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## INSTITUTIONAL ENVIRONMENT OF THE LAND RESOURCES AND LAND USE MANAGEMENT IN UKRAINE: PROBLEMS OF COORDINATION OF THE INSTITUTIONAL STRUCTURE, FUNCTIONS AND AUTHORITIES<sup>8</sup>

*The article presents findings of the research on the institutional environment of land resources and land use management in Ukraine as a sustainable development factor (safe human living and social welfare). The work highlights the main institutional problems of the country, which have consequently caused ineffective use of the land and resource potential and have resulted in soil degradation and economically unjustified use of land, as well as exacerbation of other global problems. According to the official statistical data, Ukraine's arable lands occupy 54 % of its area, but its land resource potential is insufficiently used, whereas, in the countries of Europe, the area of arable land is only 27.4 %. Another considered problem is that in Ukraine, some authorities are repeated, whereas some responsibilities concerning land and land use are dropped out. Analysis of the current institutional environment confirms the authors' hypothesis that it requires substantial transformations in the system of governmental management of land resources and land use.*

*Keywords: land reform; land resources management; management of land use; land fund; sustainable development; public welfare; institutional environment; State Service of Ukraine for Geodesy; Cartography and Cadastre (StateGeoCadastre); climate change; land degradation  
JEL: H83; Q15; Q24; Q28; Q56*

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## Introduction

The growing demand for food, fodder, fuel and raw materials has forced an increased burden on land and competition for land and other natural resources located on it. Moreover, the area of available productive lands is getting smaller because of their degradation. The driving forces of land degradation include external factors, which directly or indirectly influence the health and productivity of land, as well as related resources such as soil, water and biological diversity. Therefore, protection of the functions of land and other natural resources, placed on it, is an important contribution to human safety, because it provides an excess of food and water, permanent employment and maintenance of life, resistance to climate change and extreme weather conditions, as well as the general safety of human life and public welfare.

Ukrainian scientists believe that the multi-stage land reform, which started in Ukraine in 1990 and is currently not completely implemented, is responsible for the reduced market price of land, deteriorates conditions and components of the environment, increased ecological hazard in the process of economic activities, particularly blunts efficiency of farming and competitive capacity of not only some economic entities, i.e. land-users, but also local and national economies (Tretiak et al., 2021).

Ukraine is one of the largest countries in Europe in terms of arable lands as its land fund has 60 354.9 thousand ha, including 32 541.3 thousand ha of agricultural lands or almost 54% of the total area of Ukraine, i.e. about 3% of the area of Europe. To compare characteristics of the land use in the countries of Europe, the EU member states and Ukraine on the example of agricultural lands, the authors of the research have composed Table 1.

Table 1  
Comparative characteristics of land use conditions in the countries of Europe, the EU member states and Ukraine

Index	Unit	Ukraine	Countries of Europe	EU member states
Area of lands	million ha	60.4	1015.6	437.4
	%	100	100	100
Area of fertile black lands	million ha	28	84	18
	%	46.4	8.3	4.1
Area of agricultural lands	million ha	42.7	474.8	177.7
	%	70.7	46.8	40.6
Area of arable lands	million ha	32.5	277.8	115.7
	%	53.8	27.4	26.5
Area of agricultural lands, certified as organic	million ha	0.3	11.6	5.3
	%	0.5	1.1	1.2
Area of irrigated lands	million ha	0.5	20.8	11.1
	%	0.8	2.0	2.5
Area of agricultural lands per one resident	ha/per 1 person	0.7	0.6	0.4
	%	1.2	0.1	0.1
Share of leased agricultural lands	%	65	62	53
Price of investments, thousand USD	per 1 ha	1	4	5.5
Export of cereals	million ton	34.8	130	38.5
Price of 1 hectare of agricultural lands	thousand USD	1.0	3.7	7.2

*Source: composed with the use of Cabinet of Ministers of Ukraine, 2017b.*

Data from the Table confirm a great unemployed potential of land resources, particularly of Ukrainian agricultural lands (46.4% – fertile black lands) as compared to the countries of Europe (8.3%), and prove that without an effective institutional environment of the land resources and land use management, land resources and other natural resources, placed on it, cannot reach the average European level of capitalization and greening.

The hypothesis of the present research suggests that under the global negative changes of climate and ecosystems and their impact on land and other resources, insufficient measures concerning fight with land degradation, openness of the market of agricultural lands, implementation of conceptual changes in the field of power decentralization in Ukraine and accomplishment of the land reform, Ukrainian land policy needs significant institutional changes in the system of governmental management of land resources and land use. It is one of the main factors stagnating effective development of the country, particularly the policy concerning the effective implementation of the land reform, organization of the rational use and protection of land resources, capitalization and greening of land use. All the aspects are studied in the present work.

