

## **USE AND PROTECTION OF LAND RESOURCES**

Karshiev Shoymardon Elamonovich

Tashkent State Agrarian University. Teacher

### **ANNOTATIONS**

This article provides detailed information on the efficient use of land resources, including their protection. as well as detailed information on the protection of soil resources, which is relevant today.

**Keywords:** Soil, decomposed, synthesized, organic, biogenic, microorganisms, biosphere, metabolism, nature, resulting, maintenance.

### **INTRODUCTION**

Soil is a porous layer of the earth with a biogenic structure, which plays an important role in the conduct of life processes in nature, ensuring metabolism in the biosphere. Under the influence of moisture, heat and microorganisms, organic matter in the soil is constantly decomposed and synthesized. Organic matter in plant and animal remains mixed with soil is broken down by microorganisms. The resulting humus, along with mineral compounds in the soil, passes into the plant body, where it reacts to form new organic matter. It uses organic matter as human and animal feed. In the future, they will return to the soil with plant, human and animal remains and undergo further decomposition. At the same time, organic and mineral substances circulate in a closed chain in the "soil-plant-animal-soil" system. This, in turn, naturally contributes to the maintenance of soil fertility.

Fertile soil is a priceless treasure of nature. Soil scientist V.V. Dokuchaev once wrote that Russian black soil is more valuable than coal, oil and gold. In fact, it is the only source that provides living nature with food, medicine and substrate. In the formation of soil, the parent rock is a rock. They are exposed to heat, moisture, plants and animals for a long time, and the soil is formed from light. Heat and moisture are especially important in soil formation. Because these factors contribute to the development of plants and microorganisms in the rock, accelerate the biological and chemical processes there, and on this basis accelerate the decay of the rock.

Plants, bacteria, fungi and animals also have a strong effect on the soil. Plants use their roots to absorb minerals from the soil. These substances are then decomposed back into the soil again in the form of organic matter. Decomposition of substances in the soil and the assimilation of free nitrogen in the air is carried out by microorganisms. The abundance of microorganisms in the soil determines the rate of decomposition and decay.

Invertebrates and vertebrates living in the soil also have an impact on the metabolic process that takes place in the soil. Worms, insects and their larvae feed on organic matter in the soil, helping them to decompose and mix with the soil. Rodents that dig underground improve the granularity and porosity of the soil by digging out the deeper layers of the soil. The porosity of the soil, its water and air permeability, thermal regime and similar properties are the properties that accelerate the biochemical processes in it.

Soil is a complex structure of nature, consisting of solid, liquid, gaseous and living components. The solid part of the soil consists mainly of minerals and organic matter, as well as solid particles, which make up a certain part of the total mass of the soil. The rest of it is water, air and living organisms that occupy the spaces between the particles. The ratio of these components determines soil fertility. Soil fertility largely depends on the amount of macronutrients in it, ie minerals found in it in the form of compounds - aluminum, iron, potassium, magnesium, calcium, phosphorus, sulfur, silicon, as well as humus, which is the basis of trace elements and organic matter. The liquid part of the soil, or in other words, the soil solution, is its moving component, which dissolves the nutrients in the soil and delivers them in liquid form to the plant root. The gaseous part of the soil is the soil air, which consists mainly of oxygen and carbon dioxide. The presence of this air is a factor that provides living conditions for aerobic microorganisms living in the soil as well as other animals.

The importance of living things in the soil has been mentioned above. These animals are especially prone to microorganisms, which are located in the spaces between soil particles. Well-known Uzbek scientist M.V. According to Mukhamedjanov, the number of microorganisms in 1 hectare of fertile soil is 3-3.5 billion, and their mass in 1 hectare of soil with a thickness of half a meter reaches 8-12 tons. During the year, the generation of these microorganisms changes 18-27 times. Russian scientist V.A. According to Kovda, the annual total biomass of microorganisms in the soil is equal to the photomass of plants grown in the area, and in some fertile lands even 1.5-2 times more. The annual total biomass of microorganisms in black soils and other fertile soils is 20-50 tons per hectare.

Thus, all its components are involved in ensuring the fertility of the soil. Therefore, it is right to say that the soil, together with these components, is the source of organic life, and at the same time it is a product of organic life, so they are constantly interacting with each other. ladi. In fact, the plant grows and develops by absorbing nutrients and water from the soil. Animals feed on plants. As a result, the consumed nutrients return to the soil and are broken down into minerals that the plant assimilates. Thus, soil is one of the important links in a chain called 'life'. It is a necessary factor for plants, animals and, ultimately, for humans.

Another importance of soil for humans and animals is that the microelements in the soil are also found in living organisms. At present, about 60 chemicals are found in plants and animals. These chemicals, as biomicroelements, pass from the soil into the human body through food. All 24 types of microelements found in human blood and 30 types of trace elements in breast milk are essential for human beings, and the lack of this or that element in the soil leads to their deficiency in food and, consequently, in the human body. As a result, the body's metabolism is disrupted and a person can suffer from various diseases.

Soil also has a great impact on living things in terms of sanitation and medicine. It is also the habitat of microorganisms that cause many diseases. The soil has sufficient conditions for the survival of microbes that cause plague, plague, diarrhea, tuberculosis, dysentery, brucellosis. The soil is also an incubator for some helminths, insects, canals and the rodents that spread them. But at the same time, the soil neutralizes a lot of pollutants with the help of its own microorganisms. This means that the soil has the ability to self-clean, and this feature allows it to circulate substances in the biosphere.

## **World land resources and their use**

The total land fund of the planet is 14.9 billion hectares, which is 29% of the Earth's surface. Of this, 4.03 billion (27%) are forests, 2.85 billion (19%) are meadows and pastures, 2.32 billion (15.5%) are deserts of different types, 1.63 billion (11%) of glaciers, 0.72 billion (4.8%) of rivers, lakes and swamps, 0.7 billion (4.7%) of tundra and lesotundra, 0.45 billion. ha (3%) of eroded, saline and swampy areas, 0.3 bln. hectares (2%) are occupied by urban and rural settlements. The sown areas are estimated at 1.9 billion hectares. hectares, which is 13% of the total land fund. Today, the area under crops is 0.3 hectares per capita, while a quarter of a century ago it was 0.5 hectares. The area under arable land in the former Soviet Union is 0.9 hectares per capita, while in Uzbekistan it is 1.1 hectares. This is almost 4 times more than the world average.

The analysis of land use also shows that there is no possibility to expand the area of arable land. For example, according to UNEP, the development of new lands by 2000, the total area of developed lands amounted to 3.2 billion. hectares, the per capita arable land is practically twice as low as in 1975. This is due to the fact that as the population grows, many lands will be eroded, and some land will be used for urban and industrial communications. According to the American expert Brown (1978), between 1975 and 2000, the world's urban population almost doubled to 3 billion. Accordingly, an additional 63 mln. hectares of land.

In developed European countries and the United States, almost all arable land has been developed. In some parts of South America, Australia, Africa and Asia, there are still untapped reserves.

Meeting the growing needs of the world's population for food has become one of the most difficult issues of our time. With the growth of the population, the issues of increasing the volume of agricultural production, as well as the expansion of urban and rural areas, the development of industrial communications and additional land for other needs are facing challenges. Experts from different countries are working hard on this issue.

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