

ASSESSMENT OF THE EFFECTIVENESS OF LAND USE ACCORDING TO PUBLIC LAND INTERESTS AS A COMPONENT OF RURAL DEVELOPMENT

Anton TRETIAK¹, Oleksandra KOVALYSHYN², Nataliia TRETIAK³

¹State Ecological Academy of Postgraduate Education and Management, 35 Metropolitan Vasily Lipkivsky Str., Kyiv, Ukraine, 03035, Phone/Fax: +380 44 206 30 37; E-mail: tretyak2@ukr.net

²Lviv National Agrarian University, 1 V.Velykogo Str., Dubliany, Zhovkivskiy District, Lviv Region, Ukraine, 80381; E-mail: kovalyshynlesya@ukr.net

³Public Institution «Institute of Environmental Economics and Sustainable Development of the National Academy of Sciences of Ukraine», 60 Tarasa Shevchenka Boulevard, Kyiv, Ukraine, 01032, Phone/Fax: +380 44 486 90 48; E-mail: tretiaknatalia@ukr.net

Corresponding author: tretiaknatalia@ukr.net

Abstract

The authors investigate the effectiveness of land use management in Ukraine for public land interests. Since any relationship to land as a natural resource is a combination of personal, economic and environmental interests, so land interests that arise in society in the land use management system are considered according to social, economic and environmental interests. Assessment of the effectiveness of land use carried out by the authors, showed the presence of both positive and negative tendencies in the development of land use. In particular, positive changes have occurred according to social and economic land interests and negative ones concerning the ecologisation of land use. The proposed distribution of interest groups allows us to identify the potential of land distribution and transformations for effective land management and to implement the measures required for Ukraine, which will also enhance the country's social well-being in the context of sustainable development.

Key words: public interest, land interests, land distribution, agricultural land, land use

INTRODUCTION

One of the most important aspects of life-sustaining activity of our and any other country is land as a cumulative natural resource.

Multifunctional land use defines land management and land use as one of the main factors for the balanced development of rural and urban territories and the country as a whole, which should aim to ensure cost-effective and environmentally friendly land use to achieve public welfare. Analyzing the specificity of land as an aggregate natural resource, it should be noted that it is considered in the following main ways [9]:

-Land is the territory of the country, the main state-forming component (national security);

-Land is a universal spatial basis that is constantly supported by a certain correlation of land categories and land use types (spatial security);

-Land is the main means of production in agriculture and forestry (food security);

-Land is a major component of nature (environmental safety);

-Land is a stockpot of water, mineral, forest, recreational and other resources (economic security).

The basis of virtually any human relationship to land is the combination of personal and economic interests. This feature was also noted by A. Smith: «Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of the society which he has in view. He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of his intention by pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it» [5].

However, due to the sharp exacerbation of the environmental situation in the 21st century, such public interests that are at the forefront of the world community are particularly relevant, namely the effective management of land resources to ensure the implementation of environmentally stable land use as the main criterion for human survival, in particular agricultural land [1, 2, 4, 6, 7]. This does not mean that the interests of high-profit development of land and territorial resources have lost their importance. However, the development of land resources is increasingly subject to the objective need for greening land use, finding the most reasonable forms and methods of cost-effective use of land resources, in particular agricultural land to landowners and land users (in particular, shareholder-farmers and small farmers). As the process of splitting the land into parcels (shares) in Ukraine has led to the small contours of the land plots and their parcel placement, which makes it difficult to use them effectively in conditions of insufficient financial resources to make the necessary land improvements (including irrigation, drainage, buildings for storage and processing of products, etc.)

The relevance of the selected study is caused by the environmental, economic and social problems that exist in Ukraine regarding the adopted Sustainable Development Goals 2016-2030, in particular, the rational use of land-resource potential, in particular agricultural land.

MATERIALS AND METHODS

The official database of the survey was the official statistical materials and reports of the State Service of Ukraine for Surveying, Cartography and Cadastre.

The research uses common scientific methods, namely: monographic analysis - to study scientific domestic and foreign publications on the effective use of land resources and rational land use, in particular agricultural land; grouping - for grouping forms of ownership by social, economic, environmental interests by major land groups;

comparative and statistical analysis - to investigate the state of land use for economic, environmental and social interests.

RESULTS AND DISCUSSIONS

Land is a public domain and cannot be used solely for the benefit of individuals. Therefore, there is an urgent need for the development of state and public institutions for the regulation (administration) of land use, with the aim of balancing different interests and solving a number of problems, such as the nature conservation on the land shares divided by farmers and villagers.

