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# New Rural Economy: Challenges and Diversity in Eastern Croatia

**Tihana Sudarić, Krunoslav Zmaić and Ružica Lončarić**

*University of J. J. Strossmayer in Osijek, Faculty of agriculture, Department for agricultural economics,  
Trg Svetog Trojstva 3, HR-31000 Osijek, Croatia (email: stihana@pfos.hr)*

**Abstract:** Eastern part of Croatia is agricultural region according to natural resources (fertile soil, first of all), as well as human potential (long experience in traditional agriculture). Besides agriculture as traditional activity, a characteristic of rurality is also added to this region. Rural area is dominant in Eastern Croatia and it effects on relatively small urban areas. This paper represents new possibilities of rural economic activities on family farms in Eastern Croatia. Role and significant of rural economic activities is analyzed through indicators overview (land structure, GDP, population, population density, TEA index, unemployment ect.). Challenges through diversification of rural economic activities in this paper includes added economic activities realized on family farms through tourism, crafts, handy work, processing, renewable energy etc. Added economic activities on family farms in Eastern Croatia participate with only 3.9%. Suggestions and possibilities measures of rural economic activities diversification are reflected through two main streams. First stream is diversification of activities through added value of agricultural products as vertical connection (organic food, autochthony products, functional food, renewable energy sources etc.). Other one economic activity diversification indicates distribution function of final products through different services on the family farm (direct sale, specialized shops, rural tourism and many other services).

**Key words:** diversification, agriculture, new rural economy, Eastern Croatia

## 1. Introduction

The natural and economic characteristics of Eastern Croatia provide a substantial potential for successful new rural economy. Large areas in this region are covered with forests and have adequate basis for the development of forestry and strong wood and lumber-processing industry. This type of industry along with the dominant primary agricultural production enables the development of food industry that is food production; the basis agricultural function. The areas that are furthest to the east are covered with extremely fertile grounds, whereas the middle and western parts of the region are both rolling country and highland-country. Eastern Croatia has a moderate continental climate influencing the area from the west toward east. The summer temperatures increase and the amount of precipitation decreases in the same direction. The yearly amount of precipitation is lower here than in the rest of the Republic of Croatia. The east of the region consists of lowlands and plains, whereas in the west there are the mountains of western Slavonia and its foothill regions intersected with river and brook valleys. The natural characteristics, especially relief, but also climate and pedological characteristics of the agricultural area are crucial for determining the way the agricultural grounds are used (*Strategy for rural development, 2008*).

The counties in the region of Eastern Croatia are: Osječko-baranjska, Vukovarsko-srijemska, Požeško-slavonska, Brodsko-posavska and Virovitičko-podravska County. Taking up as much as 91,2% of the arable land, the dominating type of agricultural grounds are plow fields and gardens (the average for the Republic of Croatia is 70%). Orchards and vineyards take up 4,2% whereas meadows and pasture grounds take up the remaining 4,6% of the agricultural ground. The total arable land (owned or leased) in Eastern Croatia amounts to 318.719 ha, that is 37% of the total arable land in the Republic of Croatia. The method of parallel analysis of the size of the arable agricultural land has shown that the east of Croatia is in a proportionally homogenous relation to the average of the Republic of Croatia (*Croatian Agricultural Census, 2003*).

## 2. Materials and methods

The role and importance of rural new rural economy is analyzed through an overview of the most important indicators for the rural area of Eastern Croatia (size, GDP, population, population density, unemployment and so on). In this paper TEA index were individually calculated and compared with Croatian level. A graphical representation of the cumulative distribution function of family farms were

analyzed through Lorenz curve. In order to make a detailed analysis, the methods of induction, deduction, synthesis as well as comparative analysis have been used. Through all those methods the aim of this paper is to point out the importance of new rural economy on family farms in Eastern Croatia. The paper refers to the statistical data published in the Agricultural census 2003, as well as relevant literature.

## Results and discussion

The economic system of the Republic of Croatia is heavily characterized by the transitional period and the transfer from a closed into an open market system. The effects of the transition can be seen in the disproportional economic and social development, social conflicts and increasing disproportions in income, negative rate of population growth, population aging, internal migrations and so on.

By comparing the economic situation of Eastern Croatia with the results for the whole of Republic of Croatia there is an evident gap, that is all macroeconomic indexes are significantly lower than the country average, as shown in *table 1*.