## **Materials and Methods**

Theoretical aspects of the land resources and land use management in Ukraine, as one of the main constituents of economic and ecological relations, are considered in the researches of domestic scientists, namely M. Heiets, V. Horlachuk, A. Danylenko, D. Dobriak, P. Kulinich, R. Kuryltsiv, A. Miroshnychenko, A. Martyn, R. Marusenko, O. Mordvinov, O. Novotorov, V. Trehobchuk, A. Tretiak, H. Sharyi, M. Khvesyk and others. However, the issue of effective performance of the organizational structures of land resources and land use management in conditions of global tendencies is not properly studied.

In the research, the authors referred to the legislative and normative documents of Ukraine in the field of land relations, official statistical materials, data of the State Service of Ukraine for Geodesy, Cartography & Cadastre (StateGeoCadastre), as well as publications, devoted to the solution of the most important global tasks, preconditions of sustainable development and aspects of land resources management, as well as regulation and administration of land relations.

To conduct the research, the following general scientific methods of research were used, particularly analysis and synthesis, theoretical generalization and comparison – to study the institutional environment concerning organizational structures of the land resources and land use management, to analyze the systems of managerial bodies while assessing the efficiency of their regulatory impact on land resources and concerning the effective implementation of the land reform, organization of the rational use and protection of land resources, capitalization and greening of land use.

The research refers to the recent available public data about the land fund of Ukraine, provided by the State Service of Ukraine for Geodesy, Cartography & Cadastre. Nowadays, the mentioned process of transfer of the state statistical reporting data on quantitative accounting of land is not completed, verifying the present research hypothesis.

## Results and Discussions

International commitments and European integration attempts of Ukraine, primarily concerning the FAO principles implementation in the national land policy, determine institutional transformations and the necessity to change logics and approaches to the effective economical, ecological and social development and management of land resources and land use.

Unfortunately, nowadays, Ukraine faces great risks of escalating ecological hazards, caused by pollution of air, water and soil, exhaustion and pollution of land, forest, water and other natural resources because of irrational economic activities. Thus, local and national ecological problems aggravate global problems, primarily negative processes of the increased level of land degradation and desertification, making a negative impact on climate changes (Tretiak et al., 2021).

Analysis of the land fund of Ukraine confirms an extremely high level of living space development and significant ploughing, i.e. correlation of anthropogenic and natural environment-stabilizing lands is 3:1 (Table 2), including 45 279.3 thousand hectares (75%) of Ukraine's area engaged for economic needs, and only 15 075.6 thousand hectares (25%) are environment-stabilizing lands. The presented figures confirm current institutional problems of ineffective land resources and land use management that cause an increased environmental hazard in the process of economic activities.

Table 2

Land fund at the beginning of 2016, thousand ha

Anthropogenic area		Natural land area	
Agricultural lands, including:	42726.4	Forests and other forest-covered areas	10633.1
arable land	32541.3	Swampland	982.3
grassland	233.7	Dry open land, covered by specific vegetation	13.2
perennials	892.4	Open land without vegetation or with insignificant vegetation	1020.6
hay fields	2406.4		
pastures	5434.1		
Build-up land	2552.9	Water bodies	2426.4
Total, thousand ha	45279.3	Total, thousand ha	15075.6
Referring to the total area, %	75.0	Referring to the total area, %	25.0

*Source: composed by the authors according to the latest data of the State Service of Ukraine for Geodesy, Cartography & Cadastre.*

Therefore, to identify the negative factors of impact on the efficiency of land relations regulation and administration of land use in Ukraine, the authors of the research have conducted an analysis of the institutional environment concerning organizational structures of the land resources and land use management.

At the legislative level, the essence of land resources and land use management is defined in the Land Code of Ukraine, approved in October 2001 (Verkhovna Rada of Ukraine, 2001). According to the Land Code of Ukraine (Article 9-14), regulation of land relations is conducted by the village, settlement, city, district, regional councils and the Verkhovna Rada of Ukraine. The system of land resources and land use management consists of three blocks:

- legislative authorities;
- executive authorities;
- prosecutorial and judicial authorities.

Concerted efforts of the authorized state bodies with the managerial mechanisms (methods, principles, functions of management, etc.) represent the system of land resources and land use management.

