

# SOCIAL AND ECONOMIC POSITION OF SMALLHOLDERS FARMERS IN SERBIA

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## ABSTRACT

The paper focuses on the socio-economic factors of small farms in Serbia. Small farms occupy most of the farmland and, therefore, are very important to economic and agricultural development, although they achieve lower income and are not as productive as large farms. The authors conducted research and addressed the key related to the functioning of small farms in the context of the population working in agriculture. The primary goal of this article was to identify the share of the population working in agriculture and their income structure, level of education, age, gender, working hours etc. Using a database of 550 farms, the socio-economic factors were calculated, and then the impact of the selected factors on economic and sustainable development. Identifying those socio-economic effects may provide recommendations for the policy of supporting small-scale family farms in the analyzed country.

**Keywords:** *Socio-economic factors, small farms, agricultural labors, economic and agricultural development*

## INTRODUCTION

Agriculture is one of the most important industries in almost every economy worldwide, and the growing demand for food, as well as severe pandemic consequences, point out the strategic role of this sector on a global level. Investing in agricultural development is particularly important when it comes to small farms, due to their large presence and their role in the development of agriculture and rural areas.

Along with the economic development and the progress of countries, the share of the population working in agriculture has been declining. Development processes often focus on urban areas and leave out rural populations [1].

According to FAO [2] data, more than 2/3 of the population in less developed and poor countries works in agriculture, whereas in developed and rich countries this number is less than 5%. Bogdanov and Babović [3] believe that the calculation of the number of employees in agriculture and the presence of additional activities of the members of farm households gets more complex because of the characteristics of the work in agriculture and the features of different types of farms. Due to certain features of the sector itself and its distinguishing characteristics when compared to other sectors, there may be some difficulties in accurately determining the number of employees. Firstly, in large number of countries small family farms are still prevalent, where, if necessary (depending on the different time of year), family members provide additional labour force. Secondly, many workers are engaged in agriculture on a part-time basis and they very often have other jobs that are important sources of income for them.

Finally, there are seasonal workers, who we cannot ignore. In certain periods, a relatively large number of workers are engaged in agriculture, but for a relatively short period of time.

In Serbia, the largest part of agribusiness consists of small farms. Due to the low standard of living and low wages in this sector, it is difficult to raise the capital needed to invest in the development and modernization of businesses, which puts people working on farms at high risk of poverty and social exclusion. Because of that, this article aims to provide databases from survey on the structure of agricultural holdings from 2019 show the current situation in terms of the structure and characteristics of the labor force in Serbia on small farms. In particular, the study aims to focus on the socio-economic factors of small farms included age structure, gender, farm household size, member of smallholders, working hours on the farm and income structure, because agricultural workers represent some of the most socially and economically disadvantaged people in the Serbia.

Along with the major global changes and the current crises at the beginning of the 21<sup>st</sup> century, the role and importance of small farms have been changing, and today, more than ever before, we talk about the role of small farms in the context of social, economic, and environmental development. Therefore, in the first part of the paper the authors analyse the role and importance of small farms in different countries, followed by the social and economic status of employees in small farms, primarily in Serbia.

The third part presents the results of the analysis in Serbia, analysing socio-economic factors such as age, gender, level of education, income, etc. As the final say on the issue raised in the paper, conclusions and final considerations present the last part of the paper.

## **SOCIO-ECONOMIC STRUCTURE OF SMALL FARMS**

The position of the producer in the food supply chain determined the income situation of the farm and that indicate to economic stability and result of this shaped is the quality of life of the family members which indicate to the social stability [4]. Based on that we would like to analyze socio-economic structure and characteristics of small farms.

The countries of Central and Eastern Europe, apart from exceptions (e.g., the Czech Republic and Slovakia), are characterized by a fragmented agrarian structure and a large share of small family farms in agricultural structure [5]. According to Eurostat [6] small and family farms are by far the most common type of farm in the European Union (EU), encompassing a wide range of agricultural holdings: from small, semi-subsistence farms with only family workers and farms which have to rely on other gainful activities for a diversified source of income, through to much larger, more productive farms which nevertheless are mostly managed by family members. A survey of 36 definitions of small and family farms found that the most common aspect of such definitions is the use of family labor and that many of the definitions also specify that the farm is managed by the family (e.g., [7], [8]). Some definitions limit the size of the farm explicitly by establishing a maximum land area for the farm, beyond which the farm is no longer considered a family farm. Finally, a definition may require that the share of household income from non-farm activities not exceed a certain level.

