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Introductory remark on Soil Pollution impact on Environmental strength

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Abstract

A vital component of sustainable economic and social growth, soil affects both construction and human health. In order to promote ecological advancement and guarantee domestic environmental security. Soil contamination happens when harmful substances, referred to as pollutants, are found in soil at levels that endanger both the ecosystem and human health. A serious problem that impacts every part of the nation and is a key building vulnerability is soil deterioration. Different substances known as contaminants are naturally present in all soils, whether they are contaminated or not. These pollutants, which are mostly produced by microbial activity and the decomposition of organisms in the soil, include metals, inorganic ions, salts, and organic molecules. Furthermore, different chemicals can be introduced into the soil via atmospheric substances such precipitation water, wind, soil disturbances, surface water bodies, and shallow groundwater. Soil contamination arises when the concentrations of these pollutants beyond the natural values.

Keywords: Soil contamination, human health, pollutants, atmospheric substances.

Introduction

Soil contamination is a major environmental issue in India that is caused by a variety of natural and human-caused processes. The nation's agricultural methods, growing industrialisation, and poor waste management all contribute to soil contamination. Pollutants released by industries can pollute the nearby soil. These pollutants include petroleum hydrocarbons, heavy metals, and persistent organic pollutants. The widespread application of chemical pesticides, herbicides, and fertilisers in farming operations is another factor that

pollutes the soil. Poor industrial and municipal waste management is one of the main causes of soil contamination in India. Hazardous trash that was not properly treated and disposed of resulted in the discharge of harmful materials into the soil, endangering both the environment and human health. In addition to being widely acknowledged in the scientific community (Brevik and Burgess, 2013; Brevik and Sauer, 2015; Oliver and Gregory, 2015), the Sustainable Development Goal has also recognised the impact of soils on human health.

Pollutants in the soil are the cause of soil contamination.

Intentionally or inadvertently releasing substances or agents into the environment that negatively impact ecosystems, living things, or the environment overall is known as pollution. These compounds might come from natural sources or human activity, and they can be solid, liquid, or gaseous. Noise, soil, water, and air pollutants are only a few of the several categories into which pollutants can be divided. On the other hand, compounds or contaminants that are found in the soil at quantities greater than the natural background concentrations and negatively impact soil quality, living things, and ecosystem processes are particularly referred to as soil pollutants. Mining operations, poor waste disposal, industrial processes, agricultural practices, and air deposition are some of the causes of soil contaminants.

Figure 1: An organised list of the main contaminants in soils based on the criteria of the International Union of Pure and Applied Chemistry (IUPAC) (Nič et al., 2009).

