

SOIL HEALTH CARD

Empowering Farmers to Improve Soil Health for Enhancing Agriculture Productivity

'Soil Health Card' provide soil nutrient status of a farmer's holding and advise him on the dosage of fertilizers and need for soil amendments for a healthy soil in the long run. The Government plans to issue Soil Health Cards to 14 crore farmers in a cycle of 2 years



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Agriculture produce depends on soil as one of the most important factors and plant growth largely depends on the composition of soil. The study of soil profile gives the picture of its fertility and productivity. To increase the soil fertility and productivity, it is important to know the nutrient status and make necessary amendments by appropriate dosage of fertilizers and micronutrients.

SOIL HEALTH CARD SCHEME

Soil Health Card Scheme is a flagship program of Government of India promoted by the Department of Agriculture, Co-operation & Farmers Welfare

under the Ministry of Agriculture & Farmers Welfare. Under the scheme, the government issues Soil Health Cards (SHC) to farmers. A SHC provide soil nutrient status of his holding to each farmer and advise him/ her on the dosage of fertilizers and also the needed soil amendments that should be applied to maintain soil health in the long run. SHC contains the status of soil with respect to 12 parameters:

- N, P, K (Macro-nutrients)
- S (Secondary-nutrients)
- Zn, Fe, Cu, Mn, Br (Micro-nutrients)
- pH, EC, OC (Physical parameters)

Soil Health Cards help farmers to improve productivity by maintaining soil health. SHCs will also promote the judicious use of the fertilizers, thus reducing the cost of production for the farmer. The Govern-



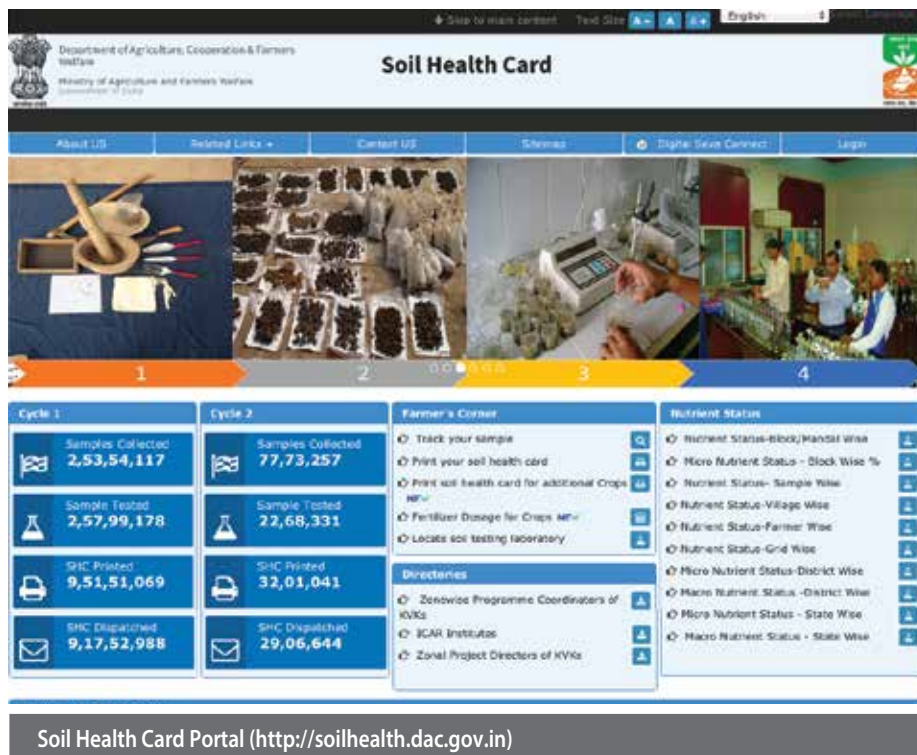
Hon'ble Prime Minister inaugurating the Soil Health Card in Rajasthan

ment plans to issue Soil Health Cards to 14 crore farmers in a cycle of 2 years.

SOIL HEALTH CARD PORTAL

The Soil Health Card Portal (<http://soilhealth.dac.gov.in>) project was launched by Hon'ble Minister of Agriculture & Farmers Welfare on 15th July, 2015. The Soil Health Card Application is a work flow based system designed and developed by National Informatics Centre which facilitate generation of Soil Health Cards for the benefit of farmers in a uniform and standardised format across the country.

