



## 10th Anniversary of Soil Health Card Scheme

**For Prelims:** [Soil Health Card \(SHC\) Scheme](#), [Rabi](#), [Kharif](#), [Organic Carbon \(OC\)](#), [Rashtriya Krishi Vikas Yojana \(RKVY\)](#), [Green Revolution](#), [Krishi Vigyan Kendras \(KVKs\)](#), [Gram Panchayats](#).

**For Mains:** Role of soil health card Scheme in maintaining soil health and increasing agricultural productivity

[Source: PIB](#)

### Why in News?

The year **2025** marks the **10<sup>th</sup> anniversary** of the [Soil Health Card \(SHC\) scheme](#) that was launched on **19th February 2015** at **Suratgarh, Rajasthan**.

- It helps in improving **soil health** and tackling [soil degradation](#).

### What is a Soil Health Card Scheme?

- **About:** It is a centrally sponsored scheme to assist **state governments** in issuing **Soil Health Cards (SHCs)** to all farmers across India.
- **Objective:** It provides farmers with information on the **nutrient status** of their soil along with recommendations for the **appropriate dosage of nutrients** to improve soil health and fertility.
  - Soil samples are collected **twice a year**, post-harvest of [Rabi](#) and [Kharif crops](#) or when **no standing crop** is in the field.
- **Contents of SHC:** The SHC provides soil status for **12 parameters**, including:
  - **Macronutrients:** Nitrogen (N), Phosphorus (P), Potassium (K), Sulphur (S).
  - **Micronutrients:** Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn), Boron (Bo).
  - **Other soil properties:** **pH (Acidity or Basicity)**, Electrical Conductivity (EC), and [Organic Carbon \(OC\)](#).
- **Initiatives Under SHC:**
  - **Village Level Soil Testing Labs (VLSTLs):** VLSTLs are **small, decentralized soil testing labs** at local level. As of February 2025, **665 VLSTLs** have been set up across 17 states.
  - **School Soil Health Programme:** It aims to **educate students on soil health and sustainability** through sample collection, testing, and SHC generation.
    - As of **2024**, the program expanded to **1,020 schools**, establishing **1,000 soil testing labs**.
- **Integration with RKVY:** Since **2022-23**, the **Soil Health Card Scheme** has been **merged** into [Rashtriya Krishi Vikas Yojana \(RKVY\)](#) as a component under '**Soil Health & Fertility**'.
  - **RKVY (2007)** is an **umbrella scheme** for ensuring holistic development of agriculture and allied sectors.
- **Technological Advancements:**
  - **SHC Portal:** For **uniform generation of SHCs** in all major Indian languages and **five**

dialects.

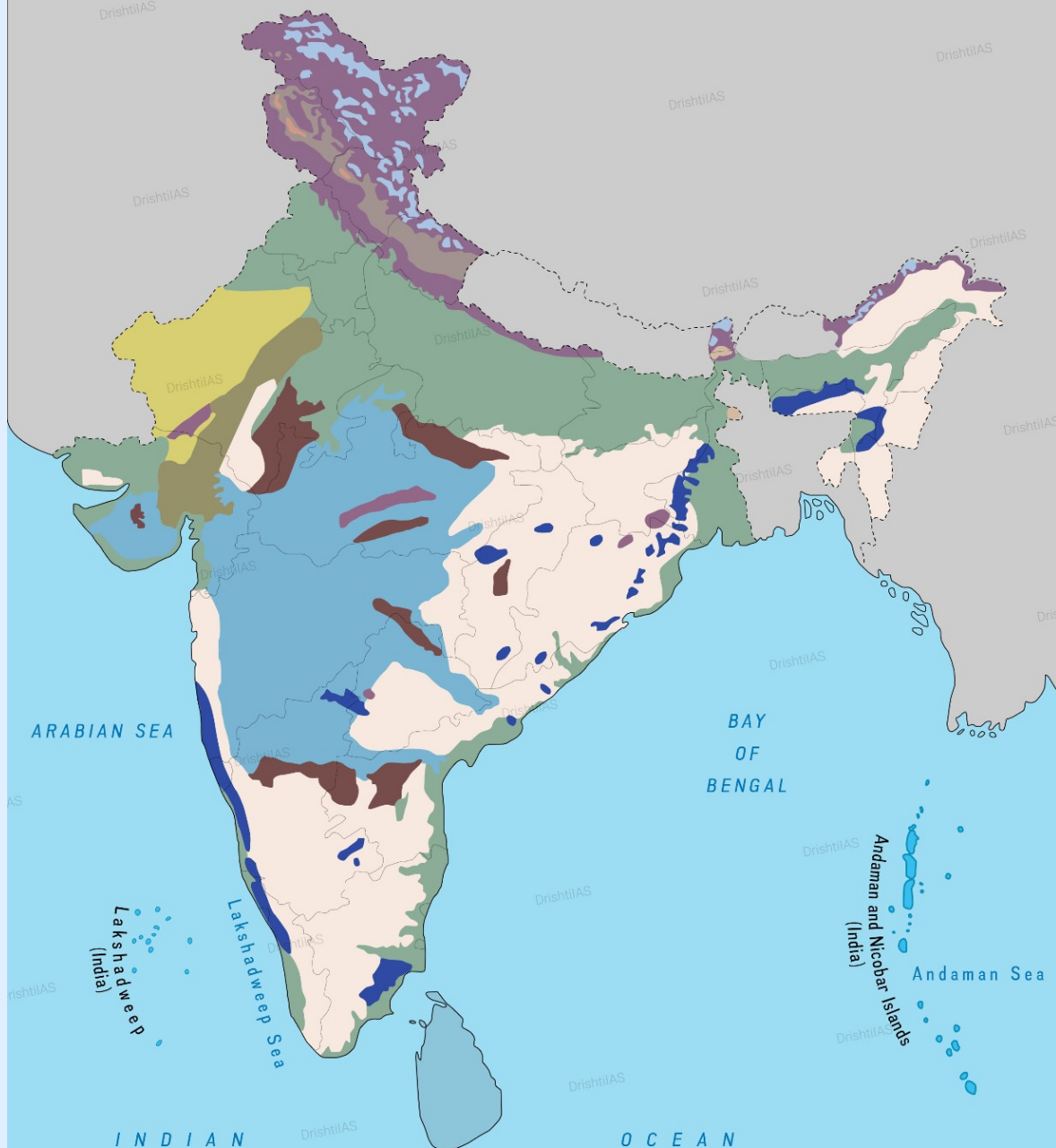
- **SHC Mobile App:** For **easy access to Soil Health Cards** and streamline sample collection.
- **GIS Integration: Automatic geo-mapping** of soil samples using **latitude and longitude** so that all the test results are captured and seen on a map.

