






## ENHANCING SUSTAINABLE RURAL DEVELOPMENT IN UKRAINE THROUGH LAND CONSOLIDATION

Liudmyla Datsenko  0000-0001-9079-8041, Svitlana Titova  0000-0002-9250-805X, Marharyta Dubnytska , Oleksander Honcharenko  0000-0002-0353-2470, Nataliya Polyakova  0000-0001-6775-6644

Taras Shevchenko National University of Kyiv, Ukraine

### ABSTRACT

#### Aim of the study

The study aims to establish the effectiveness of land consolidation as an instrument for spatial planning and the sustainable development of territorial communities in Ukraine. Specifically, it focuses on the context of post-war recovery and land use transformation, identifying the necessary organizational and legal foundations for introducing land consolidation to ensure growth in the agricultural sector.

#### Materials and methods

The theoretical basis of this research draws on scientific works on land consolidation by domestic and international scholars, legislative acts, and analytical data on territorial development. The methodological framework employs a systematic approach, utilizing structural-logical analysis and synthesis to examine the interactions within the land management system.

#### Results and conclusions

The study demonstrates that land consolidation is a key mechanism for overcoming fragmentation, improving land use efficiency, and strengthening rural development in Ukraine. It enhances agricultural productivity, supports environmental protection, and upgrades land administration systems. The analysis indicates that modern consolidation must integrate social, economic, and ecological priorities, aligning with spatial planning and ensuring community participation. Given post-war challenges and the lack of a comprehensive legal framework, implementing land consolidation is crucial for beneficial reconstruction, sustainable land management, and the long-term resilience of territorial communities.

**Keywords:** land consolidation, rural development, sustainable development, agricultural land, spatial planning.

### INTRODUCTION

Following its independence in 1991, Ukraine underwent a significant transformation in land ownership. Before, for nearly seven decades, agricultural land had been entirely state-owned. The post-independence

land reform led to the distribution of land shares among former employees of collective and state farms, eventually resulting in private ownership of agricultural plots. However, this transition introduced numerous challenges to land use, agricultural production, and legal regulation, many of which remain unresolved.

✉ e-mail: [dubnytskamv@gmail.com](mailto:dubnytskamv@gmail.com)

Around three million people employed in agriculture, accounting for approximately 31% of the total population of Ukraine. Agricultural land accounts for 71% of the national land fund. Ukraine ranks third in the world – after Bangladesh and Denmark – in terms of the proportion of arable land, which makes up 56% of its territory. Ukraine also has the third-largest reserves of black soil, representing 25% of the world's total. The average provision of agricultural land per capita in Ukraine is 1.07 hectares, which is significantly higher than the global average of 0.23 hectares (Popov, 2016).

In recent years, the Ukrainian government has adopted several strategic documents aimed at promoting sustainable rural development. Key strategic documents regulating this sphere include the Strategy for the Development of Agriculture and Rural Areas in Ukraine for the period up to 2030 (Cabinet of Ministers of Ukraine, 2024) and the State Strategy for Regional Development for 2021–2027 (Cabinet of Ministers of Ukraine, 2020). The Law of Ukraine “On Voluntary Amalgamation of Territorial Communities” (Verkhovna Rada of Ukraine, 2015) facilitated the formation of 1,469 territorial communities by 2021, encompassing over 27,000 villages. This administrative and territorial reform has given local communities more power to manage land resources more effectively, including the transfer of state-owned agricultural land to communal ownership.

Despite the progress being made, the regulatory framework governing land relations remains fragmented and contains legal inconsistencies. Achieving sustainable rural development requires coordinated efforts between national and local planning authorities. Legislative improvements in spatial planning, environmental protection, and land use – such as the Laws “On Environmental Impact Assessment” (Verkhovna Rada of Ukraine, 2017) and “On Strategic Environmental Assessment” (Verkhovna Rada of Ukraine, 2018) – have laid the groundwork for integrating ecological considerations into territorial development.

The establishment of a national land relations monitoring system and the creation of the National Geospatial Data Infrastructure are critical steps towards informed decision-making, enhanced investment attractiveness, and accelerated post-war recovery.

In this context, land consolidation emerges as a vital instrument for sustainable rural development in Ukraine. It offers a strategic solution to land fragmentation, promotes efficient land use, and supports the broader goals of environmental stewardship, economic revitalization, and social stability.

## MATERIAL AND METHODS

### Research methods

A *monographic analysis* was conducted to synthesize existing scientific approaches that examine the interrelationships between the concepts of rural territories, spatial planning, and sustainable development. This method also clarified the concept of land consolidation as an instrument for territorial development, based on an examination of current regulatory and legal frameworks, as well as the provisions of the Ukraine's draft Land Consolidation Law, considering contemporary socio-economic and institutional conditions in Ukraine. At present, the development of Ukraine's agricultural sector is being hampered by a number of persistent and unresolved challenges. Among the most significant is the insufficient legislative and regulatory support for the development of rural territories, coupled with the absence of comprehensive and systemic state strategies for rural development. These gaps contribute to various social, economic, and environmental issues, including the decline or disappearance of rural settlements, limited access to financial resources for small and medium-sized farms, deterioration in the quality of life of rural residents, and the ongoing depletion of land resources.

The *method of synthesis* was used to deepen and integrate the theoretical and methodological foundations of land consolidation at the rural territorial level, with a particular focus on its role in fostering sustainable development.

A *structural-logical method* was applied to construct the graphic and logistic models presented in the article, being original contributions of the authors. These include: 1) the key principles for conducting land consolidation; 2) the hierarchy of territorial development, planning, and land use in Ukraine; 3) land consolidation as a tool for sustainable rural development; 4) the relationships between the sustainable development goals for rural areas and the objectives and

measures of land consolidation; and 5) the conceptual essence of land consolidation within the framework of Ukrainian legislation.

The research methodology is grounded in several fundamental principles. First, it relies on the general dialectical principle of universal interconnection and interaction. Second, it draws on the principle of causality, which is intrinsically linked to the notions of interdependence and development. Third, the study is guided by the principle of systematic inquiry, which ensures a coherent and comprehensive analysis of the research subject. It should be noted that this research is primarily conceptual and theoretical in nature. The study focuses on the analysis of legal, institutional, and strategic frameworks for land management. Given the focus on substantiating the role of land consolidation within national recovery strategies, the manuscript does not include empirical case studies or primary field data. Instead, it synthesizes existing international experience and adapts it to the specific socio-economic and legal conditions of Ukraine.

#### **Analysis of recent research and publications**

Issues related to land consolidation have been widely examined by foreign scholars. In particular, Backman (2010) analyzed the fundamental aspects of land consolidation in Sweden; Cartwright (2014) explored the efforts of a coalition of international organizations, bilateral donors, and land market professionals to promote viable farming systems through land consolidation; Drees and Sünderhauf (2006) approached land consolidation as a multidimensional and comprehensive process; and Dudzińska and Kocur-Bera (2014) investigated land fragmentation, emphasizing its dependence on the number of land parcels within a farm, their distance from settlements, and parcel size.

A significant body of research has also been produced by Ukrainian scholars on various aspects of legal regulation within the agro-industrial sector, including the use of agricultural land. These works include studies on legal relations in the agricultural complex (Ilkiv, 2007); the influence of recreational lands on human health and the identification of priority forms of their use and protection (Batygina et al., 2020); legal regulation of land lease relations in Ukraine and mechanisms for preventing and resolving disputes arising from non-compliance with lease agreements (San-

nikov et al., 2020); the conceptual foundations of land consolidation and its place within the legal system of Ukraine (Derevyanko and Turkot, 2024); and the justification for basing land consolidation processes on the collective will of the majority of landowners within a land massif (Martyn and Krasnolutskyi, 2011).

