

# Bioeconomy challenges in cooperative development

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# BIOECONOMY CHALLENGES IN COOPERATIVE DEVELOPMENT

## ABSTRACT

Bioeconomy, which encompasses a broad scope of activity and can be terminologically explained in many ways, essentially contributes to the innovation, sustainability, economic growth and employment. The common features of cooperatives and bioeconomy are recognized, among other things, in the values such as equality, social responsibility, environmental protection, self-reliance, self-responsibility, democracy, etc. Cooperatives possess a social note, but the goal of their positioning as the creators of sustainability has to involve raising public awareness about what a sustainable cooperative business is. A cooperative is an association that puts people, environment, and social responsibility first, after the profit. The aim of the research was to identify the links between a cooperative business and bioeconomy in the function of sustainable rural development, thus identifying the characteristics and challenges of cooperatives in Osijek-Baranja County while proposing the measures for cooperative operations in the context of social economy. The paper analyses internal and external problems, such as institutional support, legal regulation, administrative measures, financial incentives, interpersonal relationships, educational structure etc. Based on the identified problem, a correlation between the given variables was investigated. Numerous experiences demonstrate that a cooperative, as a model of socially responsible entrepreneurship, ensures better living conditions and contributes to the overall and sustainable development of the European society. In Osijek-Baranja County, cooperatives have great significance, and although the number of cooperatives in the observed period (2011-2016) tends to fall, the total annual income of cooperatives and the number of employees tend to grow.

**Keywords:** Bioeconomy, cooperatives, social development, Osijek-Baranja County

## 1. Introduction

Bioeconomy encompasses the production and utilization of goods and services based on biological resources, processes and principles. The Bioeconomy

policy document places bioeconomy development within the circular economy concept and highlights its contribution to social development and poverty reduction (2018, Bioeconomy Policy)<sup>1</sup>. Although there is no official definition, bioeconomy encom-

passes a very broad concept that is an integral part of all development strategies in the European Union (EU) and beyond. Although at first glance we cannot define or recognize that bioeconomy lies behind the concepts of sustainable development, social entrepreneurship, green economy, and renewable energy, it also implies innovation, economic growth, and employment.

The area of bioeconomy is constantly being expanded and redefined; the term has been present in reference documents since 2015. The Republic of Croatia, in its strategies, has not used the term “bioeconomy”; however, the EU Cohesion Policy and the National Development Strategy of the Republic of Croatia to 2030 will soon implement the definition and emphasize the importance of bioeconomy policy, and so will other countries, like the Czech Republic, Hungary, Poland, Slovakia, Estonia, Bulgaria, Romania and Slovenia. The Europe 2020 strategy emphasizes that social enterprises are very useful to the society as an important element of the social economy (Giedre Raisiene, Urmanavičienė, 2018). These authors explore social entrepreneurship as a new phenomenon, i.e., how to harmonize the social and for-profit enterprises’ purposes.

Social economy, or “solidarity economy,” encompasses a wide range of economic activities taking place between a private entity (private sector), the state (public sector), and a non-profit sector, with a view to achieve certain social and economic benefits for the society. We can say that the concept of social economy is a sector-shaped model of social organization, whose action field is often referred to in the literature as the third sector, or the non-profit and voluntary sector. It can encompass a wide range of sociocultural, educational, sports, health, religious, environmental, and similar organizations or groups whose business practice simultaneously deepens economic democracy, nurtures social utility, and empowers the common core of society’s identity (Chaves, Campos, 2010). Sustainable, biobased economic practices are not only associated with industrial change but also with comprehensive societal change, involving, for example, changes in educational concepts and of patterns of consumption and behaviour (Bioeconomy Policy Synopsis and Analysis of Strategies in the G7, 2015)<sup>2</sup>.

