## INVESTMENT ATTRACTIVENESS OF LAND PLOTS: A CASE STUDY OF THE CHORNOBAIVKA TERRITORIAL COMMUNITY IN ZOLOTONISKYI RAION OF CHERKASKA OBLAST

Y. Dorosh, Doctor of Economic Sciences, Professor, Corresponding Member of the National Academy of Agrarian Sciences (NAAS), e-mail: landukrainenaas@gmail.com
O. Sakal, Doctor of Economic Sciences, Senior Research Fellow, e-mail: o\_sakal@ukr.net
R. Kharytonenko, PhD in Economics, e-mail: kharytonenkoR@gmail.com
Y. Riabova, specialist, e-mail: juliaa.ryabova@gmail.com
Land Management Institute of National Academy of Agrarian Sciences of Ukraine

Abstract. The rationale is provided that to ensure investment attractiveness of land and implement capital investments, it is necessary to conduct a systematic analysis of the current state of land use, taking into account the consequences of the war and priorities for recovery. A review of publications containing research results on the issues of investment attractiveness of land, including agricultural land, has been conducted.

The structure of land, water resources, and the agro-industrial complex of the Chornobaivka territorial community in the Zolotoniskyi raion of the Cherkaska oblast has been analyzed. The structure of the soil cover of the territorial community is provided. Factors influencing the investment attractiveness of the research object have been systematized. These factors include investment objects, geographical location, natural resources, business infrastructure, community budget, land use regulation, and the profitability of agricultural production. To assess the investment attractiveness of land resources, financial analysis, risk analysis, strategic approach, comparative analysis, scenario analysis, ecological and social approach have been applied. Emphasizing that the intensity, duration, and prevalence of armed conflicts, as negative factors, can differently impact the investment attractiveness of an administrative-territorial unit. Considering the proposed approaches to assessing the investment attractiveness of land resources, the following forecasted changes have been taken into account, such as attracting investments, economic development, infrastructure improvement, increased tax revenues, and the impact of armed conflicts. In aggregate, this has allowed determining the level of investment attractiveness of the researched territory.

**Key words:** investments, investment attractiveness, land investments, impact of armed conflicts, agricultural lands, industrial sectors, agricultural enterprises, industry structure, territorial communities, land use, rational land use, anthropogenic load, rural areas, green construction, balanced development, rural territories

Formulation of the problem. Land resources are among the most crucial natural assets for any territorial community. They serve as the foundation for development, being used for agriculture, industry, residential construction, tourism, and infrastructure. They are also a guarantee of competitiveness for territorial communities capable of generating substantial long-term profits for those who responsibly manage their use and for those who invest in the sustainable utilization, protection, and restoration of land productivity potential. Due to armed aggression, Ukrainian lands have suffered significant damage - contaminated with remnants of ammunition and waste, polluted by harmful substances released during explosions and demining, leading to the disruption of soil structure and agricultural land, changes in agrolandscapes, the impossibility of planting operations, and crop losses. Therefore, to ensure the effective implementation of capital investments in land, it is necessary to analyze the current state and identify the conditions for the investment attractiveness of land resources, taking into account the consequences of war and the priorities of post-war recovery for Ukraine as a whole and the territories of territorial communities. This will ensure the efficient realization of capital investments in land.

Analysis of recent scientific research and publications. Research on the investment attractiveness of various lands, especially those designated for agricultural purposes, is dedicated to the work of the following scholars: R. Stupen, I. Rii, P. Kolodii, Z. Ryzhok, V. Khodakivskyi, M. Misevych, R. Bespalko, Yu. Voronyuk and other [1-5].

In particular, R. Bespalko and Yu. Voronyuk have examined the issues related to increasing the investment attractiveness of agricultural lands. They identified factors that complicate the development of these territories. They also explored possible ways to overcome obstacles in this process. [6].

V. Khodakivskyi and M. Misevych have proposed a concept to increase the investment attractiveness of agricultural enterprises. They analyzed the financial efficiency, risks, and suggested ways to improve the investment support system for agricultural enterprises, using the example of the Zhytomyr region and considering development prospects in the medium term [7].

R. Stupen, I. Rii, P. Kolodii, Z. Ryzhok explored theoretical approaches to the investment attractiveness of agricultural land, analyzed their features, and identified the eco-economic condition using the example of Lviv region. They outlined strategic priorities for increasing attractiveness, improved the evaluation methodology, and justified approaches to creating investment platforms in agriculture [8].

