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**FORMATION OF INDICATORS OF NORMATIVE MONETARY
VALUATION OF INDUSTRIAL LANDS UNDER INFLUENCE OF
LOCATION FACTORS**

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***Abstract.** Industrial lands occupy minor area in the structure of the land fund of Ukraine (less than 1%), but perform a very important function - act as a basis for the placement of the production means.*

The normative monetary valuation of industrial lands is carried out in accordance with the Methodology of normative monetary valuation of non-agricultural lands (except for settlements) [1] and the Procedure for normative monetary valuation of non-agricultural lands (except for settlements) [2] and takes into account the metric characteristics of the land plots: (its area), rental income per unit area of the relevant category of land, capitalization period, coefficients that take into account the location, type of use and coefficient that takes into account the land belonging to the lands of environmental, health, recreational, historical and cultural purposes.

The article examines the impact of the coefficients that take into account the regional and local location of the land plot on the indicators of the normative monetary valuation of the industrial lands.

The calculations on the normative monetary valuation of the industrial land plots located on the territory of one cadastral quarter have been made.

It has been established that the indicators of the normative monetary valuation of the industrial land plots located on the territory of the given cadastral quarter are influenced only by the area of the land plot. The valuation indicators do not take into

account the local features of the location of a specific land plot. This has advantages in terms of automation of the valuation process of the objects and allows avoiding the subjective interpretation of the manifestation of the local factors on a particular land by the valuator, but makes it impossible to take into account the peculiarities of each specific land plot.

Key words: normative monetary valuation, industrial lands, valuation process.

Introduction. The economic meaning of the use of the land resources, which are the basis to place the production means, is their ability to make a profit. The indicators of normative monetary valuation of the industrial land plots, which are formed under the influence of the rent-forming factors, local and regional coefficients responsible for the location of the land plot, create the conditions for receiving the revenues to the local budgets in the form of land fees from land tax and rent. The regulation of land valuation for tax purposes is carried out in the context of the procedure of their normative monetary valuation. Some provisions of the normative monetary land valuation, despite the long period of their application, have points that need to be clarified and improved.

Analysis of recent research and publications. The issue of improving the methodological basis of the valuation process of the non-agricultural lands, including industry, was brought up in the works of such scientists as Danylyshyn B.M., Dekhtiarenko Yu.F., Zhuikova H.Ye., Mantsevich Yu.M., Martyn A.H., Palekha Yu. M., Tretiak A.M., Khvesyk M.A. and others. But the practical application of the scientific provisions for industrial land valuation in real conditions on the specific spatial objects indicates certain miscalculations and inaccuracies, which confirms the need to improve the scientific and methodological provisions and principles of regulatory monetary valuation of the land plot with maximum consideration of its geospatial characteristics.

Objective of research is to study the current methodological provisions of normative monetary valuation of industrial lands outside the settlements on a specific example in order to determine the areas for improvement.

Presentation of main material. The object of the research is industrial lands (code 11 according to the Classification of the types of land purpose), which belong to the category of lands – industrial lands, transport, communications, energy, defense and other purposes.

In accordance with the provisions of Art. 66 of the Land Code of Ukraine [3] industrial lands include lands provided for the location and operation of the main, subsidiary and auxiliary buildings and structures of industrial, mining, transport and other enterprises, their access roads, utilities, administrative and domestic buildings, other buildings.

Industrial lands can be of state, communal and private forms of ownership.

There is a certain dynamics during 2012 - 2018 regarding a slight increase in the area of industrial land in the overall structure of the land fund of Ukraine and directly in the structure of built-up land (Table 1).

1. Structure of land fund of Ukraine by lands during 2012 - 2018, %*

№	Main types of land	As of 01.01.2012		As of 01.01.2015		As of 01.01.2018	
		area, thousand hectares	specific weight, %	area, thousand hectares	specific weight, %	area, thousand hectares	specific weight, %
1	Agricultural lands	42776,9	70,9	42731,5	70,8	41489,3	68,8
2	Forests and other wooded areas	10611,3	17,6	10630,3	17,6	9365,5	15,5
3	Built-up lands	2523,2	4,2	2550,4	4,2	3602,1	6,0
	including industrial lands	223,2	0,4	224,1	0,4	224,2	0,4
4	Open water-logged lands	980,1	1,6	982,6	1,6	3421,9	5,7
5	Dry open lands with peculiar vegetation	17,7	0,0	17,9	0,0		
	Open lands without vegetation or with little vegetation	1022,9	1,7	1015,8	1,7		
6	Water	2422,8	4,0	2426,4	4,0	2401,4	4,0
	Total	60354,9	100	60354,9	100	60354,9	100

**Source: formed by the authors according to the data of the State Geocadastre of Ukraine [4]*

According to the State Geocadastre of Ukraine for the period from 2012 to 2018, there is a tendency to reduce the area of agricultural lands (by 1287,6 thousand hectares), at the same time, when there is an increase in the area under built-up lands

from 2523,2 thousand ha in 2012 to 3602,1 thousand ha in 2018. The area of industrial lands in the overall structure of the land fund of Ukraine increased by 1,0 thousand ha and as of 01.01.2018 amounted to 224,2 thousand ha or 0,4%.