Recent studies have substantiated the inclusion of institutionalization as a key component of sustainable land use, conceptualizing it as a new paradigm for land-resource management in the context of war-related transformations in Ukraine (Datsenko et al., 2024; Dubnytska et al., 2023). It has also been demonstrated that land management lays the practical foundation of Ukraine's comprehensive post-war reconstruction. This approach integrates informational support for legal, economic, environmental, and urban-planning mechanisms of land relations at the national, regional, local, and economic levels, contributing to the development of proposals for establishing special regimes and conditions for land use as an aspect of critical importance for national recovery (Dubnytska et al., 2023).

Despite substantial contributions by Ukrainian researchers, numerous problems in the field of land use remain unresolved. Following the distribution of agricultural lands and the allocation of land shares to millions of Ukrainian citizens, multiple challenges emerged in the management of land ownership and use. Among the most widespread are *parcel intermixture*, wherein long, narrow parcels belong to different owners and often lack direct access to roads; *fragmentation (scattering)*, whereby a single owner possesses two or more parcels located at significant distances from one another; and the *excessive remoteness of parcels* belonging to family members participating in farming.

Land consolidation as a mechanism for addressing spatial disadvantages of land use and land fragmentation is not a new phenomenon. This approach has been widely applied across Western European countries as a key element of land reform. According to FAO research, the earliest documented attempts at land consolidation took place in the Scandinavian countries, particularly Denmark. In the 1750s, Denmark implemented a far-reaching social reform that abolished feudal obligations and facilitated the establishment of private family farms.

Across Europe, approaches to land consolidation vary significantly, and the term itself may hold different meanings depending on the national context. There is no single universally accepted definition, but rather each country employs its own conceptualization. However, FAO's study "Development of a Concept for Pilot Projects on Land Consolidation in Central and Eastern Europe" (FAO, 2003) characterizes *land consolidation* as a broad concept encompassing measures aimed at restructuring property rights through coordinated actions among landowners and land users. The term also appears under various names, including *ruilverkaveling* (Dutch), *remembrement* (French), and *Flurbereinigung* (German).

In nearly all continental Western European countries, a legal framework for land consolidation has existed for more than two centuries. The primary motivation for the development of these legal norms has been the improvement of agricultural efficiency and working conditions. The most active period of "classical" land consolidation occurred in the 1960s–1970s. In this context, "classical" land consolidation refers to the redistribution of land parcels to mitigate fragmentation.

Despite its common association with simple parcel redistribution, land consolidation has historically been intertwined with broader socio-economic reforms. For example, the German model of "standard" land consolidation illustrates how the process became closely linked to active land management, spatial and sectoral planning, and the country's broader economic and infrastructural development.

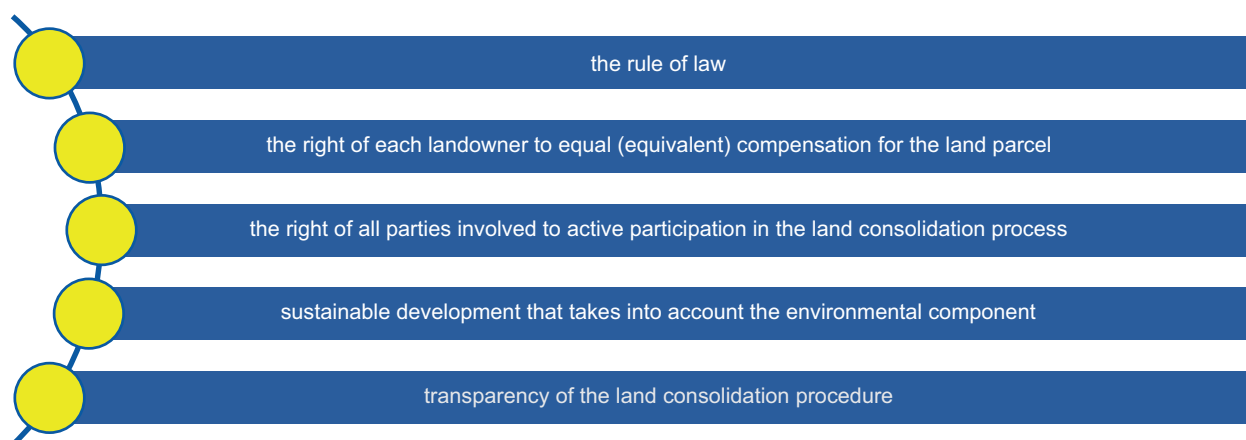
## RESULTS

*The consolidation of agricultural land* refers to the process of integrating fragmented agricultural parcels or agricultural formations. This process is designed to eliminate deficiencies related to their configuration, size, and structure. It also addresses issues concerning location and field or parcel boundaries.

Land consolidation may involve the unification of land parcels belonging to individual owners, farmers, or land users. It also encompasses improvements in infrastructure and access to land resources. Typical shortcomings of land ownership and land use include fragmentation or spatial dispersion of parcels. Other identified issues involve suboptimal parcel size and irregular shapes. Furthermore, configurations can be strip-shaped or topographically elongated. The process also targets enclaves, intrusions, and irregular boundaries. In many cases, parcels are located at significant distances from one another. Land consolidation is implemented through designated projects which cover clearly defined rural territories or settlements.

The proposed framework for land consolidation is based on several closely interrelated *key principles*. These principles are systematically illustrated in Figure 1. They define the organizational and functional requirements for achieving the potential of sustainable land management.

The organizational framework for land consolidation in Ukraine incorporates several specific technical and legal methods. These include the redefinition of



**Fig. 1.** Key principles for conducting land consolidation (own elaboration)

land and plot boundaries, alongside the creation and termination of land parcels. The system also encompasses environmental protection measures and improvements to agricultural infrastructure. Specifically, these infrastructure developments involve irrigation, drainage, and road networks.

Furthermore, the proposed model addresses structural deficiencies in land ownership to reduce excessive fragmentation. These measures are integrated into broader rural development programs. The framework also focuses on preventing the parcelling of agricultural lands and coordinating actions among various stakeholders. Finally, it provides for the redistribution of land structures. These components are reflected, to varying degrees, in the draft law “On Amendments to Certain Legislative Acts of Ukraine on Land Consolidation” (Verkhovna Rada of Ukraine, 2021).

Land consolidation encompasses two primary components: land redistribution and rural development planning. The redistribution aspect focuses on restructuring ownership and tenure by adjusting the size, shape, and location of parcels. In parallel, rural development planning involves the creation of infrastructure and the implementation of resource conservation measures. This component also includes settlement renewal and land protection initiatives. Together, these elements facilitate optimized land use while integrating environmental sustainability.

Rural areas are classified according to several distinct characteristics that include spatial-territorial, administrative-legal, functional-economic, and structural dimensions. In this study, a rural area is defined as a non-urbanized territory located outside of settlement boundaries, and primarily engaged in agricultural activity. Natural conditions and landscapes of these territories in Ukraine exhibit considerable diversity. Furthermore, they reflect unique regional traditions and varying economic conditions. Factual data indicates significant demographic shifts, with the rural population decreasing by more than 30% between 2008 and 2018.

Rural territories possess a unique feature of multiple complementarities due to their intrinsic nature. When utilizing the potential of resources, land in particular, natural conditions determine the available possibilities for development. These conditions are directly expressed in relief, landscape stability, and

other physical characteristics. Furthermore, rural areas are characterized by specific spatial attributes, such as territory, length, configuration, and compactness. Geographic location, population density, climatic conditions, and landscape features also play a decisive role in shaping the functioning of rural areas. In a broader sense, they function as living spaces for the population, which may be categorized as natural, industrial, or anthropogenic environments. Consequently, this concept encompasses significantly more than traditional settlements or administrative-territorial units.