▪ **Benefits of SHC:**

- **Improved Yield:** The highest increase in yield was recorded for **Bengal gram (44%)** in Karnataka, followed by **wheat (43%)** in Karnataka, **maize (30%)** in Madhya Pradesh, and **red gram (22%)** in Maharashtra.
- **Reduction in Fertilisers Use:** Significant reduction in fertilizer use e.g., **nitrogen (7%), phosphorus (41%), potassium (27%)** has been observed in case of wheat.
- **Reduction in Pest:** Pest and disease incidence reduced by **46%**.
- **Other Benefits:** It included improved **soil texture (12%)**, enhanced **crop growth (38%)**, and better **grain filling (35%)**.

Read more: [Major Soil Types in India](#)

# Types of Soil in India



Alluvial Soil (29.55%)	In the Upper and Middle Ganga plain, two different types of alluvial soils have developed, viz. Khadar and Bhanger.		
Black Soil (19.62%)	It is also known as 'Regur Soil' or the 'Black Cotton Soil'.		
Red Soil (19.62%)	The soil develops a reddish colour due to a wide diffusion of iron in crystalline and metamorphic rocks. It looks yellow when it occurs in a hydrated form.		
Desert Soil (14.02%)	They are generally sandy in structure and saline in nature.		
Laterite Soil (4.77%)	Laterites are not suitable for cultivation. Thus, are widely cut as bricks for use in house construction.		
Mountain Soil	It is also known as 'Forest Soil'. They are loamy and silty on valley sides and coarse-grained in the upper slopes.		
Snowfields	This soil is found under the snow and glaciers at the highest peak of the greater Himalayas, Karakoram, Ladakh, and Zaskar.		
Grey and Brown Soil	Submontane Soil	Red and Black Soil	

## What is the Current Status of Soil Health in India?

- **Unsustainable Agricultural Practices:** Intensive farming, with excessive chemicals and **monocropping**, has caused **nutrient depletion** and **soil acidification**.
  - E.g., lowered organic carbon levels in Punjab and Haryana due to the **Green Revolution**.
- **Water Mismanagement:** Over-extraction and poor irrigation, like **flood irrigation**, cause **soil salinization** and **waterlogging**.
- By 2050, **50%** of arable land may be **salt-affected**.
- **Overgrazing:** Unregulated **livestock** grazing has led to **vegetation loss**, making soil vulnerable to **erosion**, particularly in **arid regions** like Rajasthan and Gujarat.
- **Shifting Cultivation:** The practice of **slash-and-burn agriculture** causes severe soil degradation by destroying **organic matter**.
- **Invasive Species:** The spread of invasive plant species like **Lantana camara** depletes soil nutrients and **disrupts native biodiversity**.

## Way Forward

- **Farmer Education:** Only **57%** of the farmers whose soils were tested were **aware of the SHC scheme**.
  - Training, demos, and workshops by **state agricultural universities (SAUs)**, and **krishi vigyan kendras (KVKs)** are needed for awareness.
- **Enhancing Soil Testing Infrastructure:** There is a need to establish **at least one Soil Testing Laboratory (STL) per taluka** to improve accessibility and efficiency.
- **Timely Distribution of SHCs:** The government must ensure that SHCs are **distributed promptly**, preferably in **hard copy before sowing**.
  - **Reduced time lag** between soil data collection and distribution of SHC will help farmers apply recommended fertilizer doses in a **timely manner**.
  - Installation of Israel's **Plantarray technology** can be introduced that can provide **real-time soil data** using sensors and boosting information about **soil profile**.
- **Incentives:** Incentives and awards for **farmers, Gram Panchayats, and officers** promoting soil testing can boost participation.
  - Recognition for **green manure, vermicomposting, and organic farming** will enhance soil fertility.

### **Drishti Mains Question:**

What is the Soil Health Card (SHC) Scheme? Discuss its objectives and significance in sustainable agriculture.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### **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)**

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**Mains**

**Q.** Sikkim is the first 'Organic State' in India. What are the ecological and economical benefits of Organic State? **(2018)**

PDF Reference URL: <https://www.drishtiias.com/printpdf/10th-anniversary-of-soil-health-card-scheme>

