

THE IMPACT OF LAND CONSOLIDATION ON AGRICULTURE AND RURAL DEVELOPMENT

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ABSTRACT

In the paper, the authors analyse the significant impacts of implementing the land consolidation procedure, that is, the analysis of the impact of land consolidation on land that is largely used for agricultural purposes, and how the land consolidation process contributes to the rural development of a specific municipality or village. The said analysis is carried out on the basis of national, but also European legal regulations, considering that land consolidation as a legal institute is closely connected with the objectives of the Common Agricultural Policy, which encourages increased land usability. In the context of European Union law, the Habitats Directive and the Strategic Environmental Assessment Directive will certainly be of importance, as well as the Regulation on the bodies within the system of management and control over the use of the European Agricultural Fund for Rural Development.

The impact of land consolidation on rural development is of great importance, and EU funds, especially the European Agricultural Fund for Rural Development (EAFRD), play an important role in its development, by directly or indirectly influencing the implementation of the land consolidation procedure. The relevance of the topic is reflected in the fact that, from 1991 until today, not a single land consolidation procedure has been carried out in the territory of the Republic of Croatia. The implementation of land consolidation would significantly improve the economic usability of agricultural land and would encourage the renewal and development of rural areas whose existence and growth are based on agriculture as the primary activity of the rural population.

Keywords: *agricultural land, agricultural policy, land consolidation, local self-government units, rural development*

1. INTRODUCTION

The mechanism of land consolidation (lat. *commasare*, meaning “to gather into a mass or block”) in the Republic of Croatia is one of the most important legal, agrarian and administrative measures through which agricultural land in the areas of one or more cadastral municipalities, fragmented into cadastral plots of small area and irregular shape, is consolidated into larger cadastral plots, thus creating more favorable conditions for agricultural production, regulating road and canal networks, as well as regulating ownership and other property relations that exist on the land.¹ As Staničić states, “land consolidation is carried out in such a way that each participant in the land consolidation receives new land for the land included in the land consolidation in as few plots as possible, of equal value, with a deduction of the value of the land for general needs and common needs of the settlement, i.e. the participants in the land consolidation, preferably in the location of the predominant part of their land and with as much of the same use as the land they brought into the land consolidation block.”² In the Republic of Croatia, the mechanism of land consolidation has not been developed scientifically, and there is a lack of appropriate literature, which is mostly outdated. The importance of the topic itself lies in the fragmentation of the analysis of the aforementioned institute and in the fact that the topic has not been the subject of more detailed research in the recent period.

This paper consists of five chapters. In the first chapter, the authors refer to the historical origins and analysis of the mechanism of land consolidation, as well as the influence of the first forms of land consolidation on the mechanism of land consolidation as it is known in the Republic of Croatia today. In the second and third chapters, the authors analyze the impact of land consolidation on agricultural development through the reduction of the number of irregular and fragmented plots, the impact of technological achievements on specific examples of agricultural land use for the purpose of planting agricultural crops, and the impact of land consolidation on rural development in the context of diversification that occurs as a positive consequence of land consolidation. Given that the land consolidation process is primarily aimed at increasing agricultural productivity through the systematic arrangement of agricultural land, especially in the low-land parts of the Republic of Croatia, it would be useful to investigate how land consolidation affects the profitability of agricultural farms, how it contributes to the application of modern technologies when using agricultural land, how it af-

¹ Art. 1 of the Law on Land Consolidation of Agricultural Land, Official Gazette No. 44/22.

² Staničić, F., *Novi zakon o komasaciji poljoprivrednog zemljišta*, in: Barbić, J. (ed.), *Pravna zaštita tla*, Hrvatska akademija znanosti i umjetnosti, Zagreb, 2016, pp. 77-112, p. 94 – 95.

fects soil conservation (the importance of biotopes that exist on agricultural land included in the land consolidation) and environmental protection, and how it affects demography and quality of life in rural areas. The aim of this paper is to analyze the impact of consolidation on agriculture and rural development, with a special emphasis on the ecological and economic aspects achieved by a successfully implemented consolidation process. The goal is also to investigate how the systematic implementation of land consolidation can contribute to increasing the usability of agricultural land and modernizing rural infrastructure for the purpose of revitalizing the Croatian countryside.

2. DEFINING LAND CONSOLIDATION

The mechanism of land consolidation as a kind of agrarian legal measure of public law restriction of ownership rights is not new in the Croatian legal system. Land consolidation as an agrarian legal measure appeared as early as 1737, when the Urban Act was passed which initially prohibited the splitting of arable land, and subsequent reforms introduced the mechanism of land consolidation. Given that the Republic of Croatia as we know it today was in the past part of the Habsburg Monarchy, and later Austria-Hungary, it is important to say that the consolidation activity was first regulated in the territory of the Republic of Croatia (then the Kingdom of Croatia and Slavonia) by the Land Consolidation Act from 1891.³ At the beginning of the 20th century, the Croatian Parliament passed the Land Consolidation Act, and as Ivković states, this law contained provisions on the procedure for implementing land consolidation based on the experiences of other countries that had previously legally standardized the mentioned mechanism⁴ (the first among them was Denmark in the 18th century).⁵

Among the most important laws that regulated land consolidation in the past are those passed during the period when the present-day Republic of Croatia was part of the Federal People's Republic of Yugoslavia (FPRY), and after the 1963

³ Staničić, F., *Neka javnopravna ograničenja prava vlasništva u Kraljevni Hrvatskoj i Slavoniji u razdoblju od 1852. do 1918.*, Zbornik Pravnog fakulteta u Zagrebu, Vol. 64, No. 5 - 6, 2013, pp. 1119 – 1142, p. 128.

