GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 1502
TO BE ANSWERED ON THE 9th DECEMBER, 2025

QUALITY OF ARABLE SOIL

1502. MS SAYANI GHOSH:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state?

(a) whether it is a fact that the quality of arable soil across the country has been declining over the past decade, if so, the details of the soil quality, State-wise;
(b) whether imbalanced use of chemical fertilisers, depletion of organic matter, and the impact of climate change have contributed to this decline, if so, the details thereof; and
(c) whether any assessment has been conducted to determine why soil quality declines despite initiatives such as the Soil Health Card and related initiatives, if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण राज्य मंत्री (SHRI RAMNATH THAKUR)

(a) to (c): Government is aware of concern on soil quality degradation. Several studies have been conducted by Indian Council of Agricultural Research (ICAR) which indicated that imbalanced use of chemical fertilizers, decline in organic matter, and the effects of climate change are known to contribute to deterioration of soil health. The ICAR–All India Coordinated Research Project (AICRP) on Long-Term Fertilizer Experiments (LTFEs) has been assessing the impact of different nutrient management practices on soil quality and crop productivity. These studies showed that imbalanced nutrient use (such as applying only Nitrogen or Nitrogen Phosphorus) reduces crop yields and leads to lower carbon returns to the soil from crop residues, thereby contributing to soil degradation. In contrast, balanced and integrated nutrient management (including 100% Nitrogen, Phosphorous, Potassium with Farm Yard Mannure or lime) improves soil carbon status, enhances soil biological activity, strengthens soil structure, and increases water-holding capacity. Thus, while initiatives such as the Soil Health Card promote better nutrient use, long term fertilizer experiment assessments indicate that soil quality declines mainly where nutrient imbalance and inadequate organic matter addition persist.

To address the same, Indian Council of Agricultural Research (ICAR) recommends soil test based balanced and integrated nutrient management. ICAR has suggested combined use of both inorganic and organic sources (manure, biofertilizers etc.) of plant nutrients and location specific soil & water conservation measures for preventing deterioration of soil health and fertility. Government is implementing Soil Health and Fertility Scheme to assist State Governments to issue Soil Health Cards (SHCs) to farmers in the country. SHCs assist in promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients along with organic manures & bio-fertilizers, for improving soil health and fertility. 25.61 crore Soil Health Cards have been generated under the Scheme till date.

ICAR is promoting use of organic fertilizers to improve / sustain soil health viz. farm yard manure, compost, vermicompost, green manure, oil / concentrated cakes, biofertilizers, biogas wastes etc. are usually used in agriculture through demonstrations, public campaigns, training and media. In order to promote biofertilizer use, ICAR has developed improved and efficient strains of biofertilizers specific to different crops and soil types under Network project on Soil Biodiversity-Biofertilizers. Government is promoting organic farming on priority in the country for improving soil health and water retention through of Paramparagat Krishi Vikas Yojana (PKVY) in all the States/UTs and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER). Financial assistance is provided for on-farm/off farm organic inputs majority biofertilisers under the schemes. National Mission on Natural Farming (NMNF) is implemented to promote livestock integrated farming, involving practices such as use of biomass mulching, multi-cropping system, use of on-farm made natural farming bio-inputs for improving soil organic content, soil structure, nutrition, enhancing soil water holding capacity.

The scheme evaluation study,2025 of NITI Ayog reported that Soil Health & Fertility Scheme as well as Organic Farming and Natural Farming initiatives resulted in significant improvement in soil health.

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