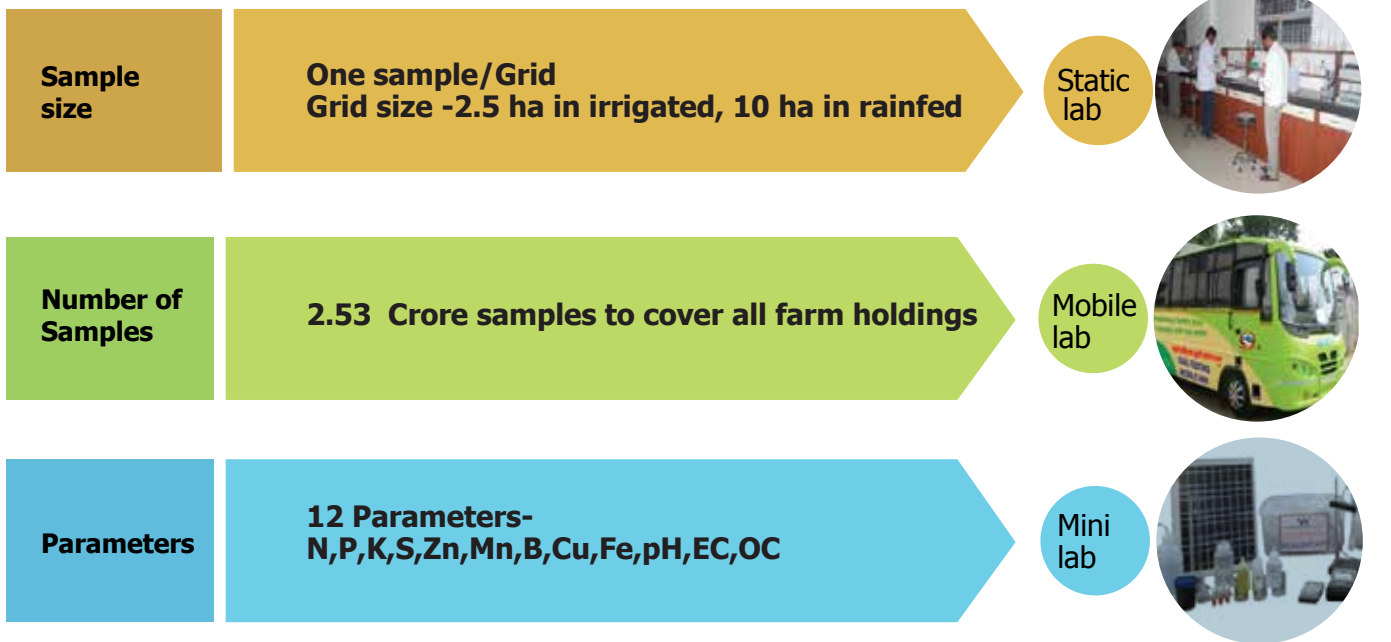
Soil samples are collected from fields of farmers on grid basis; 10 ha grid in rainfed areas and 2.5 ha grid in irrigated areas. The samples detail along with their location details are registered in the Application portal by the concerned officials and a unique ID is generated for each soil sample. The sample details can also be sent using mobile application developed. Mobile application captures the longitude and latitude of the place automatically where samples are collected thus ensuring authenticity of the sample collection and correctness of the information. Mobile application does not require net connectivity during sample details entry from the fields. Data is stored and pushed on server whenever net



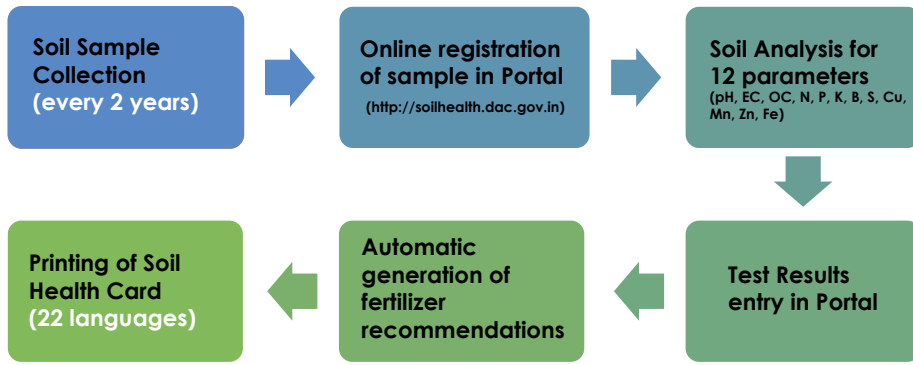
Soil Health Card Portal (<http://soilhealth.dac.gov.in>)