Assimilating changes in development of family farms in last thirty years we noticed that the total number of family farms increases, but the average size is decreasing by average annual rate 5,10%. Our data are represented through Lorenz curve in order to analyze and predict concentration changes in land structure of family farms in the Republic of Croatia (Zmaić, 2008).

**Table 1.** Comparative overview of macroeconomic indexes

	Eastern Croatia	Republic of Croatia
Higher educated population (%)	3,9	6,5
Density per km <sup>2</sup>	71,4	78,4
Unemployment rate (%)	24,4	16,7
GDP p/c	6.637	9.684
TEA index	4,91	6,11
Employed (%)	23,4	31,2

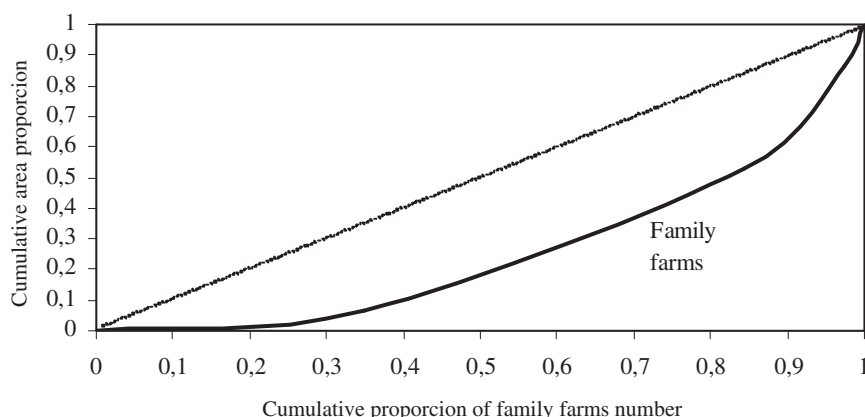
Source: *www.mvpei.hr*

Lorenz curve show that 2,5% family farms had only 13,8% area bigger than 10 ha, or o 49,7% family farms had 46,6% areas of 1–5 ha, what is shown in *Graph 1*.

The rural area is an important part of the Eastern Croatia and it is characterized by low population density (34 inhabitants/km<sup>2</sup>), depopulation, population extinction, lack of vital population, disappearance of the traditional population structure, lack of infrastructural connections, and so on. Family farms are the most important and the most numerous subjects in the rural area, which is why this paper analyzes 120.706 family farms in Eastern Croatia (*Croatian Agricultural Census, 2003*). In the total number of family farms there are two groups of farms based on their selling of agricultural products. Most of the family farms comprise an area of up to 3 ha. They make up 75,9% (91.641) of all farms and they usually work to sustain their own needs, whereas it may be presumed that the 29.065 farms that are bigger than 3 ha (24,1%) are selling their products on the market. This data shows that marketability in Eastern Croatia is very low and that economic resources of the rural area are mostly made up of small family farms, where more than a half of them only have 1 ha of agricultural land, are modestly technologically equipped, poorly organized and have low knowledge level.

The characteristics of family farms in Eastern Croatia are highly differentiated. Namely, the fact is that more than a half of the farms (53,8%) have less than 1 ha of land, and they occupy only 408 ha (0,1%) of the total area of engaged agricultural land. On the other hand there are farms having more than 5 ha (15,4%) and they occupy 80% of the total area of engaged agricultural land. This type of polarization of farms in Eastern Croatia is similar to the average of the Republic of Croatia.

However, in Eastern Croatia there are larger areas of arable agricultural land within farms that stretch on more than 5 ha. In the whole of Republic of Croatia there are 63.304 (14%) family farms larger than 5 ha which occupy 553 868 ha (64%) of arable land, whereas in Eastern Croatia there are more smaller farms that occupy less area and less large farms that occupy most of the arable land. The small farms are usually situated near towns, i.e. they practice outlying agriculture that is oriented on work intensive agricultural production. On the other hand, a relatively small number of larger family farms have managed to increase in size during privatization process and so they doubled their average size. Despite the positive privatization processes the size of family farms in Eastern Croatia is 2,6 ha, but it is still significantly larger than the average for the Republic of Croatia (1,9 ha).