Non-standard rural areas can be divided into those oriented towards non-agrarian development, urbanized rural areas, and specialized zones. These types indicate an increasing interconnection between the rural and urban components of society across various dimensions. Rural areas located near developed urban regions present a high demand for land resources. This demand primarily targets residential construction and industrial facilities, but it also includes transport infrastructure, agricultural production, nature conservation, and recreation. Consequently, these factors result in intensive land use and heightened competition for available plots. Such dynamics lead to the emergence of land-use conflicts and a significant rise in land prices.

Furthermore, Russia’s military aggression against Ukraine has had an extensive negative impact on rural land resources. Military operations have caused severe physical damage to large tracts of land. This damage ranges from mechanical destruction of the soil to profound chemical contamination. The situation is further complicated by the fact that many territories requiring urgent reclamation remain under the control of Russian forces. A substantial share of the economy in these regions previously relied on agriculture, and this dependence is likely to persist. Current data also reveals ongoing depopulation and a rising proportion of rural residents living below the poverty line.

Regulation (EU) No 1305/2013 governs rural development within the European Union (European Parliament and Council, 2013). This regulation establishes the strategic and operational frameworks for development support through the European Agricultural Fund. Financial assistance is provided via the co-financing of national measures. These initiatives aim to promote project implementation across European rural territories.

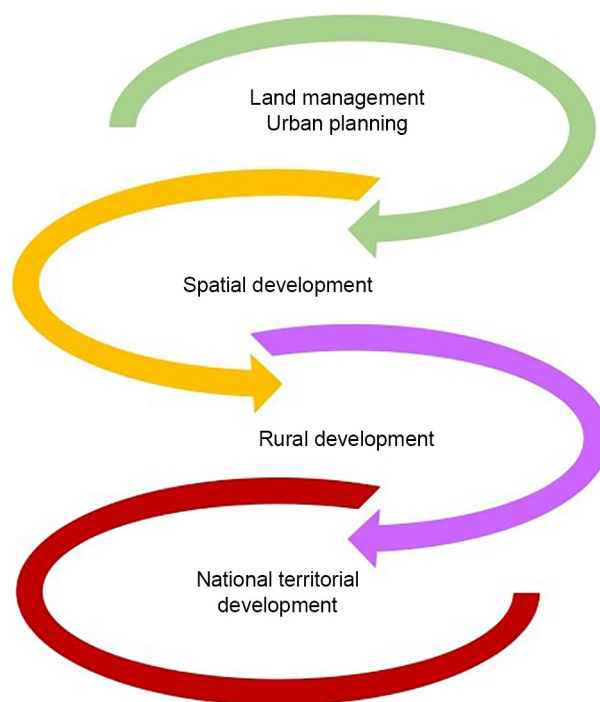
The Association Agreement between Ukraine and the EU emphasizes the advancement of rural development through several specific objectives (European Parliament and Council, 2017). First, the agreement seeks to strengthen mutual understanding of policies to promote sustainable development and improve rural living standards. Second, it facilitates the exchange of best practices regarding support mechanisms for rural policy initiatives. Third, the agreement encourages knowledge transfer to enhance the economic well-being of rural communities.

Land relations in Ukraine have become increasingly complex due to historical land reforms. These processes included denationalization and the distribution of land shares. Additionally, the reforms involved the privatization of lands formerly held by collective agricultural enterprises. Such transformations altered significantly the existing structures of land ownership and management. The current land use model in Ukraine predominantly depends on lease relations. Agricultural enterprises usually use land under medium- and long-term lease agreements. Furthermore, many farms continue to employ traditional cultivation methods. These established practices often rely on outdated technologies. Such factors currently limit the potential for modernization within the agricultural sector. Reliance on traditional methods also hinders improvements in the overall productivity of agricultural activities.

A key finding regarding the Ukrainian context is the current absence of a comprehensive legislative and practical framework for land consolidation. The analysis identifies complex structural challenges, such as land fragmentation and suboptimal farm sizes, that constraint agricultural productivity and rural development. These factors, when compounded by demographic trends such as an ageing and shrinking population, contribute to the heightening risk of land degradation and abandonment.

The complexity of rural development also stems from the need to align land management with the regulation of urban development activities. Urban planning documentation establishes territorial development plans and regulates the spatial distribution of residential, industrial, commercial, and infrastructure facilities. It integrates the specific characteristics of a territory, including natural conditions, and available

resources, as well as demographic and economic indicators. In rural areas, land management and urban planning activities are organized according to layered and hierarchical principles, with individual components complementing one another to form a framework for systematic territorial development (Fig. 2).



**Fig. 2.** Hierarchy of development, planning, and land use in Ukraine (own elaboration)

The implementation of this integrated planning hierarchy requires the fulfillment of specific functional criteria to ensure its effectiveness at the local level. To support such development, a comprehensive plan for the spatial development of a territorial community is prepared. This instrument functions simultaneously as land management and urban planning documentation at the local level. The creation of such plan establishes a unified and coordinated approach to the spatial development of all rural settlements within a community, treating them as a single, integrated system together with the surrounding territory. Furthermore, the application of these planning measures is not confined to agricultural or forestry lands; rather it extends to all land categories subject to distribution or redistribu-

tion. This framework facilitates the planning, preparation, and implementation of projects to ensure the effective functioning of residential, economic, and recreational zones.

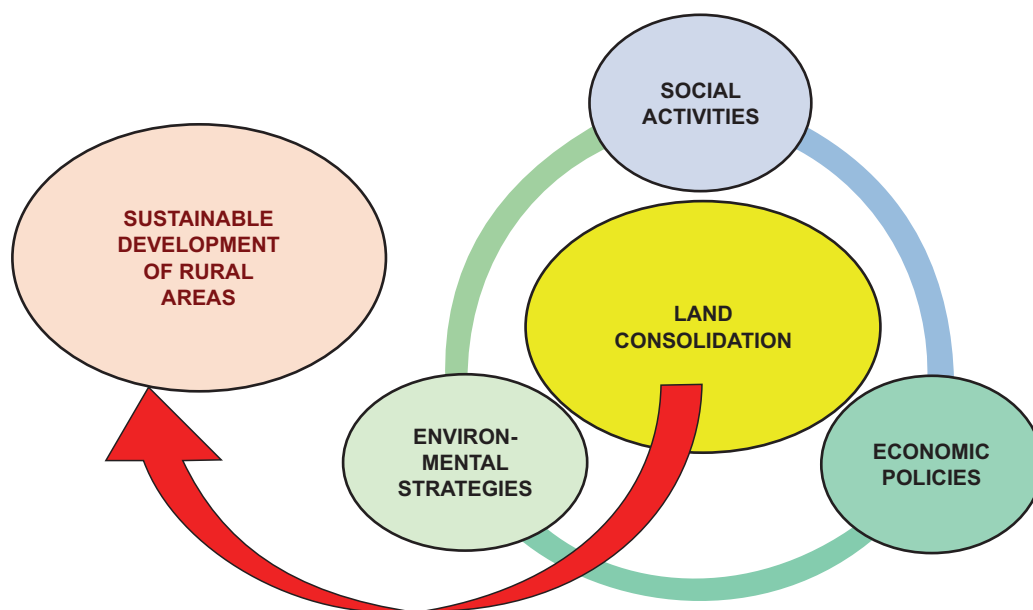
The study identifies five fundamental conditions required for land consolidation to function as an effective instrument for rural development. These conditions include:

1. The prioritization of improving rural living conditions over a narrow focus on agricultural production efficiency.
2. The revitalization of territorial communities through sustainable economic development and effective natural resource management.
3. The inclusion of active, democratic public participation initiated at the community level.
4. The provision of external support in a facilitating capacity that empowers communities to reorganize spatial resources.
5. The adoption of an intermediate approach between sectoral and comprehensive models, integrating rural and regional development, while accounting for rural-urban interconnections.

