Making farm soil health cards using satellite can save crores

Soil Survey Bureau Reveals Much More In Report

Nagpur: By using satellite technology and developing soil health cards for farmers, the Centre can save crores. This has been established by a case study conducted by the National Bureau of Soil Survey and Land Use Planning (NBSSLUP), an institute under Indian Council of Agricultural Research (ICAR) which is headquartered in Nagpur.

The bureau’s recently launched annual report (2017-18) has been bestowed with the Best Annual Report Award by the council for the “precise research”. In the 200-page report, the bureau highlighted the benefits of using the technique of geographic information system (GIS) for preparing soil health cards and fertilizer recommendations for a large number of farmers.

To test the implementation of the technology, the bureau carried out pilot experiments at Kelapur block in Yavatmal, one of the most farmer-suicide affected districts of the state, and Piparahothi block of East Champaran district in Bihar. Multiple soil samples were collected and sent to laboratory analysis for macro and micro nutrients.

“We developed a database using GIS and superimposed cadastral maps with farm-wise nutrient status,” said Surendra Kumar Singh, the bureau director.

This method not only results in accurate and unbiased information for farmers but also produces more number of health cards in less amount. As per the bureau’s study, a total of 5,000 cards were developed in the Kelapur block. However, after interpolation of data, 29,000 farmers were benefited.

The cost of preparing one soil health card, as fixed by the government, is ₹190. Going by this price, making 29,000 cards would cost around ₹54 lakh. However, using the bureau’s technique can save over ₹44 lakh by reducing this price to ₹9.5 lakh.

“With remote sensing, there is no need to manually prepare individual cards,” said Singh. He added that in the last two years, the bureau has distributed cards to around 8 lakh farmers of Maharashtra, Madhya Pradesh and Telangana.

The report states that from ₹190, the cost of one card can go down to ₹32 if GIS technique is implemented.

Apart from this, the bureau also prepared a global soil organic carbon stock map. Soil organic carbon is the basis of soil fertility and releases nutrients for plant growth. As per the analysis, the soil organic carbon in Indian soil was found to be comparatively lower than neighbouring countries.

Soils of north-eastern states, J&K, Uttarakhland and HP were richer than adjoining Indo-Gangetic Plain. The report is a stark reminder that Thar desert holds lower carbon than the deserts of China and Africa. Soils of high altitude of Russia and Europe are richer in organic carbon,” the report said.

It added that soils of north-eastern states, Jammu and Kashmir, Uttarakhland and Himachal Pradesh were richer than the adjoining Indo-Gangetic Plain.