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### **AGRICULTURE AND CHANGE IN NORTH WESTERN CROATIA**

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Farmers are a significant factor in the well-being of any society, so it is important to research their attitudes and opinions about agriculture, rural development and similar topics related to agriculture. This paper presents attitudes of owners of family farms regarding agriculture in rural area of north western Croatia on various aspects of agriculture. The research was conducted in 2010. and 2021. within the convenient sample of owners of family farms via Google questionnaire. It was obtained wide range of answers about socio-demographic characteristics of the farmers, basic information about their agricultural production, challenges of institutional support to agricultural production, attitudes about subsidies in agriculture, use of agricultural services, domestic agricultural production, entering European Union, Euroscepticism, etc. There are two significant differences between Croatian farmers before and after Croatia's entry into the European Union. The first one is the structure of family farms and the role of agriculture in the economy which have been changed during this period of research and had a big influence on farmer's vision of development of agriculture and their role in rural development, in general. The second one is the fact that Croatian agriculture, attitudes toward agriculture and the mentality of farmers are changing slowly and the farmers are aware the problems in agriculture, but still, they believe in better future of Croatian agriculture.

**Keywords:** *farmers; research; agriculture; Croatia; change*

#### **INTRODUCTION**

Agriculture has an extremely important strategic role in terms of feeding the population, and a significant role in the Croatian economy in terms of the share of agriculture in GDP. In the last fifteen years, Croatian farmers have been faced with numerous changes, and some of these changes are related to the accession of the Republic of Croatia to the European Union. This paper will present the results of research on some socio-economic aspects of agriculture from the perception of owners of family farms living in north western Croatia. The goal of the research is to show attitudes about agriculture and family farms in the analysed years, and to see if there have been changes in the attitudes of the respondents.

#### **THEORETICAL BACKGROUND**

In human consciousness, rural space is associated with agriculture (Woods, 2020:14). Some of the patterns of life in the rural area provide a direct link between the rural area and the practice of agriculture. Such patterns are food production, survival that is a result of one's own work, arrangement of the house and garden, which are living and working space, maintaining community and religious traditions. In recent times, the rural area is viewed from a socio-cultural aspect (Lukić, 2010:57) and has the following characteristics: a) those in which extensive land use was dominant in the present or recent past, especially through agriculture and forestry, b) those dominated by small settlements of lower degrees of centrality with a distinct connection between the built and natural landscape and which the majority of the local population considers rural, c) those that encourage a lifestyle that rests on a cohesive identity based on appreciation of the environment and one's own life as part of a whole (Johnston et al., 2000:718). Farmers play a major role in the development of rural areas, i.e. natural or legal persons or a group of natural or legal persons who carry out agricultural activities in the territory of the Republic of Croatia and include the following organizational forms: family farms, self-sufficient family farms, craft registered for agricultural activity, trade associations or cooperative registered for agricultural activities and other legal entities.<sup>1</sup> In 2010., agricultural production took place on a total of 232 990 agricultural holdings, where 1.315,000 ha of agricultural land was cultivated. According to the organizational form, 99% or 230 750 holdings of the total number of agricultural holdings, operate as family farms.<sup>2</sup> In 2021., 170 000 farmers worked actively in all forms of agricultural organization in the Republic of Croatia, using a total of 1.16 million hectares of agricultural land and a total of 140 874 agricultural holdings operate as family farms (table 1).

<sup>1</sup> Law on Agriculture (Official Gazette 118/18, 42/20, 127/20, 52/21)

<sup>2</sup> Annual report on the state of agriculture in 2011. (Green Report) p 29.