These elements together constitute a multifaceted framework for land consolidation that integrates social, economic, and environmental dimensions (Fig. 3).

The correlation between sustainable rural development and the objectives achievable through land consolidation processes is illustrated in Figure 4. The goals of land consolidation are multifaceted, reflecting the diverse interests of landowners, land users, easement holders, society in general, and other stakeholders. Each of these groups pursues distinct objectives and benefits. Specifically, agricultural producers mainly want to enhance productivity and minimize production costs, whereas rural residents prioritize the formation of land parcels suitable for housing or commercial infrastructure to improve living and working standards. From the state perspective, the objective involves the regulation of agricultural output, including the increase or decrease of production in response to market dynamics.

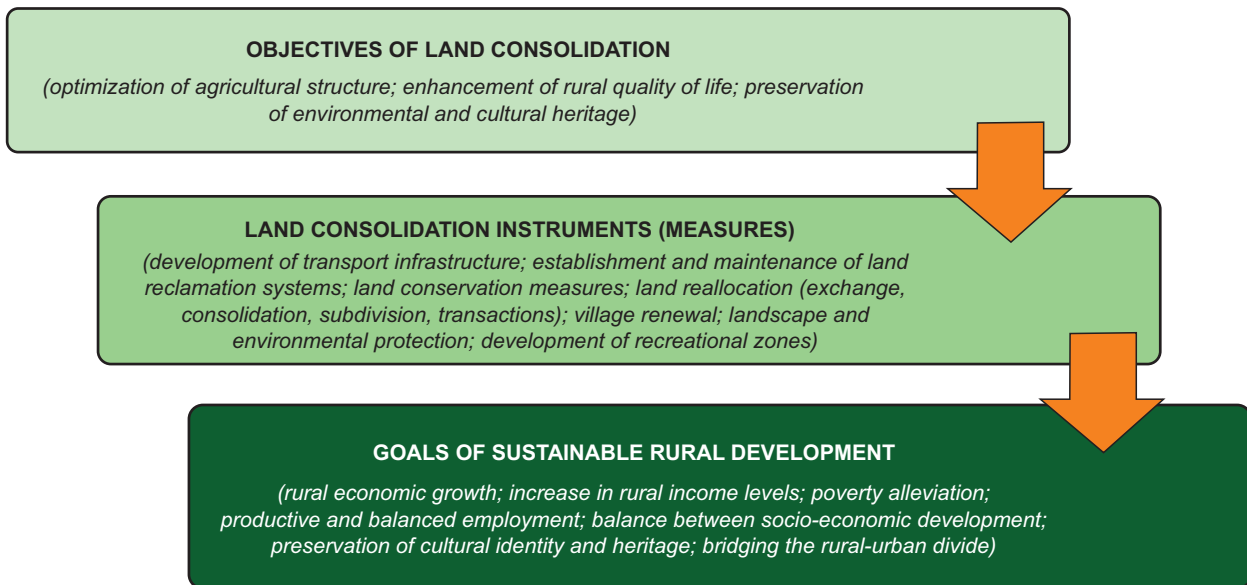
In order to reconcile these divergent interests within a legal framework, the current Law of Ukraine on Land Management provides a basis for specific land management measures (Verkhovna Rada of Ukraine, 2003). In accordance with this Law, land management measures comprise activities specified within land planning documentation aimed at the rational use and protection of land resources. These measures involve the spatial organization of land management units while accounting for their designated purpose, usage



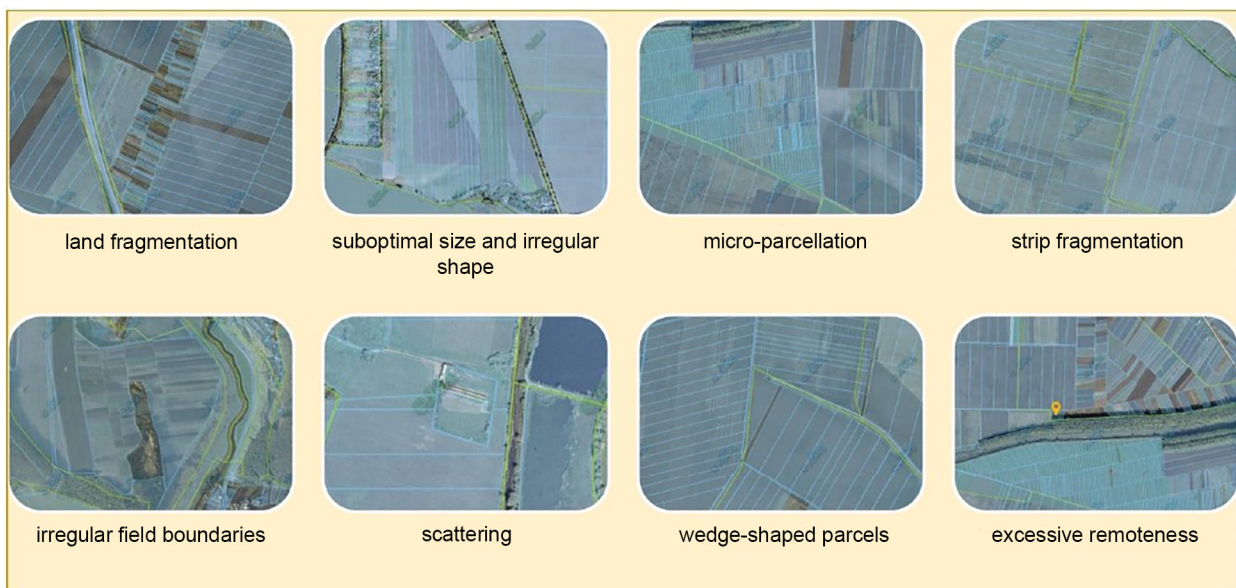
**Fig. 3.** Land consolidation as a tool for sustainable development of rural areas (own elaboration)

restrictions, and encumbrances, such as land easements, alongside the preservation and enhancement of soil fertility. Furthermore, current challenges regarding land ownership and land use in Ukraine were identified through an analysis of the Public Cadastral Map

of Ukraine. It is pertinent to note that public access to this map remains restricted due to security protocols implemented during the ongoing war. The structural problems identified through this analysis are illustrated in Figure 5.



**Fig 4.** Interconnection between sustainable rural development and land consolidation objectives and measures (own elaboration)



**Fig. 5.** Spatial defects in land tenure and land use in Ukraine (Source: own elaboration based on the Public Cadastral Map)

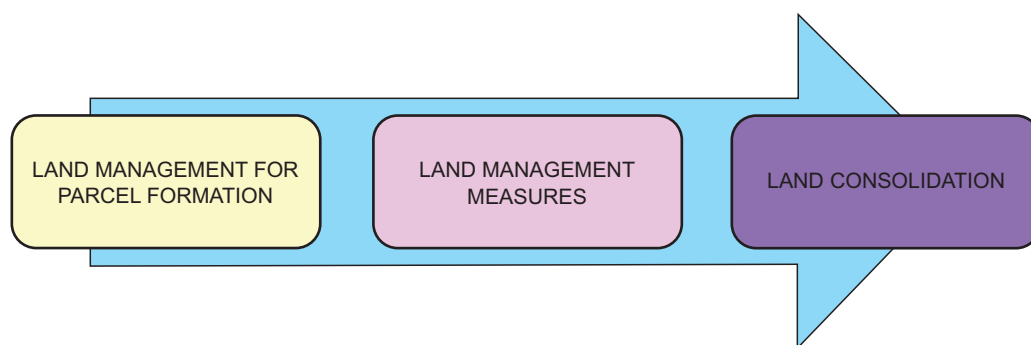
Sustainable agricultural land use is defined as the long term utilization of land parcels that preserves their designated purpose, prevents the degradation of their qualitative characteristics, and ensures the optimal performance of the territory’s ecological and socio-economic functions. This conceptual framework is consistent with the provisions of Draft Law No. 5438, which proposes adding Article 185-1, on Land Consolidation, to the Land Code of Ukraine (Verkhovna Rada of Ukraine, 2021). The legislative proposal defines consolidation as a comprehensive set of land management measures involving the alteration of boundaries, the formation of new parcels,

and the reorganization of existing ones, with the aim of mitigating land fragmentation and ensuring sustainable land use. Furthermore, the measures specified in a land consolidation project must comply with the legal requirements set out in the Draft Law. The key provisions of this legislation and their implications for stakeholders are analyzed in Table 1.

