

GUIDELINES FOR DEMONSTRATIONS **UNDER SOIL HEALTH CARD (SHC) SCHEME**

The demonstrations are a unique approach that aims to demonstrate & popularize the improved technologies at the farmers' fields for efficient and profitable management of resources and to provide a direct interface between subject matter specialists (including researchers) and farmers. On the principle of 'Seeing is Believing', demonstrations not only act as a wheel to transfer the latest technology to the farmers but also simultaneously motivate farmers for its quick acceptability and adoptability besides getting direct feedback from the farmer's field about the technology demonstrated so as to improvise and fine tuned the technology.

The subject matter specialists (including researchers) provide technological inputs to the extension personnel and consenting farmers to organize the demonstrations as per technology developed. To make the technologies farmer's friendly, subject matter specialists (including researchers) and extension personnel need to understand and analyse the farmer's wisdom, his/her resources and requirement in depth, so as to raise the farmers acceptability and adoptability about the technologies. These demonstrations are conducted on consenting farmer's fields on participatory approach with a view to demonstrate the potentiality of the technologies to (a) participating farmers (b) neighboring farmers & other agencies (c) analyze the performance of the technologies for scientific feedback and its improvisation and above all (d) build confidence amongst the farmers about the technology developed.

During the current financial year (2019-20), Model Villages Programme on pilot basis has been taken up under Soil Health Card (SHC) Scheme. It includes adoption of one village per block for land holding based Soil Sampling, Testing & Distribution of Soil Health Cards and subsequent SHC based demonstrations in each Model village besides organizing one Fair/Mela per village for scaling up awareness creation amongst the farmers across India.

Conducting demonstrations at farmers fields and organizing farmer's Fair/Mela is of utmost importance to raise awareness and to disseminate SHC based recommendations (hereinafter SHC Technology) amongst the farmers across India besides optimizing fertilizer use.

1. Selection of Villages and Beneficiaries for Demonstrating SHC Technology

- a)** Participatory approach may be followed in conducting demonstrations associating (i) subject matter specialists (ii) extension personnel and (iii) demonstrating farmers including neighboring one's, so as to have an effective implementation leading to better adoption and diffusion of technology amongst the farmers.
- b)** To create better and visible impact of SHC technology, the demonstrations may as far as possible be conducted in cluster approach, depending upon the number of demonstrations earmarked for each model village. The size of the one demonstration at individual farmer's fields should not be more than one hectare.
- c)** Other equal size plots of the demonstrating farmers or the equal size plot of the neighboring farmers on the similar soil-site Soilscape under the same crop (variety) may be considered as check or control plot (i.e. without SHC technology) for objective comparison of the results.
- d)** Special attention towards soil problems like soil acidity, salinity/sodicity, soil borne pests and diseases should be tackled before taking up the demonstrations.
- e)** Selection and Identification of consenting and demonstrating farmers/beneficiaries

shall be carried out by the state/uts implementing department as per the requirement/aptitude of the farmers.

- f) The Socio-economically backward/Small/Marginal/ST/SC/OBC/ women farmers be given due preference as beneficiaries while selecting and conducting the demonstrations.

2. Funding for Demonstrations

The assistance to demonstrate SHC technology at farmers fields to the beneficiary-farmer should not exceed Rs 2500/- per ha. The assistance under demonstrations is meant for fertilizers and organic manures apart from soil ameliorants, bio-fertilizers and micro-nutrients. Ensure that the assistance in the form of inputs as recommended in the Soil Health Cards are to be provided to the beneficiary farmers.

The expenditure in excess of the approved norms per hectare if any, should be incurred by the beneficiary-farmer.

Funds earmarked for demonstrations may be made available to the concerned in-charge, organizing the demonstrations well before the start of the crop sowing for arranging the inputs.

3. Implementing Agency

The department of agriculture of all the States/UTs are the Nodal departments for organizing the demonstrations at the farmer's fields in their respective States/UTs. States/UTs may organize the demonstrations at farmer's fields in the model villages through their respective district level functionaries. States/UTs may rope in Krishi Vigyan Kendras (KVKs under ICAR system), State Agriculture Universities and reputed & registered NGOs for professional know how and guidance.