**Table 1.** Family farms in Croatia in 2021.<sup>3</sup>

County	Family farms in Croatia (31.12.2021.)		
	FAMILY FARMS BY GENDER		FAMILY FARMS Total
	Female	Male	
Bjelovar and Bilogora County	3.245	6.245	9.490
Slavonski brod and Posavina County	1.467	4.453	5.920
Dubrovnik and Neretva County	1.823	5.757	7.580
The City of Zagreb	1.875	2.906	4.781
Istria County	1.349	4.267	5.616
Karlovac County	1.549	3.461	5.010
<b>Koprivnica and Križevci County</b>	<b>2.847</b>	<b>5.498</b>	<b>8.345</b>
<b>Krapina and Zagorje County</b>	<b>2.148</b>	<b>4.869</b>	<b>7.017</b>
Lika and Senj County	1.383	2.555	3.938
<b>Međimurje County</b>	<b>1.249</b>	<b>2.475</b>	<b>3.724</b>
Osijek and Baranja County	2.914	7.516	10.430
Požega and Slavonija County	855	2.764	3.619
Rijeka County	987	2.096	3.083
Sisak and Moslavina County	2.424	5.420	7.844
Split and Dalmatia County	3.207	9.165	12.372
Šibenik and Knin County	1.003	2.946	3.949
<b>Varaždin County</b>	<b>2.056</b>	<b>3.997</b>	<b>6.053</b>
Virovitica and Podravina County	1.633	4.209	5.842
Vukovar and Srijem County	1.497	4.790	6.287
Zadar County	1.860	5.617	7.477
<b>Zagreb County</b>	<b>4.205</b>	<b>8.292</b>	<b>12.497</b>
<b>Total</b>	<b>41.576</b>	<b>99.298</b>	<b>140.874</b>

Owners of family farms are elderly people, more specifically about 40% of holders (67 425) are over 65 years old. Nevertheless, the share of young owners of family farms who are up to 41 years of age grew, so in the year 2021., that number was 14.2%. However, the effects of globalization are also visible in the countryside, so the countryside has ceased to be a social space in which agricultural activity is specific. (Šundalić, 2010:23). In general, Croatia as a country shows a high degree of rurality (Kantar, Svržnjak, 2011:243), respectively, 91,6% of the entire area of the Republic of Croatia is classified as rural (Svržnjak, K. et.al., 2014: 8), so it is important to know what is happening for future of agriculture as a strategic branch of economy.

## RESEARCH METHODS

During 2010. and 2021., the author of the paper conducted surveys on a convenient sample of 181 and 204 respondents<sup>4</sup> in northwestern Croatia<sup>5</sup> within the student's assignment in module "Rural sociology". Students had to question at least 3 respondents: their parents, relatives or friends who are (professional) farmers and live in the village at one of the 5 counties in northwestern Croatia. The sample represents less than 1% of total population of farmers working on small-scale farms (< 5 ha) in northwestern Croatia. The aim of the survey is gaining insight into a wide range of topics related to the socio-economic characteristics of farmers and agriculture<sup>6</sup> such as educational level, agricultural education, transfer of knowledge, etc. The second part of research had basic information about their agricultural production such as primary agricultural production, the type of family regarding the source of income and other aspects of family farm. The questionnaire also questions attitudes about the wide range of challenges of institutional support to agricultural production, attitudes about agriculture, subsidies in agriculture, entering European Union, state treatment toward agriculture and other. For the purposes of this work, part of the similar questions found in both questionnaires were

<sup>3</sup> Source: Annual report on the state of agriculture in 2021 (Green Report)

<sup>4</sup> Questionnaire: Attitudes of owners of family farms about agriculture. Available at: [https://docs.google.com/forms/d/e/1FAIpQLSeDUVE7T9OgN2CHP3TpmAUIkFAlcGf-DAdviVJmOBEveK\\_tKg/viewform](https://docs.google.com/forms/d/e/1FAIpQLSeDUVE7T9OgN2CHP3TpmAUIkFAlcGf-DAdviVJmOBEveK_tKg/viewform)

<sup>5</sup> The area of northwestern Croatia includes the following counties: Koprivnica-Križevci County, Varaždin County, Međimurje County, Krapina-Zagorje County and Zagreb County. Available at: <https://mpu.gov.hr/gradjani-21417/iz-djelokruga/lokalna-i-podrucna-regionalna-samouprava-24398/popis-zupanija-gradova-i-opcina-24402/24402>

<sup>6</sup> About 40 questions, mostly closed-ended, were included in the survey questionnaires

analysed. The data were processed using standard statistical techniques such as frequency distribution, percentages and average values and the results were presented graphically or tabularly. Also, the method of comparative analysis is used for both years and conclusions about the crucial changes in the respondents' mindsets are drawn. Data on the results of the research from 2010. were published in authors' scientific article "Attitudes about Agriculture"<sup>7</sup>.