The mentioned scientific studies employ similar methods; however, their application requires consideration of the current dynamic legislation, as well as contemporary natural and other factors that will influence the investment attractiveness of each specific territory and land plot.

The purpose of the study. To analyse the investment attractiveness of lands in a specific administrative-territorial unit, taking into account current factors that will influence land investments.

**Materials and methods of scientific research.** The study employs interdisciplinary research methods, including monographic, analytical, forecasting, and generalization methods. The monographic method is utilized to analyse scientific works related to the issues of investment attractiveness of lands, particularly those designated for agriculture. The analytical method involves studying the research

object, its sectoral structure, and factors that may influence the investment attractiveness of the territory. The forecasting method takes into account factors and approaches that will affect the future investment attractiveness of the research object. The generalization method is used to summarize the results based on factors such as investment attraction, economic development, infrastructure improvement, and increased tax revenues.

**Research results and discussion.** The potential of Ukrainian agricultural lands, especially in the territory of Cherkaska oblast, is exceptionally high compared to many countries worldwide. According to data from the StateGeoCadastre, Cherkaski soils are recognized as the most valuable in Ukraine [9].

The territory of the Chornobaivska village community in Cherkaska oblast (Figure 1) is located in a zone favourable for the development of agricultural production [11].



a) According to OpenStreetMap data;



 б) According to Google Earth data
 Figure 1. Chornobaivska territorial community in Zolotoniskyi raion of Cherkaska oblast

Created based on data from the web service GitHub [10]

The area of lands within the administrative boundaries of the Chornobaivska territorial community is 62.8 thousand hectares, of which agricultural lands cover 41.7 thousand hectares – 66.5% of the total land area of the district. In the structure of agricultural lands, arable land occupies 37.7 thousand hectares (90.5%), perennial plantings cover 900 hectares (2.2%), and fodder lands span 3.1 thousand hectares (7.3%) [10].

Reserve lands and lands not provided for ownership and use constitute 2,154.25 hectares, including 413.81 hectares outside settlements and 1,740.44 hectares within settlements.

The agro-industrial complex of the community is based on 53 agricultural enterprises. In the structure of agricultural production, about 63% is attributed to crop production, while the remainder is allocated to livestock farming. Regarding crop structure, grain crops dominate (60%), followed by industrial crops (25%), and

fodder crops (15%). Within the community, three agricultural enterprises are engaged in cultivating hybrid varieties of sunflower and maize, creating opportunities for additional seasonal employment for the rural population [10].

The territory of the Chornobaivska village community is characterized by a significant presence of deep humus-rich black soils, which are among the main types of the most valuable soils in our country. Another portion is occupied by deep humus-rich carbonate black soils, meadow-black soils with surface saline characteristics, lowland peatlands, and peat-bog soils (Figure 2) [14].

Soils of Chornobaivska community



Figure 2. Soils of the Chornobaivska village community in Zolotoniskyi raion of Cherkaska oblast, *created according to the source [12]* 

Figure 3. Water resources of the Chornobaivska community are represented by the rivers Irklii, Kovray, Sula, as well as the Velykoburimske Canal and the Maloburivske Reservoir, created according to the source [9].

Investment attractiveness of the Chornobaivska village community is shaped by a range of factors that make it suitable for capital investment and the development of various activities. Let's consider some of them. The combination of factors contributing to investment attractiveness creates favourable conditions for both internal and external investors.





Figure 3. Water resources of the Chornobaivska community in Zolotoniskyi raion of Cherkaska oblast, *created according to the source [12]* 

Factors contributing to the investment attractiveness of the Chornobaivska village community:

1. Investment Objects: The presence of investment objects such as the village House of Culture.

2. Geolocation: Highly advantageous location, specifically in the central region of Ukraine – Cherkaska oblast.

3. Natural Resources: According to data from the State Geocadastre and soil quality data within the community, some of the most fertile soils in Ukraine are located here. The community is well-endowed with essential natural resources for agricultural development, benefiting from a favourable flat relief, and the locality is sufficiently supplied with water-climatic resources for the development of agricultural production [19].

4. Business Infrastructure:

Two roads of national and territorial significance pass through the community's territory, providing convenient access to the necessary land plots.

Despite the challenges of the full-scale war with Russian invaders, 20 agricultural enterprises of the main group and 41 private farms produce high-quality agricultural products, create jobs, contribute to the budget, and support the social sphere [18].

5. Community Budget:

In 2023, the community's budget amounts to 301 million 222 thousand UAH, which is 70 million UAH more than the previous two years. The community budget receives 18.7 million UAH (64%) from the personal income tax on the lease of agricultural land shares. Agricultural producers contribute over 50% to the total budget fund [18].

