

## THE STATE AND PROTECTION OF LAND RESOURCES AND DEPOSITS IN THE LEOVA DISTRICT

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### **Abstract**

*The protection of the environment is a national priority, which directly aims at the living conditions and health of the population, the achievement of economic and social-human interests, as well as the sustainable development capacities of society in the future. The purpose of the research was to evaluate the state of land resources and deposits located on the territory of the Leova district, as well as to identify the factors that contribute to the ecological state of land resources. Leova district is located in the southwest of the Republic of Moldova, on the border with Romania, along the left bank of the Prut river. The district has an area of 764.7 km<sup>2</sup>, representing 2.26% of the total area of the country. The natural resources of the district are forests, rivers and ponds. The underground natural wealth is represented by deposits of sand, clay, clay, bentonite, mineral waters. Of the total area of the district of 76.5 thousand ha, the agricultural land constitutes 57.3 thousand ha, and the non-agricultural land constitutes 19.2 thousand ha.*

**Key words:** *environmental protection, deposits, land resources, Leova district.*

### **INTRODUCTION**

Under the conditions of the reform of land ownership on the territory of the Republic of Moldova and the forms of management, the direct attitude towards the organization, use and evaluation of land resources has changed radically in recent years. In this process, large areas of valuable agricultural land were transferred to private ownership, on the basis of which peasant households, private households with collective property in common and cooperatives were organized, in which the organization of the use of land resources reached a new level with everything different. At the same time, the problem of developing effective approaches to the rational use of land resources in a market economy requires an urgent solution to increase the efficiency of not only the use of land resources, but also to create conditions for obtaining ecological products from each hectare of land.

The rural area of the Republic of Moldova in 2011 was in a deep crisis, marked by the mass exodus of the population abroad, the ruin of agriculture, the serious damage to the social and production infrastructure, access roads, etc. The anti-ecological utilization of agricultural land and the accumulation of unauthorized garbage, the negligence of the population and

local public authorities, of the bodies of supervision and control of land resources have a particular impact. The most frequent form of impact on land resources is erosion. The accelerated increase of the surfaces affected by erosion and its intensity is conditioned by the non-compliance with the ecological requirements of the lands at the time of granting agricultural land quotas in private ownership, by the inefficient exercise of the main functions of managing land resources, as well as by the superficial involvement of local public authorities. At an inefficient level, the functions of assessment and control, regulation and coordination of the use and supervision of land resources are exercised (Bacal et al., 2011).

The soil as a producer of goods, a means of production, can be exploited over millennia, provided that degradation processes are excluded. The current state of the soil cover of the Republic of Moldova is worrying. It is necessary to urgently implement a system of measures aimed at efficient use, protection, preservation of the quality and diversity of soils. The Republic of Moldova enjoys a favourable climate and fertile land. The soils of Moldova have about one billion tons of humus, 50 million tons of nitrogen, 60 million tons of phosphorus, 700 million tons of potassium, according to the Republican Center for Applied

Pedology. The maximum weight in the economy is held by the agricultural sector and the basis on which half of the exports of the Republic of Moldova are produced. The average credit rating per country is 63 points and is reduced annually depending on degradation activities. Thus, weak erosion reduces the productive potential (and therefore the quality of the soil) by 20%, medium - by 40%, strong - by 60-80%.

The current condition of the soils, as well as the efficiency of the use of soil resources, cannot be considered satisfactory for the following main reasons: the parceling of the land fund and the deterioration of the regional anti-erosion systems; lack of anti-erosion organization of agricultural land and soil conservation measures; insufficient amounts of fertilizers incorporated into the soil; the lack of pastures, perennial grasses and the predominance of cultivation on the slopes of grazing crops. (IPM Yearbook, 2022. p. 130).

The total area of the land fund of the Republic of Moldova is 3,384.72 thousand ha, including 2,091.9 ha - agricultural land. The surface of publicly owned lands of the state constitutes 783.9 thousand ha (23.1%), the surface of publicly owned lands of administrative-territorial units - 700.4 thousand ha (20.7%) and the surface of privately owned lands (56.2%) constitute 1,900.4 thousand ha (IPM Yearbook, 2022).