All States/UTs are require to constitute a dedicated district level teams with a competent team leader, designated as District Nodal Officer (D.N.O) for the proper implementation and supervision of the demonstrations in the model villages.

States/UTs are also require to send the names, designation, contact details of the respective distt. Nodal Officer to this division on the attached format.

4. Planning for the Demonstration

A base line survey of the each model village may be conducted to (a) ascertain the socio-economic conditions of the farmers; (b) farming situations under which the crop is grown (c) the existing level of fertiliser consumption, nutrient deficiencies in the soil, productivity and the adoption of SHC technology. This will serve as a broad benchmark for future planning of demonstrations and evaluation.

A resource constraint analysis may be carried out of the beneficiaries and individual demonstration plot to identify the critical factors for the adoption of SHC technologies by the farmers.

Advance planning may be done for the demonstrations so that all the critical inputs are arranged well in advance by the implementing deptt/agency.

Orientation training may be organized by the States/Uts involving KVKs/SAU's for all the participating farmers/persons in respect of SHC technology including aims and objectives of the demonstrations to be conducted so as to maintain inter & intra States/Uts uniformity in conducting demonstrations in the model villages.

5. Implementation

1. Before conducting the demonstration, States/Uts implementing departments must arrange two khasra / patwari / cadastral maps for each model village from the appropriate authority, one for the preparation of **location map** of each model village by plotting all the Soil Samples Collected in the model village against khasra no. on the cadastral map and the other one for marking the demonstration (with nos) on the village cadastral map that also against the khasra nos.
2. All these demonstration be Geo-referenced & Geo-fenced.
3. In order to generate Soil Fertility Maps of model villages, a Geo-referenced cadastral map with field boundaries & khasra nos may also be arranged. States/Uts are require to send the Geo-referenced maps of each model village along with SHC data of all the 12 parameters tested and location map as mentioned above (Sl. No. 1) for the pilot project 2019-20 to SLUSI at ssohq-slusi@gov.in for the generation of Soil Fertility Maps of each model villages.
4. Implementing department must display a board in front of the demonstration/control plot mentioning all details of beneficiary and SHC technology being demonstrated.
5. All participating persons including farmers may be informed well in advance about the date and place of the demonstration to be conducted. On the occasion, the neighbouring farmers and the farmers of the adjoining villages may also be invited. They should be educated about the details of the SHC technologies and objectives of the demonstrations. Application of SHC based inputs & sowing of the crops need to be done in the presence of participating farmers/persons.
6. All the farm operations are to be carried out by the demonstrating farmers under the close supervision and guidance of the in-charge of demonstrations and extension personnel.

7. Field days are to be organized during the different stages of the crop growth, where neighbouring farmers including farm women be invited so that they may see themselves the difference between farmers practice (i.e. without SHC technology) & SHC technology.
8. The information pertaining to SHC interventions adopted on demonstrations plot over control must be recorded, interpreted, compiled & evaluated scientifically.
9. The concerned in-charge is to keep records of various expenses incurred on SHC based inputs used for the demonstrations plot (s) and check/control plot (s) for deriving cost benefits and other interpretations.
10. After the harvesting and threshing of the crop, the yield (grain & straw etc.) are to be recorded for demonstration plot and check/control plot separately.
11. In order to monitor the programme, the information as mentioned in **Annexure I to VI**

may be collected & compiled village & district-wise by the concerned in-charge organizing the demonstrations.

6. Monitoring

State/Uts-wise Monitoring Teams meant for the model village programme has already been constituted vide OM no. 16-5/2019-Fert. Use dated 29th August, 2019. Teams are required to visit the demonstration plot during crop season in the model villages on continuous and regular basis to have proper feedback on the impact of the SHC technology from the farmers and extension workers.

7. Reporting and Documentation

The district level Nodal Officers organizing the demonstrations are required to properly tabulate, correlate and compile the results of all the demonstrations pertaining to different model villages under their control and report to the States/Uts Nodal Officers, who in turn will compile the results at state level detailing the overall decrease or increase in the individual fertiliser consumption, increase in crop yields, net gain in income etc. The final report along with States/Uts Nodal Officer's critical remarks may be transmitted to INM Division, DAC&FW, New Delhi.

