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## **DIVERSIFICATION OF THE RURAL ECONOMY AS A FUNCTION OF THE SUSTAINABILITY OF RURAL AREAS**

The aim of this research was to determine the diversification level of the activities of rural households in Bosnia and Herzegovina (BiH) and their preferences for dealing with non-agricultural activities. The study was conducted during 2011 by surveying 100 households throughout BiH. It was found that 51% of those households realised additional income outside of agriculture and their diversified activities took up over 30% of their working time. Through the segmentation of the households in the sample, based on size of land holdings by small, medium and large, and by analysing the results obtained by the survey, it was confirmed that a higher level of diversification was achieved by the farms of small and medium size. When analysing the results according to the age of the examinee, the results acquired were unexpected because they showed that the value of non-agricultural income increased with the increasing age of the farm holders. The initiation and development of non-agricultural activities in rural areas, as well as the introduction of higher levels of the processing of agricultural products on the farms, very often are not part of the planning process, but the spontaneous consequence of the inability to ensure existence with the primary activities. One of the reasons for this is the lack of knowledge and skills in the residents of rural areas, and the lack of information about the sources and possible ways of achieving diversified income. The strengthening of advisory services and expanding of the focus of their work from agriculture during consultation to the possibilities and conditions for the diversification of the rural economy can achieve a significant contribution in terms of ensuring the sustainability of rural areas.

**Keywords:** rural economy, sustainability and diversification

### **INTRODUCTION**

A large number of European countries have improved the agricultural sector by expanding the activities within family farms, which also represents the basis for the overall development of rural areas. In order to increase the competitiveness of the agricultural producers in the European Union member countries, and reduce the level of their direct protection, new policies related to rural development are being adopted. Research conducted by Špička and Picková (2007) showed that the greatest changes within the EU 27 rural policies were

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made in the period from 2003-2005. In order to improve rural areas and increase the agricultural households' income, there arose a need to adopt the new concept of the Rural Non-Farm Economy (RNFE).

According to Lanjouw (1999) this concept includes all income generating activities, provided that such income is not derived from the production of primary agricultural products. According to Davis (2000), the rural non-farm economy includes activities associated with agriculture, such as food processing, other types of small businesses, income from social transfers, interest, dividends, rent and remittances from part-time or permanent employment in the urban areas. Taking into account the global scale, income derived from additional sources represents 40-60% of the total farm income (Buchenrieder et al., 2009).

Due to the different structures of agricultural production in certain countries, there are great differences in the results achieved through the application of the RNFE concept in some of the countries in Central and Eastern Europe. The share of the rural population involved in non-farm activities ranges from 7% in Poland to 65% in Slovenia. The share of agricultural companies with activities related to the diversification sector is highest in countries highly developed in agriculture. In some countries (Bulgaria, Poland, Romania and Macedonia) there is a great interest in additional work in the sector of diversification. Diversification of the rural economy is the basis that can make life in rural areas sustainable, and that can improve the living standards and strengthen the link between agriculture and other sectors of the rural economy. Sustainable agriculture is based on the use of technology in order to maximize productivity and minimize the adverse effects on natural and human resources. The concept of sustainable agriculture (SARD - Sustainable agricultural and rural development) relies on a multidimensional understanding of the role of agriculture, which provides market and non-market results that are the basis for the diversification of the economy in terms of improving complementary activities (Stojanović and Manić, 2009).

The investigation of preferences when it comes to the diversification of the rural economy shows that agricultural households ranked the importance of labour as a significant resource low, and they do not recognize the additional skills and abilities of their members. Therefore, most of the rural population is oriented towards the processes of employment, rather than self-employment, and the consequences of these processes become especially prominent in times of recession (Zmaić, Sudarić and Tolić, 2011). Creating conditions and providing support to non-farm activities are important tasks for agricultural policy makers, especially in a time when the rate of unemployment in rural areas is growing.

A large number of farms are facing increasingly challenging conditions in the market and regulatory requirements on one hand, and a lack of organization when it comes to agricultural activities on the other. In many cases, farmers do not have adequate knowledge regarding responses to the new market changes. The problem of funding diversified activities in rural areas is often an obstacle to opening new enterprises in these areas.

