



The soil provides services vital to human activities and ecosystems survival. The soil creates life. The plants grow on and in the soil and nourish, directly or indirectly, all living organisms on earth.

Life creates the soil. Organizations are on and in the soil, such as bacteria and fungi, transforming the dead bodies to nutrients and organic matter, which in turn are critical for the development of living beings.

**«Without soil, water and air there will be no life»**

### **Soil key elements**

Soil is defined as the upper-most layer of the earth's crust, between the surface and the bedrock. It consists of minerals, organic matter, water, air and living organisms. It is the connecting point of the earth with air and water, and hosts most of the elements of the biosphere.

It is no coincidence that our planet called Earth. All life on the planet depends on the Earth's brittle crust surrounding continents. Without soil, the living organisms would not have emerged from the oceans - there would be no plants, fruits, forests, animals and of course human.

Soil is a non-renewable resource, since it is rapidly degrading and formed and renewed too late. It is a very dynamic system which performs many functions and delivers vital services to human activities and ecosystems survival. These functions are:

- provision of food, biomass and raw materials
- storing, filtering and transforming nutrients, water and carbon
- tank of the biodiversity,
- basis for most human activities,
- storage of geological and archaeological heritage.

### **Important facts we should know**

1. A typical soil contains 45% minerals, 25% water, 25% air and 5% organic matter. Different size minerals such as sand, mud and clay, create different soil types.
2. The surface soil is most productive soil layer.
3. Ten tons of surface soil dispersed in 100 acres is as thin as a Euro coin.
4. The natural processes require more than 500 years to create two centimeters of surface soil.
5. The earthworms make up organic matter and recycle nutrients enriching the soil surface.
6. The roots loose soil, allowing oxygen to penetrate it, facilitate the development of organisms. In addition, they hold the soil and protect it from erosion.
7. A fully operational soil reduces the risk of flooding, protect ground water from the nitrification and dangerous contaminants and stores up to 375 tons of water per 10 acres.
8. The soil scientists have recognized 10,000 different soil types in Europe.
9. The global stock of organic carbon in the soil is estimated at 1.550 billion tones, compared to storage in the atmosphere is 760 billion tones and living organisms and plants 560 billion tones.
10. The soil absorbs approximately 20% of anthropogenic carbon dioxide emissions.