According to the articles 15, 151, 152 of the Land Code of Ukraine, governmental management in the field of use and protection of lands is performed by the Cabinet of Ministers of Ukraine, Government of the Crimean Autonomous Republic, local state administrations, State Services of Ukraine for Geodesy and Cartography (StateGeoCadaster), Ministry of Agrarian Policy and Food of Ukraine, Ministry of Ecology and Natural Resources, Ministry of Health of Ukraine, State Agency of Water Resources of Ukraine (State Water Agency) and other authorized state bodies according to their competences. Moreover, according to the article 15/1 of the Land Code of Ukraine and Decree of the President of Ukraine of May 13, 1996, the StateGeoCadaster is the central body of state executive power that implements policy in the field of land relations in Ukraine and is directly subordinated to the Cabinet of Ministers of Ukraine.

In the field of jurisdiction, control is made by the Supreme and High Arbitration Courts of Ukraine.

To implement the land reform, the Cabinet of Ministers of the Ukrainian SSR made resolution № 124 of July 20, 1991, on the establishment of the State Committee for Land Resources. In 1992, the resolution of the Cabinet of Ministers of Ukraine № 73 of February 14, 1992, approved the regulations about the State Committee for Land Resources. According to paragraph 1 of the document, the State Committee of Ukraine for the land reform accomplishment (State Committee of Ukraine for Land Resources) was declared as the central body of state management, directly subordinated to the Cabinet of Ministers of Ukraine. It was defined that the State Committee of Ukraine for Land Resources was responsible for the state land policy in Ukraine, particularly land reform implementation, rational use and protection of land resources.

Resolution of the Verkhovna Rada of Ukraine № 2200-XII of March 13, 1992, “On acceleration of the land reform implementation and land privatization”, stressed on the importance of that special authority of the central executive power. Paragraph 6 of that Resolution declared that normative documents and instructions of the State Committee concerning reforming land relations, which did not violate the laws of Ukraine, were mandatory for exercising by local authorities and administrations, land owners and land users regardless of the forms of ownership and departmental possession.

The decree of the President of Ukraine № 340/96 of May 13, 1996, approved a new regulation about the State Committee for Land Resources, which specified its status and tasks, particularly that the State Committee for Land Resources was the central body of state executive power, subordinated to the Cabinet of Ministers of Ukraine and was included in the structure of the agro-industrial complex. It was responsible for the state policy in the field

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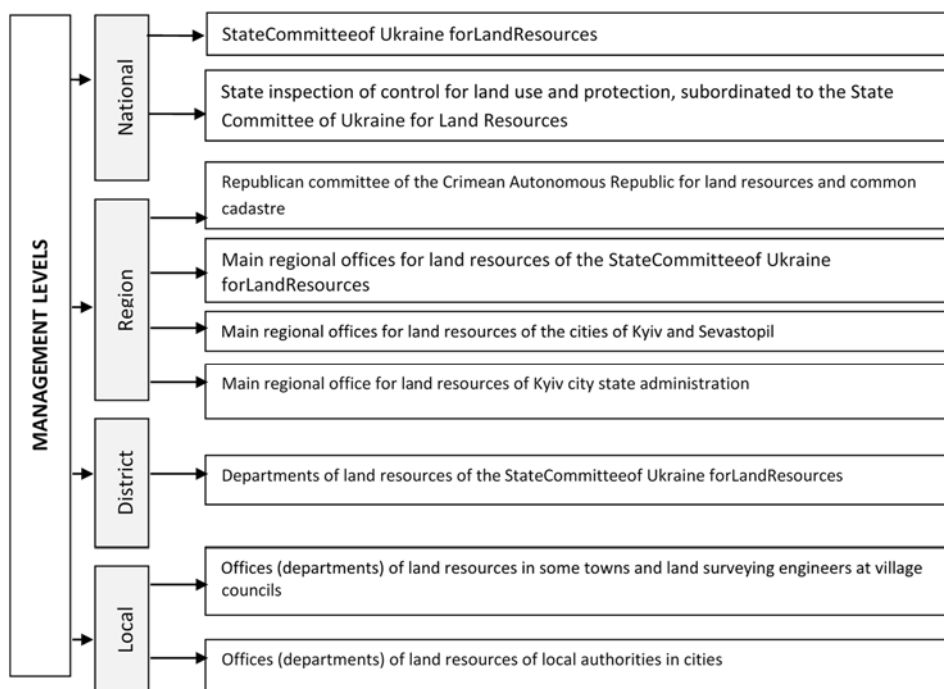
of land relations, and implemented the land reform. The State Committee for Land Resources was authorized to conduct the state management of land resources, to control the performance of the subordinated state bodies in charge of land resources, to secure the rational use and protection of land resources.