A major influence on the reduced efficiency of the functions of managing the impact on land resources is also the superficial implementation of the mechanism of administrative sanctions. Although soils are declared the main asset of our nation, the number of fines for unauthorized use of land and causing various forms of degradation was very low (up to 100 lei). The absolute majority of fines were applied for the illegitimate occupation of land and for actions causing soil pollution. Very rarely were administrative sanctions applied for the destruction of the fertile soil layer, failure to take measures to prevent soil erosion, the lifting of the upper fertile soil layer from the lands of the forest fund, for falsifying and concealing information about the condition of the lands (Bacal et al., 2011).

Currently, the policies in the field of land improvements and land fund are elaborated and

promoted by the Ministry of Agriculture and Food Industry in accordance with the provisions of point 6, subsection 12 of the Regulation on the organization and functioning of the Ministry of Agriculture and Food Industry, approved by Government Decision no. 695/2017 (IPM Yearbook, 2022).

In the Republic of Moldova (Bacal, 2016), the normative basis for the application of land taxes is the Law for the application of Title VI of the Fiscal Code (the Law for the implementation of Title VI of the Fiscal Code, 2000) regarding the taxation of real estate, the Land Code (Land Code, 1991) and the annual State Land Cadaster (Bacal, 2014).

The specificity of the Republic of Moldova in terms of mineral resources consists in the fact that it has a comparatively modest space in terms of size with limited resources. The continuous development of the mineral raw material base, the rational use and protection of useful mineral resources are factors that decisively ensure the economic security of the state, the sustainable development of society. Most of the mineral resources of the Republic of Moldova are exploited through quarries and only some varieties of limestone through galleries. The exploitation of resources through quarries usually causes the destruction of soils, vegetation, leads to the accumulation of mining waste, which is later spread by air and water currents, producing imbalances in the ecological balance.

Currently, over 400 deposits of useful mineral substances (limestone, clay, sand, sandstone, gypsum, granite, diatomite) are registered on the territory of the country by the prospecting bodies. Approximately 40% of the total number are exploited, of which approximately 130 deposits are exploited by daily exploitation, and approximately 50 deposits are in underground exploitation (IPM Yearbook, 2022).

The most frequently used underground minerals are carbonate, siliceous, clay rocks, sands and gravels, and less used - caustobolite rocks (oil, gas, brown coal) because their quantities are insignificant. Deposits of non-metallic mineral substances are represented by granite and gabbronorite (for finishing slabs and gravel of different fractions), sandstone (for finishing slabs and blocks), gypsum (for

the building materials industry, medicine, export), chalk, limestones (for cutting limestone blocks of different sizes, for sugar factories, for cement factories, for its disaggregation into different fractions of gravel), clays (for the production of cement, ceramics, tiles, pipes, chermosite, brick, terracotta, in the chemical industry and food for cleaning wines, juices, oils - "bentonite", etc.), sands (for glass, mortar, and for forming - "glue sand"), sand-crushing (for construction), tripol (diatomite) and marl, which are the basis of providing the building materials industry and construction sites with raw material. As a result of the violations, the total amount of calculated damage caused to the basement for the year 2021 is 733,668,354 lei (Bacal, 2015; IPM Yearbook, 2022).

In recent years, it has been found that one of the factors that significantly influence the soil is the non-compliance with the legal provisions in the exploitation of land resources, including the exploitation of useful mineral substances. Thus, areas of agricultural land are excluded from the agricultural circuit. Also, the authors of the Yearbook mention that "unauthorized mining is a pressing problem. Following the assessment of the situation on the ground in 2020 regarding the state of abandoned quarries and the unauthorized exploitation of useful mineral substances, 385 illegally exploited sectors were detected, the activity of which resulted in the degradation of land with a total area of 736 ha. The total amount of the calculated damage caused to soil resources is 7,530,092 lei. The damages paid for the basement and land resources amount to 220,334 lei. For these reasons, there is a risk of causing enormous damages to the agricultural field and the environment, as follows: pollution of the environment; non-reclamation of land sectors degraded by mining works, storage of household and industrial waste on adjacent lands, etc. (IPM Yearbook, 2021).