**Graph 1.** Lorenz curve of family farms

Quantity analysis of agricultural land points to the production potentials of Eastern Croatia in the production of crops: cereal crops, industrial and fodder plants and vegetables, as well as fruit- and wine-growing. There is potential in the development of cattle-raising, especially pig and cattle breeding. Every type of agricultural production should be related to market and selling. Many direct and indirect factors influence the market, such as population size, certain customer area, age and education structure, customers' income and retail prices, organization and quality of supply, as well as quantity and quality of the products. The analysis of family farms in Eastern Croatia according to sales shows that 21,4% of crop products are marketed and sold, 21,0% of cattle, whereas the sales of products made on a farm by nonagricultural activities is only 2,6%.

The Agricultural census of 2003 shows that 1.613 518 people or 36% of the total population live on family farms in the Republic of Croatia, whereas 400.081 people live in the rural area of the East, i.e. 44,9% of the total population in this region.

The analysis of family farms according to the number of members they have, working hours spent on agricultural activities, and the number of members who practice other economic activities on family farms as basic or additional activities shows that family farms in Eastern Croatia on average have 2-3 members, proving thus the emptiness and depopulation of the rural area. In such area, examined according to the structure of the activities performed, it was established that (actively or passively) 81,5% of the total rural population practices agricultural activities.

In comparing the size and working hours spent on agricultural activities, there is increase in the number of members on smaller farms, i.e. on family farms that occupy less than 1 ha, 25% of the members do not work at all, whereas fewer people live and work on farms that occupy more than 10 ha – only 8% of the total number of members who practice agricultural activities. The members of family farms who practice only nonagricultural activities, i.e. other rural economy, are characteristic for small farms of up to 3 ha, and the members of these farms make up 78% of the total number of farm members who do not practice agriculture. The number of members who practice economic added activities in Eastern Croatia is insignificant, since of the total number of rural population who practice only agricultural activities only 1,2% practices economic added activities which make up 66% in all the farms that have the size of up to 3 ha, and that is typical for small farms (as shown in *table 2*).

However, there are two types of rural economy: they may be connected to agricultural production, or not. Rural area is a compact unit in which different industries should be developed: processing industry, construction industry, distribution, transport, textile and leather industry, renewable energy and so on. The paper analyzes rural activities which

**Table 2.** Number of family farms, rural population and activities in Eastern Croatia

Land structure	No. family farm	No. of population on family farms			
		Agricultural activities		Non-agricultural activities	
				Basic activity	Added activities
<1	58.896	129.073	43.939	41.168	1.288
1-3	23.151	49.964	13.881	14.839	862
3-5	10.368	24.394	5.748	6.217	494
5-10	11.032	28.089	6.078	6.153	704
10-20	4.969	14.384	2.813	2.405	452
>20	2.695	8.260	1.559	1.117	299
TOTAL	120.706	254.164	74.018	71.899	4.099

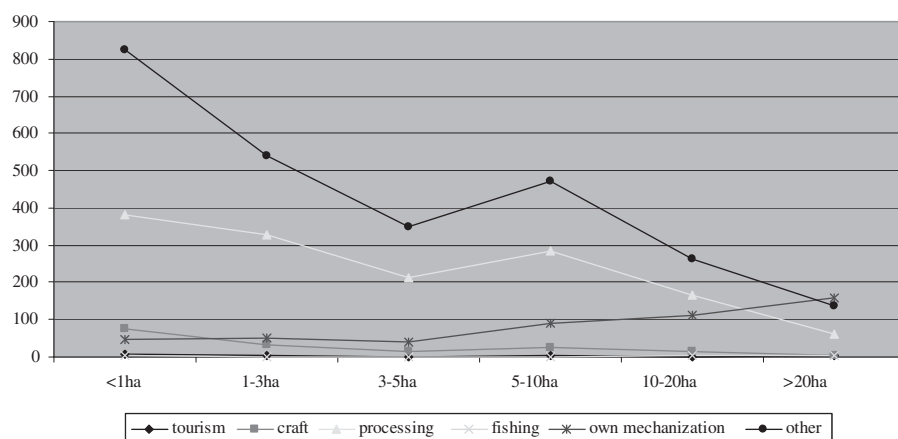
Source: Croatian Agricultural Census, 2003.

are performed or practiced on family farms and which can be additional or basic activities on the farm. The following rural activities have been identified: tourism, accommodation and other activities connected to free time, handwork/handicraft, manual trades, processing of agricultural products, wood/lumber processing, breeding fish and freshwater and saltwater organisms, production of renewable energy (wind, gas and so on), contractual work with one's own mechanization and so on.