Numerous experiences show that the cooperative, as a model of socially responsible entrepreneurship, ensures better living conditions and contributes to the overall and sustainable development of the Eu-

ropean society. The business sector of the Republic of Croatia is characterized by a lack of legal foundations, information, and knowledge about cooperatives and social economics, and the institutional “invisibility” of cooperatives in the regulation of national accounts is a possible reason for its insufficient representation in Croatian entrepreneurship (Nedanov et al., 2014). Cooperatives play a social role, but the goal of cooperatives positioning, as the creators of sustainability, has to imply raising public awareness about what a sustainable cooperative business is. There is a constant tension between economic, social, and environmental interests in each sector, but the cooperative tries to meet the interests of ordinary citizens and to align with the aforementioned tensions. In this way, the organization itself becomes more sustainable (Cooperative Decade Plan, 2013)<sup>3</sup>. The cooperative is an association that prioritizes human, environmental, and social responsibility, placing profit thereafter (Stanojević, 2015).

The aim of the research was to identify the links between the cooperative business and bioeconomy in the function of sustainable rural development as well as to identify the characteristics and challenges of the cooperatives in Osijek-Baranja County and to propose measures for cooperative operations in the context of social economy.

## 2. Literature review

Corporate social responsibility (Perić, Turalija, 2018) is an increasingly important discussion subject in the public because the application of this concept does not only affect the company’s business, but it also affects the narrower and the wider community in which the company operates. The authors emphasize corporate social responsibility as the major initiative of the Global Compact, an initiative launched by the UN in 2010, which defines 10 principles of corporate social responsibility divided into four categories: human rights, labor, environment and anti-corruption.

According to Lincardo (2017), the application of corporate volunteering is positively associated with the incorporation of corporate social responsibility when managing a relationship between the company and its employees and also with the community. There seems to be a consensus that the recent growth of corporate volunteering is related to the

development and growing legitimacy of the concept of corporate social responsibility.

Anstätt (2016) deals with corporate social responsibility and its impacts on a sustainable human development. As corporate social responsibility claims to create value for corporations and for the society, the authors emphasise a capability approach and a people-centered approach for a common purpose. The phenomenon of cooperatives alone stresses the importance of a human in management; namely, the cooperatives are not capital companies but a partnership. A cooperative citizen is a small entrepreneur who comes together with others for the sake of economic benefits, not giving up his business independence. It is uncertain whether a cooperative is a profit making or a non-profit organization because it is a company that competes in the market trying to achieve a better result, while the yield is shared by the members according to the established criteria and, most importantly, the volume of cooperative business (Matijašević, 2005).

The European institutions have recognized the impact and contribution of social economy to the economic and social development. Social economy is an integral part of the single market, which represents the European Union as one of the twelve levers to boost economic growth and strengthen consumer confidence. Social economy actors belong to the diverse ecosystems, industries, and legal forms, but everyone has a common effort to effectuate a significant social impact or a change in a financially viable way. The basic principle of social economy's functioning is prioritizing people over capital, democratic control of membership, reinvestment of surplus income for the achievement of social goals or the interests of its members, and an autonomous management. It is estimated that around two million social enterprises are active at the EU level, accounting for 10% of all enterprises, while their contribution to GDP amounts to 8 to 10%.

### 3. Research methodology

The research consists of an empirical and theoretical part. The conceptual part of the paper encompasses desk research methodology, i.e. research of relevant scientific and professional papers, studies, and strategies in the area of cooperatives, bioeconomy and rural development. The source of data for the quantitative analysis was a database of the Croatian Centre for Cooperative Entrepreneurship

(CCCE)<sup>4</sup>, the leading central register of cooperatives and cooperative unions, which monitors and analyses the data in the field of cooperatives and proposes measures for its improvement and provides technical assistance, training, and counselling of the members of cooperatives. Bioeconomy Policy and the related developmental strategies for the individual EU Member States were used in the field of bioeconomy. The empirical research includes a survey of managers/cooperative members conducted in Osijek-Baranja County. The following sub-goals or measures were defined according to the aim of the research:

- to identify the qualitative and quantitative characteristics of cooperatives in Osijek-Baranja County,
- to link the social dimension with the development of cooperative entrepreneurship,
- to propose measures for cooperative operations in the function of bioeconomy and rural development.

