सत्यमेव जयते

OPERATIONAL GUIDELINES

FOR

PRADHAN MANTRI RASHTRIYA KRISHI VIKAS YOJANA

(PM-RKVY)

Department of Agriculture & Farmers welfare

Ministry of Agriculture & Farmers Welfare

Government of India

Krishi Bhawan, NewDelhi-110001

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Abbreviations	
AAP	Annual action Plan
AIBP	Accelerated Irrigation Benefit Programme
ATMA	Agriculture Technology Management Agency
BIS	Bureau of Indian Standards
BOQCL	Bio-fertilizer and Organic Fertilizer (organic manures) Quality Control Laboratory
CAFRI	ICAR-Central Agroforestry Research Institute
CDP	Crop Diversification Programme
CHC	*Custom Hiring Centre*
CIPET	Central Institute of Plastics Engineering and Technology
CRM	Crop Residue Management
CSIR	Council of Scientific and Industrial Research
CST	Central Sales Tax
DA&FW	Department of Agriculture & Farmers Welfare
DAPST	Development Action Plan for Scheduled Tribes
DBT	Direct Benefit Transfer
DIP	District Irrigation Plan
DLIC	District Level Implementation Committee
DoLR	Department of Land Resources
DONER	Development of North Eastern Region
DPR	Detailed Project Report
DRDA	District Rural Development Agency
EC	Executive Committee
EMD	*Earnest Money Deposit*
FMBs	Farm Machinery Banks
FMTTI	*Farm Machinery Training and Testing Institutes*
FPOs	Farmer Producer Organizations
FQCLs	Fertilizer Quality Control Laboratories
FRA	Forest Right Act
GoI	Government of India
HDPE	High Density Polyethylene
HP	Horse Power
HRD	Human Resource Development
ICAR	Indian Council of Agricultural Research
ICAR.	Indian Council of Agricultural Research
ICFRE	Indian Council of Forest Research & Education
ICRAF	International Centre for Research in Agroforestry
ICT	Information Communication Technology
IDWG	Inter Departmental Working Group
IEC	Information Education and Communication
IFS	Integrated Farming System

IMD	Indian Meteorological Department
INM	Integrated Nutrient Management
IPPE	Intensive Participatory Planning Exercise
ISRO	Indian Space Research Organisation
IT	Information Technology
IWMP	Integrated Watershed Management Programme
KCC	Kisan Credit Card
KVK	Krishi Vigyan Kendra
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
Mha	Million Hectare
MI	Micro Irrigation
MIDH	Mission for Integrated Development of Horticulture
MIS	Micro Irrigation System/Management Information System
MLALAD	Member of Legislative Assembly Local Area Development
MoA	Ministry of Agriculture
MoJS	Ministry of Jal Shakti
MoRD	Ministry of Rural Development
MPLAD	Member of Parliament Local Area Development
NABARD	National Bank for Agriculture & Rural Development
NABCONS	NABARD Consultancy Services
NAC	National Advisory Committee
NCONF	National Centre of Organic and Natural Farming
NCPAH	National Committee on Precision Agriculture and Horticulture
NEC	National Executive Committee
NEH	North Eastern & Himalayan States
NER	North Eastern Region
NFNSM	National Food and Nutrition Security Mission etc
NGO	Non-Governmental Organisation
NICRA	National Initiative for Climate Resilient Agriculture
NMEO-OS	National Mission on Edible Oil-Oilseeds
NMSA	National Mission on Sustainable Agriculture
NRAA	National Rain-fed Area Authority
NRM	Natural Resource Management
NSC	National Stewardship Council
PAC	Project Approval Committee
PDMC	Per Drop More Crop
PFMS	Public Financial Management System
PGS	Participatory Guarantee System
PKVY	Paramparagat Krishi Vikas Yojana
PMJUGA	Pradhan Mantri Janjatiya Unnat Gram Abhiyan
PM-RKVY	Pradhan Mantri Rashtriya Krishi Vikas Yojana
PMU	Project Management Unit

PPPAVCD	Public- Private Partnership for Agriculture Value Chain Development
PRIs	Panchayati Raj Institutions
PSU	Public Sector Undertaking
QPM	Quality Planting Materials
R&D	Research & Development
RAD	Rainfed Area Development
RKVY-MIS	RKVY-Management Information System
SAIDP	State Agriculture Infrastructure Development Programme
SAP	State Agriculture Plan
SAU	State Agricultural Universities
SH&F	Soil Health and Fertility
SHC	Soil Health Card
SHGs	Self Help Groups
SHM	Soil Health management
SLEC	State Level Executive Committee
SLSC	State Level Sanctioning Committee
SMAE	Sub Mission on Agricultural Extension
SMAM	Sub- Mission on Agriculture Mechanization
STLs	Soil Testing Laboratories
UTs	Union Territories
VLSTLs	Village Level Soil Testing Labs

1. Introduction

Rashtriya Krishi Vikas Yojana (RKVY) was initiated in FY 2007-08 as an umbrella scheme for ensuring holistic development of agriculture and allied sectors by allowing States to choose their own agriculture and allied sector development activities as per the State Agriculture Plan. Till 2013-14, the scheme was implemented as an Additional Central Assistance(ACA) to State Plan Scheme with 100% central assistance. It was converted into a centrally sponsored scheme in 2014-15 with 100% central assistance. Later on, the funding pattern of the scheme was changed in 2015-16 and the ratio of central share and state share was fixed to 60:40 (except for NER States and Himalayan States where it has been kept as 90:10). For Union Territories the funding pattern is 100% central grant.