Moreover, continuous changes in the land laws and lobbying for the interests of certain powerful groups resulted in the appearance of rather contradictory standards and changes in the system of the State Committee for Land Resources. Thus, the authority lost its key position in implementing the land reform, as well as in shaping and conducting the state policy in the field of land relations. At the start of the land reform, implementation, development and approval of legislative acts and bylaws were made by involving some research institutions, interdepartmental working groups, analysis of changes and their possible impact on the society and development of the national economy, whereas over time, the attitude to the legislative acts development changed.

The structure of the system of authorities in charge of land resources of the State Committee for Land Resources in Ukraine and local authorities is shown in Figure 1.

Figure 1

Management levels in the system of authorities in charge of land resources of the State Committee of Ukraine for Land Resources and local authorities



Analysis of the tasks and functions, defined in the new Land Code of Ukraine (2001) and the Resolution about the State Committee of Ukraine for Land Resources, shows that structure of the State Committee of Ukraine for Land Resources was not correspondingly transformed. In particular, after the process of agricultural lands parcelling was finished in 2000, they expected to initiate the process of land organization and land surveying and aimed to establish an ecological network at the regional and local levels, land holdings and land uses of agricultural enterprises, to develop a new market-oriented land structure that consequently resulted in launching the transformational reform of the State Committee of Ukraine for Land Resources.

It is worth noting that the lack of an effective mechanism for the multi-level management of land resources and land use has resulted in overlapping of power authorities' competencies within one managerial unit. Particularly, having analyzed the distribution of the responsibilities and authorities of the subjects of land resources and land use management, the authors of the work have developed a matrix of responsibilities for the performance of the functions and regulatory mechanisms of management (Table 3) (Tretiak et al., 2021).

Studying the current institutional structure of the land resources and land use management in Ukraine, it is worth noting that the efficient (acting) management in that field is a multi-level and complex process. It is caused by the extended period of the structural transformation from a centre-planned national economy to a centralized one, focused on the market, as well as by the impact of dynamic political changes and the absence of a common idea as to the expected results of institutional transformations (Tretiak et al., 2021).

However, political decisions concerning the central body of power that implemented the state policy in the field of land relations were different. Since 2007, some reorganizations happened, particularly on April 13, 2007, the State Committee of Ukraine for Land Resources was reorganized into the State Agency of Ukraine for Land Resources; on April 14, 2008, the State Committee of Ukraine for Land Resources was reestablished; on July 15, 2013, the performance of the Committee was stopped and State Agency of Ukraine for Land Resources was reactivated; on September 10, 2014, it was transformed into the State Service of Ukraine for Geodesy, Cartography and Cadastre (StateGeoCadastre) according to the Resolution № 442 of the Cabinet of Ministers of Ukraine.

In August 2016, the Cabinet of Ministers of Ukraine signed the resolution "On reforming of territorial bodies of the State Service of Ukraine for Geodesy, Cartography and Cadastre" (Cabinet of Ministers of Ukraine, 2016), in which it agreed to the proposals of the Ministry of Agrarian Policy and Food of Ukraine and the State Service of Ukraine for Geodesy, Cartography and Cadastre that the interregional and city-district offices of the Service, offices (departments) of the Service in districts and cities were the structural units of the corresponding offices of the State Service of Ukraine for Geodesy, Cartography and Cadastre. Therefore, the district link of executive authorities was liquidated, including those in charge of land resources management.

Table 3

Matrix of distribution of the responsibilities and authorities of managerial bodies in terms of performance of the functions and regulatory mechanisms of land resources and land use management

Functions and regulatory mechanisms	Bodies of management and their authorities										
	Verkhovna Rada of Ukraine (VRU)	Bodies of local government (region, district, village, settlement, city councils)	Central bodies of executive power								Land-owners and land users (residents/ non-residents)
			Cabinet of Ministers of Ukraine (CMU)	which secure shaping of the state policy in the field of environmental protection, and land relations	which exercise the state policy in the field of environmental protection, and land relations	which secure shaping of the state policy in the field of land relations	which secure implementation of the state policy in the field of land relations	local state administrations for land relations	state bodies of privatization in the field of land relations		
Forecasting development of land use	-	+	+	+	+	+	+	+	+	+	
Planning development of land use	+	+	+	+	+	+	+	+	+	+	
Assessment of resource and land property	-	+	-	+	+	+	+	-	+	+	
Organization of use and protection of land	-	+	+	+	+	+	+	+	+	+	
Motivation of efficient land reclamation	-	+	+	+	+	+	+	+	+	+	
Control for use and protection of land	-	+	+	-	+	-	+	-	-	-	
Accounting of lands, land plots and land holdings	-	+	-	-	-	-	+	-	-	+	
Monitoring of use and protection of lands, land relations, forms of land use	-	+	+	-	+	-	+	-	-	-	

Source: completed by the authors with the use *Khvesyuk* (Khvesyuk et al., 2013; Verkhovna Rada of Ukraine, 2001).

