

No:14-1/2016 Fert Use
Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture, Cooperation and Farmers Welfare
(Fert Use Cell/INM Division)

528, Krishi Bhavan, New Delhi
Dated the 9th January, 2019

To
Secretary (Agriculture)
Government of
(All States)

Subject : Guidelines for establishment of Soil Testing Projects at village Level by
Local Entrepreneurs under Soil Health Management – reg.

Sir,

I am directed to refer to letter of even number dated 18th August 2017 in which copy of guidelines were circulated for establishment of Soil Testing Projects at Village Level by Local Entrepreneurs under Soil Health Management. The following amendments to Para 3 (iv) and para 5 (i) are made to the said guidelines with the approval of Competent Authority

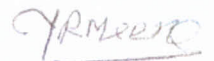
For Para3 (iv) Provide financial assistance to Village entrepreneur (18-27 age group).

Read : Provide financial assistance to Agri-Clinics and Agri Business Centres (AC &ABC), agri-prenures, Ex-servicemen, Self-Help Groups (SHGs), Farmer Producer Organizations (FPOs), Farmer Producer companies (FPCs), Farmer Joint Liability Groups, Farmer Cooperative Societies, PACs, Input Retail Outlets, Input Retailers and Schools/Colleges

For Para 5 (i) : The beneficiary /village level entrepreneur should be a youth in 18-27 years age group especially from Saansad Adarsh Gram Yojana (SAGY) villages.

Read The beneficiary should be Agri-Clinics and Agri Business Centres (AC &ABC), agri-prenures, Ex-servicemen, Self-Help Groups (SHGs), Farmer Producer Organizations (FPOs), Farmer Producer companies (FPCs), Farmer Joint Liability Groups, Farmer Cooperative Societies, PACs, Input Retail Outlets, Input Retailers and Schools/Colleges.

Yours faithfully,



(Y.R. Meena)
Additional Commissioner (INM)



सत्यमेव जयते

National Mission for Sustainable Agriculture (NMSA)

Operational Guidelines

Updated – 09.02.2017

**Integrated Nutrient Management Division
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Krishi Bhavan, New Delhi**

Chapter 3

Soil Health

Soil Health

The details of various components under Soil Health are given below and pattern of assistance is given at Annexure-I.

- 3.1 Setting up new Soil Testing Laboratories (STLs) and Mobile Soil Testing Laboratories (MSTLs) for macro nutrients and micro nutrients analysis.
- 3.2 Strengthening of existing State STLs for micronutrient analysis.
- 3.3 Capacity building through training of STL staff/extension officers/farmers and field demonstration/workshop etc.
- 3.4 Creation of data-bank for balanced use of fertilizers, which is site specific.
- 3.5 Adoption of village by STLs (10 villages each) through Frontline Field Demonstrations.
- 3.6 Preparation of digital district soil maps (using Global Positioning System) and soil fertility monitoring system by ICAR/ State Agriculture Universities (SAUs).
- 3.7 Providing portable soil testing kits to field level officers of State Govt.
- 3.8 Promotion and distribution of micronutrients.
- 3.9 Strengthening of Fertilizer Quality Control Laboratories
 - 3.9.1 Strengthening/up-grading existing State Fertilizer Quality Control Laboratories.
 - 3.9.2 Setting up of New Fertilizer Quality Control Laboratories by State Governments.
- 3.10 *Soil Testing Projects at Village Level.*

3.1 Setting up new Soil Testing Laboratories (STLs), Mobile Soil Testing Laboratories (MSTLs) and Mini-labs for macro nutrients and micro nutrients analysis

States can procure any soil testing equipment validated by ICAR or State Agricultural Universities following their procurement procedures.

3.1.1 Setting up new Soil Testing Laboratories (Static, Mobile and Mini-lab) - *In order to promote soil test base balanced and judicious use of chemical fertilizers, assistance will be provided to set up new static/mobile/ mini-lab. However, static and mobile labs will preferred option. Mini-labs will be promoted when they can analyse both macro and micro-nutrients and are needed to meet contingency arising from time, reach of location or such other situation(s).*

3.1.2 Norms for Assistance- *In case of static STLs 60% of the project cost, subject to a limit of Rs.45 lakh, will be provided as subsidy for purchase of machinery & equipment, chemicals & glass wares, miscellaneous laboratory articles and contingencies as per indicative list at Annexure II.*

In case of mobile STLs, financial assistance from DAC shall be 60% of the project cost subject to a maximum of Rs. 45 lakh per Mobile STL as per indicative.list at Annexure III.