Definitions of smallholding by Ethical Trading Initiative [9] explain:

- They produce relatively small volumes on relatively small plots of land.
- They may produce an export commodity as a main livelihood activity or as one of many activities.
- They are generally less well-resourced than commercial-scale farmers.
- They are usually considered part of the informal economy (because they may not be registered, tend to be excluded from aspects of labour legislation, lack social protection and have limited records).
- They may depend on family labour and/or may hire workers.
- They are often vulnerable in supply chains.

According to Wiggins, Kirsten and Llambi [10] in the early stages of development, farming depends primarily on labor inputs, external inputs are used sparingly, so small farms often have advantages over larger units, but circumstances change and if small farms are to compete with larger units and realize their advantages in management of labor, then they need to find ways to overcome their increasing disadvantages in their dealings with those in the rest of the supply chain.

Small farms, as opposed to large industrial ones, “produce” something more than just agricultural raw materials. Their multifunctionality manifests itself in efforts to maintain the sustainability of rural areas in the social and environmental context. Benefits from such actions include [11]: broadly defined

diversification of ownership, plant and animal production, landscape, culture and tradition; responsible management of natural resources, water and forests, as well as maintaining animal welfare; creating jobs in rural areas, building social ties, greater responsibility for one's own life and the life of the local community, as compared with contract workers; combination of one's workplace and family life, gaining knowledge and experience from an early age; provision of relatively cheap food produced in a more traditional way, which is tastier and healthier.

The differences in smallholder farms between countries can be significant, and often reflect differences in the stages of development across countries. This is because the evolution of the small farm is intrinsically related to the process of economic development [12].

According to the analyses conducted by FAO [12], out of 3 billion people who live in rural settlements worldwide 2/3 of them live and work on approximately 475 million small farms and on average own the land of up to 2 hectares. Many of them live in poverty and are insecure about their future due to limited amount of food they produce and limited access to the market and services.

Although their choice is narrowed and limited, they still represent a significant part of the world population that cultivates their own farmland and produces food. Since small farms usually depend on family work, in order to add up to their low income and improve their economic situation, farmers are often employed in other jobs along with working in agriculture.

However, unlike the employed population in urban settlements, most employees on farms, especially in rural areas, perform jobs that are uncertain, not a long-term one and, therefore, at constant economic risk. A major constraint in rural areas is that the workforce typically lacks the training to perform high-skill tasks [13]. Farmers with good education possess improved decision-making skills and hence better manage resources to exploit farms of various sizes [14]. Education boosts farmers' ability to obtain, decode and understand information, thus enabling them to make better use of available information to come up with pertinent solutions to production, market and financing challenges. According to Ninh [15] various studies (e.g., [16], [17], [18]) have divulged that better educated farmers are more active in adopting new technologies, thereby enjoying the first-mover advantage. Agricultural labors can be characterized by relatively poor education attainment and thus be able to engage in jobs on seasonal basis, which bring about low annual incomes [19].

In addition to the level of education, the key socio-economic factors that have a great impact on the improvement and sustainable development of small farms are the age structure of employees on a farm, the number of members employed in a farm household, gender, salary, etc. In a study by Wrzaszcz and Zegar [20], it was found out that young farmers more often manage medium and large farms, while a significant proportion of managers in retirement age manage small-area farms. On the other hand, based on EUROSTAT data, Matthews [21] explain that the share of workers in the 15-39 age group fell from 53.6% in 1995 to 41.7% in 2016, a drop of 11.9 percentage points. Based on the some data, the share of workers in this age group in agriculture fell from 38.0% in 1995 to 30.2% in 2016, a drop of 7.8 percentage points. According to Matthews, the entire fall in the share of younger workers in agriculture can be explained by general social phenomena affecting all workers without some unique problems specific to agriculture.

The Farm Structure Survey data confirm that the increase in the age of farmers in the EU is a fact.

However, this process does not differ from the general age trend found in the EU economy. It should also be added that there are significant differences in the age structure of farmers between EU countries. Countries with smaller farm sizes tend to have older farmers [5].