Staničić states that “land consolidation was not a complete unknown even before 1881. In the territory of the Kingdom of Croatia and Slavonia, several laws and orders on urban land consolidation were passed. As stated by professor Staničić, PhD, these were the Urban Act of 1836, Article VI, the Imperial Patent of 17 May 1857, the Order of the Ministry of the Interior and Justice of 11 November 1859 on the procedure for the land consolidation of noble co-ownership, and Article V of the Act: 1870 of the Parliament of the Kingdoms of Dalmatia, Croatia and Slavonia of 1870.

⁴ Ivković, M.; Barković, Đ.; Bačani, S., *Komasacija i ruralni razvoj*, Geodetski fakultet Sveučilišta u Zagrebu, Geodetski list, Vol. 64 (87), No. 4, 2010, pp. 297 – 312, p. 300.

⁵ Staničić, F., *op. cit.*, note 1, p. 1127.

Constitution, part of the Socialist Federal Republic of Yugoslavia (SFRY). The Land Consolidation Act of 1954⁶ defined the subject of land consolidation activities, their purpose, participants, and the bodies that make decisions in the land consolidation process. Although regulations on land consolidation have changed throughout history, its purpose has remained the same (creating larger and more regular plots for more economical cultivation and achieving greater efficiency of agricultural land).⁷ Later, the 1979 Land Consolidation Act,⁸ the 1984 Act on Amendments to the Land Consolidation Act,⁹ and the 1987 Act on Amendments to the Land Consolidation Act were passed.¹⁰ The mentioned amendments to the Land Consolidation Act included the parties (participants in the land consolidation) and the bodies leading the process (although there were often changes regarding material rights, such as compensation to the owners of agricultural land included in the land consolidation block),¹¹ i.e. most of the provisions related to procedural issues. After the Croatian Parliament adopted the Constitutional Decision on the independence (sovereignty and autonomy) of the Republic of Croatia¹² from the Socialist Federal Republic of Yugoslavia on 25 June 1991, there was a practical need to revise regulations (including regulations on land consolidation) given that the Republic of Croatia, upon gaining independence, *ipso iure*, took over the regulations of the predecessor state. The proposal for the adoption of a new Land Consolidation Act was based on the provisions of the 1979 Land Consolidation Act, and the amendments of 1984 and 1987.¹³ In 2015, the Agri-

⁶ Land Consolidation Act, Official Gazette of the SFRY, No. 60/54.

⁷ Gatarić, Đ., *Upravno pravo – posebni dio*, Drugo izmijenjeno i dopunjeno izdanje, Savremena administracija, 1988, p. 191.

⁸ Land Consolidation Act, Official Gazette of the SFRY, No. 10/79.

⁹ Law on Amendments and Supplements to the Land Consolidation Act, Official Gazette of the SFRY, No. 21/84.

¹⁰ Law on Amendments to the Land Consolidation Act, Official Gazette of the SFRY, No. 5/87.

¹¹ Art. 9 of the Law on Land Consolidation of Agricultural Land, Official Gazette No. 44/22.

According to the currently valid Agricultural Land Consolidation Act, Art. 9 stipulates the following: During land consolidation, if this is necessary in order to achieve the purpose of consolidation, the relocation or demolition of a simple structure, residential or commercial building can be determined, with the proviso that the owner is entitled to compensation for the relocation or demolition of an existing simple structure or building, as well as for the removal of simple and other structures and works carried out in accordance with the regulation governing the designation of simple and other structures and works, i.e. for plantation grubbing.

¹² Constitutional Decision on the Sovereignty and Independence of the Republic of Croatia, Official Gazette No. 31/91.

¹³ See: Malenica, I., *Novo uređenje komasacije poljoprivrednog zemljišta u Hrvatskoj*, Zagrebačka pravna revija, Vol. 4, No. 3, 2015, pp. 363-391, p. 37. "The proposal of the new law was based on the provisions of the 1979 Act, with modifications referring to the bodies that participated in the land consolidation procedure. The motion to institute the land consolidation procedure would be brought before the county land consolidation commission, which would institute the procedure based on that, with the

cultural Land Consolidation Act was adopted,¹⁴ significantly changing the provisions related to the state bodies responsible for the process. The part that decides on the initiation of land consolidation was centralized, while the part responsible for carrying out the consolidation in the field was decentralized.¹⁵

Although the 2015 Agricultural Land Consolidation Act was passed and has been in force for almost eight years, not a single land consolidation procedure has been carried out. The reason for this stems from the prejudices that exist regarding the financing of the land consolidation process by potential participants and parties, and the existence of nomotechnical errors, as before. The questions raised in this paper cannot be fully answered here, but they certainly leave room for the development of other studies that would tackle these issues in greater depth. After almost eight years since the enactment of the 2015 Agricultural Land Consolidation Act, the Agricultural Land Consolidation Act was adopted in 2022 (Official Gazette, No. 46/22). The main reason for adopting the new Agricultural Land Consolidation Act was justified by the Government of the Republic of Croatia with the fact that not a single land consolidation procedure was carried out based on the 2015 Agricultural Land Consolidation Act.¹⁶ One of the most important reasons cited is the rationalization, i.e. simplification of access to funds for financing the costs of the land consolidation process.¹⁷ The 2022 Agricultural Land Consolidation Act defined new terms that were not part of the 2015 Agricultural Land Consolidation Act. The Agricultural Land Consolidation Program, the land consolidation authority, the commission, the decision-maker, the parties to the consolidation and participants in the consolidation, as well as land for public purposes and land for common needs, represent new concepts regulated by the

consent of the Croatian Government. The performance of works and the construction of investment structures is carried out based on a contract entered into by the committee of land consolidation participants with the authorized contractor. The bodies participating in the land consolidation procedure are the county land consolidation commission, the assembly of participants, the committee of land consolidation participants and the land assessment commission.”

¹⁴ Law on Land Consolidation of Agricultural Land, Official Gazette No. 15/15.