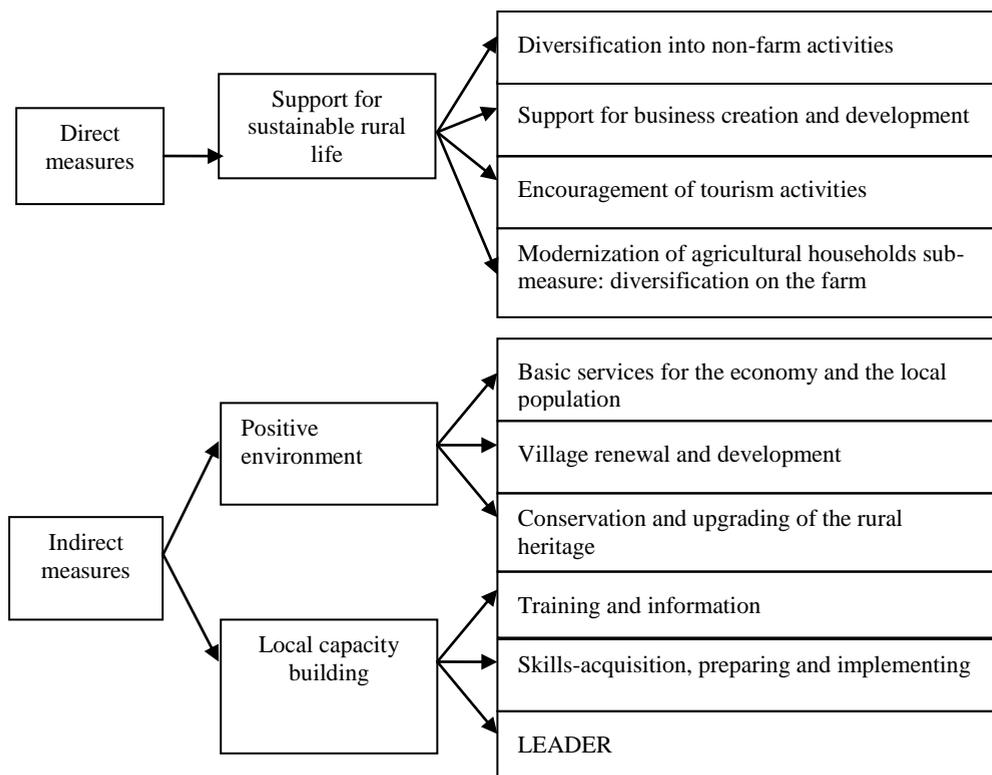
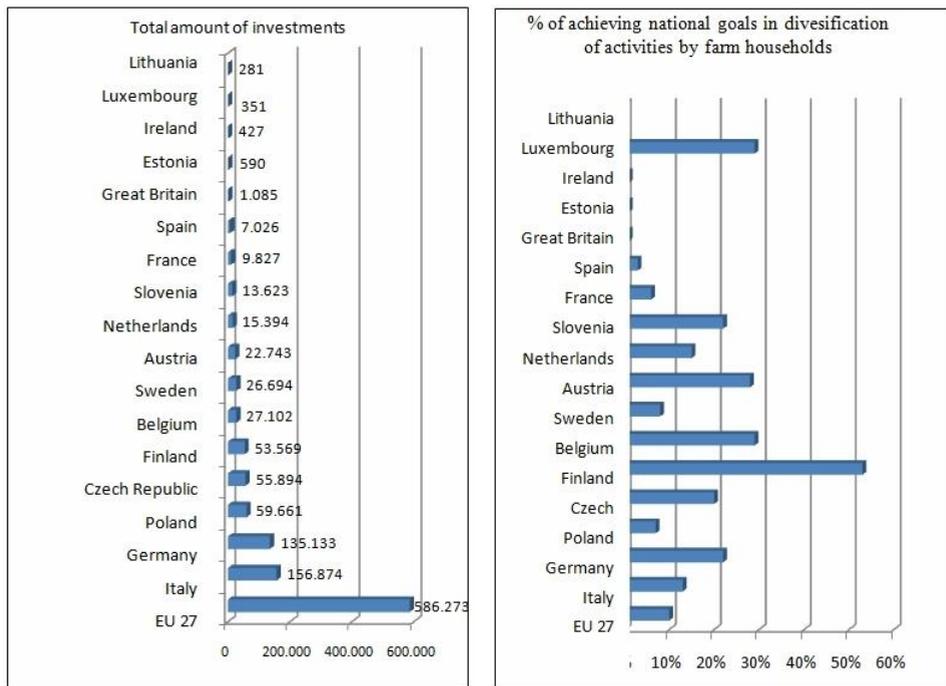


