	24.0	23.4
Pensions and social benefits	9.1	15.6	8.5
Main farm income (%):			
Sale of animal products	80.3	82.3	87.2
Sale of plant products	9.1	7.3	6.4
Sale of animal and plant processed products	4.7	8.3	4.2
Others	5.8	2.1	2.2

Source: Author's calculation based on the survey data; Papić, 2021

Attitudes toward agricultural and rural development support

This survey shows that farmers from ADWCA predominantly use direct payments support. Of the total number of surveyed farmers, 90.3% use incentives for plant production (payments for field crops and permanent crops); 68.6% incentives for quality breeding dairy cows and 59.2% for dairy premium. All other types of incentives are used by less than 20.0%. The reason for the low applications for incentives for quality breeding sheep and goats is the existence of animals without registered pedigree (Figure 1). Only 12.9% of farmers from the sample applied and received rural development support. Of the total respondents, 9.2% used measures for improving competitiveness (mostly insurance premium subsidy and measures for improving physical assets). Incentives for environmental improvement (organic production and preservation of plant and animal genetic resources) were used by an extremely small percentage of farmers, located in the area of Stara Planina.

Incentives for income diversification and improvement of quality of life are rarely used in the research area (just one farmer applied for this support). Although income diversification and improvement of quality of life in rural areas is encouraged through various support schemes, the results show that in areas where infrastructure is not developed and farm holders do not have enough skills and resources, it is difficult to implement this group of measures. Therefore, the criteria and thresholds of this investment support must be reviewed.

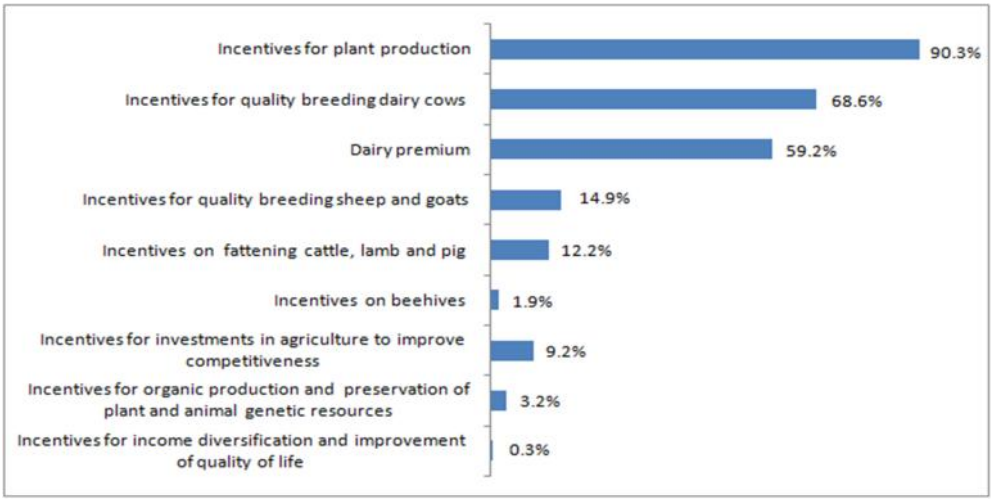

Figure 1. Subsidies used by farmers in ADWCA in 2018.

Note: Since farmers can use more than one measure, percentage of application exceeds 100%.

*Source: Author's calculation based on the survey data; Papić, 2021

A large percentage of surveyed farms are considered dependent on subsidies to maintain existing production (Figure 2). Previous research conducted by Kotevska et al. (2015) also indicated a high dependence of farmers in Serbia on subsidies (26.3%), but not to the extent that was found in this research (61.0%). Subsidies help farmers maintain current agricultural production, but do not encourage investment and structural change in rural areas. Irazioz et al. (2007) argued that high levels of direct payments dampen pressures for restructuring rather than stimulating improvements in productivity.