A success story in local languages may be published in the local news papers and in popular & widely circulated extension journals of the state and short video film produced and telecasted for the benefits of other farmers.

Base Line Survey for Model Villages programme - (2019-20)

State _____ District _____ Block _____ Village _____

Model Village at a Glance			
Administrative Domain			
Total geographical area		Total no. of families / Households	
Demographic Profile			
Total population Male Female Female / 1000 male Schedule Castes Schedule Tribes Population density / km ²		Total work force Farmers (%) Agricultural labour (%) Workers in house hold industry (%) Other workers (%)	
Land use and Agriculture			
Gross cultivated area (ha) Net cultivated area (ha) Net irrigated area (ha) Source of irrigation Forest area (ha) Cropping intensity (%)		Major crop rotations followed Average yield of major crops(q/ha)	
No. of operational holdings			
Marginal (< 1 ha) Small (1-2 ha) Semi-Medium (2-4 ha)		Medium (4-10 ha) Large (> 10ha) Total holdings	
Fertiliser Consumption (Quintals)			
Nitrogenous fertilizers Phosphorus fertilizers Potassium fertilizers Secondary & Micronutrients (S, Zn, Mn, Fe, Cu, & B) Average Fertilizers application (NPK) kg / ha		Average Organic Manures application (q/ha) Average Bio-fertilizers application (kg/ha) Average Gypsum or Lime application if any (q/ha) No. of fertiliser retailers i.e. fertilizers POS	
Krishi Vigyan Kendra's (KVK's) & Soil Testing Laboratory (STL)			
Nearest KVK (place & kms)		Nearest STL (place & kms) Village level STL established	
Animal Husbandry			
Total No. of Cattle		Poultry	
Economic Infrastructure & Transportation (place & km)			
Nearest Post Office Nearest Bank Nearest Agri. Coop. Societies		Nearest Railway station Nearest Bus stop	
Health & Education (place & km)			
Nearest School Nearest College		Nearest Dispensary / Hospital Nearest Private Clinic / Nursing home	

Base Line Survey**Details of Beneficiaries and individual Demonstration plot under Model Village Programme during Rabi / Kharif (Year-_____)**

State_____ District_____ Block_____ Village_____

Demonstration No. _____

General information	
1. Name & address of the implementing department / organization:	
2. Name & designation of the officer organizing the demonstrations :	
3. Address, E-mail ID & Mobile / Landline number of the organizing officer :	
4. Beneficiary/Farmer's name :	
5. Father's name :	
6. Education level of the farmer :	
7. Aadhaar number of the Farmer :	
8. Soil Health Card number (Cycle-I, Cycle-II & Model village programme) :	
9. Mobile/ land line number of the Farmer :	
10. Khasra number of the Demonstration Plot :	
11. Latitude & Longitude of the demonstration plot :	
12. Farmer Category (SC/ST/GEN) :	
13. Size of land holding :	
14. Prevalent crop rotation followed at the farm :	
15. Name of the nutrient deficient in the demonstration plot :	
16. Rainfed / Irrigated (source of irrigation) :	
17. Dates of farmer's melas, field days, kisan ghostis etc organized :	
18. Visit dates of Monitoring Team :	
19. Technology demonstrated :	Soil Health Card Technology

Beneficiary's Signature

Signature with Seal
In-charge organizing the Demos

Details of individual control / check plot (i.e. without SHC Technology) during Rabi / Kharif (Year-_____)

State _____ District _____ Block _____ Village _____ Khasra No. _____ Demonstration No. _____

Beneficiary/Farmer's Name _____ Crop Sown (Variety) _____ Control Plot Area _____ ha

Fertilizer & Ameliorants application details under control / check plot (i.e. without SHC Technology)															Production and Income details under control i.e. without SHC Technology		
Nitrogenous-fertilizers		Phosphorus-fertilizers		Potassium-fertilizers		Secondary & Micro-Nutrients (S,Zn,) Mn, Fe, Cu, B)		Bio-fertilizers applied		Organic manures applied		Ameliorants applied		Total fertiliser etc applied under control (1 to 7)		Crop yield under farmer's practices (in q/ha)	Total income from the sale of Agriculture produce(in Rs)
1		2		3		4		5		6		7		8			
Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)		
Urea		DAP		MOP		ZnSo4		Azotobacter		FYM		Gypsum					
Ammonium Sulphate		SSP				FeSo4 MnSo4 CuSo4 Borax		Rhizobium		Vermi Compost		Lime					