## **CHARACTERISTICS AND DISTINGUISHING FEATURES OF SMALL FARMS IN SERBIA**

According to the analyses conducted in Serbia, the distinguishing features of farms in Serbia are as follows [3]:

- Agricultural production is present on family farms, where farm members have uneven engagement in agricultural activities throughout a year, including even full-time employees on the farm.
- For many farmers (farm owners, their members as well as seasonal and permanent farm workers) agriculture is a temporary activity. Along with the agricultural work they have other, more or less significant sources of income.
- Agriculture is characterized by the existence of seasonal peaks when a large number of workers are engaged in agricultural work for a relatively short time.

- Statistical data sources obtained by various methodologies provide different data on agricultural employment and farm incomes. As a result, the idea of employment and farm incomes can differ significantly depending on the sources used.

In the transition period, small farms are marginalised in most countries, as it is the case with Serbia.

According to Popović and Miljković [22], the market structure of the food supply chain went through a number of changes during transition. Some characteristics of that process are: privatization of the food processing and retailing sector, consolidation of companies through horizontal or vertical integration, investments in new technologies, diversification of food products, packaging, and improved quality of products and standards of food safety [23].

According to Bradaš [24], poverty and social exclusion in Serbia are one of the highest in Europe – according to EUROSTAT data. 38.7% of the population in 2016 was at risk of poverty or social exclusion, placing our country in the third place in Europe (behind Bulgaria and Romania). Employees in rural areas do the jobs that require lower qualifications and are paid less. These are insecure jobs belonging to labour-intensive agricultural activities. According to the data of the Statistics Office of the Republic of Serbia in 2016, farms in urban areas had an income of about 200 euros per household member, while in rural areas this amount was lower by 21.4% [25]. Furthermore, out of the total income of all farm households, agriculture accounts for 11.1%.

Based on the survey conducted by Eurostat [6], although the number of small farms in Serbia is the biggest, that number has decreased by 9.9% in the last six years. Analysing the age structure of farm owners, we have noticed that it is still very unfavourable, because farmers over the age of 65 account for 42.5% of the total number of farmers, 27.9% of them are between 55 and 64, farmers from 35 to 44 account for 17.8 %, and only 3.1% are younger than 35. Moreover, one of the biggest problems in the agricultural sector is the lack of seasonal workers who are very difficult to reach during the season, regardless of the amount of wage, and even if you manage to find them, they are mostly workers aged 50 to 70. Young people are largely uninterested. These indicators indirectly testify the unfavourable economic status of the rural population, especially farmers, because many official data and sources in Serbia (SORS, surveys on family budgets...) indicate that individual agricultural producers have the highest poverty rate among employed persons. This situation is also bleak due to the fact that in most farm households there is an older group of employed people insufficiently educated with low level of private entrepreneurship, making it one of the most vulnerable social groups in Serbia, without any prospects that economic and social status of this group will improve in the forthcoming period unless something radically changes. In order to stop such a negative trend and the migration of young and qualified people from the countryside, it is necessary to make major changes in agricultural and population policy. Furthermore, we should change insufficient investment in agriculture in Serbia, as this represents a real possibility to create competitive advantage of Serbia.

## MATERIALS AND METHODS

Agriculture plays a significant socio-economic role in Serbia. The agriculture is very important for their transformation to a modern and market-oriented sector with a major goal to fighting against poverty and promoting social inclusion and entrepreneurship, and economic and sustainable development. This article aims to provide databases from survey on the structure of agricultural holdings from 2019, conducted on the samples of 550 farms in all regions in Serbia.

The pilot studies covered several farms, and then conducted the final form of the questionnaire. Data were collected in the form of direct interviews. The interviews were conducted by agricultural advisors.

The questionnaire included four categories of information: 1) socio-economic, 2) environmental, 3) food security and nutritional quality and 4) the relation between farming and the market and risk management. With a top 20 farm we organized a visit and we conducted for face-to-face interviews.

In our survey we defined a small-scale farm by its economic size. Standard Output (SO) of an agricultural product is the average monetary value of the agricultural output at farm-gate price (in euro per hectare or per head of livestock). There is a regional SO coefficient for each product, as an average value over a reference period. The sum of all the SO per hectare of crop and per head of livestock in a farm is a measure of its overall economic size expressed in euro. We set also additional criteria of 75% of farm Annual Work Unit (AWU) to be engaged in farm activities. Annual Work Unit corresponds to the work

performed by one person who is occupied on a farm on a full-time basis. Full-time means the minimum hours required by the relevant national provisions governing contracts of employment.

