



CURRENT AFFAIRS



Argasia Education PVT. Ltd. (GST NO.-09AAPCAI478E1ZH)
Address: Basement C59 Noida, opposite to Priyagold Building gate, Sector 02,
Pocket I, Noida, Uttar Pradesh, 201301, CONTACT NO:-8448440231

Date – 5 December 2022

SOIL MANAGEMENT AND FOOD SECURITY

Relevance for Prelims: Organic Farming, Soil Erosion, Integrated Farming, Food Security

Relevance for Mains: Regenerative Agriculture

Context: The theme of World Soil Day aligns with guiding theme “Soil, where food begins” to increase awareness on importance of maintain healthy soils.

Significance of Soil:

Carbon Storage: They help in regulating planet’s climate by storing carbon and are the second largest carbon sink after oceans.

Basis for Food Security: Without proper management of soil, food cannot be grown in efficient manner. (95% of food comes from the soil).

Habitat: Soils are habitats for beneficial soil microbes; these organisms are nature’s hidden helpers. They form synergistic relationships with plants to protect them from stress and provide them with nutrients, among other tasks. According to the USDA, “one teaspoon of healthy soil contains, 100 million-to-1 billion individual bacteria alone.”

Nature’s Filter: Soils filter surface water of dust, chemicals, and other contaminants. This is why underground water is some of the cleanest sources of water. In fact, according to Soils.Org, “through natural processes, such as soil absorption, chemical filtration, and nutrient cycle, the Catskill Watershed provides

New York City with clean water at a cost of \$1-to-1.5 billion, much less than the \$6-to-8 billion one-time cost of constructing a water filtration plant.”

Concerns Associated:

1. Nearly **3.7 million hectares of land** suffer from nutrient loss in soil (depletion in soil organic matter or SOM).
2. **Excessive use of fertilizers and pesticides**, and irrigation with contaminated wastewater are also polluting soils. Impacts of soil degradation are far reaching and can have irreparable consequences on human and ecosystem health.
3. Increase of pressure on land due to **population explosion** has increased the deforestation which further increases carbon stock and loss of top layer of soil.



Close up low angle view at row of young corn stalks at field spring time

Government's initiatives:

Five-Pronged Strategy: The Government of India is implementing a five-pronged strategy for soil conservation. This includes making soil chemical free, saving soil biodiversity, enhancing SOM, maintaining soil moisture, mitigating soil degradation and preventing soil erosion.

Soil Health Card: Government of India launched the Soil Health Card (SHC) scheme in 2015. The SHC is used to assess the status of soil health, and when used over time, to determine changes in soil health. The SHC displays soil health indicators and associated descriptive terms, which guide farmers to make necessary soil amendments

National Mission for Sustainable Agriculture (NMSA) has schemes promoting traditional indigenous practices such as organic farming and natural farming, thereby reducing dependency on chemicals and other Agri inputs, and decreasing the monetary burden on smallholder farmers.

Way Forward:

There is a need to strengthen communication channels between academia, policymakers and society for the identification, management and restoration of degraded soils, as well as in the adoption of anticipatory measures. These will facilitate the dissemination of timely and evidence-based information to all relevant stakeholders.

Greater cooperation and partnerships are central to ensure the availability of knowledge, sharing of successful practices, and universal access to clean and sustainable technologies, leaving no one behind. As consumers and citizens, we can contribute by planting trees to protect topsoil, developing and maintaining home/kitchen gardens, and consuming foods that are mainly locally sourced and seasonal.

IAS

Rishabh