Regardless of whether land consolidation is implemented on a voluntary or compulsory basis, the land management measures stipulated in the Law of Ukraine on Land Management fully align with the fundamental goals and objectives of the consolidation process (Fig. 6).

**Table 1.** Analysis of key requirements for land consolidation projects according to the Draft Law (No. 5438) (Source: own elaboration based on Verkhovna Rada of Ukraine, 2021)

Focus area	Legislative requirement (Draft Law)	Rationale and implications for stakeholders
Economic security	The monetary valuation of a post-consolidation plot must not decrease by more than 10% compared to the valuation of the original plot.	Protects participants’ economic interests. Serves as a safeguard against unequal exchanges and prevents hostile acquisitions (“land grabbing”) by ensuring value equivalence.
Spatial optimization	Within the agricultural area, parcel intermixture (fragmentation) must be eliminated. All plots owned by a single entity must be consolidated into a contiguous area.	Addresses the primary objective of consolidation. Eliminating fragmentation reduces production costs and simplifies land cultivation logistics.
Infrastructure access	Direct access to a public road must be ensured for every consolidated plot (or group of contiguous plots owned by one person).	Ensures the functional autonomy of each parcel. Eliminates the legal and technical need to establish easements (rights of way) across neighboring properties.
Property rights	Reduction of plot area, change of land use, or merging of plots is prohibited without the owner’s explicit consent.	Guarantees voluntary participation. Owners cannot be forced into unfavorable exchanges; this incentivizes initiators to offer equivalent or larger plots to secure consent.
Tenure stability	A new consolidation project for the same plots cannot be initiated for at least 5 years after the previous one.	Provides stability for long-term agricultural planning. Allows owners to invest in soil fertility and complete full crop rotation cycles without risk of spatial reorganization.



**Fig. 6.** The essence of land consolidation in Ukrainian legislation (own elaboration)

Land redistribution, specifically the reallocation of parcels, is defined as a set of land management activities resulting in the formation of new, spatially optimized parcels or the consolidation of adjacent parcels into a single unit. This process involves the alteration of boundaries for existing parcels, which modifies their characteristics and confers new ownership and usage rights to the respective stakeholders. Fundamentally, land redistribution facilitates the restructuring of the spatial layout of parcels within a consolidated area. In the context of land management in Ukraine, this mechanism integrates various methods of parcel formation into a unified procedure. Consequently, a single technical documentation package is generated for all newly formed parcels, which replaces the necessity for numerous separate projects. Furthermore, land redistribution simultaneously fulfills two primary functions:

1. Technical and engineering (design) functions involving the alignment of existing ownership structures and land use patterns with the specific requirements of public and private interests defined by consolidation goals.
2. Legal functions, which facilitate the formal creation of new parcels and the securing of ownership rights through their registration in the State Land Cadastre and the State Register of Rights to Real Estate.

## DISCUSSION

The process of land consolidation facilitates improved land use and enhances economic efficiency. It also optimizes the organization of agricultural production. The primary objective of land consolidation is to remove disadvantages in land ownership and land use. These factors often adversely affect agricultural management and economic performance.

The overarching goal of such projects is to address structural issues by reorganizing, combining, and optimizing land parcels. This approach ensures more efficient use of agricultural resources. The significance of consolidation lies in its capacity to eliminate or reduce parcelization and fragmentation. Consequently, these measures contribute to the sustainable development of agriculture.

About thirty years ago, most Western European countries substantially revised their approaches to land

consolidation. Earlier efforts primarily focused on restructuring landholdings and increasing agricultural productivity. In contrast, contemporary approaches are oriented toward addressing broader social needs land use is supposed to meet. They also focus on resolving conflicts related to land tenure and land use. This shift has enabled the incorporation of issues associated with the degradation of agricultural landscapes and suboptimal land use. There is now a growing emphasis on environmental protection and sustainable land management. As a result, land consolidation has evolved into a mechanism for harmonizing social, environmental, and economic interests around land use.

The study confirms that land consolidation serves as a pivotal instrument for achieving the United Nations Sustainable Development Goals (SDGs) 2030 (United Nations Development Programme, 2015). In a broader context, land consolidation offers a mechanism to address structural challenges that otherwise result in economic stagnation. Given the monumental tasks of post-war reconstruction, the introduction of land consolidation is imperative for the state. It has the potential to become a primary tool for the sustainable and “green” recovery of urban and rural territories affected by military aggression, ensuring the implementation of rational land use and the enhancement of environmental resilience.

Modern approaches to land consolidation have been influenced by the European Union’s cohesion policy. This policy recognizes consolidation as an important tool for enhancing rural development. Ukrainian researchers have emphasized the significance of the EU’s experience and the need to adapt it to national conditions. Western European countries have legislative frameworks for land consolidation with a history spanning more than two centuries. In contrast, Ukraine’s current land legislation lacks an effective legal mechanism for supporting land consolidation (Kurylo et al., 2021). This current state of the law underscores the urgent need for its development.

The implementation of European best practices creates favorable conditions for regional growth. These initiatives primarily involve structured policy coordination and the systematic transfer of knowledge between Ukraine and the European Union. Such collaborative efforts expand socio-economic opportunities for local residents. Furthermore, the long-term

prosperity of these territories hinges on the effective and rational use of land resources.

However, the existing land ownership system often hinders sustainable development. These limitations result from the complex relations that have formed over the past decades. Current land parcel configurations and field structures often fail to align with modern agricultural practices. Fragmentation and inconvenient layouts create significant barriers to the use of contemporary agricultural machinery. These factors impede economic activity and reduce overall agricultural productivity. The lack of alignment with technological requirements necessitates a transition toward more efficient spatial organization.

Modernizing and rationalizing the structure of land parcels is essential for ensuring regional sustainability. Land management serves as a fundamental instrument of state policy for addressing existing structural challenges. This framework incorporates a variety of legal, organizational, and economic solutions. It also integrates social and environmental measures to support territorial growth.

The implementation of these initiatives, which incorporate European land management standards, facilitates the development of optimal land use models. Such strategies are effective for both individual settlements and broader rural territories. This approach ensures that the redistribution of land resources aligns with the long-term goals of sustainable development and environmental protection.

While the legal mechanism for land consolidation encompasses various methods and measures, it must be firmly grounded in foundational principles. Scholarly literature emphasizes that relations aimed at ensuring land consolidation should prioritize the balance between private and public legal interests. In this context, legal relations regarding the prevention of agricultural land parcelling assume a specific hierarchy. Public legal requirements for the rational use of land are expected to take precedence over the private interests of individual landowners or users.