During the year 2021, the fertile soil stored and preserved from construction and quarries constitutes 37,183 thousand m<sup>3</sup>, of which 32,890 thousand m<sup>3</sup> were used. The current condition of the soils, as well as the efficiency of the use of soil resources, cannot be considered satisfactory for the following main reasons: the parceling of the land fund and the

deterioration of the regional anti-erosion systems; lack of anti-erosion organization of agricultural land and soil conservation measures; insufficient amounts of fertilizers incorporated into the soil; the lack of pastures, perennial grasses and the predominance of cultivation on the slopes of grazing crops (IPM Yearbook, 2022).

## MATERIALS AND METHODS

In the paper, scientific research methods and various investigations were used using: data analysis and synthesis groups, evaluation methods regarding the condition and protection of land resources and deposits. The data provided by the Environmental Protection Inspectorate of the Republic of Moldova, the Land Cadastre, Laws, various scientific publications for different years, as well as the IPM Yearbook at the 2022 year of the Leova district were used as research materials.

In our investigations, the Leova district, in the south of the Republic of Moldova, was selected as a research object (Figure 1).

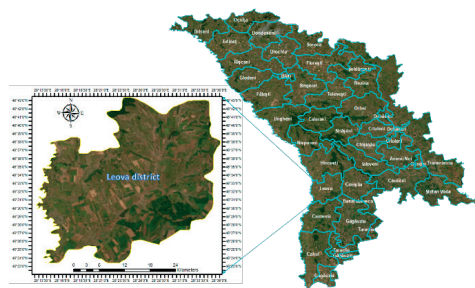


Figure 1. Representation of the Leova district, in the south of the Republic of Moldova map.

Source: Created by authors

Leova district is located in the southwest of the Republic of Moldova, on the border with Romania, along the left bank of the Prut river. The district has an area of 764.7 km<sup>2</sup>, representing 2.26% of the total area of the country (IPM Yearbook Leova, 2022).

The Leova district was created based on the Law on administrative-territorial reform no. XIV-764 of 27.12.2001 and from 23.05.2003 the district is a distinct administrative-territorial unit with legal personality.

The Leova district borders several territorial administrative units of level II: - to the North

with Hâncești district; - to the South with the Cantemir district; - to the West with the county of Vaslui in Romania; - to the East with Cimișlia district and UTA Gagauzia.

From an administrative point of view, the Leova district has 25 town halls. The district includes 40 localities, of which 2 cities (Leova, Iargara), 24 communes and 14 villages (components of the communes). The seat of the district is the city of Leova.

## RESULTS AND DISCUSSIONS

The Republic of Moldova has a rich pedological resource that, to a large extent, ensures economic activity. About 3/4 of the surface of agricultural land is occupied by chernozems, which are considered the most productive soils. However, the productive potential of soils in the conditions of current land relations is not used adequately, on the arable background the degradation processes continue and accelerate. If we refer to the analysis of the Leova district (the research object) as a location - the zonal relief is part of the hilly - undulating plain of Southern Moldova. The elements of the relief are very inhomogeneous exposed on narrow water basins that generally stretch from north to south, slopes with different inclinations, deep and long ravines and valleys, the amplitude varies within the limits of 50-230 m, the lowest being located in the meadow of the Prut and Sărata. The elevated plains of the district, dismembered in the downward slope from North to South, are grouped into 4 large units:

- The Prut meadow plain;
- Central Plateau - Moldavian;
- The elevated plain of Grăneț;
- The Tigheci Plateau with a maximum altitude of 294 m.

The climate is temperate continental with a homogeneous regime, as a result of the non-uniformity of the plain relief, it is characterized by very hot summers (drought prevails 3-4 years out of 10 years) and cold winters. The climate is distinguished by the particularities of periodic droughts, intensive torrential rains and sudden temperature changes. The territory of the district belongs to an area with insufficient moisture. The annual average of atmospheric deposition is 400-500 mm, most of it falls in

the form of torrential rains. The average annual temperature is +9.6°C, absolute maximum +40°C, absolute minimum +33°C. The coldest month is January with values of -4.97°C. The number of days with precipitation ( $\geq 1.0$  mm) comprises 101.72 days (27.87%), and days without rain around 263.28 days (72.13%).