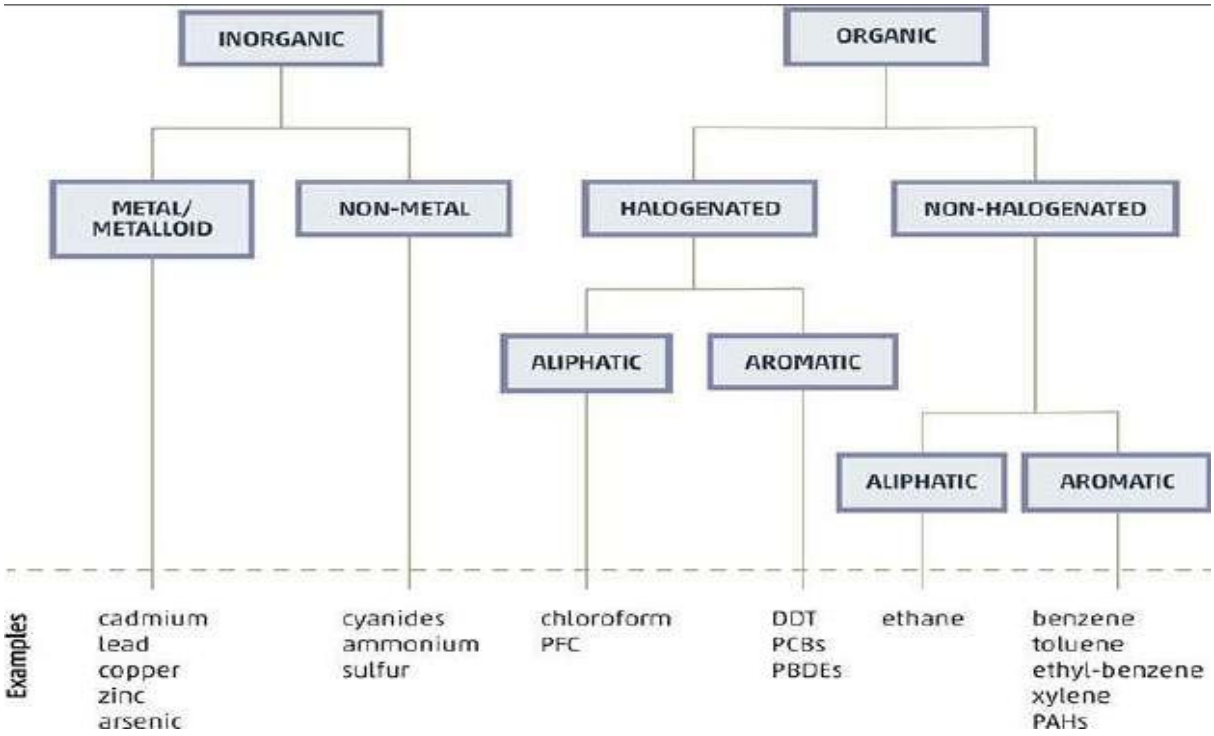
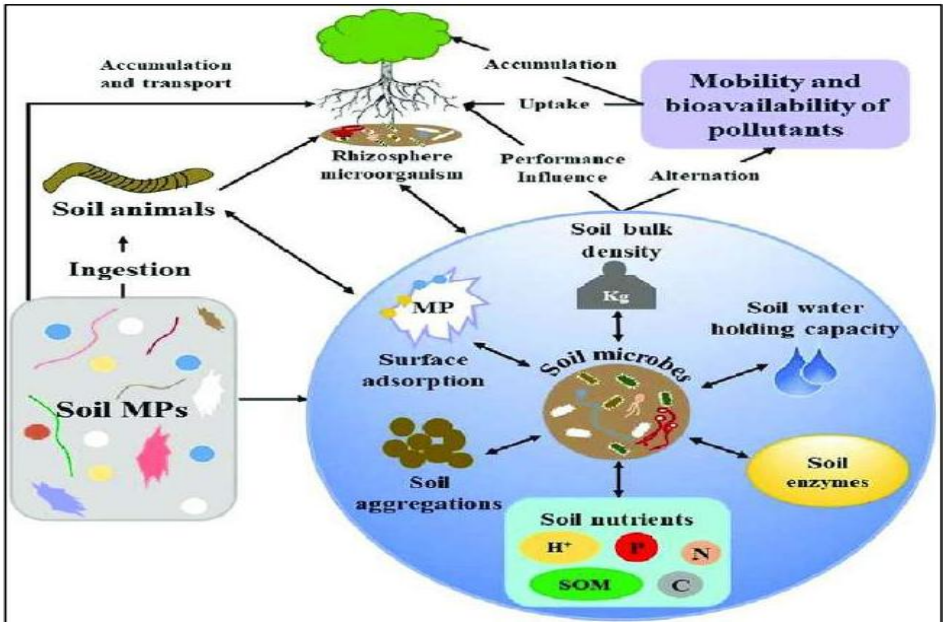


Figure 2: Microplastics' effects on different soil properties



Conclusion

The behaviour of soil pollutants has been better understood, but it is still difficult to offer accurate quantitative estimates of how soil pollution affects ecosystems and human health. Long-term monitoring programs that incorporate demographic research, phenotypic and genetic analysis, and selection assays to assess the impacts of soil pollution on plant and animal populations in polluted environments are desperately needed to address this shortcoming. Thus, it is essential to set up health surveillance systems and carry out thorough epidemiological research, beginning with severely contaminated locations and working your way down to the general population. By gathering readily available biological samples like blood, urine, and breast milk, this may be accomplished quickly, reducing population hazards.

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