Since industrial lands are the basis for the placement of production means, the basis for determining their normative monetary value is the capitalization of rental income from the use of land.

Rent income (R_i) is defined as the income that can be obtained as a result of land use depending on its quality and location. The rental income standards for each category of land are determined in accordance with the Order.

The term of capitalization of rental income is set for industrial lands at the level of 33 years.

The coefficient that takes into account the location of land (C) is determined for the cadastral quarter, the boundaries of which are displayed on the index cadastral map and is calculated as the product of the coefficient C_r , which takes into account the regional factors of the cadastral quarter location (distance from the administrative center of the district and the nearest settlement, which has highways, entering the suburban area of large cities, etc.) and C_l (coefficient that takes into account local factors of the location of the cadastral quarter by territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions).

Here is an example of calculating the normative monetary valuation of industrial land on a particular land plot (Table 2).

2. Calculation of normative monetary valuation of industrial land plot (cadastral number 6323581700:04:001:0501), located on territory of Kachalivka village council of Krasnokutsk region of Kharkiv oblast, as of 01.01.2020, UAH*

№	Indicators	Order of receipt or calculation of indicator	Value of indicator
1	2	3	4
1	Total area of land plot (P), ha	Extract from State Land Cadastre of land plot	0,0004
2	Rent income per 1 m ² of the area for the corresponding category of lands (R_i), UAH / year	Annex 1 of Order	0,6637
3	The term of capitalization (T_c), years	Annex 2.2 of Order	33

Continuation of table 2

1	2	3	4
4	Coefficient that takes into account the location of land (C)	$C = Cr \times Cl$	1,711
4.1	Coefficient that takes into account regional factors of the location of cadastral quarter (Cr)	$Cr = Cr1 \times Cr2 \times Cr3$	1,599
	Coefficient that takes into account distance of cadastral quarter from settlements (Cr1)	Annex 2.5 of Order	1,23
	Coefficient that takes into account distance of cadastral quarter from roads of state importance (Cr2)	Annex 2 of Order	1,30
	Coefficient that takes into account location of cadastral quarter in areas of radioactive contamination due to Chernobyl disaster (Cr 3)	Annex 1 of Order	1,0
4.2	Coefficient that takes into account local factors of location of cadastral quarter by territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions (Cl)	Annex 6 of Order	1,07
	- Location of cadastral quarter in area of pedestrian accessibility (not more than 600 m) to settlements and community centers		1,07
5	Coefficient that takes into account type of land plot use (Cu)	$Cu = Cu1 \times Cu2 \times Cu3 \times Cu4$	1,428
	Coefficient that takes into account composition of land (Cu1)	Annex 7 of Order, according to Extract from State Land Cadastre about land plot	1,2
	Coefficient that takes into account regional differences in formation of rental income and is determined for land for industry, transport, communications, energy, defense and other purposes (Cu2)	Annex 8 of Order	1,19
	Coefficient that takes into account the productivity of forest plantations and is determined for lands covered with forest (wood and shrub) vegetation (Cu3)	paragraph 2.7 of Order	1,0
	Coefficient that takes into account the productivity of water bodies and is determined for lands with these objects (Cu4)	paragraph 2.7 of Order	1,0
6	Coefficient that takes into account the affiliation of the land plot to the lands of environmental, health, recreational, historical and cultural purposes (Ce)	paragraph 2.12 of Order	1,0
7	Normative monetary valuation of land in accordance with Order as of 01.01.2013 (V),UAH	$V = \Pi_d \times P \times T_c \times C \times Cu \times Ce$	214,05
8	Indexation coefficient	Letter of State Geocadastre of 03.01.2020 p. №6-28-0.22-38/2-20	1,897
9	Normative monetary valuation of land plot taking into account indexation coefficient as of 01.01.2020, UAH		406,05

* Source: calculated by the authors

The geometrically smallest distance from the boundary of the cadastral quarter, where the valued land plot is located, to the boundary of the settlement, which is the settlement with the status of the district center (Krasnokutsk village) is less than the zone of influence of the settlement (D) 5 km and makes up respectively 4,5 km (Df), so the coefficient that takes into account the distance of the cadastral quarter from the settlements (Cr1) is determined by calculation.