The natural resources of the district are forests, rivers and ponds. The underground natural wealth is represented by deposits of sand, clay, clay, bentonite, mineral waters. There are 2 quarries for the acquisition of sand on a total area of 3.6 ha, of which 2 ha are located in the outskirts of Sărata Răzeși village and 1.6 ha in the outskirts of Hănăsenii Noi village. The forest fund occupies 13.3% of the territory of the district with an average age of 32-45 years. According to the Land Cadastre according to the situation on 01.01.2022 of the total area of the district Leova are of 76.5 thousand ha, the agricultural land constitutes 57.3 thousand ha, and the non-agricultural land constitutes 19.2 thousand ha (Figures 2-3).

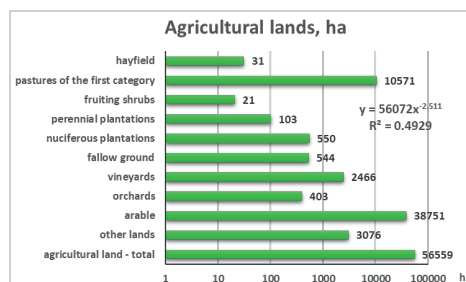


Figure 2. Representation of the agricultural lands in the Leova district

Source: Created by authors

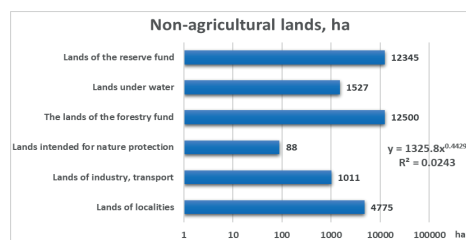


Figure 3. Representation of the non-agricultural land in the Leova district

Source: Created by authors

As a result of the examination and analysis of the data of agricultural land, represented in Figure 2, we notice that the degree of plowing

is quite high, constituting 73.9%, and the degree of afforestation is small, constituting 16.3% of the total area of the Leova district.

During the year 2021-2022 or allocated for permanent use to various enterprises and organizations for non-agricultural purposes, land on a total area of - 11.71 ha, namely: - in Tomai town hall for the location of water tanks, on the area of - 1.0 ha; - in Leova town hall for the construction of the water pool and the restoration of the town beach 10.71 ha.

The work of uncovering the fertile soil on the lands allocated for construction in 2022 did not take place. Fertile soil in the volume of - 2.5 thousand m<sup>3</sup> uncovered in previous years, is stored on the land allocated for the construction of schools in the city of Iargara.

During 2022, cases of non-discovery of mixing with the parent rock of the fertile soil layer were not detected. However, there were cases of illegitimate land occupation being detected - 16 cases, namely, from the urban areas - 2 cases on the surface of - 0.05 ha; in the municipalities of Sărata-Noua and Tochile-Răducani, from the outskirts of the localities, 14 cases were detected: on the total area of - 2.8 ha (pastures) in the municipalities of Leova, Colibabovca, Tomai, Ceadîr, Borogani, Baiuș.

The structure of agricultural land according to the degree of erosion constitutes total eroded - 27822.4 ha, of which (Figure 4):

- weakly eroded on slopes of 1-5° - 14216 ha, or - 18.59% of the total area;
- moderately eroded on slopes of 5-8° - 9195 ha, or - 12.03% of the total area;
- strongly eroded on the slope of 8-25° - 4411.35 ha, or - 5.77% of the total area.

The area of landslides constitutes - 182.0 ha, or - 0.23% of the total area, of landslides is - 232.0 ha, or - 0.30% of the total area.

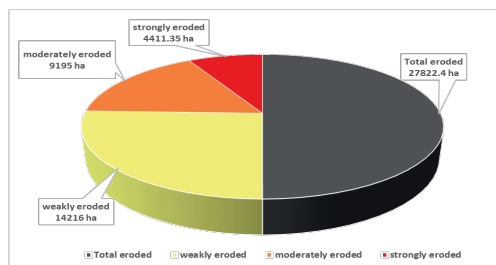


Figure 4. Qualitative characteristics of land according to the degree of erosion in the Leova district  
Source: Created by authors

The average soil quality according to the quality of the soils in the Leova district is - 57 points.