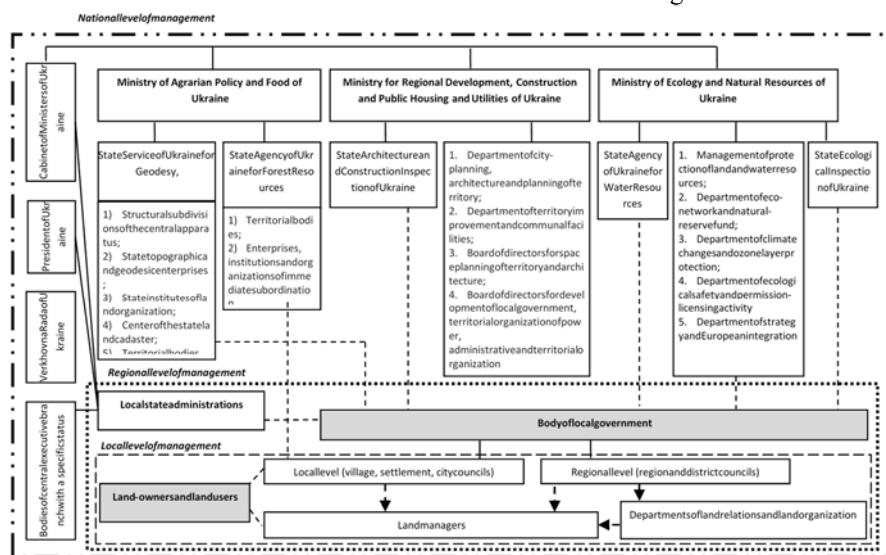
Figure 2 demonstrates the institutional structure of the land resources and land use management in Ukraine, valid as of August 28, 2019. According to the current land policy of Ukraine, the following institutional frames of responsibilities and authorities of the main power bodies in charge of land resources and land use management in Ukraine should be considered (Tretiak et al., 2021).

Examination of the majority of the central and local power bodies or their affiliates in charge of the land resources and land use management confirms a considerable differentiation and scattering of managerial functions among the numerous state institutions. However, the greatest problem is that there is no adequate coordination of managerial actions and control for the performance of the authorities and responsibilities, no control for making relevant managerial decisions concerning land and land use (Tretiak et al., 2021).



Figure 2

Institutional structure of land resources and land use management in Ukraine



Sources: completed by the authors with the use of the legislation of Ukraine (Cabinet of Ministers of Ukraine, 2014a, 2014b, 2014c, 2014d, 2015a, 2015b, 2015c, 2017a; Ministry for Regional Development, Construction and Public Housing and Utilities of Ukraine, 2015; Ministry of Ecology and Natural Resources of Ukraine, 2019; Verkhovna Rada of Ukraine, 1997, 1999, 2001, 2011a).

Resolution of the Cabinet of Ministers of Ukraine № 1118 “Issues of performance of territorial bodies of the State Service of Ukraine for Geodesy, Cartography and Cadastre” of November 16, 2020 states (Cabinet of Ministers of Ukraine, 2020):

- 1) To liquidate territorial authorities of the State Service of Ukraine for Geodesy, Cartography and Cadastre as legal entities of public law according to the list in supplement 1.
- 2) To agree to the proposal of the Ministry of Economy, Trade and Agriculture Development concerning the establishment of territorial authorities of the State Service of Ukraine for Geodesy, Cartography and Cadastre as structural affiliates of the apparatus of the mentioned Service according to the list in the supplement 2. According to that resolution, main departments in regions were liquidated, whereas offices of the State Service of Ukraine for Geodesy, Cartography and Cadastre were established in all regions of Ukraine. The staff was reduced from 10 thousand to 4317 thousand people (Cabinet of Ministers of Ukraine, 2021).

In 2018 and 2021, the structure of the apparatus of the State Service of Ukraine for Geodesy, Cartography and Cadastre included the following departments (Table 4).