¹⁵ Malenica, I., *op. cit.*, note 13, p. 371.

¹⁶ Bulka, Z., *Što donosi novi Zakon o komasaciji poljoprivrednog zemljišta*, Pravo i porezi, Vol. 31, No. 11, 2022, pp. 74 – 77, p. 75. Bulka also states that the failure to implement the land consolidation process greatly affects the general inefficiency of agricultural land use, given the fragmentation of the land and the large number of small land plots. It is also stated that the adoption of the Agricultural Land Consolidation Act should achieve effective implementation of the agricultural land consolidation, which would consolidate cadastral plots into larger and more regular plots. This would in turn have an impact on increasing agricultural production, creating greater added value in agricultural production and putting neglected agricultural land into use. It is stated, therefore, that in order to enable the optimization of the shape of cadastral plots and agricultural land areas, better conditions for cultivating agricultural land would be created through the development of roads, utility infrastructure, and more.

¹⁷ *Ibid.*

new law on land consolidation activities.¹⁸ The 2022 Agricultural Land Consolidation Act introduced two new features: the first concerns the role of the land consolidation management information system, and the second the role of local government units in land consolidation procedures, which represent new features compared to the 2015 Agricultural Land Consolidation Act.¹⁹

Authors throughout different historical periods have defined land consolidation in a similar way (depending on the circumstances of the time in which they lived, the legal system, their professions, and their understanding of the concepts of private and public ownership, etc.). For example, according to Borković, “land consolidation is an agrarian legal measure carried out through a formal procedure with the aim of grouping land into larger and more regular plots, in order to enable more efficient use, create better conditions for the development of agricultural settlements, and allow for the establishment and construction of agricultural roads and other transport routes, water management structures and systems, as well as the execution of other land improvement works.”²⁰ On the other hand, Gatarić defines land consolidation as “grouping of fragmented land plots²¹ to create larger and more regular plots, to allow for the economical cultivation of agricultural land and to create more favorable conditions for the development of agricultural settlements.”²² Even though land consolidation as a mechanism of administrative law is given varying definitions by the said authors, there is evident similarity in the purpose and goal for which the land consolidation activity is carried out. Thus, the purpose of land consolidation in contemporary Croatian administrative law is to create more favorable conditions for the development of agriculture in accordance with the current legal system and definition.

3. LAND CONSOLIDATION IN AGRICULTURE

3.1. Environmental aspects of agricultural activities

Agricultural activity has always been important for rural areas and the population living there. The geographical position of the Republic of Croatia, especially

¹⁸ *Ibid.*

¹⁹ See: Chapter 5, Bulka, *op. cit.*, note 8 p. 77.

²⁰ Borković, I., *VII. Izmijenjeno i dopunjeno izdanje, Upravno pravo*, Narodne novine, Zagreb, 2022, p. 616.

²¹ Veršinskas, T., *et. al.*, *Legal guide on land consolidation*, „Food and Agriculture Organization of the United Nations (FAO), Rome, 2020, p.3 FAO concluded that “Excessive fragmentation or economically unsustainable small holdings can prevent farmers from making the best use of their time or applying modern production methods, such as mechanization.”

²² Gatarić, *op. cit.*, note 4, p. 191.

its eastern part, has always been synonymous with the richness and abundance of agricultural products²³ (cereals, fruits, vegetables) as well as meat and dairy products as a result of a large number of livestock farms. The Republic of Croatia, although belonging to the middle European countries in terms of size, can “boast” of three geographical regions: Pannonian, mountainous and Mediterranean, within which subregions occur.²⁴ The Pannonian region represented the most favorable agricultural region (suitable for cereals, viticulture and cattle breeding), while the mountainous region was more suitable for livestock breeding for the purpose of milk production, with cereal cultivation largely absent – similar to the Mediterranean region, which was instead suitable for the cultivation of olive groves and, in some areas, lavender. The use of agricultural land for various purposes (livestock farming, viticulture, olive growing, etc.) creates an agricultural landscape,²⁵ which is different in each country in relation to the way agricultural land is used. The influence of man on the exploitation of agricultural land by using light and heavy machinery contributes to the loss of natural ecosystems of the agrarian landscape.²⁶ Some negative consequences of the destruction of the agrarian landscape are: reduction of the number of wild species of flora and fauna, impoverishment of the landscape image, change of soil fertility, appearance of erosion, heavy metal pollution, introduction of pesticides into the soil, etc.²⁷ The negative consequences of the disturbance of the agrarian landscape can be eliminated by the land consolidation process. Although land consolidation has never been implemented in modern-day Republic of Croatia, and it is certainly fair to say that there is a lack of knowledge regarding the concrete implementation of measures to combat the loss of agrarian landscapes, in theoretical terms, the land consolidation process significantly mitigates such loss. According to Gostović, land consolidation contributes to the preservation, improvement and formation of new biotopes, the networking of ecologically valuable elements into complete biotope systems, the greening and ecological improvement of belts along roads and canals, etc.,

²³ During the 18th and 19th centuries, the population living in the area of present-day Slavonia and Baranja was considered “rich”, and wealth was represented by food, the number of livestock and the amount of arable agricultural land, which made the owner who possessed such things extremely influential in their social environment.

²⁴ Cetl, V.; Prosen, A, *Uređenje poljoprivrednog zemljišta kao čimbenik razvoja poljoprivrede*, Geodetski list, Vol. 55 (78) No. 4, 2001, pp. 289 – 298, p. 290.

²⁵ Gostović, M., *Poljoprivreda, biotopi, zaštita čovjekove okoline i komasacija*, Geodetski list, Vol. 45 (68) No. 4–6, 1991, pp. 187–196, p. 188. According to Gostović, the agrarian landscape consists of agrarian and economic systems, such as grain fields, created consciously for the purpose of intensive agricultural production, and semi-natural ecosystems, such as pastures, meadows, etc., which were not created consciously, but by human action.

