

THE IMPORTANCE OF SOIL IN THE BIOSPHERE AND HUMAN LIFE

G.Makhsudova

T.Usmanova

Ferghana State University

Abstract

Soil is a habitat for organisms, a source of nutrients, and plays an important role in the small biological and large geological cycle of substances. Each soil horizon consists of a mixture of organic and mineral compounds.

Keywords: Soil, biological, geological, organism, hectare, in nature, man, biosphere, wind, water, fertilizers, vegetation, industry.

Introduction

The upper porous layer of the earth's surface, which has the property of fertility, is called soil. The role of soils in nature and society is invaluable. The soil is a habitat for organisms, a source of nutrition, and plays an important role in the small biological and large geological cycle of substances. The soil consists of solid, liquid and gaseous components and is formed as a result of the complex interaction of climate, rocks, plants and animals, and microorganisms. 1 gram of soil contains more than a million unpretentious animals and indigenous plants. Soil is one of the depleted and renewable resources. According to the structure, there are 3 main layers in the soil:

A-the topmost humus (humus)layer;

B is the layer in which mineral and organic compounds accumulate from the upper layer.

C is the layer of the parent rock from which the soil is formed.

Each soil horizon consists of a mixture of organic and mineral compounds. The soil is a complex, independent natural body, historically formed, changing dynamic formation. The connection between the various earths is carried out through the soil. Soil is the basis of natural landscapes. Depending on the activity it performs in the biosphere, the soil can be called the most important link in the chain of organic life. The lack or opacity of certain trace elements in the soil directly affects the development of organisms and human health. The soil is a necessary habitat for many pathogenic microorganisms.

The soil may contain pathogens of tuberculosis, cholera, plague, ichthyoma, burucelliasis and other diseases. The most important role of soil in the biosphere is that the remains of all organisms decompose in the soil and turn back into mineral compounds. Without a soil layer, life on earth is unthinkable. With the advent of agriculture, the importance of soil in human life has increased dramatically. A person gets all the nutrients he needs and many other means directly or indirectly from the soil.



The current soil layer on Earth has changed dramatically as a result of the development of society. 2 billion in the entire history of mankind. lands with more fertile soils have fallen into disrepair. Every year, the area of land suitable for agriculture on the planet as a result of salinization and erosion reaches 5-7 million hectares. it decreases per hectare. The increased human influence on soils is associated with the development of irrigated agriculture and animal husbandry. The current prevailing soil layer on Earth has changed a lot. On earth, land used for agricultural purposes accounts for 10% of the existing land area, and 0.5 hectares per capita worldwide. The current state of the soil layer of the earth's surface is determined primarily by the activities of human society. Humans have a positive and negative impact on soils. A person can increase soil fertility and improve the condition of lands. At the same time, as a result of urban development, environmental pollution, and lack of demand for agrotechnical measures, soils can be directly destroyed, rendered unusable, and eroded. Currently, the reduction of the soil area is thousands of times faster than its restoration.

In nature, weathering or erosion of soils is observed under the influence of wind and water. Accelerated water and wind erosion occurs as a result of human activity. Anthropogenic erosion is a consequence of improper use of soil resources, the main causes of which are deforestation and woodlands, non-compliance with grazing standards on pastures, the use of improper farming methods, etc. weathering or erosion of soils under the influence of wind and water is observed in nature. Accelerated water and wind erosion occurs as a result of human activity. Anthropogenic erosion is a consequence of improper use of soil resources, the main causes of which are deforestation and woodlands, non-compliance with grazing standards on pastures, the use of improper farming methods, etc. According to various estimates, 3,500 hectares of fertile soils are destroyed daily as a result of erosion on earth. Water erosion is more pronounced in foothill and mountainous areas, wind erosion is observed on the plains.

There are reports that dust storms have caused the wind to completely blow away a 25-centimeter layer of soil in a few hours. Many measures have been developed to prevent and combat erosion processes. These include the restoration of vegetation cover, the proper implementation of agrotechnical measures, the construction of green protective shields, the planned implementation of hydraulic engineering measures, etc. There were reports that dust storms caused the wind to completely blow away a 25-centimeter layer of soil in a few hours. Many measures have been developed to prevent and combat erosion processes. These include the restoration of vegetation cover, the proper implementation of agrotechnical measures, the construction of green protective shields, the planned implementation of hydraulic engineering measures, etc. Soil salinization in areas of irrigated agriculture is one of the main environmental problems. Soil salinization occurs as a result of an increase in the groundwater level due to improper irrigation. Primary and secondary salinity is observed. During secondary salination, water rises through the capillaries, leaving salt in the soil, or as a result of excessive watering, groundwater is salted with dissolved salts. Secondary salinization causes more damage. Soil salinization is observed in most countries of Asia, America and Africa. In order to avoid salinization, ditches are carried out, and the salinization of the lands is washed away. Primary and secondary salinity are observed. During secondary salination, water rises through the capillaries, leaving salt in the soil, or as a result of excessive watering, groundwater is salted