The highest soil quality is in Baiuș town halls - 71 points; Tomaiul-Nou - 69 points; Iargara - 68 points; Colibabovca - 65 points; Borogani - 63 points; The carpet - 60 points; Ceadîr - 60 points.

The lowest soil quality is in Sărăteni town halls - 50 points; Sărata-Răzeși - 51 points and Orac - 52 points.

The soils covered with chernozem occupy an area of 44033 ha, and the thickness of the humus layer is 50-70 cm, and those subject to erosion have an area of 27822.4 ha. The total area of land affected by erosion represents about 50% of the total area of agricultural land. In recent years, the area of land affected by erosion has increased significantly, occupying about 40% of the total area of agricultural land. This is also due to the fact that the agricultural lands are insufficiently protected by the existing network of forest curtains to protect the fields.

According to the degree of manifestation of the unfavorable properties, the following soil classes are highlighted:

- non-degraded, the productivity of the soils corresponding to their natural fertility, the possible deviation of the property values in an unfavorable direction being up to 5%;
- slightly degraded, soils whose productivity has decreased by 5-25%;
- moderately degraded, soils whose productivity has decreased by 25-50%;
- strongly degraded, their productive capacity being reduced by 50-75%;
- very strongly degraded, their productive capacity being reduced by more than 75%.

Soils are in a continuous process of degradation, at an accelerated rate, which inevitably leads to the decrease of soil fertility, of the degree of supply of the soil with the main nutrients: nitrogen, phosphorus, potassium, it being known that the nutrients in the soil, lost through erosion, cannot be restored to their original form by applying fertilizers.

Soil erosion worsens the water regime of the soil, the drainage conditions and the hydrological situation of the territory; exerts an extremely negative influence on the soil biota - the totality and number of bacteria, fungi, small

animals, which populate the soil and which, through their joint activity, determine the productivity of the soil. Already with a weak manifestation of the phenomenon of erosion, the production of field crops decreases by 10-20%, with a moderate manifestation - by 30-40% and with a strong one - by 50-60% and more.

The factors that contribute to the ecological state of land resources remain the water, wind and biological erosion conditioned by the insufficient administration of organic fertilizers, the non-application of agrotechnical, phyto-ameliorative, hydrotechnical anti-erosion measures to agricultural crops, without taking into account the relief, the variety of soils, the processing of hill land in the valley, on the sloping lands.

As a result of the heavy rains in the spring, erosion processes took place on most of the agricultural fields on the slopes, more significant on the agricultural lands in the municipalities of Tigheci, Filipeni, Sărăteni, Ceadr, Cneazevca, Covurlui, Tomai, Vozniseni, Cazangic, Sărata-Nouă.

In order to prevent the burning of stubble, straw, dry grass in accordance with the provisions of art. 62 of Law No. 1515 regarding the protection of the environment, town halls, economic agents owning agricultural land were informed by warning letters about the prohibition of burning stubble, dry grass, plant residues, waste, etc.

However, following the harvesting of the spiky cases of stubble burning took place on the lands of two peasant households in the municipalities of Orac and Sırma on an area of 2 ha, the observed damage to land resources amounted to - 500 lei.

There were cases of dry grass burning that took place on a total area of 20.9 h in the following districts: Sırma, Hănăsenii-Noi, Tomai, Borogani, Iargara, Sărata-Răzeși, Leova, Sărata-Nouă, Baiuș.

The area of pastures in the Leova district constitutes - 10571 ha. The livestock decreased compared to the previous year, being - 21,900 heads, returning to an average of - 0.48 ha of pasture per head of population, which is in accordance with grazing norms.

The lands in private ownership constitute the surface of 45442.16 ha, of which agricultural

lands comprise 44962.6 ha and non-agricultural lands 479.56 ha.

The total area of irrigated land in the district is 2950 ha.