²⁶ *Ibid.*

²⁷ *Ibid.*

the planting of plants and the creation of biotopes on areas that are no longer used for agricultural production, and the separation of ecologically valuable areas from intensive agricultural exploitation.²⁸ In addition to national legal regulations governing the protection of nature and the human environment (Environmental Protection Act,²⁹ Nature Protection Act,³⁰ Agricultural Land Act³¹), one of the most important European legal regulations governing environmental protection issues in the context of agricultural land protection is the Council Directive³² on the conservation of natural habitats and of wild flora and fauna.

The objective of the Directive is to contribute to ensuring biological diversity through the conservation of natural habitats and wild fauna and flora in the European territory of the Member States to which the Treaty applies.³³ Natural habitat types of community interest whose preservation requires the designation of special conservation areas in the context of agricultural production in the Republic of Croatia are freshwater habitats and streams.³⁴ The survival of freshwater habitats and streams is of utmost importance for biodiversity and the rational use of natural resources by humans. Agricultural areas used by the population in rural parts of the Republic of Croatia for the purpose of agricultural production are often associated with the presence of running or still waters,³⁵ which represent important ecological systems and may limit the use of such land. Given that the land consolidation process involves the conversion and change of the surface area of agricultural plots over which the land consolidation is carried out, it is crucial to ensure their protection in order to prevent disruption of the natural balance and degradation of the aquatic ecosystem.

3.2. Land consolidation as a prerequisite for agricultural development

Agriculture has always been the main economic activity of the rural population in Croatian villages, with land consolidation serving as a tool that enabled more

²⁸ *Ibid.*

²⁹ Environmental Protection Act, Official Gazette No. 80/2013, 153/2013, 78/2015, 12/2018, 118/2018.

³⁰ Nature Protection Act, Official Gazette, No. 80/2013, 15/2018, 14/2019, 127/2019, 155/2023.

³¹ Agricultural Land Act, Official Gazette, No. 20/2018, 115/2018, 98/2019, 57/2022.

³² Council Directive 92/1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, Official Journal of the European Union, L 206, 22 July 1992.

³³ Art. 2 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna, Official Journal of the European Union, L 206, 22 July 1992.

³⁴ *Ibid.*

³⁵ See: Art. 2 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna, Official Journal of the European Union, L 206, 22 July 1992.

economical and productive use of agricultural land (such as the cultivation of cereals, orchards, vineyards, or conversion into pastures and meadows). In 2016, there were approximately 134,459 registered agricultural holdings in the Republic of Croatia. Land consolidation is, by nature, similar to the voluntary exchange of land, but it is usually carried out on a larger scale, with a more systematic approach, and the process is generally managed by experts from fields such as law, agribiotechnical sciences, geodesy, and others.³⁶ As stated by Cetl and Prosen, agricultural areas are regulated through various types of agrarian and legal measures.³⁷ Land consolidation and land adjustment were the most extensive agrarian legal and administrative measures implemented on agricultural land.³⁸ The term land adjustment is defined as the reorganization of land holdings through the incorporation of smaller land plots into larger estates, with appropriate compensation provided to the owners of the smaller plots.³⁹ The purpose of land adjustment, as opposed to land consolidation, is to create more favorable conditions for cultivating agricultural land, enable the construction of economic farmyards, and support the establishment of perennial crops and the development of fishponds.⁴⁰

However, land consolidation as an agrarian measure was more suitable for implementation in situations where it was necessary to regulate ownership and other real property rights, as well as property-law relations, concerning a specific agricultural land area.⁴¹ The 2022 Agricultural Land Consolidation Act contains provisions on the initiation of the land consolidation process, implementation of land consolidation, costs and administrative supervision based on the regulations governing land consolidation activity in the member states of the European Union with the aim of achieving a common agricultural policy. A positive prerequisite for the development of agriculture is the successful implementation of the land consolidation process, which is evident from the definition itself. By establishing larger and more regular cadastral plots, favorable conditions are created for acquiring a larger area of agricultural land, which, depending on the area, can be used for planting one or more crops (or converted into pastures), and whose products will later be competitive on the market, as their yield and quality will increase. The direct effect of land consolidation on the development of agriculture is visible

³⁶ Louwsma, M., *et. al.*, *The Fundamentals to Guide Practice*, FIG Commission 8 - Spatial Planning and Development, International Federation of Surveyors (FIG), No. 79, 2022, p. 17.

³⁷ Cetl, V.; Prosen, A., *op. cit.*, note 24, p. 293

³⁸ *Ibid.*

³⁹ *Ibid.*

⁴⁰ Borković, I., *op. cit.*, note 12, p. 615.

⁴¹ Belaj, V., *Pravo vlasništva na poljoprivrednom zemljištu*, in: Kačer, B., (ed.), *Zakon o vlasništvu i drugim stvarnim pravima i Zakon o zemljišnim knjigama – 1997. – 2017.* hrvatsko stvarno pravo de lege lata i de lege ferenda, Inženjerski biro, Zagreb, 2017, pp. 74 – 96, p. 92.

in the above example.⁴² Namely, participants in the land consolidation process, after the published Public Call for Land Consolidation according to the financial framework of the program pursuant to Article 18 of the Agricultural Land Consolidation Act and the Opinion and Approval of the Conceptual Design, and after a meeting of land owners, enter the agricultural land in their ownership into the land consolidation block in accordance with the agricultural land consolidation program. At the meeting of land owners, which is regulated by Art. 20 of the 2022 Agricultural Land Consolidation Act, land owners have the opportunity to present proposals and comments regarding the planned consolidation procedure. A landowner who has contributed a certain area of agricultural land to the land consolidation block can express their opinion on the previous use of the agricultural land and request that, after the consolidation process, the agricultural land allocated to them retains the same or approximately the same soil properties, which would allow for the continuation of agricultural use in the same manner as before the land consolidation process.