In the categories of socio-economic factor, we have the high number of the questions from the survey (17 questions) and based on that we will present the most relevant questions and their results. We will present the data based on gender (male/female), data based on education of people who work on small farms, the number of household members, working time on the farms and outside the farms and the structure of income.

## RESULTS AND DISCUSSION

Although, they spend quite a lot of time on their land, many smallholder women and men also work off-farm. Their labour is an important income earner and they try to make good use of the limited opportunities rural areas offer. Indeed, the time they spend working away from their farms is considerable, and our data suggests that many smallholder families have members with off farm jobs [12]. Given that in many countries around the world, a large part of income from small farm households is from the employment outside the farm, i.e., non-agricultural sector, we were interested in the situation in Serbia. Additionally, in order to completely analyse the socio-economic factors that directly affect the existence and improvement of business on small farms, we analysed the structure of small farmers in terms of education, age, gender, income level, actively involved farm household members, number of working hours spent on a farm household, etc. Of the total number of analyzed farms, Tables 1, 2 and 3 present the share of male and female population engaged in agriculture, the number of household members engaged in agriculture and the level of their education are shown.

**Table 1.** Display data based on gender (male/female)

Gender	Number	Percentage
Male	464	84.36
Female	86	15.64
Total	550	100

*Source: Author's calculations based on the questionnaire survey*

According to the previous researches, we are aware of the fact that women tend to leave rural settlements more than men. They are less employed in farms for several reasons, such as the desire to provide more decent and secure existence for their children and themselves, as well as due to problems related to property and job security. That is why we focused on finding out how many women there are in farm households. According to the data from Table 1, we can see that only 15.64% of women are engaged on agricultural farms, which further confirms the thesis of the necessary support and strategy to change these statistics in favor of greater motivation and engagement of women to work on agricultural farms.

**Table 2.** Display data based on education

Education (from 1 to 7)*	Number	Percentage
1	24	4.36
2	97	17.64
3	167	30.36
4	198	36
5	40	7.27
6	19	3.45
7	5	0.91
Total	550	100

\*(1 – no education 2 – primary, 3 – secondary, 4 – vocational/high school, 5 – general, 6 – higher bachelor degree, 7 – higher master degree).

*Source: Author's calculations based on the questionnaire survey.*

In this research, it is assumed that the head of the farm is at the same time the one who makes decisions. Most decision-makers gain their knowledge of agriculture through experience by performing agricultural

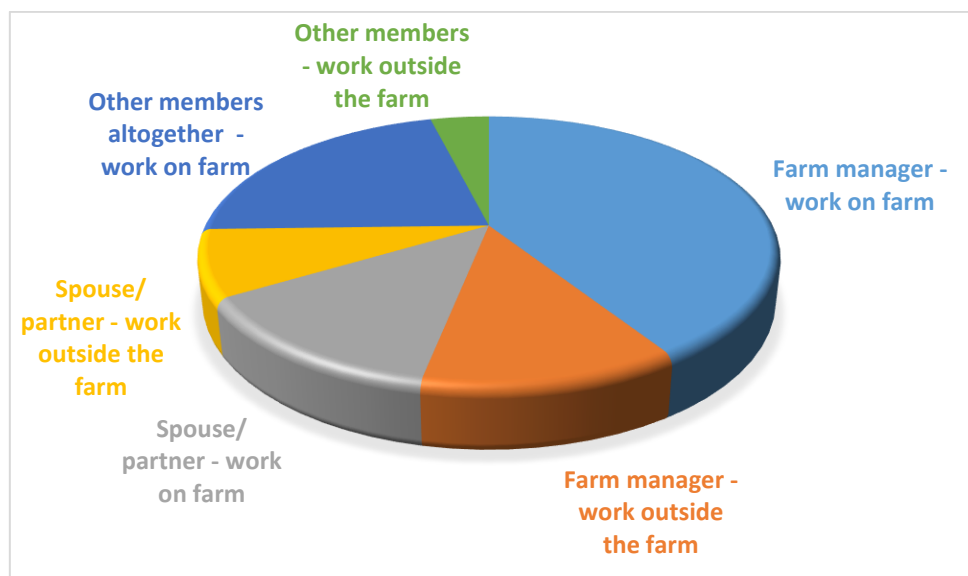
activities. Based on the results that indicate that the largest number of the population has a high school education, it is difficult to expect that the stated level of training can lead to the creation of economic strength of small farms that could be defined as sustainable.