During the year 2021-2022, the irrigation of agricultural land was carried out on the total area of - 148.0 ha, with the pumping of water from the Prut river, in the town halls: - Tochile; - Răducani (SRL FructAgroPrut - 140 ha) growing legumes - 30 ha, wheat - 110 ha and Filipeni (SRL Vicfilvas - 8.0 ha) growing legumes - 8 ha.

The area of land with functional sanitation networks is - 398 ha.

The creation of riparian zones for the protection of rivers and water basins was carried out in the municipalities of Baiuș and Filipeni on a total area of - 0.50 ha.

At the same time, cases of processing riparian protection sheets were not detected. However, there were cases of waste storage in the riparian water protection sheets that were detected in the municipalities of Sărata-Nouă, Hănăsenii-Noi and Tomai, and minutes were drawn up against natural persons guilty of violating the waste management rules.

The application of chemical fertilizers under the fruit of the year 2022, was carried out on an area of - 34500 ha, being as additional food to agricultural crops during the sowing period, as well as during the vegetation period, being used - 1901000 kg, there were - 55 kg for 1 ha. Organic fertilizers were not used.

For the purpose of improving degraded lands and soil protection or spent silvotechnical work in the forest fund, planted with forest crops - 15.3 ha of land in the territorial-administrative borders of Baiuș and Sărăteni municipalities.

Riparian forest cover was planted to protect the banks of the streams on a total area of - 0.5 ha, in the mayor's office of Baiuș and Filipeni.

The work of planting a scuar on the surface of - 2.0 ha took place on the field where the work of consolidating the turnip in the center of the village of Covurlui was carried out.

Capital investments foreseen for the protection of soils and the implementation of projects in this field, including funded ones, regrettably did not take place.

Damages caused to soil resources were found as a result of stubble burning in the amount of -

500 lei. We believe it is too small a sum for these violations.

The sown area of agricultural crops under the harvest of 2020 in agricultural enterprises and peasant (farmer) households with an area of 10 ha and over constituted in 2020 about 28443 ha, with 1002 ha or 3.7% more compared to 2019. In 2021, the sown area was 30325 ha, 6.6% more than in 2020, and in 2022 it was 31043 ha, 2.4% more than in 2019. Thus, in the period 2019-2022 the sowing area increased by 4602 ha.

In 2020, of the total sown area, 57.1% are cereals and pulses for grains, 42.3% are technical crops, 0.4% potatoes, vegetables and food crops, and crops for fodder constitute 0.2%.

In 2021, of the total sown area, 58.6% represent cereals and pulses for grains, 40.9% are technical crops, 0.4% are potatoes, vegetables and food crops, and crops for fodder constitute 0.1%.

In 2022 compared to 2020, there is a 2.9% increase in the areas sown with cereals and legumes for grains and a 2.8% decrease in the areas with technical crops. The area of fodder crops also decreased by 38 hectares compared to 2020.

In 2020, compared to 2019, animal production in agricultural enterprises and peasant households (farmers), which have animals on the balance sheet, recorded a decrease in cattle production (in live mass) by 23.8%. In 2022, compared to 2021, there was a decrease of the respective indicator by 19.0%.

In the Leova district, the mineral deposit available for exploitation is clay and sand for construction.

The sand is extracted openly, at the authorized quarry, which is managed by SRL Iulautocomplex, located in the territorial-administrative boundaries of Sărata-Răzeși town hall, Leova district.

The surface of the mining perimeter projection, indicated on the topographical plan of the land surface, is - 5.5 ha.

The land with cadastral number 5732104328 allocated for lease for sand extraction according to the lease agreement and Local Council Decision no. 01/07 of 12.03.2019 with an area of - 2.0 ha, is ready for exploitation. Land recultivation works are not carried out.

The activity of extracting the deposit was legalized by license series A MMII no. 050524 from 28.12.2015, but it was valid until 27.12.2020.

According to the informative note presented, during the year 2022 sand was extracted in the amount of - 66.5 thousand m<sup>3</sup>.

Violations of the method of protection and use of the basement were detected in: the Sărata-Nouă town hall, the unauthorized extraction and use of clay by natural persons in a volume of 60 m<sup>3</sup> from pasture land (former clay quarry), which was transported to be used for the repair of a dike at the local pond.