Land consolidation serves as the primary mechanism for managing rural land resources. It involves a coordinated set of measures to regulate land rights and align the actions of agricultural stakeholders (Kurylo et al., 2021). Experts also define land consolidation as a multifunctional tool for rural development and struc-

tural land reorganization (Popov et al., 2020). This approach extends beyond mere technical procedures to support the development of diverse production sectors. Consequently, the implementation of consolidation involves specific strategic tools that integrate social and economic objectives.

Land consolidation contributes to increased efficiency and profitability for both public and private investments. These investments primarily involve transport networks, communication systems, utilities, and the infrastructure for land reclamation. Such improvements directly promote community revitalization and social stability within rural territories. In numerous Western European communities, the implementation of land consolidation has led to a recorded increase in employment opportunities. This development generates additional tax revenues for local budgets. Integrated land-use planning and the effective coordination of stakeholder interests also help prevent potential conflicts. Specifically, these mechanisms balance the stimulation of economic growth in the rural sector with environmental protection. Therefore, land consolidation projects play a critical role in establishing the foundation for spatial development. They provide the necessary framework for implementing integrated land-use planning at a local level.

Research conducted by the FAO (2002, 2003, 2012, 2015, 2016, 2020, 2023) demonstrates that land consolidation can significantly enhance agricultural production. Agricultural restructuring involves reducing the number of fragmented parcels. This process focuses on forming larger and more uniform land units. Such structural changes increase the competitiveness of agricultural enterprises. Optimized land use creates favorable conditions for the introduction of modern technologies. These advancements lead to higher productivity and improved efficiency in agricultural operations.

Today, rural settlements face a complex array of challenges. These include the pressures of market globalization and significant labor market transformations. The situation is further exacerbated by climate change and the ongoing military operations. The economic landscape of these territories is becoming increasingly uneven. While some regions maintain a developed economy, others lack clear development prospects and suffer from high unemployment rates.

These economic disparities contribute to substantial outmigration, particularly among the younger demographic. This context underscores the necessity of implementing land consolidation, not merely as a technical tool, but as a strategic response to socio-economic decline and post-war recovery.

Rural areas occupy a defined spatial dimension and have a distinct temporal specificity. This duality enables researchers to study the duration, sequence, and intensity of territorial functioning across various spatial points. Space is the fundamental basis for structural research, as it is a necessary condition for both natural processes and economic activities. However, the factor of time also possesses significant methodological importance. It allows for the identification of differences and shared features among localized areas. Such comparisons can be made simultaneously, regardless of the specific regional placement of the territories. This spatio-temporal approach provides a more comprehensive understanding of how rural systems evolve in response to land management interventions.

The sustainable development of diverse rural territories represents a critical long-term objective. These areas include a wide range of landscapes, from peri-urban zones to regions severely affected by military operations. This strategic goal requires addressing the unique challenges inherent in each specific environment. In peri-urban areas, the main focus should be on managing intensive land use competition and rising prices. Conversely, in peripheral rural settlements, particular attention should be paid to mitigating continuous outmigration and socio-economic stagnation.

Structural transformations in agriculture also require careful analysis. These changes significantly influence regional landscapes and local employment opportunities. In territories suffering from the consequences of military aggression, the priority shifts toward urgent land reclamation and the restoration of agricultural productivity. The combination of environmental damage and increasing poverty levels in these regions highlights the urgent need for a comprehensive state policy. Such a policy must support rural recovery through integrated land management strategies. These programs should account for the specific degradation or development potential of each territory.

The implementation of land consolidation significantly enhances the efficiency of natural resource man-

agement. Through the rational spatial organization of land parcels, this process actively promotes environmental protection. Such an approach fosters more informed and sustainable land-use planning strategies. Moreover, the consolidation framework provides a coordinated mechanism for reallocating land across various usage categories. These processes help mitigate potential conflicts between stakeholders. They also ensure a more equitable and balanced distribution of land resources.

Beyond resource management, land consolidation serves as a vital tool for modernizing land administration systems. These projects facilitate the systematic clarification and updating of property register information. Consequently, the reliability and completeness of land rights data are significantly improved. Accurate cadastral information subsequently strengthens the overall functioning of the property market. The availability of precise data facilitates transparent transactions and encourages long-term investment. Additionally, improved administrative records support the effective and timely resolution of land-related disputes.

The structural framework of rural development involves a functional alignment between land management procedures and the regulatory mechanisms of urban development. Consequently, urban planning documentation performs a critical function in ensuring the sustainable development of rural communities and promoting their socio-economic progress. This framework supports the implementation of rational land management and infrastructure policies designed to foster long-term prosperity and improve quality of life in rural regions. Such an integrated approach facilitates sectoral coordination and establishes the necessary conditions for balanced regional growth.

The relationship between the scope of a given domain and its institutional framework suggests that the broader the domain, the more goals and measures it encompasses, consequently requiring a more extensive toolkit. In this context, the concept of spatial development extends beyond the traditional boundaries of land management and urban planning, incorporating all activities related to the territorial community and land use. The overarching objective of this expansive approach is the systematic improvement of

living and working conditions in rural areas. Spatial development involves a wide array of measures aimed at maintaining and enhancing various aspects of rural life. The ultimate goal is to create favorable conditions for long-term development and improve the quality of life for rural residents. Therefore, spatial development recognizes that effective land management must be integrated into a broader socio-economic and territorial strategy.

Land consolidation can become a highly effective tool for rural development, offering landowners and land users new opportunities to improve their situation, provided the aforementioned conditions are met. The focus on community well-being implies that consolidation must serve broader social needs and contribute to enhancing overall rural prosperity. This approach strengthens the community's long-term potential for growth and resilience. Furthermore, broad public engagement is essential to ensure that decisions reflect local needs, thereby enhancing public trust and legitimacy. External support should play a facilitating role, helping the territorial community identify new ways to use existing resources and to reorganize space more effectively, rather than imposing external priorities. By occupying an intermediate position between sectoral and comprehensive models, land consolidation reflects wider territorial linkages and promotes sustainable development through regional planning systems that incorporate community participation and democratic principles.

The successful implementation of land consolidation necessitates a strategic balance between the divergent interests of agricultural producers focused on productivity, rural residents seeking improved living standards, and the state regulating agricultural output. Such an alignment is essential to foster sustainable rural development and optimize the overall potential of territorial resources within the community.

From a conceptual standpoint, land consolidation in Ukraine should be implemented exclusively through land management measures and formally recorded in land planning documentation. This approach ensures that consolidation processes are not isolated activities but are integrated into a systematic territorial strategy. By aligning consolidation with formal land planning, the process becomes a core component of a legally grounded and technically sound mechanism designed

to address the complexities of land tenure and resource management effectively.

Within the scope of the proposed legislative changes, the mechanism of land redistribution emerges as the primary technical instrument for achieving these consolidation goals. The analysis suggests that land redistribution serves as a pivotal land management measure within the consolidation framework, as it facilitates project implementation irrespective of existing tenure patterns. By streamlining land management processes, redistribution ensures the practical realization of the consolidation project's strategic objectives. Introducing this approach in Ukraine offers a distinct advantage, as using a comprehensive documentation package significantly reduces the time and financial burden of coordination, approval, and registration in state systems. Moreover, the technical and engineering function of redistribution is particularly important as it optimizes land resource utilization while simultaneously mitigating land-related conflicts and social tension. This dual capacity to address both technical efficiency and social stability underscores the value of redistribution as a tool for sustainable rural development.

To support the effective implementation of land consolidation in Ukraine, this study proposes amending the Law of Ukraine on Land Management in order to introduce a new category of land management activity known as "land parcel redistribution," alongside the corresponding technical documentation titled "Land management project for parcel redistribution." This documentation is necessary for the restructuring multiple adjacent parcels to form new, spatially optimized units within a designated consolidation area. It is important to clarify that redistribution applies exclusively to parcels that are already registered in the State Land Cadastre and the State Register of Rights to Real Estate. Furthermore, the dimensions of newly formed parcels must strictly adhere to the minimum and maximum size limits established by current legislation. The definitive documents confirming the formation of new parcels shall be boundary plans drafted on the basis of cadastral surveys. These plans provide the legal basis for updating the State Land Cadastre and generating cadastral plans for the respective parcels. These boundary plans must align with the approved land redistribution plan.