A legitimate question can be raised about how land consolidation specifically contributes to increasing the products derived from agricultural activities and their competitiveness according to market competition rules (whether it concerns cereals, milk, cheese, wine, olive oil, etc.). By allocating agricultural land proportionally to the area of land contributed to the land consolidation block, the owner of the newly consolidated agricultural land receives a contiguous (not separated by roads, canals, or forests) agricultural area⁴³ that can then be maximally utilized for the production of agricultural products. This is something that, due to fragmentation of agricultural land, unregulated ownership relations, natural barriers, and unfavorable positioning (for example, through water management, which removes excess water from agricultural land, thus significantly improving the land's value),⁴⁴ the owner was previously able to produce in much smaller quantities before the land consolidation process was carried out. Special assistance to agricultural land owners is provided by the Croatian Agency for Agriculture and Food

⁴² Ministarstvo poljoprivrede, šumarstva i ribarstva, [<https://poljoprivreda.gov.hr/istaknute-teme/poljoprivreda-173/poljoprivredno-zemljiste/komasacija-poljoprivrednog-zemljista/6441>], Accessed 13 March 2025.

⁴³ According to the 2022 Agricultural Land Consolidation Act, the executive body of the local government unit or the City of Zagreb, i.e. the Ministry, issues a decision on land consolidation. Following this, after the consolidation procedure is completed, the owners of agricultural land included in the consolidation block are proportionally returned the same land or agriculturally similar land (of a more regular shape, with organized road and drainage networks, and sorted ownership and other property rights).

⁴⁴ Bebek, I.; Škergo, R., *Komasacija zemljišta i njen doprinos proizvodnji hrane*, Sociologija i prostor : časopis za istraživanje prostornoga i sociokulturnog razvoja, No. 61-62, 1978, pp. 56-68, p. 64.

(hereinafter: CAAF) which, in accordance with its activities, provides assistance to owners in cultivating agricultural land and agricultural production. For example, it is of great importance for the landowner to monitor and have expert supervision over seed crops, planting material for fruit trees, grapevines, analyzing plant protection products in circulation (post-registration control) for inspection purposes, determining the condition of agricultural land damage, marking domestic animals, etc. All of these services are provided by CAAF.⁴⁵ In addition to agricultural land owners interested in the land consolidation process, there are also those owners who are skeptical about the land consolidation process, or who are unsure about the entire process. A major challenge for state administration bodies implementing the land consolidation process is to find an appropriate way to motivate agricultural land owners to participate in the land consolidation process. The last land consolidation in the Republic of Croatia was carried out while the Republic of Croatia was part of the SFRY, and more than thirty years have passed since then. Staničić states that “for the most part, farmers do not even know what land consolidation is and what its advantages are.” Therefore, the Agricultural Land Agency, as well as the Advisory Service of the Ministry of Agriculture, should initiate education of agricultural land owners to make it easier for them to accept the implementation of land consolidation.”⁴⁶ The previously stated claim is accurate, given the time that has passed since the last land consolidation and the lack of awareness among the local population about the land consolidation process and other agrarian legal measures. This undoubtedly does not contribute to the revival and recovery of land consolidation in Croatian villages.

However, the previous statement was a consequence of the analysis of the 2015 Agricultural Land Consolidation Act, and certain bodies that were regulated by the previous law were deleted from the aforementioned law under the new 2022 Agricultural Land Consolidation Act (e.g. Agricultural Land Agency). Accordingly, the statement made by Staničić is not incorrect. However, given the circumstances (the adoption of a new law regulating land consolidation activities), the bodies involved in the process (such as the Ministry of Agriculture, Forestry and Fisheries, the Consolidation Commission, the State Geodetic Administration, etc.), as outlined in the applicable 2022 Agricultural Land Consolidation Act, should be involved in informing and educating the local population. These bodies provide relevant information about the consolidation process to interested citizens through consultations, as prescribed by the same Act. For example, the Rules of

⁴⁵ Art. 1 of the Law on the Croatian Agency for Agriculture and Food, Official Gazette No. 111/18.

⁴⁶ Staničić, F., *Problemi u provođenju komasacije prema Zakonu o komasaciji poljoprivrednog zemljišta*, Informator, Vol. 65, No. 6498, 2017, pp. 1-5, p. 4.

Procedure of the Consolidation Commission⁴⁷ state that the commission receives comments from participants in the consolidation process on the published draft decision, along with other activities in accordance with the authority and scope of the Commission's responsibilities. Given that the Regulations on the work of the Land Consolidation Commission (Official Gazette, No. 46/22) do not specify in more detail the obligations of the body in providing advisory assistance and information, we are of the opinion that the Rules of Procedure of the Consolidation Commission should regulate the competence and scope of the work of the commission in more detail, taking into account the advisory character that the Land Consolidation Commission should have in its work.⁴⁸

Although there are no common European regulations on land consolidation, it is important to say that the European Commission supports initiatives by EU member states aimed at more efficient use of agricultural land and thereby improving agriculture as the primary activity of most member states. The European Commission has positively assessed the 2022 Agricultural Land Consolidation Act, with the aim of consolidating at least 18 thousand hectares of agricultural land by the end of the first quarter of 2026.⁴⁹ The Ministry of Agriculture, Forestry and Fisheries has published a Public Call for the selection of a specific area for the implementation of land consolidation in accordance with the Agricultural Land Consolidation Program until 2026, through the reform measure C1.5 R2 "Improving the agricultural land restructuring and consolidation systems" from the National Recovery and Resilience Plan.⁵⁰ Based on a public call on the territory of the Republic of Croatia, the land consolidation process began in three

⁴⁷ Art. 3 of the Rules of the Land Consolidation Commission, Official Gazette, No. 46/22.