The survey was conducted in 2017 in Osijek-Baranja County on a sample of 46 respondents (40.7%). The questions were grouped as follows: socioeconomic factors (age, sex, education, number of members, subcontractors, etc.), the issues related to cooperative development (administrative, technical, organizational and economic development measures), and finally the issues related to social economy and development prospects of cooperatives in Osijek-Baranja County. The questionnaire was applied using the Computer Assisted Telephone Interviewing (CATI) method. The methods used in this paper are analysis and synthesis, the survey method, data classification and quantification, the interview method, the descriptive method, the correlation method, the comparative method, the method of verification and falsification, as well as the statistical methods processed in the SPSS.

### 4. Results and discussion

From the very beginning of societal development, people have come together to achieve common interests and goals. The roots, mechanisms, and principles present in modern cooperatives could be observed already in tribal societies. The significance and tradition of cooperatives in agricultural activities are invaluable, and the position of cooperatives

has changed through history, alongside the changes in society.

In Croatia, there were 1,218 active cooperatives (Croatian Centre for Cooperative Entrepreneurship), of which 9.3% (116) are located in Osijek-Baranja County, which, according to the number of cooperatives, is in the third place, after Split-Dalmatia County (200) and the City of Zagreb (124). The minimum number of cooperatives is located in Požega-Slavonia County (12) and Međimurje County (12). The counties with the least number of cooperatives are also among the economically most underdeveloped ones in the Republic of Croatia (Economic Institute, Zagreb). At the national level, the average number of associates in a cooperative is 16.78, and the average number of employees is only 2.22. The average number of cooperative members

in Osijek-Baranja County is 11.34, and the average number of employees is 2.64. The data are not promising for further development of cooperatives. Namely, the goal of each successful cooperative is to have as many members as possible, for they are selling their products and services through the cooperative; however, the number of employees has to be commensurate as well. The cooperatives in the Republic of Croatia and also in Osijek-Baranja County are small, insufficiently connected, and uncompetitive. Therefore, it would be advisable to combine and strengthen them by merging several cooperatives into one in order to increase the volume of business and secure a better position on the market, which would probably increase the number of employees, subcontractors, and cooperative members.

*Table 1 Socioeconomic description of the sample of cooperatives surveyed in Osijek-Baranja County*

	N	%
<b>Gender of cooperative members</b>		
Male	407	78
Female	115	22
Total	522	100
<b>Cooperative (ha)</b>		
Less than 1 ha	18	40
From 1 to 3 ha	11	24
From 3 to 10 ha	11	24
More than 10 ha	6	12
Number of cooperatives	46	100
<b>Market shared</b>		
Local	27	58
Regional	10	23
National	7	15
International	2	4
Total	46	100
<b>Education structure of cooperative members</b>		
No formal education	5	1
Elementary school	52	10
High school	402	77
BSc or MSc programs	63	12
Total	522	100
<b>Age structure of cooperative members</b>		
Under 30 years	26	5
30 to 50 years	329	63
Over 50 years	167	32
Total	522	100

Source: Empirical research, 2018

According to their structure in the Republic of Croatia as well as in Osijek-Baranja County, the most important are agricultural cooperatives (54%). Sudarić et al. (2010) emphasize the importance of family farms in Osijek-Baranja County and see their survival through the appropriate organizational and administrative solutions, such as joining a cooperative, but also through entrepreneurial incubators, associations, producer organizations, local action groups, clusters, etc. The significance of cooperatives in Osijek-Baranja County is evident also in their numbers. In the observed period, from 2011 to 2016, there was a growing trend until 2015, which was interrupted in 2016 by a slight decline; however, at the same time, total annual income of cooperatives and the number of employees were on the increase.