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Table 4

Structure of the apparatus of the State Service of Ukraine for Geodesy, Cartography and Cadastre in 2018 and 2021

№	Name of structural units in the corresponding year	Year	Number of units	↑↓
1	Management	2018	3	+3
		2021	6	
2	Department of the state land cadastre	2018	22	+6
	Department for keeping records in the state land cadastre	2021	28	
3	Department for land organization, use and protection of land	2018	23	=
		2021	23	
	Office of land organization	2018	6	+1
		2021	7	
	Office of agricultural land use	2018	6	-1
		2021	5	
	Office of land protection	2018	5	=
		2021	5	
	Office of non-agricultural land use	2018	5	=
		2021	5	
4	Department of human resource policy	2018	22	-1
	Department of staff management	2021	21	
5	Department of control for land use and protection	2018	22	-1
		2021	20	
6	Department of finance	2018	23	-1
	Department of finance and accounting	2021	22	
7	Juridical department	2018	29	-5
		2021	24	
8	Office of service supply	2018	17	+5
	Department of service supply	2021	22	
9	Department of state expert estimates	2018	18	+1
	Department of state expert estimates, certification and control in the field of land organization	2021	19	
10	Department of topographic-geodesic and cartographic activities	2018	22	-1
	Department of development and standardization of the National infrastructure of geospatial data	2021	21	
11	Department of international cooperation and land market	2018	22	-7
		2021	15	
	Department of land market and land assessment	2018	4	+1
		2021	5	
	Office of land market	2018	4	+1
		2021	5	
	Office of land assessment	2018	4	=
		2021	4	
	Office of auction activities	2018	4	=
		2021	4	
Department in charge of the European integration and international cooperation	2021	9	+9	
12	Department of prevention and discovery of corruption	2018	11	-4
	Department in charge prevention and discovery of corruption	2021	7	
13	Office of internal audit	2018	6	+1
		2021	7	
14	Department of public claims and access to public information	2018	7	+4
	Department in charge of work with public claims and access to public information	2021	11	
15	Office of information protection and online administration	2018	8	+2
	Department of information technologies and information protection	2021	10	
16	Office of control	2018	5	-5
17	Office of material and technical supply	2018	5	-5
21	General office	2018	5	-5
22	Sector of archives	2018	2	-2
		2021	2	
TOTAL		2018	274	-
		2021	241	33

Source: composed with the use of the sources (Ministry of Digital Transformation of Ukraine, 2018, 2021).

Analysis of the apparatus of the State Service of Ukraine for Geodesy, Cartography and Cadastre in 2018 and 2021 shows that in the period of increased burden on land resources, there was no functional affiliate or department, responsible for the state regulation of land relations in the structure of the State Service of Ukraine for Geodesy, Cartography and Cadastre. Moreover, the analysis confirms that the state administrating (economic, land-surveying and legal) of the land use and protection, coordination of that direction with the Ministries, executive authorities and territorial communities is performed by the Department of land organization, land use and protection, which is much smaller than the Juridical department.

Moreover, the current Ukrainian system of management of the state budget funds in the field of land relations and organization of land use and protection is still far from being perfect, in spite of the high costs spent for service maintenance in decentralization conditions (Table 5).

Table 5  
State budget funds, allocated for the State Service of Ukraine for Geodesy, Cartography and Cadastre, thousand USD