In case of Mini Soil Testing Lab which can test all 12 mandatory parameters under Soil Health Card Scheme, the cost of the upgraded model is Rs 86000 + applicable taxes per unit not exceeding total amount of Rs 1.00 lakh per unit. GOI will contribute on 60: 40 sharing basis with the States other than NE & Hilly States and on 90:10 sharing basis with NE & Hilly States as per indicative list at Annexure IX.

The suggested list of equipments can be changed in special circumstances only with the specific approval of INM Division.

3.1.3 Expected Outcome- *It is expected that each of these static, mobile & mini labs can analyse NPK and micronutrients. The expected annual capacity to test both macro and micro-nutrients of static STL at 10,000 samples, of mobile STL at 5,000 samples and that of mini-lab at 3,000 samples should be optimally utilized.*

In case of Labs with ICP, such capacity will get enhanced to atleast 1 lac samples per annum and should be used accordingly.

3.1.4 Involvement of Private Sector- Whereas normally Soil Testing labs will be set up by state government through state agencies, it is expected that state government will encourage involvement of other agencies such as Private Companies associated with Agriculture Extension in some way such as Fertilizer Companies, Agriclincs, NGOs, Cooperative Societies and private entrepreneurs(Agri-preneurs). The State Governments will need to announce clear guidelines for involving these private sector agencies in the operation and management of these Soil Testing labs. State Governments are encouraged to announce innovative PPP Guidelines for involvement of Private sector for running of these Labs. The guidelines should, inter alia, clearly define all the terms and conditions including the soil testing charges to be charged from farmers and the MOU/Agreement to be signed with these private agencies, clear cut monitorable targets. State Governments will monitor and review performance of these private sector labs periodically.

3.2. Strengthening of Existing Soil Testing Laboratories

3.2.1 At present, there are 1087 soil testing laboratories (930 STLs and 157 MSTLs) working in the country having annual analyzing capacity of about 12 million soil samples. Many of the existing STLs do not have facilities for micronutrient analysis and the existing capacities of analysing NPK also is not being fully utilised. A onetime grant shall be provided to create facilities for analysis of micro-nutrients such as Zinc, Iron, Copper, Manganese, Boron, etc. Atleast 125 existing STLs will be strengthened during the 12th Five Year Plan period.

3.2.2 Norms for assistance- Rs. 30 lakhs per/lab for creating micronutrient analysis facilities through purchase of Inductively Coupled Plasma Spectrophotometer ICP)/Atomic Absorption Spectrometer (AAS), its accessories with required chemicals and glassware of standard quality as per indicative list at Annexure-IV.

3.2.3 Normally Existing STLs/MSTLs working under the control of the State Governments/UTs will be eligible for strengthening. For strengthening of STLs having no micro-nutrient analysis facility, performance assessment should be made keeping in view the existing staff before any assistance is given. Only working STLs should be supported. The State Government should carefully study the existing performance level of the STL and whether it requires any process change to achieve higher efficiencies. Moreover, a system of bench-marking should clearly be put in place. State Governments are encouraged to announce clearly defined and transparent guidelines for taking help of private sector as defined in para 1.4 above for operation and management of existing STL and MSTL, along with strengthening under the scheme.

GUIDELINES FOR ESTABLISHMENT OF SOIL TESTING PROJECTS AT VILLAGE LEVEL BY LOCAL ENTREPRENEURS UNDER SOIL HEALTH MANAGEMENT (SHM)

1. Introduction:

Soil Health Management (SHM) is one of the most important interventions under National Mission for Sustainable Agriculture (NMSA). SHM aims at promoting location as well as crop specific sustainable soil health management and judicious application of fertilizers. Under SHM, establishment of soil testing labs in one of the components which are mainly located at district / block level. Therefore, village level soil testing projects will be established with the objective of employment generation for rural youth and to improve timelines in analysis of soil samples.

2. Objectives:

- i. Employment generation for rural youth.
- ii. To improve timeliness in analysis of soil samples.
- iii. Introduction of the Single Window approach from collection to issue of SHC so as to minimize delays and maximize convenience to farmers
- iv. Online delivery of soil health cards to the farmers using Soil Health Card Portal.
- v. Provide soil testing facilities to farmers at their door step.