⁴⁸ Art. 9 of the Regulation on the Implementation of Land Consolidation in the Area of the Municipal Location Plan, Official Gazette, No. 110/02, 8/03 – ispr. i 58/03 – ZZK-1...For instance, Pravilnik o izvedbi komasacije zemljišč na območju občinskega lokacijskega načrta (Uradni list RS, št. 21/04 in 199/21 – ZUreP-3) prescribes in its Article 9 that one of the tasks in the scope and purview of the expert commission is the counseling, assistance and cooperation with the participants of land consolidation (slovenski: svetovanje, pomoč in sodelovanje s komasacijskimi udeleženci).

⁴⁹ Poljoprivredno zemljište u Hrvatskoj je najjeftinije u EU, a od 2023. moći će ga kupovati strani ulagači. Može li zakon na koji agronomi imaju ozbiljne zamjerke spriječiti rasprodaju, [https://www.tportal.hr/biznis/clanak/poljoprivredno-zemljiste-u-hrvatskoj-je-najjeftinije-u-eu-a-od-2023-moci-ce-ga-kupovati-strani-ulagaci-moze-li-zakon-na-koji-agronomi-imaju-ozbiljne-zamjerke-sprijeciti-rasprodaju-foto-20220120?meta_refresh=1], Accessed 17 March 2025 ; Poljoprivredno zemljište u Hrvatskoj i u 2023. najjeftinije u EU, [<https://www.poslovnih.hr/hrvatska/poljoprivredno-zemljiste-u-hrvatskoj-i-u-2023-najjeftinije-u-eu-4471714>], Accessed 17 March 2025.

⁵⁰ Ministry of Agriculture, Forestry and Fisheries [<https://poljoprivreda.gov.hr/objavljen-javni-poziv-za-odabir-odredjenog-podrucja-za-provodjenje-komasacije-u-skladu-s-programom-komasacije-poljoprivrednog-zemljista-do-2026-godine-kroz-reforms-ku-mjeru-c1-5-r2-unaprjedenje/5880>] Accessed 18 March 2025

local government units, in the municipalities of Konavle, Mali Bukovec and the city of Novska, as of 24 November 2024.⁵¹ Given that the aforementioned local government units are implementing land consolidation in the Republic of Croatia for the first time in 30 years, the results of the land consolidation in these cases will certainly serve as an example that could be used by other municipalities and cities facing the problem of fragmented agricultural areas, irregular shapes, and unsettled ownership and other property relations.

4. LAND CONSOLIDATION AND RURAL DEVELOPMENT

The problem of the development and survival of the Croatian countryside was visible even when the Republic of Croatia was still part of socialist Yugoslavia. The inherited problems were not resolved and remained one of the most important issues when it comes to the unfavorable demographic picture of the Republic of Croatia. As Ivković states, “90% of the mainland of Croatia lives in rural areas, as well as around 47% of the total population.”⁵² In Croatian villages, especially those in Slavonia, but also in Lika and Gorski Kotar, there is a prevailing negative trend of leaving rural areas (smaller local government units), or migration from smaller local government units (villages) to larger local (regional) government units (cities and counties).⁵³ The reason for this, as stated by Klempić Bogadi and others, is that “the dominant orientation towards industry in the economic development of socialist Croatia led to a social and economic crisis in rural areas”,⁵⁴ and consequently, the population turned to migration to cities, where the center of industry was, in search of employment and better living conditions than those offered by agricultural activities. The young population, on the other hand, mostly left to pursue education, which in most cases was not available in smaller villages, and after completing their education, they found employment in the city where they completed their education.⁵⁵ Thus, the villages are mostly inhabited by elderly and middle-aged people who are unable to run farms due to their age and lack of labor.

Considering the above fact, it can be said that older residents, according to their age structure, are the owners of unused and neglected wealth that should be used for the development of agriculture and villages.⁵⁶ An important question is how smaller local government units can effectively stimulate rural development, and

⁵¹ *Ibid.*

⁵² Ivković, M.; Barković, Đ.; Bačani, S., *op. cit.*, note 4, p. 298.

⁵³ *Ibid.*

⁵⁴ Klempić Bogadi, S., *et al.*, *Hrvatsko selo na početku 21. stoljeća – studija slučaja općina Gornja Rijeka*, Sociologija i prostor, vol. 53, No. 2 (202), 2015, pp. 139-161, p. 140.

⁵⁵ *Ibid.*

⁵⁶ Ivković, M.; Barković, Đ.; Bačani, S., *op. cit.*, note 4, p. 298.

consequently sustainable economic growth. Starting from national legal regulations, it is important to mention Article 29 of the Regional Development Act,⁵⁷ which states that local self-government units may establish local development agencies as public institutions or companies for the purpose of effective coordination and promotion of local development of one or more local self-government units.⁵⁸ The tasks of a development agency include coordinating the drafting of development strategies for local self-government units, coordinating the creation of action plans for the implementation of these strategies, monitoring their implementation, and participating in the development of projects and strategic initiatives for the regional development of the statistical region, etc.⁵⁹ In addition to these tasks, land consolidation is of exceptional importance for the survival and development of rural areas in the Republic of Croatia. The majority of the population living in rural areas engages in some form of agricultural activity in their daily lives. “In the Republic of Croatia, family farms have an average size of 2.7 ha, and are fragmented into an average of 5.3 separate plots. Compared to most EU countries, agricultural holdings in the Republic of Croatia are six times smaller than the average size of agricultural land in those countries.”⁶⁰ The structure of agricultural holdings in Croatia today is characterized by a large number of small and fragmented family farms and relatively few large corporate farms.⁶¹

For a certain number of residents, agriculture is their primary activity and they earn income from self-employment, thereby acquiring rights and obligations in the areas of labor, social and health protection. If the agriculturally active working population does not have favorable conditions for cultivating agricultural land due to small and irregular cadastral plots, unsettled ownership relations, an unregulated road and canal network, etc., some of them will shut down their agricultural holdings, and there is a high likelihood that they will leave their local communities, thereby further damaging the already fragile demographic situation

⁵⁷ Law on Regional Development of the Republic of Croatia, Official Gazette, No. 147/14, 123/17, 118/18

⁵⁸ Art. 29. of the Law on Regional Development of the Republic of Croatia, Official Gazette, No. 147/14, 123/17, 118/18.