Each category of land declared by the Ukrainian legislation (Article 19 of the Land Code of Ukraine) has its own functional orientation on economic, environmental and social interests between landowners (citizens: farmers, villagers, etc. and legal entities: enterprises, organizations, institutions, etc.).

Therefore, land interests that arise in society can be divided into three groups [1, 2, 4, 6, 7]: Social - regarding the satisfaction of physical, psychological, intellectual and other needs, both rural and urban;

Economical - regarding commodity and monetary parameters of land ownership;

Environmental - relating to the efficient development of the land resource and natural properties.

According to these groups the study was carried out to estimate the efficiency of land interests in the sphere of distribution and redistribution of land resources. Accordingly, in the process of land use development, the first group of public land interests (*social*) focuses on the size of property for different social groups and forms of land use. In accordance to the assessment of the trends of land use of Ukraine for social interests in the period 2000–2016, no significant changes in this area occurred (Table 1). Thus, for the period under review, the total area of land use by citizens increased by 676.9 thousand hectares and legal entities by 983.5 thousand hectares, respectively of agricultural land by 618.6 thousand hectares and by 661.2 thousand hectares, which is positive tendency

in terms of their land provision. However, the average size of land parcel owners (shares) in Ukraine is 4 hectares. Such a small scale, parcel layout and non-optimal configuration require land management measures to improve the economic efficiency of their use.

Table 1. Assessment of Ukrainian land use trends according to social interests

Ownership	Number of land owners and land users	Total area of land, ha	Agricultural land, ha	Forests and other wooded areas, ha	Land under buildings, ha	Water, ha	Other, ha
2000							
Citizens	22,356,958	5,180.3	4,806.6	2.2	369.2	0.3	2.0
Legal entities	158,389	5,018.7	1,267.4	824.1	1,115.7	1,301.4	510.1
<i>Total</i>	<i>2,2515,347</i>	<i>10,199.0</i>	<i>6,074.0</i>	<i>826.3</i>	<i>1,484.9</i>	<i>1,301.7</i>	<i>512.1</i>
2016							
Citizens	22,376,584	5,857.2	5,425.2	2.9	424.8	0.2	4.1
Legal entities	182,014	6,002.2	1,928.6	933.8	1,128.5	1,472.2	539.1
<i>Total</i>	<i>22,558,598</i>	<i>11,859.4</i>	<i>7,353.8</i>	<i>936.7</i>	<i>1,553.3</i>	<i>1,472.4</i>	<i>543.2</i>
<i>Changes for the period 2016 - 2000</i>							
Citizens	19,626	676.9	618.6	0.7	55.6	-0.1	2.1
Legal entities	23,625	983.5	661.2	109.7	12.8	170.8	29
<i>Total</i>	<i>43,251</i>	<i>1,660.4</i>	<i>1,279.8</i>	<i>110.4</i>	<i>68.4</i>	<i>170.7</i>	<i>31.1</i>

Source: calculated by the authors on the basis of the operative data of the form No. 6-3em of the State Service of Ukraine for Geodesy, Cartography and Cadastre.

The economic group of public land interests in the field of distribution and redistribution of land and territorial fund is aimed at the structure of land ownership in composition, combination and proposals, which form its economic forms. At the same time, the interests of society are oriented not only to preserving under control of the state the necessary part of land for solving the general problems of development of land and territorial resources, but also to the fact that this vital factor is generally owned by those owners who are able to use the most wisely and useful land for all members of society. The interests of individual owners are aimed at preserving for each of them the rights of ownership, use and disposal of the land property, regardless of the efficiency of its operation. Therefore, contradictions about the actual use of land need to be resolved [1, 3]. An analysis of the data of this interest group shows that during 2000–2016 significant changes in the distribution of land by economic interests took place in Ukraine. Thus, the total land use area of citizens increased by 7,103 thousand hectares, mainly

due to agricultural land (7,000.8 thousand hectares), which is positive for the development of small and medium-sized businesses (farmers, villagers). At the same time, the land area of legal entities was reduced by -1,824.9 thousand hectares due to the optimization and reorganization of land use. In particular, the decrease of agricultural land by -1,212.6 thousand hectares and lands of forest fund -657.9 thousand hectares (Table 2). Most of these lands were transferred to the use of citizens for peasant-based agricultural production and other entrepreneurship.

In the field of distribution and redistribution of land resources, the group of public land environmental interests focuses on the parameters of the functional and economic structure of the land fund, namely the extent, proportions and priorities of its distribution by the degree of economic development (developed, poorly developed and undeveloped), types and categories (hayfields, pastures, areas under construction, forests, shrubs, swamps, etc.), intensity of operation and anthropogenic effects.

