

Without soil conservation, there is no food security

(GS Paper 3, Food Security)

Context:

- Food security is one of the core indicators of economic development. The modernisation of agriculture has brought huge dividends in terms of ensuring food security to large swathes of people, apart from improving crop production.
- A **key element of sustainable food production is healthy soil** because nearly 95 per cent of global food production depends on soil. The current status of soil health is worrisome.

Soil Degradation

Soil degradation on an unprecedented scale is a significant challenge to sustainable food production.

About one-third of the earth's soils is already degraded and alarmingly, about 90 per cent could be degraded by 2050 if no corrective action is taken.

While soil degradation is believed to be occurring in 145 million hectares in India, it is estimated that 96.40 million hectares is affected by land degradation.

Globally, the biophysical status of 5,670 million hectares of land is declining, of which 1,660 million hectares (29 per cent) is attributed to human-induced land degradation.

What needs to be done?

- The time has come for **collective global action involving governments and civil society** to reverse this alarming trend. Apart from natural causes, a variety of human activities lead to soil degradation.
- With the threat to food security looming large globally, compounded by the attendant hazard of serious damage to the environment, the need of the hour is **to adopt innovative policies and agro-ecological practices** that create healthy and sustainable food production systems.
- Extensive use of fertilisers and pesticides led to the deterioration of soil health and contamination of water bodies and the food chain, which pose serious health risks to people and livestock.
- There is urgent need for action to **reduce dependence on pesticides** worldwide and to promote policies advocating healthy and sustainable food systems and agricultural production.
- As soil is a fragile and finite resource, **sustainable land management practices are essential** to ensure healthy soil. They are critical not only to preventing degradation but also to ensuring food security.
- Every effort must also be made to prevent soil erosion as it not only affects fertility but also increases the risk of floods and landslides.
- **Another challenge comes from salinisation**, which affects 160 million hectares of cropland worldwide.

Soil health card scheme in India:

- Under the programme as of date, soil health cards have been distributed to about 23 crore farmers. The scheme has not only helped in improving the health of the soil, but has also benefited innumerable farmers by increasing crop production and their incomes.

- A study conducted by the National Productivity Council in 2017 on this programme revealed that there has been a decrease in the use of chemical fertilisers in the range of 8-10 per cent as a result of the application of fertilisers and micro-nutrients as per the recommendations on the soil health cards. Overall, an increase in crop yields to the tune of 5-6 per cent was reported as a result.
- Several studies have established that natural farming and organic farming are not only cost-effective but also lead to improvement in soil health and the farmland ecosystem.

Save Soil Campaign:

- The Save Soil Movement was started by Sadhguru in March 2022, who embarked on a 100-day motorcycle journey passing through 27 countries. June 5 marks the 75th day of the 100-day journey.
- His attempt to engage with heads of governments, experts and government officials for concerted action on saving soil is laudable.

Way Forward:

- Soil pollution is an issue. It knows no borders and compromises the food we eat, the water we drink and the air we breathe. Soil degradation needs to be urgently addressed and reversed