## RESEARCH RESULTS AND DISCUSSION: COMPARISON OF THE RESULTS OF THE RESEARCH FROM 2010. WITH THE RESULTS OF THE RESEARCH CONDUCTED IN 2021.

Out of the total number of surveyed respondents (181) in 2010. 76% of respondents were male and 24% female, similar to the year 2021. (204), when the survey included 73% men and 29% women. This information supports the fact that men indulge in a role of the head of the family farm (Kantar, et.al. 2010:549). Most of the respondents are in the age group of 18-45 years (46%). Furthermore, the educational structure of the respondents in 2010. is favourable because 62% of the respondents have secondary and primary education (Kantar, et. al., 2010: 549) and they are potentially able to be the bearers of future modern agriculture. In addition to that, 2021. was the year with most respondents who have completed secondary school (42%) and primary school (15%). Only 8% of respondents completed undergraduate studies, 7% of respondents completed graduate studies and 2% of respondents have a master or doctorate degree. This means that the educational structure of the respondents has improved over the past 10 years in the segment of formal agricultural education. Agricultural education is one of the foundations of the development of Croatian agriculture because the application of the latest technical and technological achievements in agricultural production is unimaginable without a sufficient level of professional education of manufacturers. Increasing the share of people who complete a certain level of agricultural education proved to be the most acceptable model (Grgić, Hadelan, 2022.). Furthermore, the respondents live and work on their own agricultural holdings, where only 2 family members were employed in 2010. (Kantar, et.al. 2010: 549) and in 2021. the total number of employed persons was 1-5 employees. In 2010. farmers are equally engaged in agriculture and livestock farming (35%) or only in livestock farming (29%) (Kantar, et.al. 2010: 549). In 2021. respondents who participated in the survey where people whose primary agricultural production is crop growing (52%), and 48% of respondents are primarily engaged in livestock production. However, in 2010., for the majority of our respondents, mixed agricultural activity brought the majority of income (Kantar, et.al. 2010: 549), while in 2021. the situation has somewhat changed. More respondents (63%) come from a mixed type of agricultural holding, but besides agriculture, they also engage in some other additional activity. For both analysed years, it is interesting to note that the largest percentage of respondents has a registered agricultural activity in the form of a family farm. For the Republic of Croatia, family farms are a strategically important and dominant form of agricultural organization.<sup>8</sup>

### THE RELATION OF THE STATE TO AGRICULTURE: NEW CHALLENGES

Institutional support for agricultural production in the Republic of Croatia is provided by numerous public authorities such as the Agency for Payments in Agriculture, Fisheries and Rural Development, the Ministry of Agriculture through the Administration for Professional Support of Agricultural Development and other departments, the Advisory Service, the Croatian Agricultural Agency, authorized laboratories, accounting services, consulting offices and control bodies dealing with certification and supervision of ecological agricultural production. Respondents in the survey in 2010. pointed out that they use the services of the Advisory Service the most, i.e. 45% of respondents stated that they use the services of the Advisory Service, 33% use them but do not listen to their advice and 22% of the respondents consider that the services of the Advisory Service do not benefit them at all (Kantar, et.al. 2010:550). In 2021., respondents practice using the services of support institutions such as: Advisory Service, Agency for Payments in Agriculture, Fisheries and Rural Development, bookkeeping services, consultant services when applying for a project, and services of an authorized laboratory (Figure 1)<sup>9</sup>:

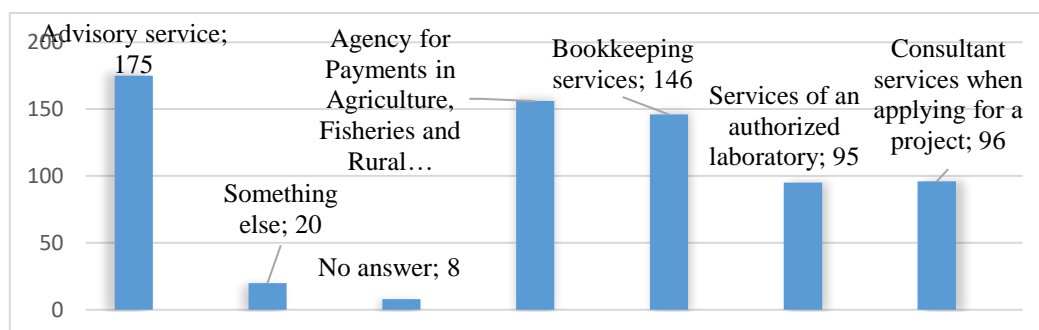


Figure 1. Use of services in the business of a family farm

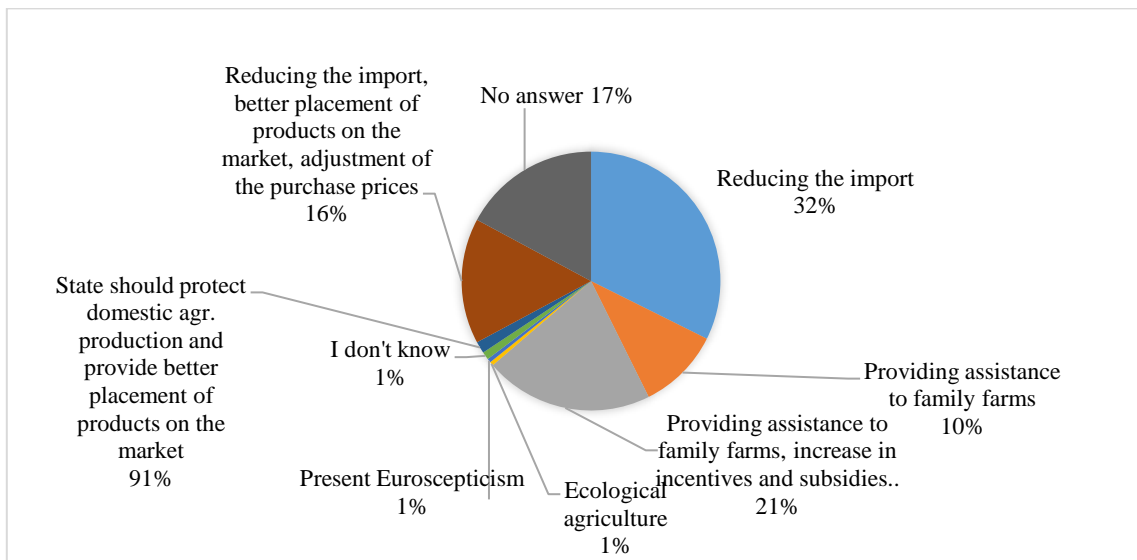
<sup>7</sup> Kantar, S., Svržnjak, K., Kamenjak, D. (2010). Attitudes about agriculture, 2nd International Conference „Vallis Aurea“ focus on: Regional Development, conference proceedings (547-551), Požega.

<sup>8</sup> Law on Family Farming (Official Gazette 29/18, 32/19.)

<sup>9</sup> respondents could select a maximum of 3 answers to this question so that a top-list of services and institutions providing support to farmers was formed