The basic land value (Vb) of Krasnokutsk village as of 01.01.2020 is 126,71 UAH/m².

The coefficient, which takes into account the degree of urban value of the territories in the area of influence of settlements (Cs), is determined in accordance with Annex 4 of the Order and is for the valued land 0,75 (population of Krasnokutsk village according to the Handbook of normative monetary valuation of settlements) official website of the State Geocadaastre of Ukraine) is 7928 people).

The capitalization period in accordance with paragraph 2.2 of the Order is 33 years.

The rent income per 1 m² of industrial land, transport, communications, energy, defense and other purposes in accordance with Annex 1 of the Order is 0,6637 UAH / year.

The coefficient that takes into account the distance of the cadastral quarter from the roads of state importance (Cr2) is determined in accordance with Annex 2 of the Order. The highway of state importance T2106 Krasnokutsk - Stary Merchyk passes through the lands of the cadastral quarter, within which the valued land plot is located, therefore the coefficient Cr2 is 1,30.

For the cadastral quarters that do not belong to the areas of radioactive contamination due to the Chornobyl disaster, the coefficient (Cr3) is taken to be equal to one.

The coefficient, which takes into account the local factors of the location of the cadastral quarter by territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions (Cl), is determined in accordance with Annex 6 of the Order as the result of the coefficient

values which correspond to the local factors that are manifested within this cadastral quarter. CI is determined in accordance with the Cartogram of the local factors of the location of the cadastral quarter, within which the valued land plot is located, according to territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions.

The cadastral quarter, where the valued land plot is located, is directly adjacent to the border of the settlement – Kachalivka village (1,07).

The Merchyk River flows within the cadastral quarter (Fig. 1). A small part of the cadastral quarter is located in the water protection zone.

But the given local factor is manifested in a smaller area than the area of half of this cadastral quarter, so this local factor in accordance with the Order is considered to have no manifestation.

The cadastral quarter is located in the zone of exceeding the permissible noise level from the state road T2106 Krasnokutsk – Stary Merchyk. But this local factor of location is manifested in a smaller area than the area of half of this cadastral quarter, so this local factor in accordance with the Procedure is considered to have no manifestation.

The total coefficient, which takes into account the local factors of the location of the cadastral quarter (CI), is 1,07.

Since the valued land plot contains land under industrial development, Cu1 in accordance with Annex 7 of the Order is taken to be 1,2.

The value of the coefficient Cu2 in accordance with Annex 8 of the Order for Kharkiv region, where the valued land plot is located, is 1,19.

The Cu3 coefficient takes into account the productivity of forest plantations and is determined for lands covered with forest (wood and shrub) vegetation. For the valued land plot of industrial land is equal to 1,0.

The coefficient Cu4 takes into account the productivity of water bodies and is determined for lands with these objects: natural watercourses (rivers and streams), artificial watercourses (canals), lakes, ponds, reservoirs and other water bodies. For the valued land plot of industrial land is 1,0.