Table 2. Assessment of Ukrainian land use trends according to economic interests

Ownership	Number of land owners and land users	Total area of land, ha	Agricultural land, ha	Forests and other wooded areas, ha	Land under buildings, ha	Water, ha	Other, ha
<i>2000</i>							
Citizens	752,436	2,321.6	2,308.4	1.2	2.6	9.1	0.3
Legal entities	122,352	39,031.6	34,648.7	1,922.8	908.1	512.6	1,039.4
<i>Total</i>	<i>874,788</i>	<i>41,353.2</i>	<i>36,957.1</i>	<i>1,924.0</i>	<i>910.7</i>	<i>521.7</i>	<i>1,039.7</i>
<i>2016</i>							
Citizens	2,532,217	9,424.6	9,309.2	2.9	23.9	79.7	8.9
Legal entities	141,457	37,206.7	33,436.1	1,264.9	933.8	614.8	957.1
<i>Total</i>	<i>2,673,674</i>	<i>46,631.3</i>	<i>42,745.3</i>	<i>1,267.8</i>	<i>957.7</i>	<i>694.5</i>	<i>966.0</i>
<i>Changes for the period 2016 - 2000</i>							
Citizens	1,779,781	7,103	7,000.8	1.7	21.3	70.6	8.6
Legal entities	19,105	-1,824.9	-1,212.6	-657.9	25.7	102.2	-82.3
<i>Total</i>	<i>1,798,886</i>	<i>5,278.1</i>	<i>5,788.2</i>	<i>-656.2</i>	<i>47</i>	<i>172.8</i>	<i>-73.7</i>

Source: calculated by the authors on the basis of the operative data of the form No. 6-зем of the State Service of Ukraine for Geodesy, Cartography and Cadastre

Public and individual interests, as a rule, are equally focused on maintaining the most effective environmental structure of the land fund formed in the process of land management. Significant changes in the distribution of land according to environmental interests in Ukraine during 2000-2016 have not occurred. Thus, the total

area of land use of legal entities increased by 605.2 thousand hectares, mainly the increase of land due to the forest fund of 771.8 thousand hectares. Speaking about agricultural land, no significant changes occurred during the specified period, so in 2000 the area was 2.6 thousand hectares, and yet in 2016 - 2.3 thousand hectares (Table 3).

Table 3. Assessment of Ukrainian land use trends according to environmental interests

Ownership	Number of land owners and land users	Total area of land, ha	Agricultural land, ha	Forests and other wooded areas, ha	Land under buildings, ha	Water, ha	Other, ha
<i>2000</i>							
Citizens	35,528	3.3	2.6	0.0	0.7	0.0	0.0
Legal entities	5,313.0	9,668.6	899.2	7,657.9	62.4	607.9	441.2
<i>Total</i>	<i>40,841.0</i>	<i>9,671.9</i>	<i>901.8</i>	<i>7,657.9</i>	<i>63.1</i>	<i>607.9</i>	<i>441.2</i>
<i>2016</i>							
Citizens	46,043	4.2	2.3	0.0	1.9	0.0	0.0
Legal entities	10,473.0	10,273.8	937.1	8,429.7	63.9	338.2	504.9
<i>Total</i>	<i>56,516.0</i>	<i>10,278.0</i>	<i>939.4</i>	<i>8,429.7</i>	<i>65.8</i>	<i>338.2</i>	<i>504.9</i>
<i>Changes for the period 2016 - 2000</i>							
Citizens	10,515	0.9	-0.3	0	1.2	0	0
Legal entities	5,160	605.2	37.9	771.8	1.5	-269.7	63.7
<i>Total</i>	<i>15,675</i>	<i>606.1</i>	<i>37.6</i>	<i>771.8</i>	<i>2.7</i>	<i>-269.7</i>	<i>63.7</i>

Source: calculated by the authors on the basis of the operative data of the form No. 6-зем of the State Service of Ukraine for Geodesy, Cartography and Cadastre.

Such unsatisfactory condition of greening of land use in general and agricultural in

particular, is explained by the non-implementation of measures for creation of

ecological network of Ukraine (measures from the national program of formation of ecological network for 2000-2015 were fulfilled only by 14.5%).

Considering the changes and the fact that, according to our research [8], land use in Ukraine is considered to be permanently unstable ($Kec.st. = 0.4$), such an existing tendency is negative in relation to the management of lands of an environmental interest group.