Table 1 shows the socioeconomic pattern of cooperatives surveyed in Osijek-Baranja County, which

have in total 522 members, of which 78% (407) are men and 22% (115) are women. The surveyed cooperatives are oriented to the local or regional market (81%). Among the members, the highest completed level of education is predominantly secondary school (77%). The largest number of cooperative members (63%) belongs to the age group of 30 to 50 years, 32% are over 50, and only 5% are younger than 30 years.

Having the largest proportion in Osijek-Baranja County, agricultural cooperatives are dominant also in the empirical research (27), followed by cooperatives in the sector of tourism and hospitality industry, services and trade (8), processing cooperatives (7), and cooperatives in the construction sector (4). Table 2 shows how far financial incentives are a motive for cooperative activity with regard to the sector of activity.

**Table 2 Differences between arithmetic means with regard to the motive of cooperative activity (access to financial incentives) in Osijek-Baranja County**

Sector	Mean	SD	Median	Minimum	Maximum
Construction industry	1.0	0.0	1.0	1.0	1.0
Agriculture and forestry	1.8	1.1	1.0	1.0	4.0
Processing industry	2.6	1.2	2.0	2.0	4.0
Tourism, services and trade	4.0	2.4	4.0	1.0	7.0

Source: Empirical research, 2018

Comparing the sectors according to the basic motive of cooperative action, which is gaining additional financial resources, it can be concluded that cooperatives in the sector of services, tourism and trade, as well as in the construction sector, are largely motivated by incentives and funding. In the sector of agriculture and forestry, the primary motive is not funding; rather, the motives are bet-

ter prices of raw materials, the use of common machinery and equipment, as well as better access to information and markets. There is a statistically significant difference between the sectors of *Tourism, Services and Trade* and the *Sector of Agriculture and Forestry* and between *Tourism, Services and Trade* and the *Construction Sector* ( $f = 4.06$ ;  $p = 0.019$ ), as shown in Table 3.

**Table 3 Using Tukey Method for Grouping Information (95% confidence)**

Sector activity	N	Mean	Grouping
Construction industry	3	1.0	B
Agriculture and forestry	15	1.9	B
Processing industry	3	2.7	AB
Tourism, services and trade	6	4.0	A

Source: Empirical research, 2018

The authors Nedanov and Žutinić (2018) deal with the issue of socioeconomic characteristics and motivation, but they also emphasize the problems of legislation, as well as administrative constraints. Some legal barriers that contributed to the slowdown of cooperative growth during the transition period still need to be modified. One of them concerns an ownership issue regarding the total assets that, according to the current law, become the property of local self-government after the liquidation of a cooperative. Although this successfully stops the criminal dissolution process of collective ownership, on the other hand, it is a severe risk for investment, which slows economic progress. The double taxation issue is another relevant problem connected with the previous one, in which members, by deciding not to invest back into the corporate business, become once more the subject of taxing dividends in addition to taxing corporations. By giving tax relief to cooperatives that decided to report long-term forms of assets in financial state-

ments, the negative attitude of the investors will be weakened, and their complete integration into the market will be facilitated. According to an empirical research, 63% of respondents believe that legal framework, tax policies, and administrative measures do not support the development of cooperatives in the Republic of Croatia.

Many authors (Nedanov, 2015<sup>5</sup>; Mataga, 2014) emphasize the internal and external issues of cooperatives, such as financial resources, interpersonal relationships, insufficient knowledge and skills, access to information, and weak position of agriculture in the economy. Therefore, this paper investigates the correlation between the identified issues.

There is a correlation link between the statement that “cooperative problems are reflected in insufficient financial resources” and an “inadequate business operations,” which is also correlated to the “cooperative problems [that] are reflected in poor interpersonal relationships” (Table 4).