⁵⁹ *Ibid.*

⁶⁰ Ivković, M.; Barković, Đ.; Baćani, S., *op. cit.*, note 4, p. 298.

⁶¹ Hartvigsen, M., *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*, Food and Agriculture Organization of the United Nations (FAO), No. 26, 2015, p. 64... The structure of agricultural holdings in Croatia today is characterized by a large number of small and fragmented family farms and a relatively low number of large corporate farms. In 2009, the average size of commercial farms (including rented land) was 8.5 ha, while the average for all farms was only 2.9 ha. According to the agricultural census conducted in 2003, there were a total of 448,000 family farms in Croatia with an average area of 1.9 ha, divided into eight plots. Abandoned agricultural land is a widespread phenomenon, and it is estimated that more than a third of agricultural land is unused.

of Croatian villages. Precisely for the above reasons, it is important to provide farmers with favorable working conditions through the land consolidation process and thus contribute to the development of agriculture, increase the number of farmers in the villages and thus increase the number of inhabitants in rural areas. It is important to define the ways in which land consolidation activity contributes to rural development and the benefits for the local population by carrying it out. As Kranjčević and Prosen see it, “in order for the land consolidation process to contribute to the development of rural areas, it is important to respect all those who use a particular area, as well as the agritechnical, landscape, natural, transportation and other conditions of spatial planning, renewal and development of villages.”⁶² In addition to reducing the fragmentation of a particular agricultural area and more regular organization of cadastral plots on which agricultural area is located, land consolidation also modernizes rural (village) infrastructure. Land consolidation includes the construction and renovation of unclassified roads and paths used for transporting heavier machinery, which improves the connectivity between multiple villages and, ultimately, nearby towns. Better land quality is also insured through land improvement measures such as drainage, irrigation, and erosion control.⁶³ Agricultural lands that have been returned to the owners after land consolidation, who in turn contributed them to the land consolidation block – now with larger areas and settled ownership – are suitable for the development of agritourism, rural farms, and organic production, while the unused portions can be repurposed for cycling paths, recreational zones, and more. The above measures, especially the transport infrastructure,⁶⁴ improve living and working conditions in rural areas, motivating the young population to remain in the villages.

The Treaty on the Functioning of the European Union ⁶⁵ is extremely important when it comes to revitalizing the Croatian countryside, or rather improving the

⁶² Kranjčević, J., et. al., *Komasacija: doprinos održivom razvitku ruralnog prostora u srednjoj i istočnoj Europi u novom tisućljeću*, Sociologija i prostor : časopis za istraživanje prostornoga i sociokulturnog razvoja, Vol. 41, No. 1/2 (159/160), 2003, pp. 119-130, p. 122.

⁶³ An agricultural measure to improve the quality of arable soil through drainage, irrigation, protection from erosion, etc.

⁶⁴ Kranjčević, et. al., *op. cit.*, note 48, p. 121....According to the latest method of resolution, the land consolidation procedure, i.e. the rural development procedure, includes all partial projects, from the construction of roads to motorways, from the location of individual agricultural holdings to the reservation of land for housing and other construction in the settlement, ecological and landscape planning, etc. Thus, agricultural space acquires a multifunctional meaning. With the redevelopment of the area, other important activities are also developing, such as tourism and recreation.

⁶⁵ Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union Consolidated version of the Treaty on European Union Consolidated version of the Treaty on the Functioning of the European Union Protocols Annexes to the Treaty on the Functioning of the European Union Declarations annexed to the Final Act of the Intergovernmental Conference

living standards of the rural population. Namely, the objectives of the Common Agricultural Policy are: increasing agricultural productivity by promoting technical progress and ensuring the rational development of agricultural production, as well as the optimal use of production factors, particularly labor; stabilizing the market and ensuring the availability of supply. This in turn leads to and improved standard of living for the rural population⁶⁶ (through increased purchasing power), which directly results in the purchase of machinery (tractors, seeders, plows, so-called “platform trailers”, etc.) necessary for the cultivation of agricultural land. The EAFRD – European Agricultural Fund for Rural Development, an instrument of the EU’s Common Agricultural Policy (CAP) aimed at addressing the specific challenges of rural areas, is also important for the land consolidation process.⁶⁷ In the period from 2021 to 2024, the EAFRD provided EUR 26.9 billion and an additional EUR 8.1 billion.⁶⁸ The key goals of the Common Agricultural Policy (CAP) for 2023–2027 include ensuring fair earnings for farmers, increasing competitiveness, re-aligning the strength of the food chain, activities related to climate change, environmental care, landscape and biodiversity preservation, support for generational renewal, vibrant rural areas, and the protection of food quality and health.⁶⁹ Regulation (EU) No. 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No. 1083/2006⁷⁰ is relevant when it comes to the use

which adopted the Treaty of Lisbon, signed on 13 December 2007 Tables of equivalences, Official Journal of the European Union, 2016/C 202/01.

⁶⁶ Art. 39. of the Treaty on European Union and the Treaty on the Functioning of the European Union Consolidated version of the Treaty on European Union Consolidated version of the Treaty on the Functioning of the European Union Protocols Annexes to the Treaty on the Functioning of the European Union Declarations annexed to the Final Act of the Intergovernmental Conference which adopted the Treaty of Lisbon, signed on 13 December 2007 Tables of equivalences, Official Journal of the European Union, 2016/C 202/01.