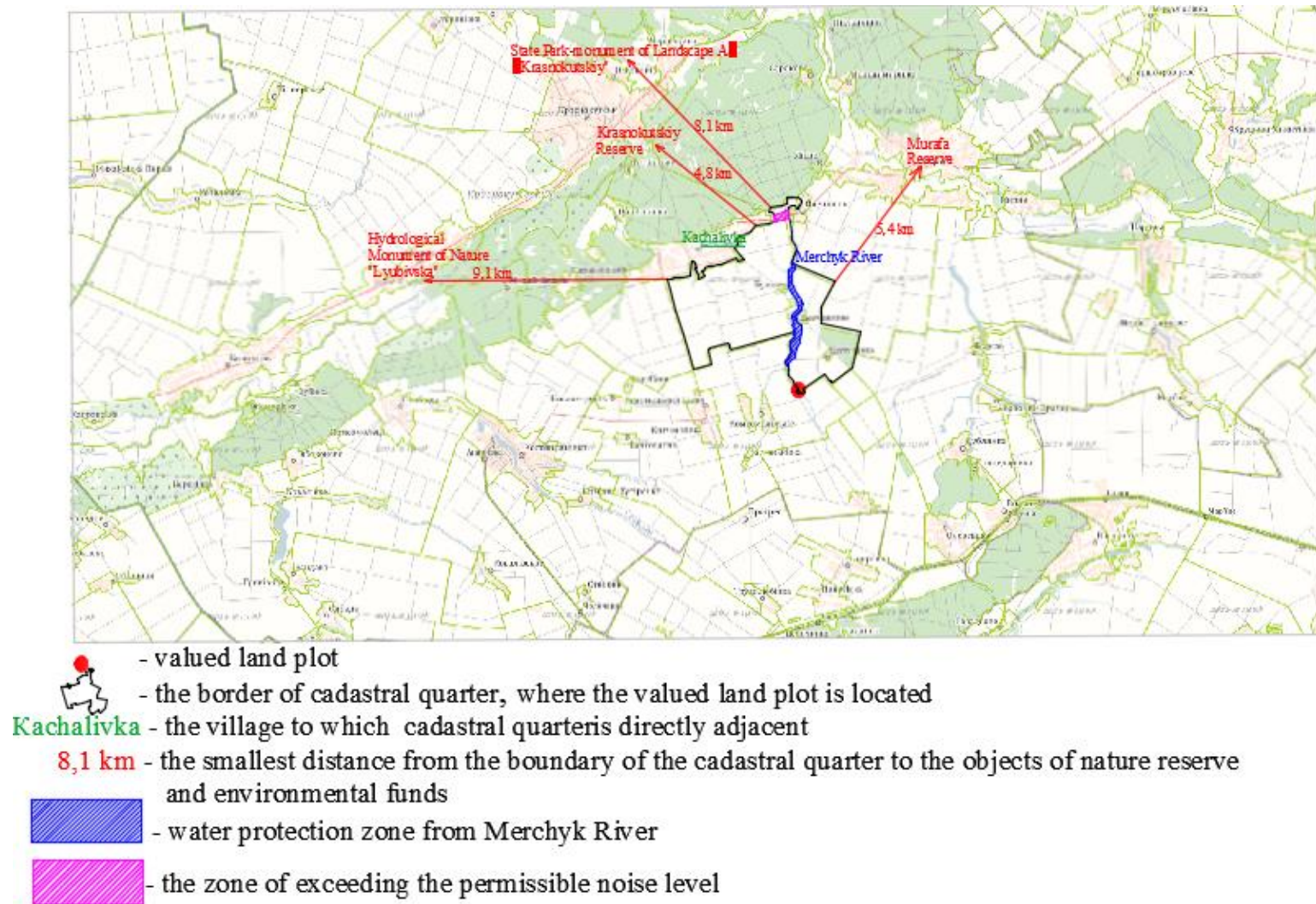


Fig. 1. Scheme of local factors of cadastral quarter location, within which valued land plot is located, by territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions

** worked out by the authors*

The coefficient, which takes into account the affiliation of the land plot to the lands of nature reserve and other nature protection, health, recreational, historical and cultural purpose (C_e) for the valued land plot of industrial lands is 1,0.

The normative monetary valuation of the land plot as of 01.01.2020 is UAH 406,05, per 1 m² – UAH 101,51.

But it should be noted that on the territory of the cadastral quarter there are other land plots of industry (cadastral numbers: 6323581700:04:001:0499, 6323581700:04:001:0500, 6323581700:04:001:0502, 6323581700:04:001:0503, 6323581700:04:001:0504, 6323581700:04:001:0505, 6323581700:04:001:0506, 6323581700:04:001:0507, 6323581700:04:001:0508, 6323581700:04:001:0509), normative monetary valuation of which as of 01.01.2020 is also UAH 101,51/m². Accordingly, the value of the coefficient, which takes into account the regional factors of the location of the cadastral quarter (C_r) is 1,599. The coefficient, which takes into account the local factors of the location of the cadastral quarter in terms of territorial and planning, engineering and geological, historical and cultural, natural and landscape, sanitary and hygienic and other conditions (C_l), for the researched land plots is 1,07.

The same indicators of the normative monetary valuation of the land plots per 1 m² indicate the disregard of the particular local factors for each individual land plot, and the adoption of the generalized regional and local factors in the form of the appropriate coefficients for a specific cadastral quarter, within which the valued land plots are located.

Conclusions. The normative monetary valuation of industrial lands is based on the capitalization of rental income. The indicators of monetary valuation of industrial lands are significantly influenced by the coefficients of the location of the land plot, which take into account regional and local factors of the location of the land plot within the cadastral quarter.

During the calculations it was found out that the normative monetary valuation of other industrial land plots located on the territory of one cadastral quarter depends only on the area of the land plot and does not take into account local features of a

specific land plot, which, of course, has advantages in terms of automation objects and allows to avoid as much as possible the subjective interpretation of the valuator of the manifestation of the local factors on a particular land plot. But at the same time, this approach to the valuation of objects has the character of averaging the indicators of their valuation and makes it impossible to take into account the unique characteristics of each land plot.

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