**Table 4** Correlation of statements related to the operations of cooperatives in Osijek-Baranja County

Statement	Financial assets	Interpersonal relationships	Inadequate cooperation	Insufficient knowledge	Insufficient Information
Interpersonal relationships	0.260 <sup>ns</sup> 0.081				
Inadequate business operations	0.310 <b>0.036</b>	0.516 <b>0.000</b>			
Insufficient knowledge	0.218 <sup>ns</sup> 0.145	0.600 <b>0.000</b>	0.577 <b>0.000</b>		
Insufficient information	0.029 <sup>ns</sup> 0.848	0.489 <b>0.001</b>	0.563 <b>0.000</b>	0.518 <b>0.000</b>	
Degraded position of agriculture	0.242 <sup>ns</sup> 0.105	0.114 <sup>ns</sup> 0.450	0.362 <b>0.013</b>	0.109 0.470	0.243 <sup>ns</sup> 0.104

$p < 0.0001$ ,  $p < 0.01$ ,  $p < 0.05$ , Pearson correlation

Source: Empirical research, 2018

Financial assets, initial capital, and investments are important for any entrepreneurial venture, and thus also for cooperatives. A cooperative is a voluntary, open, independent society governed by its members. Through its work and other activities, or by the use of its services, based on mutual assistance, the members realize, promote, and protect their individual and common economic, social, educational, cultural and other needs and interests, and achieve the goals for which the cooperative was founded (Cooperatives Act, 2018)<sup>6</sup>. A cooperative is a society of persons that is governed by all its

members in a democratic and direct manner. They participate in the cooperative operations equally and decide on all the relevant business issues and the distribution of profits. In accordance with the Cooperative Rules, part of the profit is retained and invested in the cooperative. However, a cooperative does not exist for its own benefit, but to serve the needs of its members, and its main aim is to achieve the greatest benefit for its members. According to the Cooperatives Act (2018), the cooperative is obliged to cover the losses from the previous periods, and then invest at least 20% in the

development of the cooperative and at least 5% in the mandatory reserves. According to our empirical research, the majority of cooperatives (58%) use the profits exclusively for further investment, while 32% of the cooperatives have a possibility to allocate the profits to cooperative members.

Because of their specificity, the cooperatives should have special tax benefits and not limitations. The statement “inadequate business operations” (Table 4) is correlated to insufficient knowledge and information, and to a degraded position of agriculture and cooperatives in society. Unfortunately, this form of business association is still viewed through the prism of former socialist cooperatives, which used to be the backbone of agribusiness, but ended infamously.

There is also a correlation between the statements that the “cooperative problems are reflected in poor interpersonal relationships” and “insufficient knowledge, skills, and information.” Interpersonal relationships are key to any business venture and also to a cooperative action. A cooperative manager has to be a person with adequate education but also a philanthropist, determined, responsible, innova-

tive, and committed to his or her job, i.e., a leader, motivator, and a negotiator in the cooperative team environment.

Table 4 also shows a correlation between the statements that appropriate and timely information is necessary for appropriate knowledge. According to the educational structure, 76.8% of cooperative members in the examined sample have secondary education, and 12% of them have completed their undergraduate or graduate studies.

Table 5 shows a correlation between the statements related to the education and access to information in the cooperatives of Osijek-Baranja County. It was noted that the respondents who use the services of the Croatian Centre for Cooperative Entrepreneurship (CCCE) also obtain information through other forms of institutional support, such as the Ministry of Agriculture, Ministry of Economy, Labour and Entrepreneurship, and the Agricultural Extension Service. Another correlation shows that those who are “trained and informed through workshops, professional and scientific conferences and seminars” also receive information and advice “from friends and acquaintances by word-of-mouth”.

**Table 5** Correlation of statements related to the education and information in cooperatives of Osijek-Baranja County

	CCCE	MA, MELE	Media	Seminars	Friends
MA, MELE	0.568 <b>0.000</b>				
Media	0.073 0.630	0.005 0.973			
Seminars	0.208 0.165	-0.099 0.511	0.182 0.226		
Friends and acquaintances	0.067 0.660	0.118 0.433	-0.086 0.571	0.315 <b>0.033</b>	
ExtensionService	0.438 <b>0.002</b>	0.411 <b>0.005</b>	-0.114 0.452	0.051 0.735	0.265 0.075