Figure 1: Direct and indirect measures in rural economy diversification by Ludwig et al. (2010)

When looking at the development of non-farm activities in the EU countries, the rate of agricultural diversification is spatially uneven. The highest levels of diversification of the rural economy have been recorded in the more affluent rural areas (Davidova and Chaplin 2004). In rural areas where the diversified revenues are most needed, the results are extremely modest. At the level of the EU 27, the total amount of support for users who diversify their activities reached 590 million Euros during the period 2007-2009. Italy and Germany gave the greatest amount of support for diversified activities (157 and 135 million, respectively), representing 13% (for Italy) and 22% (for Germany) achieved of the national goals planned for the period 2007-2013.

In terms of support for the diversification of non-agricultural activities, Poland, the Czech Republic and Finland gave a total of 170 million Euros. In Finland, the investment in this sector represents over 50% when compared to the objectives set for the same period. The highest rate for accomplishing the objectives defined in the diversification sector was achieved in Finland, while Belgium, Luxembourg and Austria had a share of 30% when compared to

previously defined national goals. The diversification of activities in rural areas depends largely on the comparative advantages of both the agriculture households and their members. Farms that have a higher initial physical or financial capital, higher education, specific skills and abilities tend to exploit their advantages by starting a new activity or a new form of engagement (Bogdanov, 2007). The potential for the diversification of activities in rural areas is based on specialized products and markets, different forms of tourism, local crafts, traditional recipes and restaurants. In this sense, there are opportunities for micro and small enterprises in the provision of services in rural areas, such as crafts, traditional food processing, aquaculture, new business ventures (such as organic farming) and the production of bio-fuels.



Charts 1 and 2: Investing in diversification of the rural economy by EU Member States (000 EUR) during the period 2007-2009, and % of achieving national goals in terms of the diversification of activities in agricultural holdings

Diversification in agriculture can make a substantial contribution to the establishment of new companies and the reduction of unemployment in rural areas. On farms engaged in crop production there is a significant amount of time available for work outside of the farm or for other activities on the farm. The directions of diversification are divided on the basis of the degree of correlation with the existing crop production on family farms (Todorović and Ivanović, 2011). If we observe the households engaged in crop production, we will see that

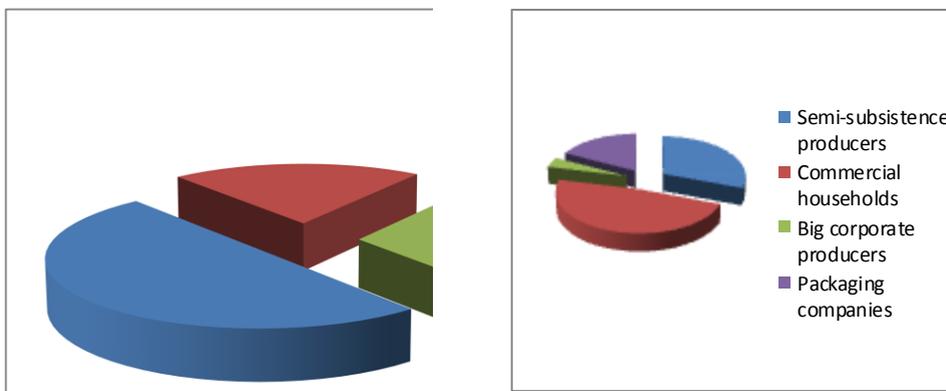
the time available for work outside of the farm decreases with the growth of the farm size (McNamara and Weiss, 2005).

