

Key messages World Soil Day 2023 (5 December) –

Soil and water, a source of life.

1. **Soil and water are essential resources for sustaining life on Earth.**

- Soil and water provide the foundation for food production, ecosystems, and human well-being. Recognizing their invaluable roles, we can take proactive measures to safeguard these resources for future generations.
- Soil erosion and compaction disrupt the capacity of soil to store, drain and filter water, and exacerbates the risk of flood, landslides and sand/dust storms.
- Soil and water are the medium in which plants grow and obtain essential nutrients.
- Healthy soil plays a crucial role as a natural filter, purifying and storing water as it infiltrates into the ground.
- Rainfed agriculture systems withdraw 70% of the world's freshwater and account for 80 percent of croplands (contributing to 60 percent of the global food production). These systems rely heavily on effective soil moisture management practices.

2. **Soil and water are interconnected resources that need integrated management.**

- The health of the soil and the quality and availability of water are interconnected.
- Implementing sustainable soil management practices enhances water availability for agriculture.
- Healthy soils, enriched with organic matter, play a crucial role in regulating water retention and availability.
- Efficient use of quality water, promoting the sustainable use of fertilizers and pesticides, employing appropriate irrigation methods, improving drainage systems, controlling pumping, and monitoring soil and groundwater salinity levels are essential to maintaining sustainable agricultural practices.
- Sustainable soil management is key to improve water productivity in irrigated systems.

3. **Improper soil and water management practices affect soil erosion, soil biodiversity, soil fertility, and water quality and quantity.**

- Water scarcity leads to the loss of soil biodiversity, while leaching and eutrophication from agriculture practices lead to the loss of biodiversity in water bodies.
- The mismanagement of pesticides and fertilizers not only threatens soil and water quality but also poses significant risks to human health and ecosystems.
- Poor irrigation and drainage practices are some of the main drivers of soil salinization .
- Rising sea levels contribute to land loss, increasing the risk of soil salinization and sodification, which can negatively impact agricultural productivity.

4. Soil and water conservation contribute to climate change mitigation and adaptation.

- Improved soil and water management improves the land's capacity to withstand extreme climate events such as droughts, floods and sand/dust storms.
- Integrated soil and water management practices provide essential ecosystem services, supporting life on earth and enhancing ecosystem resilience.
- Healthy soils act as a carbon sink, by sequestering carbon from the atmosphere, thus contributing to both climate change adaptation and mitigation efforts.