with dissolved salts. Secondary salinization causes more damage. Soil salinization is observed in most countries of Asia, America and Africa. In order to avoid salinization, ditches are carried out, and the salinization of the lands is washed away. Soil waterlogging is mainly observed in many places with high humidity. Swampy areas also form around reservoirs. Special land reclamation measures are carried out to drain the marshes. It is important to protect the soil from contamination. The chemicalization of agriculture exacerbates soil pollution with various chemical compounds. With improper selection and moderate use of mineral fertilizers, the soil condition changes and its fertile character is disrupted. Excessive use of herbicides, insecticides, defoliants, and pesticides, which are widely used as means of controlling pests, weeds, and plant diseases, has a particularly strong negative impact on the soil. With improper selection and moderate use of mineral fertilizers, the soil condition changes and its fertile character is disrupted. Excessive use of herbicides, insecticides, defoliants, and pesticides, which are widely used as means of controlling pests, weeds, and plant diseases, has a particularly strong negative impact on the soil. Pesticides kill beneficial microorganisms in the soil and lead to a decrease in humus. For example, it was found that even 15 years after using the pesticide DDT, it is still present in the soil. Pesticides are also harmful to human health, passing through the food chain. Currently, scientists are working on biocides that break down with short-term exposure. The soils are also polluted by industrial enterprises, transport waste, and municipal waste. The waste from chemical and metallurgical enterprises and the mining industry is particularly heavily polluting and decommissioning the soil. Mercury, lead, fluorine and other highly toxic compounds accumulate in the soil. It negatively affects plants, some of them die and cause various dangerous diseases in humans. Soils are difficult to clean with special measures. Therefore, it is necessary to carry out timely measures to protect soils from pollution and establish legislative control. In drylands, it is important to prevent desertification processes. By blocking the way of shifting sands, green shields construction preserves the soil. There is also the problem of nesting the soil layer in various ways. Fertile soils are dying as a result of the construction of cities and roads. Many soils also die during mining. There are special measures to prevent such processes. By paving the way for shifting sands, green shields construction preserves soils. There is also the problem of nesting the soil layer in various ways. Fertile soils are dying as a result of the construction of cities and roads. Many soils also die during mining. There are special measures to prevent such processes. Uzbekistan's agricultural production uses 95% of its land resources and 85% of its water resources. Irrigated land accounts for 15 percent of the total land stock. (More than 50% of the existing irrigated lands in Uzbekistan are saline. The soils of the Bukhara and Syrdarya regions of the Republic of Karakalpakstan are particularly saline. The humus content in the soils decreased to 30-50 percent. More than 2 million acres of land have been eroded. Such lands are common in the Ferghana, Surkhandarya, Kashkadarya regions. The level of soil contamination with pesticides is high. One of the main reasons for this situation is that cotton monoculture has been dominant for a long time. The content of humus in soils has decreased to 30-50 percent. More than 2 million acres of land have been eroded. Such lands are common in the Ferghana, Surkhandarya, Kashkadarya regions. The level of contamination. Being one of the main parts of the biosphere, soil is considered one of the most important factors of human activity. The soil has a greater



ability to absorb solar energy and is a viable source for plants. The soil contains various microorganisms, helminths, humus and other substances. The soil, in turn, also performs a number of hydroecological tasks. One of these and the main ones is its porosity. Of the main parts of the biosphere, soil is considered one of the most important factors of human life. The soil has a greater ability to absorb solar energy and is a viable source for plants. The soil contains various microorganisms, helminths, humus and other substances. The soil, in turn, also performs a number of hydroecological tasks. One of these and the main ones is its porosity. According to available data, as a result of human activity, the soil loses its normal natural state. Because the soil is very heavily polluted with various chemicals. Humanity annually extracts more than 600 billion tons of rocks from the ground. According to the calculation books of specialists, it turns out that during processing, the resulting raw materials waste 98% of their total weight, and 2% is used to meet social requirements. In ancient times, people could not have a better influence on the surface of the earth and the bowels. The situation has changed dramatically with the growth of industrial production. Science in recent years, with the rapid development of technology, the economic and technical needs of people and the power of technology strongly influence natural processes, seriously changing the appearance of the Earth. That is why, along with the biosphere, a sphere has emerged into which technology created by human intelligence and power penetrates – the Technosphere. Epidemic and endemic diseases can spread through the soil. but in recent years, with the rapid development of technology, the economic and technical needs of people and the power of technology strongly influence natural processes, seriously changing the appearance of the Earth.

References

- 1.Т. U. Raximova, R.X.Allaberdiyev, N.K.Atanbayeva, N.K.Kuchkarov, O‘quv qo‘llanma. Bioekologiya o'simliklar ekologiyasi. Toshkent. “Innavatsiya-ziyo”, 2020-yil 144 b.
- 2.И.М.Культиасов, Х.М.Охунов. Дарслик. Ўсимликлар экологияси. Тошкент. «Ўқитувчи», 1990-й 184 б
3. Zokirov X., Maxammadiyev A., Qodirov M. Tuproq va agroekologiya”. Toshkent 2024.