### MATERIAL AND METHODS

In order to obtain a clear picture of the structure of diversified agricultural activities and its classification according to the farm size and the rural population age structure, the results of a survey were used. The survey was conducted in the territory of Bosnia and Herzegovina from July-September 2011 on a sample of 100 farms. The sample was semi-stratified and consisted of farms of different types and sizes. Data analysis was performed by using the descriptive statistics methods of structural analysis and the calculation of mean values and relative relationships.

### RESULTS AND DISCUSSION

A significant part that is about 20% of the rural population in Bosnia and Herzegovina is employed in agricultural activities (Labour Force Survey, 2011). If we take into account the fact that over 33% of the employees in this sector are not working full time, the support for diversified activities and adoption of the concept of a non-farm economy would provide significant employment for the rural population. The highest number of farms in the sample is in the category of up to 5 ha, which supports the development of additional activities on the farms, and personnel and material resources engagement. Over 20% of the farms are in the category of 5 to 10 ha, while nearly 30% of households are in the category of over 10 ha.



Charts 3 and 4: Classification of surveyed households by size and structure

Since the surveyed farms could choose more than one answer, the percentages given in the following chart do not sum up to 100%. The largest number of respondents ranked their households in the category of commercial farms (61%), while the semi-subsistence households were the second highest

ranked (39%). Packaging companies and big corporate producers accounted for 22%, and 5% of the total number of households involved in this survey.

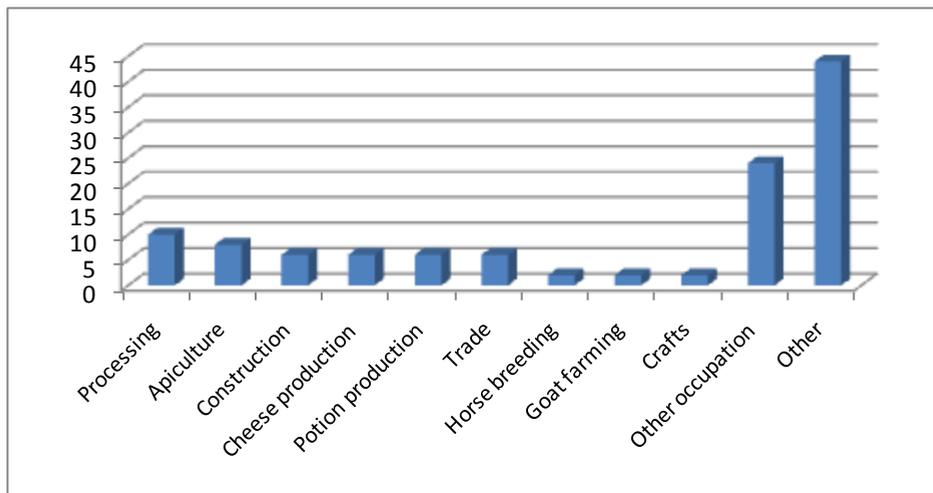


Chart 5: Sources of additional income of agricultural holdings in BiH

The processing and finishing of agricultural products are poorly developed in the rural areas of Bosnia and Herzegovina, and their share as an additional source of income of the total income of agricultural households is about 10%. The share of households which have an additional income by producing honey and other bee products is 8%. Cheese production, trading and the production of potions have the same participation percentage (6%) in terms of achieving a diversified income in rural areas.

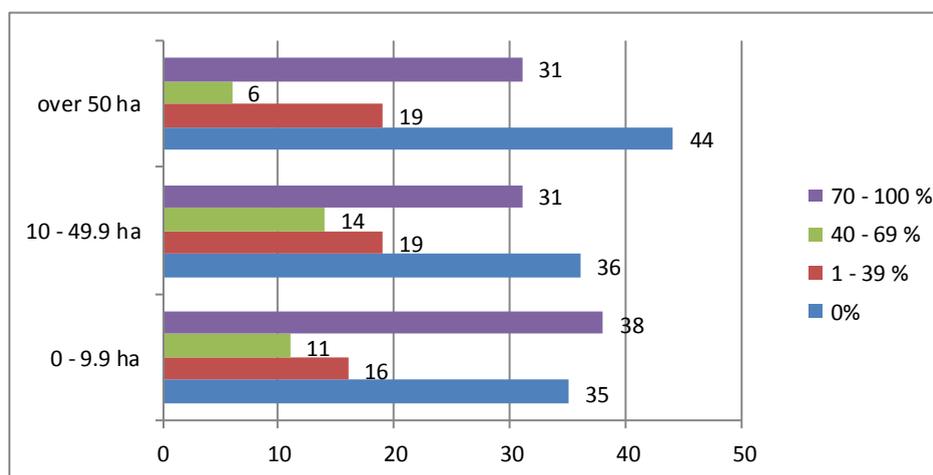


Chart 6: The share of revenue of total household income from additional sources compared to the total area of agricultural holdings