⁶⁷ EAFRD - European Agricultural Fund for Rural Development, [<https://eu-mayors.ec.europa.eu/hr/node/29>] Accessed 19 March 2024.

⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

⁷⁰ Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries

of funds from the European Agricultural Fund and is of particular importance, as it normatively regulates the five European Structural and Investment Funds (ESI Funds): the five European Structural and Investment Funds (ESI Funds) form the basis of the EU's cohesion policy, each of which has a specific role. The European Regional Development Fund (ERDF) aims to reduce regional disparities through investments in infrastructure, innovation, digitalization and environmental projects. The European Social Fund (ESF) + focuses on employment, social inclusion and education, financing programs for the younger working-age unemployed population. The Cohesion Fund includes the decommissioning or construction of nuclear power plants, airport infrastructure (except in the outermost regions) and some waste management operations (e.g. landfills).⁷¹ The European Agricultural Fund for Rural Development (EAFRD) encourages sustainable agriculture and the development of rural areas through the modernization of agriculture, organic production and land consolidation. The European Maritime and Fisheries Fund (EMFF) is focused on the sustainable development of fisheries and the protection of marine organisms, as well as financing the maintenance of the entire ecosystem. The regulation itself does not mention the land consolidation procedure as an independent agrarian measure.⁷²

The regulation focuses on standardizing the general mechanisms of financing, control of funds, and management, while specific measures (such as land consolidation and land adjustment) are usually regulated within sectoral policies. Land consolidation and land adjustment, as well as other agrarian legal measures are most often regulated at the level of national implementation programs (various forms of pilot projects). It appears that each member state has the discretion to decide on the initiation, conduct and completion of the land consolidation process. However, if financial support is used to finance the land consolidation process through EAFRD (European Agricultural Fund for Rural Development), then the beneficiary Member State is required to comply with the guidelines prescribed by the EAFRD and Regulation (EU) No. 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European

Fund and repealing Council Regulation (EC) No 1083/2006, Official Journal of the European Union, L 347, 20 December 2013.

⁷¹ Informativni članci o Europskoj uniji, [https://www.europarl.europa.eu/factsheets/hr/sheet/96/kohezijski-fond], Accessed 17 March 2025.

⁷² Ministarstvo regionalnog razvoja i fondova europske unije, [https://razvoj.gov.hr/eu-fondovi/fondovi/ipa-program/ipa-v/europski-poljoprivredni-fondovi/292], Accessed 20 March 2025.

Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No. 1083/2006,⁷³ as well as other European legal provisions (indirectly) regulating the matter of land consolidation. It is clear from the above that the land consolidation process is not regulated by Regulation 1303/2013, which implies that the European Parliament, when determining the common goals of each of the mentioned funds, should explicitly regulate land consolidation through the aforementioned regulation, as well as other regulations⁷⁴ governing European agricultural policy. This would help limit the arbitrariness of individual member states in their decision-making processes regarding the implementation of land consolidation procedures.

5. CONCLUSION

Although the land consolidation process has not been implemented in the Republic of Croatia so far, based on available literature, the impact of the same mechanism on agriculture and its development throughout history is evident, particularly during the time when the present-day Republic of Croatia was part of socialist Yugoslavia. Hope for the revival of the land consolidation process in the Republic of Croatia was provided by the 2015 and 2022 Agricultural Land Consolidation Acts. However, despite these laws, land consolidation has not been carried out even once. Nevertheless, through the Public Call for selecting specific areas for land consolidation in accordance with the Agricultural Land Consolidation Program until 2026, under the reform measure C1.5 R2, efforts are being

⁷³ Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006, Official Journal of the European Union, L 347, 20, 2013.

⁷⁴ Like threads: Regulation (EU) No 1308/2013 of The European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007, Official Journal of the European Union, L 347, 2013, Regulation (EU) 2020/2220 of the European Parliament and of the Council of 23 December 2020 laying down certain transitional provisions for support from the European Agricultural Fund for Rural Development (EAFRD) and from the European Agricultural Guarantee Fund (EAGF) in the years 2021 and 2022 and amending Regulations (EU) No 1305/2013, (EU) No 1306/2013 and (EU) No 1307/2013 as regards resources and application in the years 2021 and 2022 and Regulation (EU) No 1308/2013 as regards resources and the distribution of such support in respect of the years 2021 and 2022, , Official Journal of the European Union, L 437, 2020.

made to engage local and regional (district) self-government units to participate in the land consolidation process.

Through an analysis of the impact of land consolidation on agriculture, it is concluded that land consolidation has multiple benefits when using agricultural land, particularly reflected in the increase in productivity, more economical use of agricultural land, reduction in the fragmentation of cadastral plots, and easier application of modern agricultural technologies. The paper also presents the view that the Rules of Procedure for the Land Consolidation Commission should provide a more detailed regulation of the commission's authority and scope of work, considering the advisory role that the Land Consolidation Commission should have in its operations.

In relation to land consolidation, the importance of the Treaty on the Functioning of the European Union and the financing of the land consolidation process by the European Union, particularly the European Agricultural Fund for Rural Development (EAFRD), is also emphasized. The mentioned fund enables the financing of land consolidation projects in member states. However, there is currently no unified European regulation that obligates member states to implement land consolidation, unless they have received financial support from the European Union for the purpose of carrying out the land consolidation process in the country. As part of the National Recovery and Resilience Plan, Croatia has announced concrete steps in the implementation of land consolidation, and the first local self-government units are already included in the pilot projects. In this context, it will be interesting to see how the mentioned local government units will implement the land consolidation process through the pilot project.

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