6. Regulation of Land Use:

Analysing information on land use in the community, it was found that the revenue part of the general budget fund of the Chornobaivska territorial community at the beginning of 2022 was fulfilled at 109.7%, which is a significant aspect of investment attractiveness. According to the adjusted plan in the amount of 134,631.0 thousand UAH, 147,633.3 thousand UAH actually came in, including the main budget-forming taxes (Figure 4):

- Personal income tax: UAH 78,583.6 thousand, which is 110.4% of the plan.
- Land tax: UAH 28,584.9 thousand, which is 114.9% of the plan.
- Single tax: UAH 29,552.9 thousand, which is 105.6% of the plan [16].

As a result of renegotiating lease agreements for agricultural land, the lease rates increased from 5.3% to 9.7%. This will provide additional revenue from lease payments amounting to UAH 10,300.0 thousand.

Since December 2021, the transfer of available land plots into lease through electronic auctions has commenced in accordance with current legislation. As a result of leasing seven available land plots with an area of 41.7 hectares, revenue from land lease payments amounted to UAH 302.5 thousand. This work will continue in 2023. As of January 31, 2022, ten land plots have been listed for electronic auctions [16].



Image 4. Structure of revenues for the general budget of the Chornobaivska territorial community in Zolotoniskyi raion of Cherkaska oblast at the beginning of 2022.

Created according to the source [16]

7. Profitability: In 2022, the average profitability of agricultural production in the Chornobaivska community territory was 17.4%, significantly exceeding the previous year's figure (11.8%), but falling behind the profitability of 2020 - 22.8% [17].

To assess the investment attractiveness of land resources, the following approaches are utilized:

Financial Approach: Land Valuation: Evaluation based on financial indicators such as land value, potential income, profitability, return metrics, and payback periods.

Risk Analysis: Risk Identification: Includes identification and assessment of risks associated with investments in land resources, covering legal risks, market risks, as well as environmental and social risks.

Risk Mitigation: Strategies are developed to mitigate identified risks.

Strategic Approach: Alignment with Strategy: Determining how investments in land resources align with the overall development strategy of an organization or project.

Comparative Analysis: Benchmarking: Evaluating investment attractiveness based on a comparative analysis with other investment opportunities, considering various parameters such as profitability, risks, and payback periods. Scenario Analysis: Considering Different Scenarios: Evaluation includes consideration of various development scenarios that could impact investment attractiveness.

Environmental and Social Approach: Environmental Impact Assessment: Includes consideration of the impact of investments on the environment, including biodiversity, water resources, and ecological sustainability.

Social Impact Assessment: Evaluates the social impact, taking into account effects on local communities, infrastructure, and overall societal development.

These approaches collectively provide a comprehensive evaluation of the investment attractiveness of land resources, considering financial, strategic, risk-related, comparative, and environmental/social aspects [13].

**Conclusions.** Using the aforementioned approaches, it is possible to forecast the following changes that will take place in the territory of the Chornobaivska village community: Attraction of Investments: Improved Financial Position: The community's financial standing will improve as a result of optimized internal and external investment sources.

Increased Profitability of Land Leases: The profitability of land leases (shares) will increase, contributing to enhanced revenue.

Economic Development: Modern Solutions in Agriculture: Modern solutions aimed at improving agricultural practices will be developed, enhancing the competitiveness of the community's territory.

Adoption of New Farming Technologies: Opportunities for implementing new farming technologies will arise, significantly increasing the efficiency of land use under market conditions.

1) Efficient Use of Land: The efficiency of land use in market conditions will increase, leading to higher land value and profitability.

2) Considering the current situation in Ukraine, leveraging programs offered by foreign investors can facilitate the rapid development of the community. This approach opens up opportunities for collaboration and growth through foreign investment programs.

3) Infrastructure Improvement: Increased Capacity Utilization: Enhanced infrastructure will lead to higher utilization of production capacities, expanding the spectrum of economic activities and contributing to additional income. Investments in Infrastructure: Investments in land can be utilized for the development and modernization of infrastructure, including roads, energy networks, water supply, and other municipal services.

4) Increase in Tax Revenues: Boost in Local Budget: The region's increased investment activity will result in higher tax revenues to the local budget. Utilization of Funds: These funds can be used to improve social services, develop education, healthcare, environmental initiatives, and more. The improvements in infrastructure and the boost in tax revenues contribute to the overall socio-economic development of the Chornobaivska village community, fostering a more prosperous and sustainable future.