Agricultural households with up to 10 hectares of agricultural land have the highest degree of diversification because even 38% of these farms have additional revenue representing 70-100% of their total revenue. At the same time, the smallest number of small farms has no income from diversification (35%). Due to their commitment to a particular type of production, large farms (more than 50 ha) show less of an interest in the diversification of agricultural activities. This has been confirmed by the results of the survey since almost half of them opted for a negative response to the question about whether or not they obtained additional revenue from other sources.

In the middle-sized farms, with 10-50 ha of arable land, 19% of the farms achieved up to 40% of their revenue from diversified activities. A significant impact of the revenue derived from additional sources (between 70 and 100% of the total revenue generated in the farm) is present in 31% of the farms of this type. On the basis of household allocations according to the share of revenue from additional sources of total household revenue, it can be concluded that the small and medium-sized farms generate more revenue from diversification than the large ones. Or, the farms with less arable land have the biggest share in the total number of households highly dependent on diversification.

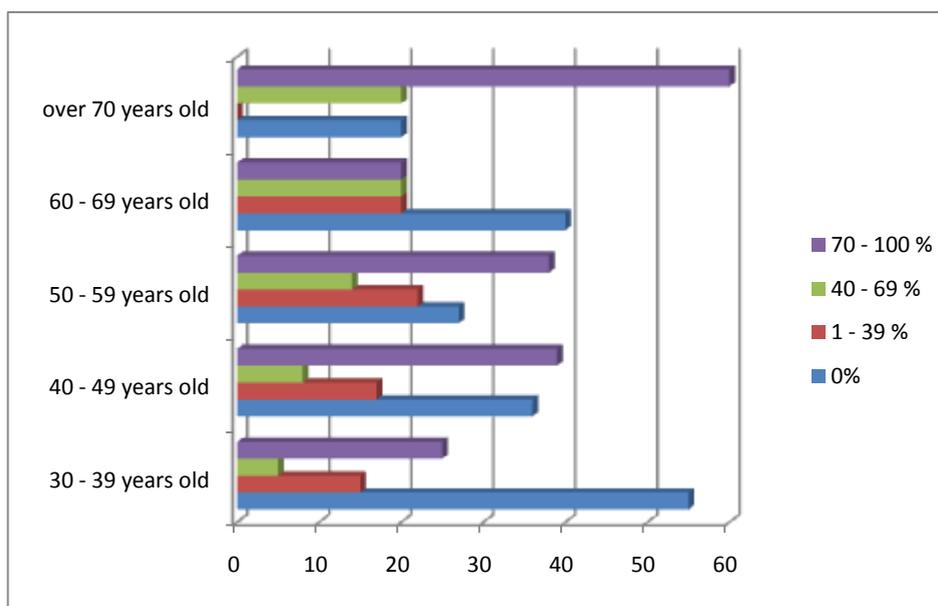


Chart 7: Revenue arising from the diversification of agricultural activities and age structure

Taking into account the age of the respondents whose farms were included in the sample, it appears that the households in the category of up to 40 years of age generated the lowest percentage of income from additional sources. With regard to the working capacity of the population in this category, the

participation in terms of generating revenue, both from agriculture and from diversified activities, should dominate in this age group. For 39% of the population in the surveyed rural areas, which are found in the category between 40 and 50 years of age, the revenues from non-farm sources make up between 70 and 100% of their total income. About 17% of the rural population in the same class earns up to 40% of their household revenue from non-farm sources. In the category of 50 to 59 years, 36% of rural residents receive revenue from additional sources where such revenues represent up to 70% of the total revenues. The share of the population that is in the category of 60-69 years of age, and who earns revenue from additional work (40% of total farm income) is 20%. Also, the same percentage of respondents in this category realizes additional revenue between 70 and 100% of their total revenues. In the next age category (70 years and more) the participation of additional revenue sources is highly evident, which in this case includes pensions, family assistance and similar transfers that cannot be considered as agricultural income.