While exposing the above aspects of public interest in the effective use of land resources, in the first case, they focus on social issues, such as reducing the proportion of the poor to meet the intellectual and other needs of people, both rural and urban.

In the second case, it is about sustainable, low-cost and high-productivity use of land resources, in particular agricultural land, the results of which are achieved due to the most complete compliance with public consumer demand, and costs tend to decrease due to the active implementation of scientific and technological advances to high-performance work. In addition, society is interested in the fact that high productivity of development and use of land combined with the maximum preservation and multiplication of its useful properties and qualities. Public interest in the effective use of land, in the third case concentrates around the maximum permissible anthropogenic load on the environment and land resources [1, 3].

CONCLUSIONS

In the process of implementing land reform measures in Ukraine, namely with the adoption of the new Land Code of Ukraine, which came into force in 2002, a land use system was formed, which basically corresponds to the new land structure of Ukraine, which focuses mainly on economic and social interests. Taking into account the conditions of Sustainable Development Goals 2016-2030 adapted for Ukraine, an important issue is the transformation of land policy towards a group of environmental and social interests and the improvement of the social

well-being of rural and urban populations in the context of sustainable development. Assessing the effectiveness of land use management in the public interest allows us to understand that, at present, transformational changes in land allocation in Ukraine are incompletely effective in terms of sustainable development and require institutional transformations in line with European requirements. Since only with the unity of all three groups of social, economic and environmental interests can we achieve the social welfare of the rural and urban population and overcome threats of a particularly environmental nature. This determines the development of a state program for land management in rural areas.

REFERENCES

- [1] Druhak, V., 2010, *Ekonomika silskohospodarskoho zemlekorystuvannia: teoriia, metodolohiia ta praktyka* [Economics of agricultural land use theory, methodology, practice], Kyiv, 461 p. (in Ukrainian).
- [2] Khvesyuk, M. (Ed.), 2013, *Formuvannia modeli upravlinnia pryrodnyimi resursamy v rynkovykh umovakh hospodariuvannia*, [Composing of the model of natural resources management under conditions of market economic activity], Public Institution "Institute of Environmental Economics and Sustainable Development of the National Academy of Sciences of Ukraine", Kyiv, pp. 4, 22-28, 89-92, 199-200. (in Ukrainian).
- [3] Kuryltsiv, R., 2012, *Poniatynnyi aparat upravlinnia zemlekorystuvanniam u yevropeiskomu konteksti* [Conceptual apparatus for land management in the European context]. pp. 231-236, http://www.irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?I21DBN=LINK&P21DBN=UJRN&Z21ID=&S21REF=10&S21CNR=20&S21STN=1&S21FMT=ASP_meta&C21COM=S&2_S21P03=FILA=&2_S21STR=vnvltu_2012_22.4_41, Accessed on Sept.10, 2019.
- [4] Kuryltsiv, R., Kryshenyk, N., 2019, *Funding Opportunities for Farmers in Ukraine*. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 19(1):255-260.
- [5] Smith, A., 1962, *An Inquiry into the Nature & Causes of the Wealth of Nations*. Edited by S. M. Soares. MetaLibri Digital Library, pp. 348-350. https://www.ibiblio.org/ml/libri/s/SmithA_WealthNations_p.pdf, Accessed on Sept.10, 2019.
- [6] Stupen, M., Stupen, R., Ryzhok, Z., Stupen, O., 2019, *Methodological Foundations of the Organization and Protection of Lands in the Context of the Balanced Nature Use*. Scientific Papers Series Management,

Economic Engineering in Agriculture and Rural Development, Vol. 19(1):565-570.

[7]Tretiak, A. (Ed.), 2019, *Ekonomika zemelnoho rynku: bazovi zasady teorii, metodolohii, praktyky* [Economics of the land market: basic principles of theory, methodology, practice], Lviv, SPOLOM, pp. 15-19, 291-292, 315-316. (in Ukrainian).

[8]Tretiak, A., 2012, *Ekolohiia zemlekorystuvannia: teoretyko-metodolohichni osnovy formuvannia ta administruvannia* [Land use ecology: theoretical and methodological foundations of formation and administration: monograph]. Kherson: Grin D.S., p. 26. (in Ukrainian).

[9]Tretiak, A., Tretiak, V., Tretiak, N., 2017, *Zemelna reforma v Ukraini: tendentsii, naslidky u konteksti yakosti zhyttia i bezpeky naseleння* [Land reform in Ukraine: trends, consequences in the context of quality of life and public safety]. Kherson: Grin D.S., pp. 24-25. (in Ukrainian).