Due to the factors mentioned above, the Chornobaivska community, located in the Zolotoniskyi raion of Cherkaska oblast, can be characterized as a lucrative and investment-attractive territory, playing a crucial role today.

Military actions, depending on their intensity, duration, and scale, can affect the investment attractiveness of the region, district, and specific territorial community in different ways. Despite the impact of war and hostilities, the Chornobaivska community demonstrates resilience and adaptability to changes in wartime conditions, creating a certain level of trust among investors. The geographical location of the community is of significant importance, as it is situated away from active combat zones, reducing risks.

Sh. Ibatullin, O. Sakal the research was carried out in the project "Substantiation and measures for implementation of a human rights-based integrated approach to rural development, food security and land policy in post-war rebuilding of Ukraine", financed under the program "Long-term program of support of the Ukrainian research teams at the Polish Academy of Sciences carried out in collaboration with the U.S. National Academy of Sciences with the financial support of external partners".

## References

1. Dorosh, Y., Ibatullin, Sh., Tarnopolskyi, A., Sakal, O., Kharytonenko, R. (2023). Rol zemleustroiu u protsesi ekonomichnoi modernizatsii Ukrainy. Zemleustrii, kadastr i monitorynh zemel. [The Role of Land Management in the Process of Economic Modernization of Ukraine]. 2. 15-25. DOI: http://dx.doi.org/10.31548/zemleustriy2023.02.02

 Belenok, V., Hebryn-Baidy, L., Bielousova, N., Zavarika, H., Sakal, O., Kovalenko, A. (2022). Geoinformation mapping of anthropogenically transformed landscapes of Bila Tserkva (Ukraine). Acta Scientiarum Polonorum, Formatio Circumiectus. Vol. 21 (1). 69-84. DOI: https://doi.org/10.15576/ASP.FC/2022.21.1.69

3. Ibatullin, Sh., Dorosh, I., Dorosh, O., Sakal, O., Butenko, Ye., Kharytonenko, R., Shtohryn, H. (2022). Determination of economic losses on agricultural lands in connection with hostilities on the example of the territory of Kyiv region in Ukraine. Acta Scientiarum Polonorum. Formatio Circumiectus. Vol. 21. Issue 2. 49-61. DOI: https://doi.org/10.15576/ASP.FC/2022.21.2.49

4. Sakal, O., Kolisnyk, H., Kharytonenko, R. (2022). Instytutsiine seredovyshche suchasnykh zemelnykh vidnosyn. [The Institutional Environment of Modern Land Relations]. Zemleustrii, kadastr i monitorynh zemel. 1. 69-78. DOI: http://dx.doi.org/10.31548/zemleustriy2022.01.07

5. Butenko, Ye., Kharytonenko, R. (2016). Udoskonalennia isnuiuchoi systemy pryrodno-silskohospodarskoho raionuvannia v rozrizi administratyvno-terytorialnoho podilu. [Improvement of the Existing System of Natural Agricultural Zoning in the Context of Administrative and Territorial Division]. Zbalansovane pryrodokorystuvannia. 2. 15-23.

6. Bespalko, R., Voroniuk, Yu. (2013). Investytsiina pryvablyvist zemel silskohospodarskoho pryznachennia v Ukraini. [Investment Attractiveness of Agricultural Land in Ukraine]. Naukovyi visnyk NLTU Ukrainy. Vyp. 23.16. 309-313

7. Khodakivskyi, V. M., Misevych, M. A. (2017). Investytsiina pryvablyvist silskohospodarskykh pidpryiemstv u konteksti yikh haluzevoi struktury vyrobnytstva.

[Investment Attractiveness of Agricultural Enterprises in the Context of Their Industry Structure of Production]. Investytsii: praktyka ta dosvid. 3. 31-37.

8. Stupen, R. M., Rii, I. F., Kolodii, P. P., Ryzhok, Z. R. (2019). Teoretykometodolohichni zasady formuvannia investytsiinoi pryvablyvosti u systemi silskohospodarskoho zemlekorystuvannia. [Theoretical and Methodological Foundations of Forming Investment Attractiveness in the System of Agricultural Land Use]. Monohrafiia. Lviv: TOV «Halytska vydavnycha spilka». 164.