3. Strategy:

To achieve the above objectives, the following strategies will be adopted:

- (i) Identification of beneficiary and Establishment of Soil Testing Projects in each village
- (ii) The soil analysis process to be completed within one month of receipt of soil samples in the STL i.e starting from March of the year to June month and October & November of the year. The schedule is as under;
 - A. Sampling and registration on portal: 1-10 days
 - B. Analysis of soil samples: 11-20 days
 - C. Uploading of recommendations on the portal: 21-25 days
 - D. Printing and distribution of SHC: 26-30 days.
- (iii) Promote soil sampling, testing and fertilizer recommendation among stakeholders by way of training in District level laboratories.

- (iv) Provide financial assistance to Village entrepreneur (18 – 27 age group).
- (v) Soil Sample collection at village level in the irrigated areas will be drawn in a grid of 2.5 ha. In rainfed areas, sampling will be done in a 10ha. Grid.
- (vi) Soil samples should be processed following standard procedures and analyzed for various parameters viz, pH, electrical conductivity (EC), Organic Carbon, available N, P, K, S and micronutrients (Zn, Cu, Fe, Mn & B).
- (vii) Provide financial assistance for sample collection, testing and printing & distribution of Soil Health Cards.

4. Scheme Structure:

The National Level Advisory Committee, Executive Committee and State Level Committee will remain same as under NMSA.

District Level

The District Level Executive Committee (DLEC) will comprise of the following:

Collector/Deputy Commissioner	Chairman
Deputy Director / District Agriculture Officer	Member Secretary
District Horticulture Officer	Member
Soil Testing Officer	Member
Representative from KVKs/ SAUs	Member

DLEC will be responsible for carrying forward the objectives of the scheme for project evaluation, implementation and monitoring. The office of DD (A) shall be the district nodal agency with following functions:

- (i) Identify beneficiaries / village entrepreneur (18 – 27 years age group) especially from Saansad Adarsh Gram Yojana (SAGY) villages in transparent and time bound manner.
- (ii) Identify the premises for establishment of Soil Health Labs.
- (iii) Submit the proof of procurement of equipment/inputs as per provisions and norms to Director of Agriculture of State for forwarding the same to DAC&FW for disbursement of funds to the beneficiary.
- (iv) Training to the beneficiary will be imparted by Minilab supplier for analysis of soil and water samples using mini labs. Government soil testing laboratories/KVKs/SAUs etc will provide training on sampling, registration and soil health card printing & distribution.

- (v) Monitor & display details of approved programme, all activities undertaken and name of beneficiaries, expenditure incurred etc. at the soil health portal, Panchayat Bhavan / prominent public place in the cluster of village level and get it placed before the concerned Gram Sabha annually from the point of social audit.
- (vi) The jurisdiction of the village level soil testing project will be decided by DLEC. The strategy for soil samples collection will be at 2.5 ha grid from irrigated area and 10 ha grid from rain-fed area.
- (vii) In case of cluster of villages, the Gram Sabha of each village will pass a resolution for setting up of village level soil testing project in a particular village / beneficiary village.
- (viii) One percent of the samples tested by the beneficiary will be rechecked by the soil testing laboratory of the area or any of the STL of the State.
- (ix) The DLEC shall take the decision for the selection of beneficiary and approve it within 30 days from the date of receipt of the application(s).

5. Beneficiary:

- (i) The beneficiary / village level entrepreneur should be a youth in 18-27 years age group especially from Saansad Adarsh Gram Yojana (SAGY) villages.
- (ii) The beneficiary must be qualified at least 2nd division matric with science with knowledge of computer.
- (iii) The applicant shall submit the application along with requisite qualification certificate, PAN Card and Aadhar Card to the office of Deputy Director / District Agriculture Officer.
- (iv) Apart from collection, testing of sample, printing & distribution of cards to farmers, the selected beneficiary shall provide results of soil samples tested along with samples / farmers in excel sheet to the concerned soil testing officer of the area.
- (v) The applicant / beneficiary should have his / her own building for setting up village level soil testing lab or rental building with lease agreement for at least four years.
- (vi) The beneficiary has to submit a bond for running the labs for at least 2 cycles i.e. at least 4 years.