$p < 0.0001$ ,  $p < 0.01$ ,  $p < 0.05$ , Pearson correlation

Source: Empirical research, 2018

However, it is questionable how informed cooperative members in Osijek-Baranja County are about possibilities at their disposal. According to empirical studies, only 48% of cooperatives received national support (national, county, or local), and only six cooperatives (13%) received support from the EU funds. Within the 2014–2020 Operational

Programme Competitiveness and Cohesion grants from the European Regional Development Fund are available in the Republic of Croatia under the name E-impulse. One of these measures is “Cooperative Entrepreneurship,” focused on new technologies, increase of production capacities, investments in more environment-friendly and energy-efficient



cooperative production, adaptation of business facilities and premises for people with disabilities, enhancement of marketing activities, improvement and application of know-how, and the introduction of quality management systems, norms, and quality labels. In addition, certain types of cooperatives (e.g., veterans' cooperatives) are eligible for specific funds for self-employment, establishment of new cooperatives, or financing of existing cooperatives.

Cooperatives are successful organizations in many European countries and are a driving force behind the development of a small and medium-sized entrepreneurship. In contrast to the Croatian circumstances, where cooperatives account for only 6% of the total agricultural production, in the EU-27 agricultural cooperatives achieve on average 40% of the market share in the agricultural sector (Nedanov, Žutinić, 2015).

The project entitled "Interest of small and medium-sized entrepreneurs to work with and join cooperatives" (CCCE, 2016)<sup>7</sup> assessed the potential for association or an entrepreneurial interest in cooperative business at the level of the Republic of Croatia with an equal county-based sample segmentation (600 respondents). The level of interest was relatively high (60%), but, on the other hand, the information level was quite low (70%). The information was obtained mostly in private, informal contacts, not on an expert level. Most respondents associated cooperatives with agriculture and social entrepreneurship.

According to the empirical research, most of the respondents believe that they are more successful in business through a cooperative than individually (34%) because they can achieve a better market position and the necessary product quantity, use shared equipment, and get better prices when purchasing raw materials. The positive opinion is shared by 78% of respondents, because they believe that their cooperatives will be stronger on the market and improve its performance in the next five years, while 52% of respondents believe that their cooperatives will attract more members and employees in the next period.

Producer organizations are a relatively new way for farmers to work together that the European Union supports by its measures. Such large sectoral organizations should strengthen regional identity, while cooperatives could be a significant part of producer organizations. According to the empirical research,

47% of cooperatives are not familiar with producer organizations, 31% are not planning to join a larger producer organization, and only 22% are planning to join this kind of organization.

By analysing the structure of the cooperative sector and social economy in the Republic of Croatia, it is concluded that this form of organization is most common in the agricultural sector both in Osijek-Baranja County and in the Republic of Croatia. This is understandable and in line with the experience of other European countries. However, when it comes to cooperatives in the industrial and service sectors, housing, and the financial sector, the Republic of Croatia lags behind European trends. An analysis of operation indicators of the cooperative sector shows that, in Croatia, business profitability and economic efficiency are higher in the service-industrial cooperatives. It would therefore be important to stimulate these forms of cooperative organization in the Republic of Croatia. In addition to the aforementioned statements, it is also important to further support and strengthen the forms of cooperative organization in the agricultural sector as well (Babić, Račić, 2011).

A cooperative is primarily a community of people and only then of capital. In this system, people work together to create goods (products and services) that will be competitive in terms of price, quality, and distribution. However, the cooperatives in the Republic of Croatia are not recognized as such. Although they are socially responsible organizations that may be non-profit, they do not have any privileges or benefits in the market economy. Borrowing by a cooperative is a debt for which cooperative members are personally liable and it is not only cooperative property that is encumbered.

A range of issues hinders the development of cooperatives. One of the concerns is an ownership issue regarding the total assets, as, according to the valid law, they are becoming, after the liquidation of cooperatives, a property of local self-governments. Although this successfully stops a criminal dissolution process of collective ownership, it is, on the other hand, a severe risk for investment, which slows down an economic progress. A double-taxation issue is another relevant problem connected to the previous one, in which the members, deciding not to reinvest in a corporate business, repeatedly become a subject of tax dividends, in addition to the tax corporations (Nedanov, Žutinić, 2018).