SA Vinal-Coci was detected in the town hall of Tigheci commune and the village of Cuporani, where 3.0 m<sup>3</sup> of clay was extracted unauthorized from agricultural land as pasture for the needs of the wine factory.

In the Covurlui town hall, the unauthorized extraction of sand from a ravine formed after the rains was detected, from where 1.0 m<sup>3</sup> of sand was excavated by an individual from the village of Covurlui, Leova district, for his own needs.

In the Tomaiul-Nou town hall, the unauthorized extraction of clayey sand in a volume of 60 m<sup>3</sup> from the forest fund was detected, at the direction of the mayor of the locality, which was used to backfill a local road in the village.

For the examination of the given case, a request was submitted to the Leova District Prosecutor's Office.

The number of fines applied is 16,500 lei, paid - 8,250 lei.

The amount of damage caused to the environment following the illegitimate extraction of useful mineral substances was calculated to be - 49184.17 lei, of which only - 1509.07 lei were paid.

*Remedial recommendations for the agricultural sector in Leova district are as follows:*

Consolidation of investments in agriculture by:  
- promoting high-performance technologies in agriculture (No till - Mini till, vegetable cultivation on protected lands, intensive and super-intensive multi-year plantations);  
- identifying and promoting opportunities for the development of intensive agriculture with the use of drip irrigation;  
- promoting advanced technologies for processing, preserving,

packaging and marketing the agro-food production in the district; - informing agricultural producers about various internal and external financing opportunities, and providing assistance for attracting investments; - promotion of modern drip irrigation methods; - identification of options for creating water sources for irrigation; - improving soil quality by informing farmers about the consequences of non-compliance with crop rotation and incorrect soil processing; - the record of agricultural surfaces subject to erosion and the taking of protection measures against erosion; - afforestation of degraded lands; - planting trees and shrubs on slopes on degraded lands, repairing field protection sheets.

## CONCLUSIONS

The soils covered with chernozem occupy an area of 44033 ha, and the thickness of the humus layer is 50-70 cm, and those subject to erosion have an area of 27822.4 ha. This is also due to the fact that the agricultural lands are insufficiently protected by the existing network of forest curtains to protect the fields. The area of landslides constitutes - 182.0 ha, or - 0.23% of the total area, of landslides is - 232.0 ha, or - 0.30% of the total area.

Soils are in a continuous process of degradation, at an accelerated rate, which inevitably leads to the decrease of soil fertility, of the degree of supply of the soil with the main nutrients: nitrogen, phosphorus, potassium, it being known that the nutrients in the soil, lost through erosion, cannot be restored to their original form by applying fertilizers.

Soil erosion worsens the water regime of the soil, the drainage conditions and the hydrological situation of the territory; exerts an extremely negative influence on the soil biota - the totality and number of bacteria, fungi, small animals, which populate the soil and which, through their joint activity, determine the productivity of the soil.

As a result of the heavy rains in the spring, erosion processes took place on most of the agricultural fields on the slopes, more significant on the agricultural lands. The factors that contribute to the ecological state of land resources remain the water, wind and

biological erosion conditioned by the insufficient administration of organic fertilizers, the non-application of agrotechnical, phyto-ameliorative, hydrotechnical anti-erosion measures to agricultural crops, without taking into account the relief, the variety of soils, the processing of hill land in the valley, on the sloping lands. The structure of agricultural land according to the degree of erosion constitutes total eroded - 27822.4 ha

The lands in private ownership constitute the surface of 45442.16 ha, of which agricultural lands comprise 44962.6 ha and non-agricultural lands 479.56 ha. The area of pastures in the Leova district constitutes - 10571 ha.

The total area of irrigated land in the district is 2950 ha. During the year 2021-2022, the irrigation of agricultural land was carried out on the total area of - 148.0 ha, with the pumping of water from the Prut river.

The area of land with functional sanitation networks is - 398 ha.

In the Leova district, the mineral deposit available for exploitation is clay and sand for construction.

Capital investments foreseen for the protection of soils and the implementation of projects in this field, including funded ones, regrettably did not take place.

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