6. Financial Assistance:

To establish a Village Level Soil Testing Project (VLSTP) the maximum project cost is Rs. 5 lakhs. The financial assistance @ 75% of the total cost of project shall be admissible as one time subsidy that will be shared between GOI and State Government on 60:40 basis (90:10 for NE and Hilly States). The remaining 25% cost of the project shall be invested by the entrepreneur at his/her own level.

Timelines:

- (i) State Governments to finalize selection of entrepreneurs and submission of proposal to DAC&FW by September, 2017 end for final approval by the Executive Committee.
- (ii) Entrepreneur to procure mini lab equipment, computers etc by October, 2017 end and furnish necessary documents to DLEC for further furnishing to State Directorate of Agriculture and DAC&FW.
- (iii) DAC&FW to release GOI share to State Government within 20 days from receipt of proposal.

7. Fund flow mechanism for establishment of VLSTP: After receipt of approved VLSTP from the DLEC shall be forwarded to Director Agriculture of the state .Further it will be forwarded to the INM Division, M/o Agriculture and Farmers Welfare, Govt.of India for final sanction and release of the funds. The Executive Committee at DAC&FW will sanction the project and GOI share will be released to the State Government through PFMS.

8. Role of Panchayati Raj Institutions (PRIs)

The State Government and other designated implementing agencies, to the extent possible, will ensure active participation of the Panchayati Raj Institutions (PRIs) in the implementation of this Scheme.

9. Monitoring:

District Agriculture Officer will be responsible for monitoring of the projects as it is to be implemented under his guidance and targets / time table is fixed by him.

10. Impact Assessment, Periodic Evaluation and Reporting

- (i) DAC&FW will evaluate efficacy of this Scheme through a 'third party'. The agency will assess the efficacy, performance, outcome and shortcomings of the scheme and recommend suitable corrective measures.
- (ii) Information and communication technology will be deployed extensively for ensuring transparency in the implementation process and effective monitoring of the programme.

11. Expected Outcome

- (i) It will promote balanced and judicious use of plant nutrients.
- (ii) The demand for organic sources of plant nutrient like bio-fertilizers, organic manure, vermi-compost, slow release nitrogenous fertilizer like neem/sulphur coated urea will increase, which in turn improve the soil fertility as well nutrient use efficiency.

12. Training of Beneficiary:

The training programme to be organized for Beneficiary on Importance of Soil testing in Soil Fertility Management; Sampling Methodology; Testing protocols; Interpretation of soil test results and calculation of nutrient requirement; Cropping system based nutrient management & Importance of balanced nutrition on productivity and quality of produce and soil health maintenance etc.

13. Financial Structure of the project of soil testing up to 3000 samples per annum:

Item	Details	Cost
Purchase of machinery & equipment, chemicals & glass wares, miscellaneous laboratory articles.	1. Mini lab with accessories	- 1.00
	2. Glass wares	- 0.25
	3. Electronic balance	- 0.25
	4. Analytical balance	- 0.15
	5. Drying oven	- 0.35
	6. Distillation unit, sieving system, electric/ water filters, etc.	- 0.50
Purchase of IT equipments	1. Computer,	- 0.50
	2. Printer,	-0.30
	3. Scanner,	
	4. Hand held Device	- 0.20
Contingency Expenditure	1. Electricity & water connectivity & supply Bill	- 0.30
	2. Broad band/ Telephone connection & Charges	- 0.40
	3. Stationary	- 0.50
	4. Annual Maintenance Cost (AMC)	-0.30
Total cost of the project		Rs. 5.00 lakh

Note: The cost break up is tentative; the entrepreneur has inter-component flexibility. It will be one time assistance.

14. Sample Collection and Testing Charges applicable:

Sample collection, testing and generation & distribution of soil health card to farmers – Rs 300/ sample

15. Procedure for Approval & Fund Flow Mechanism of testing charges:

- a) Funds for sample collection, testing and generation / distribution of soil health card would be released by State Government under Soil Health Card scheme to the beneficiary in two Installments. 50 % on the registration on the portal and 50% after delivery of SHC to farmers.
- b) The bank account of the beneficiary should be linked to the soil health portal.
- c) In case, the soil samples are provided by the State Government for analysis, then the payment would be deducted accordingly.

Work Flow Chart