Among the inherited and existing structural weaknesses of the cooperative system, one must stress that financial institutions are reluctant to grant loans to cooperatives. A lack of recognition of a cooperative operating as an individual legal entity, and a lack of understanding of the letter and the spirit of cooperative operations can also be observed. Another issue is an inadequate level of knowledge among cooperative members and cooperative management regarding the way in which cooperatives should be run. Altogether, this is reflected in the decreasing interest in cooperative entrepreneurship, which can also be clearly seen in the negative developmental trends of the majority of parameters in the Croatian cooperative system in 2016 (Pejnović et al., 2017).

The role of social economy and the development of bioeconomy through cooperatives should be emphasized. The main idea behind cooperatives is association and cooperation, based on seven basic principles stipulated by the International Cooperative Alliance in 1937. Over the years, these principles have been modified and adapted to the market economy, but the foundations remain unchanged. The seven internationally recognized cooperative principles are as follows: voluntary and open membership, democratic member control, member's economic participation, autonomy and independence, provision of education, training and information, cooperation among cooperatives, and concern for the community.

These principles are addressed to the cooperative members through employment, democratic decision-making and education, as well as through links to the environment in which autonomy and independence, cooperation with other stakeholders, and environmental and community concerns are emphasized. According to the empirical research conducted in the paper, 69% of the respondents believe that their cooperative achieved the goal for which it was founded and 65% of the respondents believe that there is a cooperation among the cooperatives. Nonetheless, in Osijek-Baranja County and in the Republic of Croatia there is no institution or a system of control concerning cooperative principles. Cooperatives operate under their own Cooperative Rules, adopted upon their establishment.

Unlike most of the EU countries, in which cooperatives significantly contribute to the development of agriculture and rural areas, Croatian cooperatives

do not recognize their full potential as a possible business model for economic strengthening of the small and fragmented agricultural structure (Nedanov, Žutinić, 2018). According to the analyses by the Croatian Centre for Cooperative Entrepreneurship, 10% of cooperatives in the Republic of Croatia realize 90% of total income in cooperatives, which means that some two hundred cooperatives are the carriers of the entire cooperative system.

The importance of cooperatives is reflected in territorial cohesion and a high degree of positive correlation between the development of the cooperative sector, bioeconomy, and rural development.

Bioeconomy has been defined as the knowledge-based production and utilization of biological resources, innovative biological processes and principles to sustainably provide goods and services across all economic sectors. The bioeconomy therefore encompasses the traditional bioeconomy sectors, such as agriculture, forestry, fisheries and aquaculture, as well as the related processing and service industries, such as food, paper, textiles, building and construction, chemistry and biopharma. Key enabling and converging technologies, such as bio-, nano- and information technologies, are vitally important to the knowledge-based bioeconomy which uses biobased processes and principles (2015, Bioeconomy Policy)\*.

## 5. Conclusion

Over the past few years, social economy has grown into a global phenomenon that has proven to be extremely resilient to the economic crisis, guarding jobs when most employers were forced to cut jobs. This type of business can operate in the field of bioeconomy, cooperatives and rural development, i.e. in the marginalized parts of the Republic of Croatia in a wide variety of commercial activities. Social businesses provide a wide range of products and services across the European common market, and generate millions of jobs for the socially excluded or otherwise marginalized groups.

Cooperatives in the Republic of Croatia are fighting with both the internal and the external business problems. Namely, there is a lack of legal framework, information, and knowledge about the cooperative model and social economy, coupled with institutional "invisibility" of cooperatives. Although socially responsible entrepreneurship has been gaining importance in the national policies

and documents for the last forty years, it is still insufficiently visible, both locally and nationally. The cooperative sector of Osijek-Baranja County needs to strengthen its identity through bioeconomy and socially responsible entrepreneurship, which is a component of the developmental plans of the European socioeconomic policy and of the EU Bioeconomy Strategy.

