



# Soil Mapping

## Why in News?

Recently, [Food and Agriculture Organization \(FAO\)](#) started a project to digitally map soil nutrients in sub-Saharan Africa (SSA) and central America to increase efficiency in using fertilizers.

- Also, it will organize and improve existing soil maps.

## What is Soil Mapping?

- **About:**
  - [Soil Mapping](#) is the process of **delineating natural bodies of soils, classifying and grouping the delineated soils into map units**, and capturing soil property information for interpreting and depicting soil spatial distribution on a map.
- **Benefits:**
  - It will enhance the understanding of what types of nutrients our soils and crops need.
  - Further, it will reduce waste when applying fertilizers and increase their effectiveness.

## What is the Project all about?

- **About:**
  - A [United Nations](#) project is digitally mapping soil nutrients in sub-Saharan Africa (SSA) and central America to increase efficiency in using fertilisers. The project is being carried out by **Food and Agriculture Organization (FAO)**.
  - It would foster the creation of national **soil databases and soil information systems** as public goods to be used by policymakers.
  - Further, the private sector, and especially farmers can generate long-term benefits from it.
  - It will also improve short-term flexibility to adapt to trends in fertilizer markets and climate dynamics without compromising output.
- **Need:**
  - There were **unsustainable agricultural practices, a lack of resources and capacity development, and nutrient underuse** in sub-Saharan Africa (SSA), which has resulted in **significant soil nutrient depletion, low crop yields, and poverty**, leaving many farm families in a scenario of vulnerability and food insecurity.
  - Many African countries lack policies regulating soil as well as the capacity, knowledge and experience to plan and implement sustainable soil management programmes.
  - **Africa's Total Factor Productivity growth**, especially in the sub-Sahara region, **does not match up to the growth of other developing regions**.
    - Total factor productivity growth is the difference between the growth of output and the growth of a combination of all factor inputs, usually labour and capital.

## What is FAO?

- The **Food and Agriculture Organization (FAO)** is a specialized agency of the **United Nations** that leads international efforts to defeat hunger.
- Its goal is to **achieve food security** for all and make sure that people have **regular access to enough high-quality food to lead active healthy lives**.

- With 195 members - 194 countries and the [European Union](#), FAO works in over 130 countries worldwide.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. Consider the following statements: (2017)**

**The nation-wide 'Soil Health Card Scheme' aims at**

1. expanding the cultivable area under irrigation.
2. enabling the banks to assess the quantum of loans to be granted to farmers on the basis of soil quality.
3. checking the overuse of fertilizers in farmlands.

**Which of the above statements is/are correct?**

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans: (b)**

**Exp:**

- **Soil Health Card (SHC) is a GoI scheme promoted by the Department of Agriculture and Co-operation under the Ministry of Agriculture and Farmers' Welfare. It is being implemented through the Department of Agriculture of all the State and Union Territory Governments.**
- A SHC is meant to give each farmer, soil nutrient status of the holding and advise on the dosage of fertilizers and also the needed soil amendments, that should be applied to maintain soil health in the long run.
- SHC is a printed report that a farmer is handed over for each of his holdings. It contains the status of the soil with respect to 12 parameters, namely Nitrogen (N), Phosphorus (P), Potassium (K) (macro-nutrients); Sulphur (S) (secondary-nutrient); Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn), Boron (B) (micro-nutrients); and pH, Electrical Conductivity (EC), Organic Carbon (OC) (physical parameters). Based on this, the SHC also indicates fertilizer recommendations and soil amendment required for the farm. Hence, statement 3 is correct and statements 1, 2 are not correct.
- The main aim behind the scheme is to find out the type of a particular soil and then provide ways in which farmers can improve it. **Therefore, option (b) is the correct answer**

**Source: DTE**