Beneficiary's Signature

Signature with Seal In-charge organizing the Demos

Signature with Seal District Nodal Officer

Demonstration on Soil Health Card (SHC) Technology during Rabi / Kharif (Year-_____)

State _____ District _____ Block _____ Village _____ Khasra No. _____ Demonstration No. _____

Beneficiary/Farmer's Name _____ Crop Sown (Variety) _____ Demonstration Area _____ ha

Soil Health Card based Fertilizers & Ameliorants application details																Production and Income as per SHC Technology	
Nitrogenous-fertilizers		Phosphorus-fertilizers		Potassium-fertilizers		Secondary & Micro-Nutrients (S,Zn,) Mn, Fe, Cu, B)		Bio-fertilizers applied		Organic manures applied		Ameliorants applied		Total SHC based input applied (1 to 7)		Crop yield (in q/ha)	Total income from the sale of Agriculture produce(in Rs)
1		2		3		4		5		6		7		8			
Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)	Quantity (kg)	Cost (Rs/Kg)		
Urea		DAP		MOP		ZnSo4		Azoto bacter		FYM		Gypsum					
Ammonium Sulphate		SSP				FeSo4 MnSo4 Borax		Rhizobium		Vermi Compost		Lime					

Beneficiary's Signature

Signature with Seal In-charge organizing the Demos

Signature with Seal District Nodal Officer

Comparative results of demonstration with SHC Technology over control i.e. without SHC Technology at farmer's field during Rabi / Kharif (Year-_____)

State _____ District _____ Block _____ Village _____ Khasra No. _____ Demonstration No. _____

Beneficiary/Farmer's Name _____ Crop Sown (Variety) _____ Average crop yield of concerned district/block _____ q/h

Total Fertiliser & Ameliorants applied				Total Fertiliser & Ameliorants cost			Crop yield (in q/ha)			Total income from the sale of Agricultural produce (Rs)		Net income over control
Quantity (kg)				Cost (Rs)			Quantity (q)			Income (Rs)		
Name of Fertilizers, Bio-fertiliser & Ameliorants	Under Control	Under SHC Technology	* % Increase (+) or Decrease (-)	Under Control	Under SHC Technology	* % Increase (+) or Decrease (-)	Under Control	Under SHC Technology	* % Increase (+) or Decrease (-)	Under Control	Under SHC Technology	
Urea												
Ammonium Sulfate												
DAP												
SSP												
MOP												
Micro-nutrients												
Bio-fertiliser												
Organic Manures												
Ameliorants												
Urea												

Beneficiary's Signature

Signature with Seal In-charge organizing the Demos

Signature with Seal District Nodal Officer

Percent increase (+) or decrease (-) in Fertilizers/Ameliorants consumption vis-à-vis production and income under SHC Technology over control at farmer's field during Rabi / Kharif (Year-_____)

State _____ District _____ Block _____ Village _____ Khasra No. _____ Demonstration No. _____

Beneficiary/Farmer's Name _____

1. Percent increase (+) or decrease (-) in Nitrogenous fertilizers consumption under SHC Technology over control	Urea Ammonium Sulphate	
2. Percent increase (+) or decrease (-) in Phosphorus consumption under SHC Technology over control	DAP SSP	
3. Percent increase (+) or decrease (-) in Potassium fertilizers consumption under SHC Technology over control	MoP	
4. Percent increase (+) or decrease (-) in Bio-fertilizers consumption under SHC Technology over control	Azotobacter, Rhizobium etc.	
5. Percent increase (+) or decrease (-) in Organic Manure consumption under SHC Technology over control	FYM, Vermi-compost	
6. Percent increase (+) or decrease (-) in Ameliorants consumption under SHC Technology over control	Lime/ Gypsum	
7. Percent increase (+) or decrease (-) in Crop Yield (q/ha) under SHC Technology over control	Crop Yield (q/ha)	
8. Percent increase (+) or decrease (-) in Income under SHC Technology over control	Income (Rs)	

Signature with Seal In-charge organizing the Demos

Signature with Seal District Nodal Officer