The redistribution of parcels among owners and users is at the heart of the land consolidation process. This stage represents a critical component of any methodological approach to consolidation. Its primary advantage lies in the capacity to implement spatial planning measures irrespective of existing land use patterns or ownership structures within the territory, while simultaneously maintaining a strategic balance between private property rights and public interests.

## CONCLUSIONS

The study of regulatory and practical aspects of agricultural land use confirms that improving these processes is essential for mitigating structural deficiencies in Ukraine's agro-industrial sector. Specifically, this involves addressing spatial defects such as land fragmentation and parcel intermixture, thereby facilitating the optimization of resource use.

It should be noted that the adoption of the analyzed Draft Law (No. 5438) on Amendments to Certain Legislative Acts of Ukraine on Land Consolidation is expected to have a substantial positive impact on economic activities in the agro-industrial sector. Its implementation will enable the effective realization of consolidation goals. However, it is clear that legislative action alone cannot solve all the systemic issues associated with land use and agricultural production. Furthermore, these challenges are compounded daily by the consequences of the military aggression of the Russian Federation, particularly the urgent need for demining agricultural lands and developing mechanisms for war damage compensation.

Despite positive political and legislative developments, a significant gap remains: the absence of a distinct, legally enshrined definition of "rural territories". Currently, this concept is interpreted in spatial-territorial, administrative-legal, structural, and functional-economic terms.

One of the most pressing contemporary challenges is the conflict between intensive agricultural production and environmental sustainability (biodiversity protection, climate change mitigation). These issues necessitate urgent agrarian environmental initiatives. Ukraine's agricultural potential continues to attract foreign and domestic investors, driven by vast areas of fertile arable land and the rising global demand for

food. While this has fostered the growth of large agricultural holdings, attracting targeted investments to the regions where they are most needed requires resolving key policy issues. The most important of these is ensuring responsible investment in agriculture, a matter that is becoming increasingly relevant in the context of decentralization and the empowered role of local communities in managing rural land resources.

In the context of post-war reconstruction and the imperative to ensure the sustainable development of territories devastated by the military aggression of the Russian Federation, land consolidation is regarded as a critical instrument. It facilitates the restoration of spatial integrity, enhances land use efficiency, and establishes the prerequisites for the sustainable development of both rural and urbanized areas. The concept of "rural development" extends beyond the mere spatial planning of a territorial community. It encompasses a broad spectrum of initiatives, including the development of adequate transport infrastructure to ensure convenient connectivity with urban centers and other settlements. Furthermore, it requires the establishment of essential social infrastructure, such as healthcare institutions, schools, kindergartens. In summary, we propose the following definition: "sustainable development of rural areas" is the process of implementing qualitative changes aimed at fostering sustainable economic and social growth. This involves increasing economic efficiency, ensuring high employment levels, and improving the quality of life for rural populations by implementing an integrated set of social, environmental, and economic measures at both state and local governance levels.

Land consolidation can be a highly effective mechanism for rural development, offering new opportunities for landowners and land users. However, its success depends on several critical conditions. First, the objective must extend beyond merely increasing the efficiency of agricultural production, encompassing the improvement of the living conditions for rural populations. Second, the ultimate goal should be the revitalization of the territorial community, achieved through sustainable economic and political development, as well as effective natural resource management. Crucially, the consolidation process must be inherently democratic, driven by the community's own initiative, and involve active public participation. Moreover, external intervention should focus on assisting the terri-

torial community in identifying new strategies for resource utilization and spatial reorganization rather than imposing solutions from the outside. Finally, the approach to land consolidation must be intersectoral and comprehensive, combining elements of both rural and regional development while considering the linkages between rural and urbanized areas.

## REFERENCES

- Backman, M. (2010). Cost-Benefit Analysis of Land Consolidation in Sweden from the Viewpoint of Society and a Landowner. FIG Congress 2010, Facing the Challenges – Building the Capacity, Sydney, Australia, 11–16 April 2010. [https://www.fig.net/pub/fig2010/papers/ts10h%5Cts10h\\_backman\\_3811.pdf](https://www.fig.net/pub/fig2010/papers/ts10h%5Cts10h_backman_3811.pdf).
- Batygina, O.M., Derevyanko, B.V., Kadala, V.V. (2020). Recreational Land as a Component of Health Protection: Some Aspects of Legal Regulation. *Wiadomości Lekarskie*, 73(12), 2860–2864. DOI: 10.36740/WLek202012226.
- Cabinet of Ministers of Ukraine (2020). State Strategy for Regional Development for 2021–2027. Resolution No. 695, August 5, 2020. <https://www.kmu.gov.ua/diyalnist/regionalna-politika/strategichne-planuvannya-regionalnogo-rozvitku/derzhavna-strategiya-regionalnogo-rozvitku-na-2021-2027-roki-ta-plan-zahodiv-z-yiyi-realizaciyi> (accessed: 8.12.2025).
- Cabinet of Ministers of Ukraine (2024). On Approval of the Strategy for the Development of Agriculture and Rural Areas in Ukraine for the period up to 2030. Order No. 1163-r, November 15, 2024. <https://www.kmu.gov.ua/npas/pro-skhvalennia-stratehii-rozvytku-silskoho-hospodarstva-ta-silskykh-terytorii-v-ukraini-na-period-i151124-1163> (accessed: 8.12.2025).
- Cartwright, A. (2014). “None of us could have been against consolidation in principle”: A short history of market and policy failure in Central Eastern Europe. In: *Negotiating Territoriality: Spatial Dialogues Between State and Tradition*, Taylor and Francis, 65–78. DOI: 10.4324/9781315813103.
- Datsenko, L., Titova, S., Dubnytska, M. (2024). Conceptual approaches to the complex of restoration of territories affected by military actions in Ukraine. *Acta Scientiarum Polonorum. Formatio Circumiectus*, 23(3), 3–13. DOI: 10.15576/ASP.FC/190126.
- Derevyanko, B., Turkot, O. (2024). Land Consolidation: Benefits and Contradictories of Law Drafting. *University Scientific Notes*, 1(97), 6–20. DOI: 10.37491/UNZ.97.1.
- Drees, A., Stünderhauf, R. (2006). Land Consolidation as a Tools for Flood Prevention. Proceedings of the XXIII FIG Congress, Shaping the Change, Munich, Germany, October 8–13, 2006. [http://www.fig.net/pub/fig2006/papers/ts80/ts80\\_01\\_drees\\_sunderhauf\\_0853.pdf](http://www.fig.net/pub/fig2006/papers/ts80/ts80_01_drees_sunderhauf_0853.pdf) (accessed: 8.12.2025).
- Dubnytska, M., Datsenko, L., Titova, S. (2023). Land and legal relations reconstruction in the de-occupied territories of Ukraine. In: *GeoTerrace-2023*, Lviv, Ukraine, 1–5. DOI: 10.3997/2214-4609.2023510115.
- Dudzińska, M., Kocur-Bera, K. (2014). Assessment of land fragmentation for the purposes of land consolidation works on the example of the Pasym commune. *Geomatics, Landmanagement and Landscape*, 2. DOI: 10.15576/GLL/2014.2.31.
- European Parliament and Council (2013). Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005. *Official Journal of the European Union*, L347, 487–548. <https://eur-lex.europa.eu/eli/reg/2013/1305/oj/eng> (accessed: 8.12.2025).
- European Parliament and Council (2017). Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part. Decision (EU) 2017/1247 and Decision (EU) 2017/1248. [https://eur-lex.europa.eu/eli/agree\\_international/2014/295/oj/eng](https://eur-lex.europa.eu/eli/agree_international/2014/295/oj/eng) (accessed: 8.12.2025).
- FAO (2002). Land Tenure and Rural Development. *FAO Land Tenure Studies 3*. Rome. <https://openknowledge.fao.org/handle/20.500.14283/y4307e> (accessed: 8.12.2025).
- FAO (2003). The design of land consolidation pilot projects in Central and Eastern Europe. *FAO Land Tenure Studies 6*, Rome. <https://openknowledge.fao.org/handle/20.500.14283/y4954e> (accessed: 8.12.2025).
- FAO (2012). *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*. Rome, Italy, 47. DOI: 10.4060/i2801e.
- FAO (2015). Pilot evaluation: Land Consolidation in Konya Region, Cumra District, villages Inli and Dinlendik (2010–2012). Final Report by M. Kvistgaard with input from M. Hartvigsen, FAO/Turkey Partnership Program (UTF/TUR/060/TUR). Rome. [https://www.fao.org/fileadmin/user\\_upload/reu/europe/documents/Events2015/LN7/Konya\\_en.pdf](https://www.fao.org/fileadmin/user_upload/reu/europe/documents/Events2015/LN7/Konya_en.pdf) (accessed: 8.12.2025).
- FAO (2016). *Responsible Governance of Tenure and the Law. A guide for lawyers and other legal service provi-*