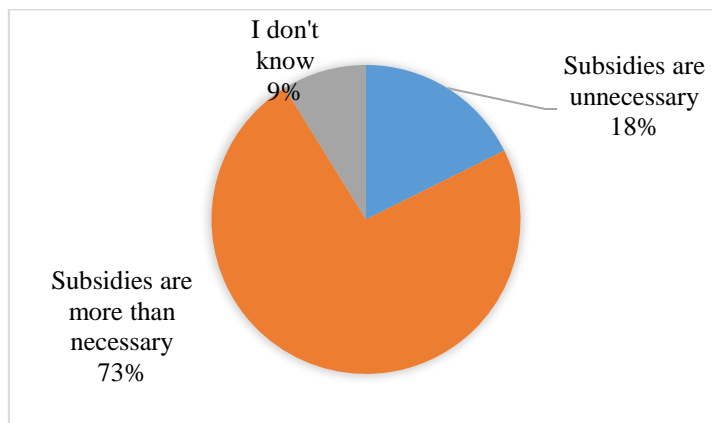
Ljubaj, et.al. (2016:119) confirm in their research that 68% of respondents have great confidence in the Advisory Service and 52% of respondents have confidence in the Agency for Payments in Agriculture, Fisheries and Rural Area. Although their research viewed only the segment of ecological agriculture, the lack of trust that farmers have in government officials at all levels is a concern, thus it is important to work on building a better relationship in the future in which farmers' trust in government officials at all levels prevails.

As for the role of the state in preserving agricultural production, one can often hear in public: *The state should protect domestic agricultural production*. Most respondents believe that the state could help national agriculture by reducing the import of agricultural products (32%) and 21% believe that it should help family farms, give more subsidies and educate farmers. Only 16% of respondents believe that in addition to reducing imports, it is necessary to strive for better placement of products on the market and to adjust the purchase prices of cereals and oilseeds, where 10% believe that assistance should be provided to family farms (Figure 2).



**Figure 2.** Protection of domestic agricultural production by the state

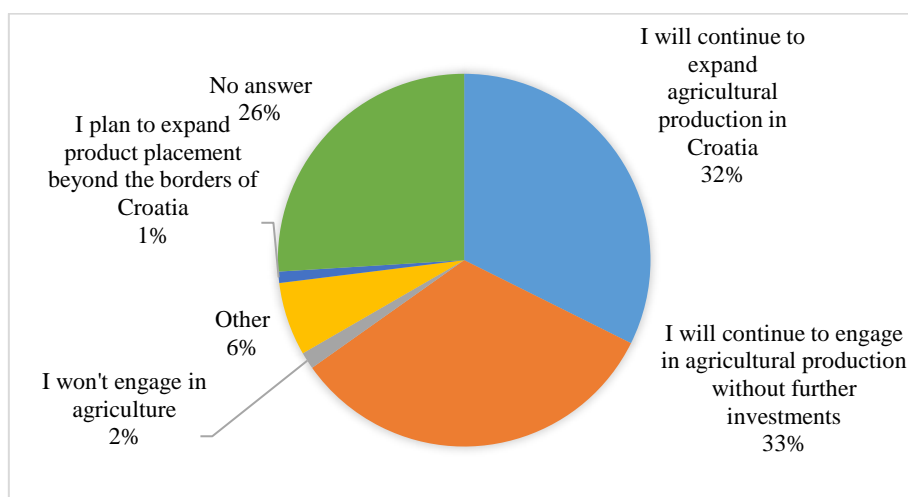
Respondents in 2010. much more strongly advocate the position that the state should protect domestic agricultural production in Croatia (91%) (Kantar, et.al. 2010:550). One of the way to protect agricultural production are subsidies in agriculture, which, in the opinion of our respondents, are more than necessary. Given that agriculture in Croatia relies on state incentives and subsidies, respondents (as expected) see the state as the most responsible for the current state of agriculture (33%). Part of the responsibility lies with the Government and the Parliament, as well as the Ministry of Agriculture and Rural Development, where, on the other hand, the respondents admit that *“everyone is a little bit to blame”*. This specifically means that local administration, counties, county leaders as well as business centres must be held accountable for the current unsatisfactory state of agriculture (Kantar, et.al. 2010:550). Even in 2021., a total of 73% of the respondents believe that the subsidies of agriculture by the state is more than necessary (Figure 3). Therefore, it can be concluded that Croatian agriculture in both analysed years is highly dependent on subsidies in a certain way. According to Kuskunović (2023.), the total value of subsidies paid in agriculture, fisheries and rural development from 2013. to 2020. amounted to 4.46 billion euros and this is obviously the reason why the Croatian agricultural sector lags behind in terms of competitiveness and productivity.