connectivity is established. The samples are tested in the labs and the test results are entered by the respective Soil Testing Lab officials. Based on the available nutrients in the soil, the crop-wise required quantity of nutrients are calculated using Soil Testing Crop Response

developed by ICAR method or General Fertilizer Recommendations given by State Governments/ SAUs (State Agricultural Universities). Then according to required nutrients, corresponding crop-wise fertilizer quantities are calculated by the application automatically and



Scheme Details



- GIS mapping
- Helpdesk support
- e-learning support
- Maintenance
- Participation in workshops & trainings

MAIN FEATURES OF THE APPLICATION

- Single, uniform, web-based software for generation of Soil Health Card in uniform format across the country
- Support for 22 local languages
- Sample tracking and alerts to farmers through SMS
- Automatic Fertilizer Recommendation calculations and micronutrient suggestions
- Fertilizer recommendations for Horticultural crops, based on age/ crop stage of the crop
- Organic carbon based fertilizers recommendations
- National database on soil health
- Dashboard
- Linkages to land record applications of states
- Integration with Common Service Centre (CSCs) portal for CSCs to enter data
- Interface for displaying Soil Health

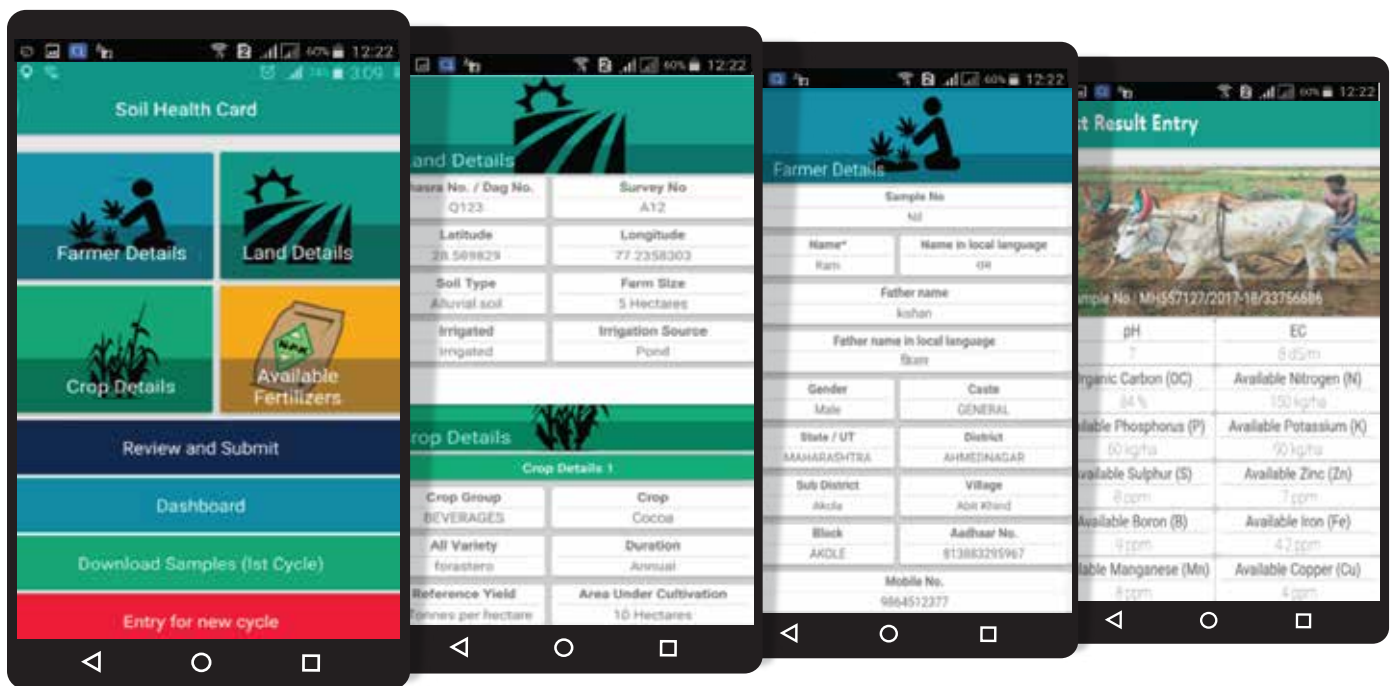
Process of issuing Soil Health Card

printed in the Soil Health Card. The necessary soil amendments for eliminating micronutrient deficiencies are also suggested in the card. Soil Health card can be generated in 22 languages.

PROJECT SCOPE

- Sample registration
- Test results entry
- Fertilizers recommendations calculations
- Soil Health Card generation
- User registration, role assignment and distributed management of users

- Role based access to work areas
- Soil Test Based Crop Response (STCR) Formulae
- General Fertilizers Recommendations by States
- Soil Testing Laboratories profile
- Management Information System for monitoring
- Master Data management
- Localisation
- Alerts
- Migration of data from State portals
- Mobile Apps



Soil Health Card Mobile App interface screens

			
