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# Preservation of microbial diversity on soil biological ecosystem: A review

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**Abstract**
To save our future generation, it is necessary to recognize the faith of human and other species on the planet earth. It is the available time to understand that the soil resources in the biodiversity are limited. As a limited resource of soil and its protection is the main purpose for our future generation, for delivery of food, fuel and fibers for a large population. The unlimited use of soil also causes global disturbance by increasing the pressure of soil. Evaluation of microbial diversity of soil is essential for scientific, agricultural and environmental development to improve our society and biodiversity. The role of soil microbes also creates a great interest to the society as they are responsible for most of biological transformation as well as physical and chemical properties of soil.

**Keywords:** soil biodiversity, global warming, microbialdiversity, biological transformaion

## 1. Introduction
A worldwide project focus on protection of environmental and natural resources. The tolerability of natural resources has taken among scientists and public as a key issue in biodiversity preservation [1]. As the development of microbial diversity has risen, people are more responsible for variable reaction according to different soil orders. There is more necessary to understand the soil ecosystem function briefly for processing [2]. Ecological methodology have focused on the function of natural ecosystem [3]. Biological aspect of soil fertility are the master key of tolerable productivity has not fully explored because of microbial biodiversity in soil ecosystem [4, 5].

## 2. Soil ecosystem
The valuable ecosystem on planet earth is its skin, known as soil. The physical and chemical transformation of soil is important to operate the biosphere [6]. The importance of soil can only be understand when the physical and chemical properties are mixed[7]. The porosity of soil is responsible for biochemical process to govern the life on earth that is plant productivity, water movement and nutrient availability [8].
The soils of the world have been differentiate into soil orders for their development in time and for several factors. These soil orders are based on soil microbial complex that are responsible for dynamic properties of soil [9].

## 3. Soil and microbial complexes
A portion of soil contains a large amount of microorganisms. So, there are many different types of microorganisms presents in soil that their actual number remain unknown and a few number of microbes would be known to us.
By realizing the composition of microbial colonies, it is found that the microbial colonies in soil are more complex than any other microbial colonies present in the biodiversity. As we know that no organism could be classified except they are cultured. As most of the microbes are cultivated by standard method, the study of pure culture approach of microbial world become more easy [10]. The various techniques that are used for the measurement of microbial diversity are fatty acid analysis, traditional plate counting method etc. The first scientific technique that is based on soil bacterial complex exhibit with the bunching of two DNA that the bacterial DNA present in the soil is found to be more power full than previous one flowed by culturing [11].

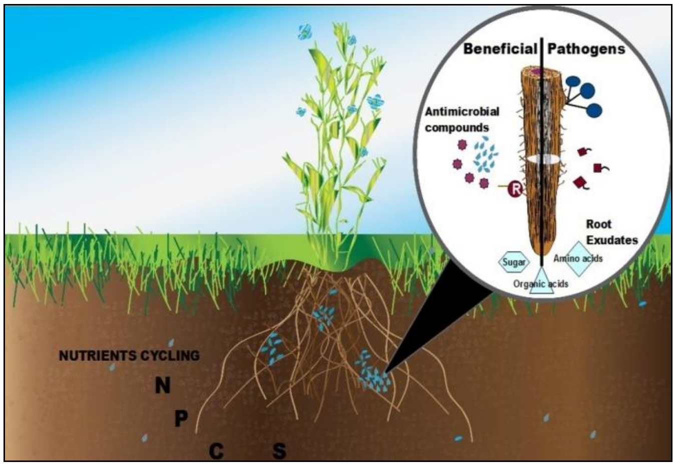


**Fig 1:** Example of soil and microbial complex together.

## 4. Importance of soil microbial diversity
The determination of the composition of microbial colonies in soil is complex and therefore represents a great biodiversity that is responsible for dynamic reaction in soil ecosystem [12, 13]. The evolution of new species produces biological diversity, which can be showed by the number of several kinds of species in the environment [14, 15]. Soil ecosystem is very much important for the foundation of human life. The internal and external use of soil shows that there is many

things for discovery about soils and that can be useful for people [16, 17, 18]. Soil ecosystem are most important and probably understood amongst all ecosystem [19, 20]. The microbial ecosystem of soil create a greatest challenge to microbiologists to prove the function of bacteria and fungi, by which they can recycle the plant and animal remains and serve essential nutrients for plant kingdom [21, 22].

## 5. Economical value of soil biodiversity

The soil biodiversity provides a great care of the management of soil composition which supports the main base of plant kingdom [23, 24]. Various studies are there to prove the economic value of different varieties of soil provided by biodiversity. The very common and important uses of soil biodiversity is to recycling of organic wastes [25]. The economic value of soil biodiversity provides among 50% of total benefits of biotic activity worldwide [26].

## 6. Conclusion

By preserving the microbial biodiversity of soil ecosystem proves to be more beneficial and economical because of more valuable biochemical transformation property. Microbes present in soil are environmentally safe because of low cost technology, improve productivity and to reduce environmental pollution. Soil-microbial complex plays the main role by enhancing the complexity of bacterial DNA to fulfill the physicochemical as well as biochemical and microbiological ingredients of soil.

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