9. Cherkaska zemlia – naidorozhcha v Ukraini. [Cherkasy Land – the Most Expensive in Ukraine]. Available at: https://provce.ck.ua/cherkaska-zemlya-najdorozhcha-v-ukrajini/

10. Chornobaivska selyshchna hromada. [Chornobaivska Rural Community]. Available at: https://chornobay-rada.gov.ua/

11. Chornobaivska selyshchna hromada. [Chornobaivska Rural Community]. Available at: https://uk.wikipedia.org/wiki/Chornobaivska\_selyshchna\_hromada

12. Vebservis GitHub. Available at: https://github.com/

13. Kharakterystyka pravovoho rehuliuvannia investytsiinykh vidnosyn u sferi silskoho hospodarstva. [Characteristics of legal regulation of investment relations in agriculture]. Available at: https://ndipzir.org.ua/wpcontent/uploads/2018/10/Boychuk\_2013/Boychuk\_2013\_12. pdf

14. Karta gruntiv Ukrainy. [Soil Map of Ukraine]. Available at: https://superagronom.com/karty/karta-gruntiv-ukrainy

15. Chornobaivska terytorialna hromada. [Chornobayivska Territorial Community]. Available at: https://chornobay-rada.gov.ua/chornobaj-17-21-32-24-08-2016/

16. Vykonannia dokhodnoi chastyny biudzhetu hromady na pochatok 2022 roku. [Execution of the revenue part of the community budget at the beginning of 2022]. Available at: https://chornobay-rada.gov.ua/news/1643958055/

17. Chornobaivska selyshchna hromada. [Chornobaivska urban community]. Available at: https://gromada.info/gromada/chornobay/ 18. A yak zhyvut susidy: dosvid uspishnoho hospodariuvannia Chornobaivskoi selyshchnoi hromady. [And how do the neighbors live: the experience of successful management of the Chornobaivska urban community]. Available at: https://zoloto.city/articles/312524/a-yak-zhivut-susidi-dosvid-uspishnogo-gospodaryuvannya-chornobaivskoi-selischnoi-gromadi

19. Cherkaska zemlia – naidorozhcha v Ukraini. [Cherkasy land - the most expensive in Ukraine]. Available at: https://novadoba.com.ua/205640-cherkaska-zemlya-naydorozhcha-v-ukrayini.html

## Дорош Й.М., Сакаль О.В., Харитоненко Р.А., Рябова Ю.П. ІНВЕСТИЦІЙНА ПРИВАБЛИВІСТЬ ЗЕМЕЛЬНИХ ДІЛЯНОК НА ПРИКЛАДІ ЧОРНОБАЇВСЬКОЇ СЕЛИЩНОЇ ГРОМАДИ ЗОЛОТОНІСЬКОГО РАЙОНУ ЧЕРКАСЬКОЇ ОБЛАСТІ

Анотація. Обтрунтовано, що для забезпечення інвестиційної привабливості земель і реалізації капіталовкладень необхідно проводити систематичний аналіз сучасного стану землекористування, враховуючи наслідки війни та пріоритети відновлення. Зроблено огляд публікацій, які містять результати досліджень проблематики інвестиційної привабливості земель, у тому числі сільськогосподарського призначення.

Проаналізовано структуру земельних, водних ресурсів, агропромислового комплексу Чорнобаївської селищної громади Золотоніського району Черкаської області. Наведено структуру ґрунтового покриву територіальної громади.

Систематизовано фактори інвестиційної привабливості території об'єкта дослідження: інвестиційні об'єкти, геолокацію, природні ресурси, інфраструктура для бізнесу, бюджет громади, регулювання використання земель та рентабельність агровиробництва. Для оцінювання інвестиційної привабливості земельних ресурсів застосовано фінансовий підхід, аналіз ризиків, стратегічний підхід, порівняльний аналіз, сценарний аналіз, екологічний та соціальний підхід. Наголошено, що інтенсивність, тривалість та поширеність воєнних дій, як негативний чинник, може по різному впливати на інвестиційну привабливість адміністративно-територіальної одиниці. Враховуючи запропоновані підходи оцінювання інвестиційної привабливості земельних ресурсів, враховано наступні прогнозні зміни, такі як залучення інвестицій, економічний розвиток, покращення інфраструктури, збільшення податкових надходжень та вплив воєнних дій. У сукупності це дало змогу визначити рівень інвестиційної привабливості досліджуваної території.

Ключові інвестиції, інвестиційна привабливість, слова: земельні інвестиції, вплив воєнних дій, землі сільськогосподарського призначення, галузі сільськогосподарські підприємства, виробництва, галузева структура, територіальні громади, землекористування, раціональне використання земель, антропогенне навантаження, сільські території, зелене будівництво, збалансованість розвитку, селітебні території.