

Soil Acidification

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About Soil Acidification

- It is a process where the **soil pH decreases** over time. This process is accelerated by agricultural production and can affect both the surface soil and subsoil.
- Acidic soils in India are widespread in the **humid southwestern, northeastern and Himalayan regions**.
- Some **contributing factors** to soil acidification include:
 - the application of high levels of ammonium-based nitrogen fertilisers to naturally acidic soils
 - leaching of nitrate nitrogen, originally applied as ammonium-based fertilizers
 - harvesting plant materials (plant material is alkaline so when it is removed the soil is more acidic than if the plant material had been returned to the soil).
- **Impacts**
 - Acidification creates an environment ripe for depletion of **soil inorganic carbon**, which is important for soil health, ecosystem services

- Acidic soils affect crop growth and productivity by reducing the availability of plant nutrients. It also predisposes plants to other biotic and abiotic stress factors.

What is soil inorganic carbon?

- Inorganic carbon is found **in ores and minerals**, as opposed to organic carbon, which can be found in nature through plants and animals.
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Q1: What is Pedology?

It is a scientific discipline concerned with all aspects of soils, including their physical and chemical properties, the role of organisms in soil production and in relation to soil character, the description and mapping of soil units, and the origin and formation of soils.

Source: [Acidification may strip Indian soils of 3.3 billion tonnes of essential carbon, affecting crop growth, sequestration: Study](#)

Source: <https://vajiramandravi.com/current-affairs/soil-acidification/>

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