The development of agriculture and a bigger farm result in the fact that added rural activities are less important and make up a smaller portion of all rural economy. The comparison of the total size and non-agricultural activities in Eastern Croatia resulted in conclusion that 48,7% of all family farms that practice other economic activities are smaller than 3 ha. This is shown by the fact that as the size of the farm increases, the number of family farms that practice other economic activities decreases, apart from the activities connected to working with own mechanization on contract. This is an exception because this activity is related to the so-called "mechanization clusters" that include larger machines used on family farms with more land. *Graph 2.* shows the correlation of economic activities and the size of the farm.

The most important economic activities on family farms in Eastern Croatia are the processing of agricultural products, handicraft/handwork, manual trades, wood/lumber processing, fish breeding, production of renewable energy (wind, bio-diesel, bio-gas and so on), contractual work with own mechanization, tourism, accommodation and other activities connected to free time and so on. The income earned by added economic activities is very small in the total income structure due to the fact that only 4% of family farms in Eastern Croatia practice added economic activities.

After comparing the family farm size and economic activities, it becomes obvious that certain activities are severely underdeveloped in Eastern Croatia. For example, one does not take advantage of the activities related to tourism, accommodation and other activities connected to free time, as well as of the activities connected to the production of renewable energy sources. This area has potential for tourism and services as well as for production of renewable energy because there are large agricultural



**Graph 2.** Correlation of economic activities and the size of the farm  
Source: Croatian Agricultural Census, 2003.

grounds with crop cultures and with a high degree of animal production. In the structure of economic activities there is a very high rate of other activities that are not described in detail.

Further development of new rural economy on family farms in Eastern Croatia should be based on the diversification of agricultural and non-agricultural activities. The proposal for possible diversification measures for rural economy is based on the two basic directions applicable in rural areas. The diversification of agricultural activities refers to creating added value through vertical connection of agricultural and food products. These activities are mutually conditioned because they will enable the primary product such as wheat or sunflower to be processed into the final product, e.g. wheat-flour-bread-pasta-cakes or e.g. sunflower-oil-butter. This kind of diversification can be directed toward more modern trends, i.e. it depends on the food industry which aims to satisfy market needs (*Baban, 2003*). Therefore the depth of the production program according to this diversification includes also organic food, autochthonous products, functional food and so on.

The diversification of agricultural activities through vertical integration is connected with diversification of new rural economy as seen in the development of marketing for agricultural products, in different services such as rural tourism, specialized shops, direct sale and other services. Implementing adequate rural activity into rural space includes the new employment of rural population, reducing risks for farms that practice only agricultural production, supplementing agricultural income with a new economic activity, new possibilities of making income in case that agricultural production does not create income, using the rural comparative advantages (resources, location, labor costs) and all for one purpose: faster rural development and improvement of the quality of life (living standard) in this area. Apart from what has been said, new rural economy can also include a wider perspective and develop different industries such as: renewable energy industry, mineral fertilizers industry, wood packaging industry, industry of alcoholic beverages (wine, fruit brandy, beer), new textile

industry, leather production and leather products and so on.

### 3. Conclusion

Economic and social developments represent basic elements of rural development. Through the economic and social development of a community it is possible to improve the living standard and wellbeing of the population. The development of new rural economy will influence the rural development that is directed towards economic and social elements according to which the inhabitants of

the rural regions will not be forced to leave the rural areas. On the contrary, they will both have the opportunity to stay in the rural area and to return from the urban areas back into the rural. The rural area of Eastern Croatia is a region of possible development, i.e. its largest part remains unused although there is potential for development of new rural economy. Despite the fact that a proportionally small number of family farms in Eastern Croatia practices added economic activities, there is potential for development both for many new rural activities such as rural tourism, different manual trades, services, production of renewable energy sources, and for activities characteristic for urban areas, such as different industries (processing, construction, distribution, transport, textile industry, renewable energy and so on). By implementing adequate rural activity the quality of life and living standard will be highly influenced which will result in a more proportionate rural-urban development and in a complete integration into market economy.

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