**Figure 3.** Attitudes on subsidies in agriculture

## THE STATE OF AGRICULTURE IN CROATIA AND IN THE EU

The attitudes of farmers on the state of agriculture in Croatia and the EU were analysed and compared, too. In 2010., farmers believed that Croatia's entry into the European Union would change life in the countryside (45%). On the same line is the opinion that our agriculture is unsuccessfully adapting to the EU (60%), but despite the strongly present Euroscepticism, more than half (51%) of the respondents believe that Croatian products from rural areas can be successfully placed on the foreign market due to their exceptional quality. The problem is obviously the fact that farmers are afraid of failing to meet EU standards in terms of production and that they are aware that Croatian agriculture with previously detected problems is not competitive with European agriculture due to lower purchase prices in the EU (49%) (Kantar, et.al. 2010:551). Ten years later, after Croatia's entry into the EU, there is somewhat less Euroscepticism among the respondents. Only 45% of respondents believe that Croatian agriculture has not adapted to the European Union.<sup>10</sup> Kuskunović (2023.) believes that due to the entry into the European Union, Croatian agriculture experienced a cumulative shock caused by strong competition on the open European market, due to the new rules of the agricultural policy of the European Union and because of the loss of the traditional CEFTA market. In terms of production productivity, Croatian agriculture is at 30% of the European average. Because of all this, in the first three years after joining the EU, the Republic of Croatia lost more than 664 million euros in the value of agricultural production. Although the entry into the EU provided Croatian farmers with significant financial resources through European funds, farmers were worried that these funds would not be used as they should to a lack of their own capital and the lack of ability and will for cooperation and initiative need to launch local (rural) community projects. (Franić, 2014:23). Despite this, recent sociological research (Pupak, et.al. 2021:237) confirms that engaging in agriculture has positive aspects such as working for oneself, working "from home", job security, independent determination of working hours, versatility of occupation, possibility of development and progress, a healthy environment and, finally, love for the job. The respondents offered two options for their own agricultural future (Figure 4): they will continue to engage in agricultural production, but without further investments (33%) and expand agricultural production within the borders of the Republic of Croatia (32%). About 26% of respondents did not offer any answer. It can be concluded that despite the dissatisfaction, Croatian farmers plan to continue farming in accordance with their capabilities.



**Figure 4.** Plans for future agricultural activities

## CONCLUSION

From the results of this comparative analysis for 2010. and 2021., some indicators of change in agriculture can be observed, although the size of the sample and the way of interpretation do not allow their wider generalization. The educational structure of farmers is more favourable in 2021. compared to the previous period which means that farmers recognized education as one of the most important factors with which they will improve their own agricultural production. But, only few farmers (family members) are professionally employed on agricultural holdings which is insufficient for stronger development of agricultural holdings. Also, the structure of family farms is changing toward mixed type of agricultural economy and an increase in income from non-agricultural activities and outside the family farm. This means that the agricultural holding is diversifying more and more in terms of production and finance. The role of the state in 2010. is seen to the greatest extent through the direct incitement of agricultural production but in 2021. through several different forms of assistance and supporting institutions. Respondents in the survey in 2010. believe that the state should generally protect domestic agricultural production in Croatia. Ten years later, there is a noticeable change in the entrepreneurial mentality of farmers, who now, developing their agricultural production, cooperate much more with supporting institutions and are developing their business. In a survey conducted in 2010., Croatian farmers were very sceptical about joining the European Union and thought that our agriculture was unsuccessfully adapting to the EU. Ten

<sup>10</sup> The Republic of Croatia has been a full member of the European Union since 2013.



years after Croatia's entry into the EU, respondents are still not absolutely sure about it. Agriculture in north western Croatia, attitudes toward agriculture and the mentality of farmers are changing slowly and the farmers are aware the problems in agriculture, but still, they believe in better future of Croatian agriculture.

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