**Table 3.** Display data based on the number of household members

No. of household members	Number	Percentage
1	74	13.45
2	145	26.36
3	92	16.73
4	127	23.09
5	63	11.45
6	38	6.91
7	9	1.64
8	1	0.18
9	1	0.18
Total	550	100

*Source: Author's calculations based on the questionnaire survey*

According to the data from Table 3, in the largest number of analyzed farms, we can notice that four members of the farm are the most represented. When we take into account that most of the older generation lives and works on these farms and that their average age is around 55, we can come to the following conclusion. The younger generations of owners and managers of farm households are considered to be a priority in the forthcoming period that can improve competitiveness and the social life of rural communities.



**Graph 1.** Daily working time (average in a year) in hours

*Source: Author's calculations based on the questionnaire survey*

When we analysed the situation based on weekly working time (Graph 1), on average in a year (specified in hours), we can see that the most manager of small farms spend their working time and work on their own farm (for agricultural reasons) and less percentage of manager work outside the farm (for non-agricultural reasons). This is the better scenario and result when we compare the statistics in the past.

Of the 550 analyzed farms, 165 managers (30%) of those who manage agricultural households work off-farm, and of that number (out of 165 managers) 76.97% work full 8 hours (Table 4).

**Table 4.** Number of working hours of manager – work outside the farm

Number of working hours	Number of managers	Percentage
1	1	0.61
2	5	3.03
3	0	0
4	13	7.88
5	4	2.42
6	11	6.67
7	3	1.82
8	127	76.97
9	1	0.61
Total	165 (30%)	100

*Source: Author's calculations based on the questionnaire survey*

Based on the results from Table 5. the income structure of household from 550 farms in Serbia, agricultural income (including subsidies and other forms of financial support for agriculture) is 64.64% (middle value). Middle value for income from work for other employers, companies etc. (official and unofficial) is 21.63%, income from self-employment 1.73%, pensions 11.41%, social transfers (benefits, social assistance, and others) 0.12% and remittances (incomes sent from abroad, eg. by members of the family) 0.48%.

**Table 5.** Income structure of household (%)

Income structure	middle value (%)
Agriculture	64.64
Work	21.63
Self-employment	1.73
Pensions	11.41
Social transfers	0.12
Remittances	0.48
Total	100

*Source: Author's calculations based on the questionnaire survey*

Small farms generate income from farm work (sales of agricultural products), employment outside agriculture, social benefits and compensation, pensions, etc., but the most common way of working, ie work in which they earn the most income refers to work on the farm.

These results indicate that the income from agriculture of small rural households is diversified, ie largely depends on the available labor force, their age and education, because in relation to that small family farms more or less diversify their activities on the farm in the direction of more labor-intensive products.

## CONCLUSIONS

Small farms were marginalized in the past, which could result in a lack of the necessary knowledge and skills to participate in the main value chain of agricultural products, as well as a smaller share in the commercial agro-processing industry. However, their existence contributes to maintaining and improving the socio-economic potentials of rural areas and the local economy, including a certain dynamics of income flow between entrepreneurs - household owners and consumers.

Based on the results from this article we can identify the key socio-economic factors of small farms in Serbia. The real threat to the economic and sustainable development of agriculture is the demographic deterioration of the structure of the agricultural population, as well as the low level of education of

decision-makers and employees in farm households. Education is of immense importance for the development of small farms, because education has a positive impact on agricultural output and improves decision-making skills. Moreover, a negative impact is the fact that a large part of the income of the younger structure of the agricultural population which is earned in non-agricultural activities negatively affects and demotivates young people to get engaged more in farms.

This primarily points out to the fact that all the countries in transition and developing countries, especially the countries such as Serbia that are non-EU members, ought to be more oriented towards accelerated modernization in a relatively short period of time, since it will have a significant impact on the agricultural sector and economy as a whole. Identifying those socio-economic effects may provide recommendations for the policy of supporting small-scale family farms in the analyzed countries.

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