Since one of the research objectives was to execute categories of households in terms of generating revenue from diversified activities by taking into account the age structure of the respondents, the results prove that the youngest category of rural areas inhabitants are least willing to diversify farming activities, as opposed to the oldest ones of which even 60% have their revenue gained outside of agriculture and to the extent that it makes up 70-100% of their total revenues. The major obstacle to the diversification of economic activities in the rural areas of Bosnia and Herzegovina is the lack of funds (64.95%). Due to a lack of knowledge (over 16% of households) and information (12.4%) a significant number of households do not diversify their activities and do not have additional revenue.

## CONCLUSIONS

The decreasing trend in natural resources, especially in developing countries, has led to the lives of the residents of rural areas and their income becoming less protected. This is due to the growing gap between the rural population and the natural resources that ensure the sustainable conditions of their lives. Due to weak employment opportunities, rural residents are forced to seek out alternative development strategies to overcome the income risks they are facing. The above strategies suggest the diversification of the rural economy and move away from agriculture as a primary function of the rural areas. The diversification of agricultural activities can make a significant contribution to the improvement of the living standards of rural residents. Additional and complementary activities, which are based on agricultural production as a basic activity, aim to employ an additional part of the rural population, and thereby increase its total income.

The results of the research conducted in Bosnia in 2011 seem to suggest that the most significant sources of non-farm income are other occupations and other (undefined) sources of income, and to a lesser extent, different types of



processing of agricultural products on the farm. Diversification was more often present in farms with smaller land assets, which is a necessary consequence of insufficient income from primary agricultural production in a limited land area. Large farms are more specialized in agricultural production, and the additional income from diversified activities constitutes a smaller part of their total income.

Given the fact that mixed farms are dominant in Bosnia and Herzegovina, there is already a certain level of "traditional diversification." The surprising fact is that the youngest households (where the head was younger than 40 years) showed the least interest in diversification. On the other hand, farms where the head was 70 years old had the least amount of income from the farm and the highest non-farm income, because other income such as pensions or gifts from children and relatives was considered non-farm income.

Rural residents lack access to information about opportunities to create diversified revenue, which reflects negatively on the sustainable development of these areas. The expansion and strengthening of services that provide advice and other assistance to the rural population can make significant contributions to the progress of diversification in rural areas. To this end, it is necessary to encourage the activities of existing development agencies that also deal with issues of diversification, and tend to establish new ones across the country.

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## **DIVERZIFIKACIJA RURALNE EKONOMIJE U FUNKCIJI ODRŽIVOSTI RURALNIH PODRUČJA**

### **SAŽETAK**

Ključnu ulogu u samom konceptu održivog ruralnog razvoja ima poljoprivreda koja predstavlja najzastupljeniju aktivnost ruralne ekonomije. Usitnjeni i neracionalno isparcelisani posjedi, kakvi dominiraju u zemljama jugoistočne Evrope, ne pružaju velike mogućnosti za razvoj komercijalne poljoprivrede. Ekonomska dimenzija održivosti takvih gazdinstava bazira se na diverzifikaciji njihove bazične djelatnosti - poljoprivredne proizvodnje. Diverzifikacija ruralne ekonomije predstavlja osnovni mehanizam koji obezbjeđuje povećanje ruralne zaposlenosti i povećanje ukupnih prihoda seoskih domaćinstva. Uvriježeno je mišljenje da poljoprivredu BiH odlikuje veliki broj mješovitih poljoprivrednih gazdinstava koja samim tim imaju visok stepen njihove "tradicionalne diverzifikacije". Veliki broj domaćinstava iz ruralnih područja je bio prinuđen da iznađe dodatne izvore prihoda, jer sama poljoprivreda nije mogla da obezbijedi dovoljan nivo dohotka za zadovoljenje osnovnih životnih potreba njihovih članova i podmirenje troškova proizvodnje.

**Ključne riječi:** ruralna ekonomija, održivost, diverzifikacija