- ders, Rome, 5. <https://www.fao.org/3/i5449e/i5449e.pdf> (accessed: 8.12.2025).
- FAO (2020). Technical Assistance to the Ministry of Agrarian Policy and Food of Ukraine in agricultural Support Policy, Exports of Horticultural Products and Land Consolidation (TCP/UKR/3601). Rome, Italy, 12. <https://openknowledge.fao.org/handle/20.500.14283/ca8980en> (accessed: 8.12.2025).
- FAO (2023). Generic master's course curriculum on land consolidation and land banking. Study and recommendations, Budapest. DOI: 10.4060/cc8495en.
- Ilkiv, N.V. (2007). Lease of agricultural land in Ukraine: theoretical and practical aspects. N.I. Tytova (ed.). Kyiv, 296. <https://dspace.lvduvs.edu.ua/bitstream/1234567890/205/1/Ilkiv%20monograf.pdf> (accessed: 8.12.2025).
- Kurylo, I.V., Semchyk, O.V., Kravchenko, O.M. (2021). Consolidation of agricultural lands in Ukraine: theoretical and legal foundations. *International Scientific Journal "Internauka". Series: Legal Sciences*, 11. DOI: 10.25313/2520-2308-2021-11-7684.
- Martyn, A., Krasnolutskyi, O. (2011). Consolidation of agricultural land in Ukraine: Implementation mechanism. *Zemlevporyadnyi Visnyk*, 5, 16–21.
- Popov, A. (2016). Lessons from Providing of Agricultural Land Consolidation in the Countries of Central and Eastern Europe. *Economy and Society*, 2, 459–465. [https://economyandsociety.in.ua/journals/2\\_ukr/82.pdf](https://economyandsociety.in.ua/journals/2_ukr/82.pdf) (accessed: 8.12.2025).
- Popov, A., Movchan, S., Kolomiets, S., Lezhenkin, I. (2020). Formation of agricultural land massifs as an alternative to land consolidation. *Economic and Social Geography*, 84, 42–54. DOI: 10.17721/2413-7154/2020.84.42-54.
- Sannikov, D.V., Khominets, S.V., Kovach, D.L., Chyryk, A.O., Savelieva, O.M. (2020). Legal regulation of land lease in Ukraine. *Journal of Advanced Research in Law and Economics*, 4(11), 1398–1404. DOI: 10.14505/jarlev11.4(50).36.
- United Nations Development Programme (2015). Sustainable Development Goals. <https://www.undp.org/sustainable-development-goals> (accessed: 8.12.2025).
- Verkhovna Rada of Ukraine (2003). On Land Management. Law of Ukraine. No. 858-IV, May 22, 2003. <https://zakon.rada.gov.ua/laws/show/858-15#Text> (accessed: 8.12.2025).
- Verkhovna Rada of Ukraine (2015). On Voluntary Amalgamation of Territorial Communities. Law of Ukraine. No. 157-VIII, February 5, 2015. <https://zakon.rada.gov.ua/laws/show/157-19#Text> (accessed: 8.12.2025).
- Verkhovna Rada of Ukraine (2017). On Environmental Impact Assessment. Law of Ukraine. No. 2059-VIII, May 23, 2017. <https://zakon.rada.gov.ua/laws/show/2059-19#Text> (accessed: 8.12.2025).
- Verkhovna Rada of Ukraine (2018). On Strategic Environmental Assessment. Law of Ukraine. No. 2354-VIII, March 20, 2018. <https://zakon.rada.gov.ua/laws/show/2354-19#Text> (accessed: 8.12.2025).
- Verkhovna Rada of Ukraine (2021). Draft Law on Amendments to Certain Legislative Acts of Ukraine on Land Consolidation. No. 5438, April 28, 2021. [http://w1.c1.rada.gov.ua/pls/zweb2/webproc4\\_1?pf3511=71783](http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=71783) (accessed: 8.12.2025).

## WYKORZYSTANIE SCALENIA GRUNTÓW DO WSPIERANIA ZRÓWNOWAŻONEGO ROZWOJU OBSZARÓW WIEJSKICH NA UKRAINIE

### ABSTRAKT

#### Cel badania

Celem badania było ustalenie skuteczności scalania gruntów jako narzędzia planowania przestrzennego oraz zrównoważonego rozwoju społeczności terytorialnych na Ukrainie. W szczególności skupia się ono na kwestii odbudowy powojennej i transformacji zagospodarowania przestrzennego, identyfikując niezbędne podstawy organizacyjne i prawne do scalania gruntów, co ma na celu rozwój sektora rolnego.

#### Materiały i metody

Podstawy teoretyczne niniejszego badania opierają się na pracach naukowych dotyczących scalania gruntów autorstwa krajowych i zagranicznych ekspertów, aktach prawnych oraz danych analitycznych dotyczących rozwoju terytorialnego. Ramy metodologiczne zakładają podejście systematyczne, wykorzystujące analizę strukturalno-logiczną oraz syntezę w celu zbadania wzajemnych oddziaływań w ramach systemu gospodarowania gruntami.

### **Wyniki i wnioski**

Badanie dowiodło, że scalanie gruntów stanowi kluczowy mechanizm pozwalający przezwyciężyć rozdrobnienie gruntów, poprawić efektywność ich użytkowania oraz wspomóc rozwój obszarów wiejskich na Ukrainie. Przyczynia się ono do wzrostu produktywności rolnictwa, wspiera ochronę środowiska oraz usprawnia systemy gospodarowania gruntami. Wyniki analizy sugerują, że nowoczesny proces scaleniowy musi uwzględniać potrzeby społeczne, gospodarcze i ekologiczne, planowanie przestrzenne oraz zapewniać udział lokalnej społeczności. Biorąc pod uwagę wyzwania powojenne oraz brak kompleksowych ram prawnych, wdrożenie scalania gruntów ma kluczowe znaczenie dla skutecznej odbudowy, zrównoważonego gospodarowania gruntami oraz długoterminowej ochrony lokalnych społeczności.

**Słowa kluczowe:** scalanie gruntów, rozwój obszarów wiejskich, zrównoważony rozwój, grunty rolne, planowanie przestrzenne