<p>Bavisetti Swamy Krishna Andhra Pradesh</p> <p>Paddy NPK 39.5:30:33/22:16:10.8</p> <p>Production increase 375kg/acre</p> <p>Income increase 5662/acre</p>	<p>Meenabai Patil Jalgaon Maharashtra</p> <p>Cotton NPK 48:13:13/40:21:21</p> <p>Production increase 160kg/acre</p> <p>Income increase 8000/acre</p>	<p>Jagtar Singh Kiurukshetra Haryana</p> <p>Potato NPK 165:69:30/41:46:30</p> <p>Production increase 1000kg/acre</p> <p>Income increase 3000/acre</p>	<p>K Das Purnia Bihar</p> <p>Paddy NPK 40:86:20/38:24:16</p> <p>Production increase 160kg/acre</p> <p>Income increase 2780/acre</p>

Success stories of farmers from Andhra Pradesh, Maharashtra, Haryana and Bihar

Card in Umang and Krishi Suvidha mobile Apps

- Linkage for minilabs for transferring test results data to national portal
- Linkage to mobile Fertilizers Management System (mFMS) on pilot basis in Krishna District of Andhra Pradesh

- Various types of nutrient status reports
- Calculator for fertilizers dosages
- Success stories

STEPS TAKEN TO SPEED UP THE PORTAL ENTRIES IN SOIL HEALTH CARD PORTAL

- Infrastructure enhancement
- Simplified interfaces
- Extensive search facility in each interface
- Bulk generation of Soil Health Cards
- Automatic generation of fertilizers recommendations at a time for multiple farmers
- Add Farmer facility for grids already entered
- Soil Health Card for additional crops
- Mobile Apps for sample registration to field level workers
- Migration of data from State portals to National portals
- Regular e-learning sessions
- Participation in State-level training programs/ workshops and field visits
- Help-desk support

IMPACT OF THE PROJECT

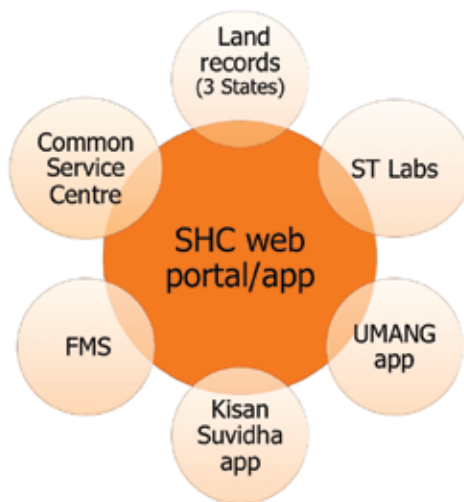
- Helps in deciding optimum use of fertilizers for reduced cost and increase in production. The related success stories received from States have been uploaded on the portal
- Auto generation of fertilizers recommendation to save the time and efforts of soil testing laboratories

STATUS OF IMPLEMENTATION

Soil Health Card is currently implemented throughout the country with active involvement of States/ Union Territories. As on date, 1.39 crores samples have been registered on the portal covering 4.40 crore farmers.

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Linkage of SHC portal to other Services