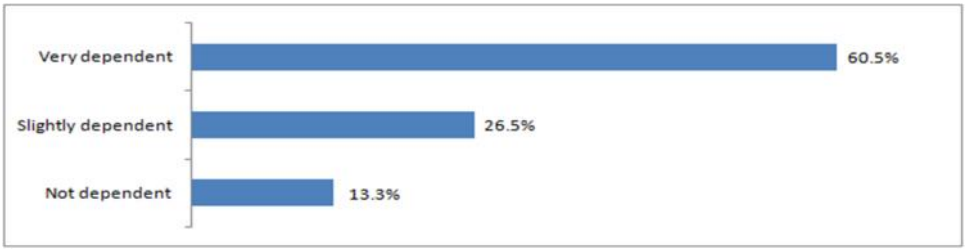

Figure 2. Dependency on subsidy

*Source: Author's calculation based on the survey data; Papić, 2021

Understanding the attitudes of farmers from ADWCA provides information about their knowledge and barriers related to the application for available support. In ADWCA, the level of familiarity with direct support measures is higher (mean 3.4), than familiarity with rural development support (mean 2.8). This finding is not surprising given that a very small percentage of farmers use rural development support. In addition, farmers do not have enough means to co-finance rural

development investments (Table 3). Results show the need for mechanisms that will help farmers to overcome problems with the preparation and administration of rural development support and access to finances.

Table 3. Attitudes of farm holders towards subsidies

Attitudes	**AV**	**SD**	**Me**
Direct payments support			
My knowledge and experience is enough to independently prepare the application	3.4	±1.4	4.0
Rural development support			
My knowledge and experience is enough to independently prepare the application	2.8	±1.4	3.0
I have enough own means to co-finance a rural development investment	2.9	±1.4	3.0
I am able to get bank credit to co-finance a rural development investment	3.1	±1.3	3.0

Source: Author's calculation based on the survey data; Papić, 2021

It is highly likely that the farmers from the sample will stay in agriculture, though most do not know who will take over their farm and continue the agriculture production (Table 4). However, their intention to apply to rural development support and get credit to co-finance rural development investment is weak (mean 2.8). The intention to invest on the farm in the next 3–5 years is strong (mean 4.0). The planned investments are low-risk mainly in the purchase of equipment and the extension of the current production.

Table 4. Attitudes of farm holders towards future plans

Attitudes	**AV**	**SD**	**Me**
Identified successor	3.8	1.4	4.0
Intention to keep agricultural production next 3-5 years	4.5	0.9	5.0
Plan to invest in the next 3-5 years	4.0	1.2	4.0
Intention to apply for direct payments support in next 3-5 years	4.5	1.0	5.0
Intention to apply for rural development support in next 3-5 years	3.5	1.3	3.0
Intention to get credit to co-finance rural development investment	2.8	1.3	3.0

*Source: Author's calculation based on the survey data; Papić, 2021

CONCLUSION

The research confirms the general attitudes of farmers toward direct payments as positive. There are no difficulties when it comes to collecting documentation and information, but delays in payments make the production process more difficult, especially for those farms for which agriculture is the only source of income. Considering that farms in ADWCA plan to use this type of payment in the future, it is desirable to introduce mandatory conditions related to the preservation of natural landscapes for developing other functions of rural areas which is a practice in EU.
Farmers in ADWCA are not sufficiently informed about rural development measures, and complicated procedures discourage them from applying for support.

Also, farmers are not sure whether they have enough funds to co-finance the investment themselves and they are not ready to take a loan. Research findings show that the existing rural development measures (that provide benefits for farmers in the ADWCA) are not adjusted in accordance with their specific needs. For example, support for income diversification that could help farmers to start new productions and create new activities on their farm, in the way in which it is now being implemented, is not available to farmers from the researched area. Therefore, it is imperative to develop mechanisms and support farmers in overcoming these barriers. Desired action can be the simplification of the application procedures, providing technical assistance and facilitating access to finance.

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