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# Extension strategy for overcome constraint faced by the farmers in adoption of Soil Health Card

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## Introduction

Agriculture will continue to be the main occupation of majority of the rural population for a long time to come and it also identify as popular entrepreneurship develop sector of the country. While we have brought Green revolution in the country, the growing population demands a lot more efforts in the field of research, education and extension. Further, technological knowledge and information add value to existing resources, skill, knowledge and processes, leading to new products, processes and strategies. In view of large number of productive technologies available everywhere in the country, it is high time that extension strategy gets priority overcome constraint faced by the farmers in adoption of different technologies. Sustainable production is very important for the developing country and for this we reduce technology gap in the country. Significance role of extension functionaries are to overcome our country from underperforming in agriculture. As we know basic and key elements for the sustainable production are soil which serves as a natural nutrient source for growth of plants and necessary for attaining higher yield. Fertile soil acts as a catalyst for realizing the potential of all other inputs in agriculture. The components of soils are mineral, organic matter, water and air, the proportions of which vary and together form a system for plant growth and productivity. Farmers are resorting to addition of more and more fertilizers to obtain yields but as a result continued degradation of natural resources under intensive agriculture and also declining the productivity and stagnation in food grains production in the country.

With increase fertilizer use efficiency or appropriate use of fertilizer for specific soils and crops, it is necessary to have report on soil testing. On the basis of soil testing report, farmer can know the information regarding their soil health and recommendation regarding fertilizer use can be made for the farmers. Many farmers are difficulty to use Soil Health Card as therefore the role of extension is important to overcome them from the problem.

## Soil Health Card

The Soil Health Card studies and reviews the health of soil or rather we can say a complete evaluation of the quality of soil right from its functional characteristics to water and nutrients content and other biological properties. It helps farmers in many ways like.

- With the issue of the card, the farmers will get a well-monitored report of the soil which is chosen for cultivation of crops.
- The monitoring will be done on a regular basis.
- The farmers will be guided by experts to come up with solutions to improve the quality of the soil.
- Regular monitoring will help the farmers to get a long-term soil health record and accordingly can study and evaluate the results of different soil management practices.
- This card can become most helpful and effective when filled out regularly by the same person over a period of time.

- The idea is not to compare the varied soil types but to find out methods to improve soil fertility, to access the different types of soil and their ability to support crop production in spite of their limitations and as per their abilities.
- The soil card will help the farmers to get an idea on the crop-wise recommendations of nutrients and fertilizers required in each type of soil. This can help in increasing the crop yield.

Government takes every possible step for the success of Soil Health Card. With the launch of the scheme in February 2015, in the first phase, the target was to cover 84 lakh cards. But till July 2015, 34 lakh cards have been issued. This is a flagship programme for the agricultural sector of the country. Among all the states in India, Andhra Pradesh was taken the lead in distribution of the SHCs to farmers. Two other states, Tamil Nadu and Punjab have collected the maximum amount of soil samples for testing during the kharif season. Other states which are taking the lead are Uttar Pradesh, Punjab, Chhattisgarh, Telangana and Odisha.

In order to make the scheme more successful, the government of India, along with the agriculture department of India, has launched a Soil Health Card agriculture portal. In fact two other agri-portals have been recently launched – Fertiliser Quality Control System and Participatory Guarantee System portal.

The farmers need to register at the web portal www.soilhealth.dac.gov.in along with the details of the soil samples and test lab reports. The basic objective behind the launch of the web portal is to create a single national database on soil health which can be used in the future for research and planning both by farmers and soil experts. Right now the portal is in English. Very soon, it will have content in regional languages too.

**Extension strategy**

**Table 1: Extension strategy Soil Health Card**

| **Constraints** | **Suggestions from SHC holders** | **Technical Options of Experts** | **Extension Strategy** |
|---|---|---|---|
| Collection of soil sample was not done in presence of farmers. | • Soil sampling procedure should be done in presence of farmer. | • Training on soil sampling procedure should be organized for farmers.<br>• Regular contact should be maintain by the soil sampling staff for adopting confidence in farmers | • Develop confidence between farmers and staff involve in soil sampling by adopting personal content method.<br>• Give method demonstration on Specific procedure followed from beginning to end of soil sampling and testing process. |
| Time gap between soil samples taken and issuing cards is too high | • Timely availability of SHCs to the farmers.<br>• More soil testing laboratory should be established at taluka level with highly qualified staff. | • Complete the process of soil testing as early as possible by organizing special campaign for soil testing.<br>• Early action, decision, completion and implementation process should be there for timely provision of SHC.<br>• More expert and | • Special training on soil sampling, testing and preparation of SHC should organise.<br>• More facilities should be created for timely preparation and supply of SHC through SAUs and State Agriculture line department convergence.<br>• Skill oriented training should organized for staff engaged in SHC preparation. |

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| | | technical staff should be engaged for timely completion of work. | |
| Received soil health cards after crop harvest. | SHC should be issued prior to crop season. | • More Soil Testing Laboratories should be established.<br>• More emphasis on timely completion of all the activities related to SHC preparation.<br>• Special trained technical staff should be engaged for timely completion of work. | • Create more coordination between different departments involve in preparation of SHC.<br>• Special skill oriental training on different aspect related to SHC should be organised. |
| Difficulty to calculate fertilizer dose on the basis of nutrient status of soil.<br><br>Not able to understand the content of the SHC. | • Provide training to the farmers for better understanding about content of Soil Health Card.<br>• Crop wise recommended dose of fertilizer should be given in SHC. | • Simple method for calculating fertilizer dose for specific crop should be given SHC.<br>• Examples related to calculation of fertilizer dose should be given in SHC.<br>• Content given SHC should be simple to understand.<br>• Information given in SHC related to fertilizers, it should be given as name of fertilizer rather than in dose form. | • Special training on different aspect depicted on SHC should be organised.<br>• Simplest method of calculating fertilizer dose should be given SHC.<br>• Literature and Video related to SHCs given to farmers with help of different media.<br>• Opinion leader and Contact farmers should give special training to aware their fellow farmers about SHCs. |
| Unavailability of micronutrient status of soil in the SHC | Availability of micronutrient status should be displayed in SHC. | • The elements status in the soil should be given in SHC including micronutrients status.<br>• Special instruments should be available with the soil testing laboratories to analyze micronutrients status in soil.<br>• Workshop should be | • Impart training to analyzed micronutrients status in soil, importance of micronutrient in crop production and use of micronutrient should be organized by training institute for staff engaged in soil testing. |

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| | | imparted to the analyst to analyze the micronutrients status in soil. | |

**Conclusion**

As we all know that soil is key elements for sustainable production of the country it is very important to beware it's productivity. Control use of chemical fertilizer and sufficient use of organic matter it is possible. Using Soil Health Card it is feasible for the farmers to manage chemical fertilizers. Extension strategy is play vital role for maximum use of Soil Health Card in the country. The strategies are more emphasis on training to the young professional of agriculture; organized workshop and demonstration for both farmers and agriculturist the role of opinion leader and contact farmers are also crucial for efficient use of Soil Health Card.

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