An increasing number of countries are also addressing the issue of accountability by establishing the dedicated bioeconomy advisory councils. Most often, they represent the public, private, and civil society stakeholders and provide advisory services for a bioeconomy policy development (2015, Bioeconomy Policy)<sup>9</sup>.

This paper presents a conceptual framework for establishing links between cooperatives, bioeconomy and rural development. Bioeconomy aims to create added value with regard to biological resources and natural capital, seeking for an optimal balance between the environmental, social, and economic gains. Bioeconomy is a business of the future that can, through innovation, research, and environmental conservation, create jobs at the local level and significantly contribute to sustainable development in Europe and in the world.

Theoretical and empirical research of the key issues and trends in cooperatives' development allowed us to formulate the following recommendations:

- strengthen institutional support for the development of cooperatives, which should act concerning changes in legislation, administrative measures and tax policies that will favour the development of cooperatives,

- improve the image of the cooperative business model and support it through all the aspects of the education process, emphasizing the social elements of association, its values, principles and advantages,
- strengthen and consolidate the existing cooperatives and encourage them to network and cooperate both on the national and international level, as well as to promote education and training opportunities ,
- promote the establishment of new cooperatives across all economic areas, in both profit and non-profit sectors (social, consumer, housing, local community cooperatives, and the like), thus strengthening the development of bioeconomy,
- emphasize the importance of the secondary and tertiary sector in the development of cooperatives, i.e., in the vertical linkage (production – processing – distribution of products and services) and consolidate cooperatives through other forms of cooperation, such as the local action groups, clusters, producer organizations or business incubators.

Cooperatives as a business model connect small and medium-sized enterprises. They contribute to the equilibrium of the global economy, to economic growth and employment and can be an important factor in promoting sustainability and social responsibility by engaging in priority activities of bioeconomy and rural development.

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## BIOEKONOMSKI IZAZOVI U RAZVOJU ZADRUGARSTVA

### SAŽETAK

Bioekonomija, koja obuhvaća vrlo širok obuhvat djelovanja i koja se terminološki može objasniti na različite načine doprinosi inovacijama, održivosti, ekonomskom rastu i zaposlenosti. Zajedničke značajke zadruga i bioekonomije prepoznaju se, između ostalog, u vrijednostima kao što su društvena odgovornost, zaštita okoliša, samoodgovornost itd. Zadruge imaju socijalnu notu; međutim, cilj da se zadruge pozicioniraju kao kreatori održivosti mora uključivati osiguranje i razumijevanja šire javnosti o tome što je to održivo poslovanje zadruga. Zadruga je udruženje koje na prvo mjesto stavlja čovjeka, okoliš i društvenu odgovornost, a tek onda dobit. Cilj istraživanja bio je identificirati poveznice između zadrugnog poslovanja i bioekonomije u funkciji održivog ruralnog razvoja, te su se sukladno tome identificirala obilježja i izazovi zadruga u Osječko-baranjskoj županiji kako bi se predložile mjere za poslovanje zadruga u kontekstu socijalne ekonomije. U radu su analizirani interni i eksterni problemi kao što su institucijska potpora, zakonska regulativa, administrativne mjere, financijska sredstva, međuljudski odnosi, obrazovna struktura, informiranost, itd. Na osnovi identificirane problematike istraživala se korelacijska povezanost između zadanih varijabli. Brojna istraživanja pokazuju da zadruga, kao model socijalno odgovornog poduzetništva, osigurava bolje uvjete življenja i doprinosi cjelokupnom i održivom razvoju europskog društva. U Osječko-baranjskoj županiji zadrugarstvo ima veliko značenje, te, iako broj zadruga u promatranom razdoblju (2011. – 2016.) ima tendenciju pada, ukupni godišnji prihod zadruga i broj zaposlenih imaju tendenciju rasta.

**Ključne riječi:** bioekonomija, zadruga, socijalni razvoj, Osječko-baranjska županija