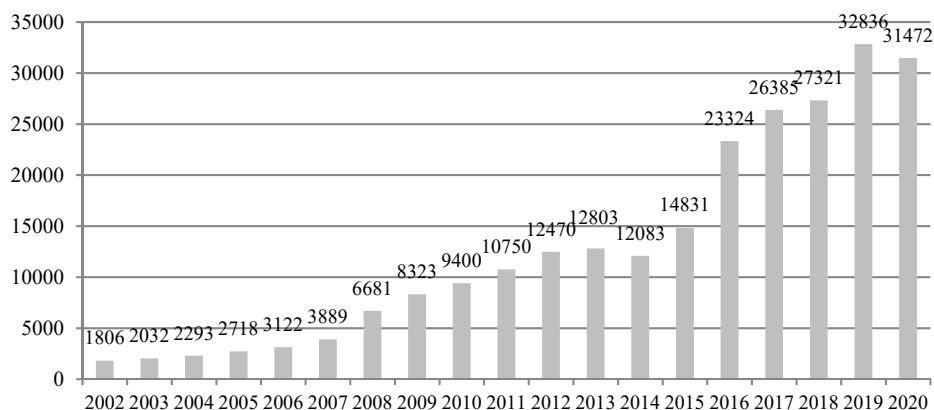
Year	Name according to the department and program classification of costs and the state budget funding									Total, thous USD
	Administration and management in the field of land resources	Advanced training of staff	Issue of state acts certifying the right of ownership of a land plot on rural area	Implementation of the land reform	Construction of anti-erosion hydro-technical units and reclamation of disturbed lands	Protection, reclamation and rational use of land resources	National topographic-geodesic and cartographic works, demarcation and delimitation of the state border	Inventory of lands and updating of the cartographic base of the State Land Cadastre		
2002	13341	4	-	6725	704	-	-	-	-	20773
2003	14632	4	-	6687	713	-	-	-	-	22035
2004	16220	3	764	6248	-	844	-	-	-	24081
2005	25858	3	877	5293	-	943	-	-	-	32975
2006	38007	40	2812	8377	-	953	-	-	-	50188
2007	45997	39	842	9708	-	1881	-	-	-	58467
2008	66629	39	595	13789	-	1881	-	-	-	82933
2009	39956	18	455	947	-	61	-	-	-	41437
2010	50831	17	14851	913	-	59	-	-	-	66671
2011	51284	15	11608	1509	-	177	-	-	-	64593
2012	108716	-	29208	12069	-	-	-	-	-	149994
2013	75961	-	13375	59624	-	-	2593	-	-	151553
2014	63102	-	-	1051	-	-	414	-	-	64567
2015	33199	-	-	2841	-	-	319	-	-	36359
2016	24945	-	-	1884	-	-	212	-	-	27040
2017	37427	-	-	3927	-	-	189	-	-	41542
2018	51461	-	-	16133	-	-	179	-	-	67773
2019	51723	-	-	8639	-	-	179	-	-	60541
2020	58231	-	-	2153	-	-	1333	10044	-	71762
2021	42543	-	-	1807	-	-	1119	8428	-	53897
Total	910063	182	75388	170323	1417	6799	6537	18472	-	1189180
Average in a year, thousand USD	47898	10	3968	8964	75	358	344	972	-	62588
\$/ha	0.794	0.000	0.066	0.149	0.001	0.006	0.006	0.016	-	1.038

\* since September 2014 – called the State Service of Ukraine for Geodesy, Cartography and Cadastre  
Source: composed by the authors on the basis of the Laws of Ukraine “On the State budget of Ukraine” in the corresponding year (Ministry of Finance of Ukraine, 2008; Kurs-Dollar-Euro.ru, 2021).

The Table demonstrates that after approval of the Land Code of Ukraine, the land policy was not focused on the supply of the ecologically rational use of land resources. Since 2002, funds have been distributed in the following way, in particular 6 799 thousand UDS – for reclamation and rational use of land resources and land protection, 1 417 thousand USD – for construction of anti-erosion hydro-technical units and reclamation of disturbed land, 270 720 thousand USD – for measures of the land reform implementation and land organization. The Table of costs also shows that since 2012, no funds have been allocated for the State Service of Ukraine for Geodesy, Cartography and Cadastre for the purposes of protection, reclamation and maintenance of the rational use of land resources. It confirms ineffective governmental policy concerning the management of the land and resource potential, which is under particular protection of the state as it is declared in the Constitution of Ukraine.

After approval of the current Land Code of Ukraine, i.e. 19 years ago, the average funding of the above-mentioned measures made 0.24 \$/ha annually, as well as 0.79 \$/ha – for managerial structures, whereas payments for the land provided 18 \$/ha of revenues to the budgets of different levels (Figure 3).

Figure 3  
Revenues from payment for land to the consolidated budget of Ukraine and its share in the total amount of revenues from the specific use of natural resources, million USD



In particular, revenues from payments for land increased in the period starting from 2016, demonstrating a significant uptrend. It is worth noting that improvement of the system of administrating the payment for land, which is paid in the form of land tax and lease payment (they are considered financial instruments, which are used to regulate the possession and use of land assets) is an important step to increase the volume of funding for reclamation and protection of land resources.

The above-mentioned factors provoke economic, ecological problems, particularly weak capitalization of land use, and therefore reduced revenues to budgets from payments for land.

