PROTECTION AND RATIONAL USE OF LAND

Olena Bezsmertna

Educational and Research Institute of Energy Saving and Energy Management, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

Land protection is a system of legal, organisational, economic, technological and other measures aimed at rational use of land, prevention of unjustified withdrawal of agricultural land for non-agricultural purposes, protection from harmful anthropogenic impact, restoration and improvement of soil fertility, increase of productivity of forestry land, ensuring special regime of use of land for environmental protection, health improvement, recreation, and historical and cultural purposes. (Land management and land protection, 2019)

Soil is one of the most important components of the earth – a very complex and often underestimated element teeming with life. Unfortunately, the way we currently use land and soil in Europe and the world is not sustainable. This has a significant impact on life on land. (Bruyninckx, 2019)

Effective land management is one of the top priorities today. The problems of efficient use of land resources are closely related to the lack of clear property distribution, imperfect land cadastre and lack of effective control. Growing anthropogenic pressure exacerbates these problems, threatening the ecological balance. Despite the awareness of the problem, practical steps to address it are insufficient.

The agroecological potential of the soil characterises its ability to provide high and stable crop productivity and maintain ecological balance. It is determined by a set of physical, chemical and biological properties of the soil, as well as natural and anthropogenic factors that affect its condition. The main indicators of agroecological

potential include:

−Physical properties: thickness of the humus horizon, mechanical composition, structure, density.

−Chemical properties: content of organic matter, nutrients, acidity, salinity.

−Biological properties: biomass of microorganisms, enzyme activity.

−Water regime: humidity, seepage, drainage.

−Erosion and degradation: the degree of soil damage by erosion, salinity, and pollution (Afanasiev & Kasyanov, 2021).

Agricultural land and semi-natural lands continue to be occupied by cities, and commercial and industrial facilities. Many sectors – industry, agriculture, households, and even wastewater treatment – also release pollutants to the land and soil. These pollutants can accumulate in the soil and then leach into groundwater, rivers and seas. Even pollutants that are initially released into the atmosphere can eventually settle on the ground. Today, traces of various pollutants are found even in the most remote corners of our continent.

In the course of economic activity, land has become a means of production. Compliance with environmental requirements is a prerequisite for all land users and landowners, as the level of socio-economic development of the region depends on the organisation of rational management. Everyone's well-being depends on the efficient use of land, as it is our habitat and source of life.

The following key areas of improving the economic efficiency of land use in agriculture can be identified:

−a system of measures to improve land fertility;

−protection of soils from erosion and other destructive processes;

−reduction of the area of land that falls out of agricultural turnover.

The efficiency of agricultural land use depends to a large extent on the level of profitability of agricultural enterprises, but their financial interests should not lead to a deterioration of the properties of land resources as the main means of production in agriculture.

References:

Afanasiev, O. V., & Kasyanov, V. V. (2021). Rational use and protection of land (for students majoring in 193 – Geodesy and Land Management). A.M. Beketov National University of Urban Economy in Kharkiv [Electronic resource]. Retrieved from https://eprints.kname.edu.ua/59182/.pdf

Bruyninckx, H. (2019). Land and soil: towards the sustainable use and management of these vital resources [Electronic resource]. Retrieved from https://www.eea.europa.eu/signals-archived/signals-2019-content-list/articles/land-and-soil-towards-the

Land management and land protection. Land protection [Electronic resource]. (2019). Retrieved from https://land.gov.ua/okhorona-zemel/