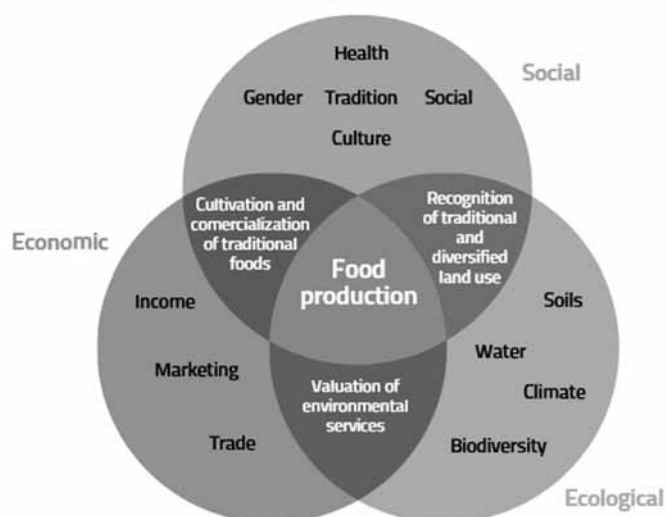
Transformation of the system of land resources and land use management in Ukraine requires appropriate improvement of the institutional environment, both at the legislative and regulatory levels, that is functional at different hierarchical levels, especially for the territorial communities. In addition, climate changes and the rapidly growing demand for food are intensifying the burden on land resources. Significant transformations are needed to overcome the current development trends and to move to a sustainable agriculture and food production model. The FAO (2017) identified five interconnected principles for that transition:

- 1) improved efficiency of the resource use;
- 2) protection of natural resources;
- 3) improved living conditions on rural areas;
- 4) increase of stability;
- 5) increase of controllability.

Therefore, the FAO recognizes that sustainable use and management of land resources is important for achieving the Sustainable Development Goal 2 – producers and managers in the field of natural resources adopt practices that increase and improve the supply of products and services in agricultural production in a sustainable manner. Implementation of the five principles of transition to the sustainable agriculture and food production and integration of three sustainable development strands – social, economic and environmental (Figure 4) – require a new approach to the land resources and land use management at different levels and in relation to competing destinations of land use (Tretiak et al., 2021).

Figure 4

Three dimensions of sustainable development as a basis for land resources and land use management



Sources: FAO, 2017.

*Tretiak, N., Sakal, O., Kovalenko, A., Vrublevska, O., Anheliiia, V., Shtohryn, H., Behal, I. (2022). Institutional Environment of the Land Resources and Land Use Management in Ukraine: Problems of Coordination of the Institutional Structure, Functions and Authorities.*

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Thus, in the period of transformational changes, it is necessary to develop the national land policy, which will define the goals, priority tasks and instruments of land relations regulation and administration of land use. Fulfilment of the tasks will crucially change the vector of their development with the focus on the protection and growth of the country's land potential for the medium-term and long run with consideration of the FAO principles.

## **Conclusions**

Analysis of the institutional environment of the land resources and land use management provides the conclusion that in the period of negative changes of climate and ecosystem, demand for measures to fight with land degradation, as well as openness of the agricultural land market, the Ukrainian institutional environment needs crucial transformations with consideration of the principles, recommended by the UNO. In particular, the research outlines negative factors of the institutional environment of the organizational structures of land resources and land use management, which consequently cause stagnation of the efforts on implementation of the land policy principles, determined by the Land Code of Ukraine, Laws of Ukraine "On land protection", "On land organization", "On environmental protection" and others, as well as concerning effective fulfilment of the land reform measures, greening and capitalization of land use, protection of land and other natural resources. Therefore, an examination of the State Committee of Ukraine for Geodesy, Cartography and Cadastre shows there is no functional department or affiliate, which performs the functions of state regulation of land relations. The function of state administration (economic, land-surveying and legal) of land use and protection, as well as coordination of that direction, is exercised by the Department of land organization, land use and protection, having staff of 23 people.

Unfortunately, approval of the Land Code of Ukraine did not reorient the land policy onto the ecologically rational use of land resources. Since 2002, funds have been distributed in the following way, in particular 6 799 thousand UDS – for reclamation and rational use of land resources and land protection, 1 417 thousand USD – for construction of anti-erosion hydro-technical units and reclamation of disturbed land, 270 720 thousand USD – for measures of the land reform implementation and land organization. Moreover, since 2012, no funds have been allocated for the State Service of Ukraine for Geodesy, Cartography and Cadastre for the purposes of protection, reclamation and maintenance of the rational use of land resources. During 19 years, the average funding of the above-mentioned measures made 0.24 \$/ha annually, as well as 0.79 \$/ha – for managerial structures, whereas payments for land provided 18 \$/ha of revenues to the budgets of different levels. Such figures confirm ineffective governmental policy concerning the management of the land and resource potential, which is under the particular protection of the state as it is declared in the Constitution of Ukraine. Those factors provoke economic, ecological problems, social and budget (for territorial communities) problems, namely weak capitalization and greening of land use, and consequently reduced revenues to budgets from payments for land. Therefore, the following researches should be devoted to the optimization of the managerial structures both in the system of the State Service of Ukraine for Geodesy, Cartography and Cadaster and in the systems of territorial communities, greening and capitalization of land use.

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