Based on the recommendations of Expenditure Finance Committee and feedbacks received from States and NITI Aayog, RKVY has been restructured as a cafeteria scheme by merging the seven Central sponsored schemes and renamed as **Prime Minister-Rashtriya Krishi Vikas Yojna (PM-RKVY**) with the vision to enhance efficiency, efficacy and to avoid duplications, ensure convergence and provide flexibility in planning to the State Governments.

The components of the PMRKVY are as follows: -

i) Detailed Project Report (DPR)
ii) Per Drop More Crop (PDMC)
iii) Sub- Mission on Agriculture Mechanization (SMAM) including Management of Crop Residue (CRM)
iv) Soil Health and Fertility (SH&F)
v) Paramparagat Krishi Vikas Yojna (PKVY)
vi) Rain Fed Area Development (RAD)
vii) Agro- Forestry
viii) Crop Diversification Programme (CDP)
ix) Accelerated Fund for Agri Start-Up

The restructured PM-RKVY will continue to be implemented as Centrally Sponsored Scheme.

2. Objectives:

The main objective of PM-RKVY scheme is to provide flexibility & autonomy to States for implementing projects as per the local and farmers' needs and priorities in agriculture sector to enhance production and productivity for making farming as a remunerative economic activity.

The scheme also aims to support and scale up the startups under innovation and entrepreneurship in various fields of agriculture and allied sectors to enhance income of farmers and to create employment opportunities for the youth.

Specific objectives of the components under PM-RKVY are as follows:

I. DPR:

- To strengthen the farmers' efforts through creation of required pre & post-harvest in agriculture and allied sectors that help in supply of quality inputs, storage, market facilities, etc. to farmers.
- To provide flexibility and autonomy to States to plan & implement projects as per the local and farmers needs and priorities from a bouquet of activities in agriculture and allied sectors.
- To fill the resources, gap of agriculture and allied sectors by providing financial support to States for undertaking various activities to increase overall growth of agriculture and allied sectors and farmers' income.
- To promote agriculture and allied sectors activities of national priorities through specific initiatives as per the needs from time to time to mitigate specific problems to enhance production and productivity.

II. PDMC:

- To increase the area under Micro Irrigation technologies in agriculture to enhance water use efficiency.
- To increase productivity of crops and income of farmers through precision water management.
- Promote micro irrigation technologies in water intensive/consuming crops like sugarcane, banana, cotton, paddy etc. and give adequate focus to extend coverage of field crops under micro irrigation technologies.

- To make potential use of micro irrigation systems for promoting fertigation.
- To promote micro irrigation technologies in water scarce, water stressed and critical ground water blocks/districts &water intensive/consuming crops like sugarcane, banana, cotton, paddy etc.
- To link tube-well/river-lift irrigation projects with micro irrigation technologies for best use of energy both for lifting and pressurized irrigation as far as possible.
- To establish convergence and synergy with activities of on-going programmes and schemes, particularly with created water source for its potential use, integration of solar energy for pressurised irrigation etc.
- To promote, develop and disseminate micro irrigation technology for agriculture and horticulture development with modern scientific knowledge
- To support the initiatives of reuse of waste water in Agriculture/peri-urban Horticulture through micro irrigation systems.
- To create employment opportunities for skilled and unskilled persons, especially unemployed youth for installation and maintenance of micro irrigation systems.

III. SMAM:

- To increase the reach of farm mechanization to small and marginal farmers and to the regions where availability of farm power is low;
- To Promote Custom Hiring Services of agricultural machines to offset the adverse economies of scale arising due to small landholding and high cost of individual ownership;
- To create awareness among stakeholders through demonstration, capacity building activities and differentiated Information, Education and Communication strategies;
- To ensure performance testing and certification at designated testing centers located all over the country;

(a) CRM:

- To protect environment from air pollution and preventing loss of nutrients and soil micro-organisms caused by burning of crop residue;

- To promote management of crop residue by retention/incorporation into the soil and establishing appropriate supply chain for further utilization through the deployment of appropriate mechanization inputs;
- To create awareness among stakeholders through demonstration, capacity building activities and differentiated Information, Education and Communication strategies for effective utilization and management of crop residue.

IV. SH&F:

- To issue need based Soil Health Cards to the farmers in the country, so as to provide a basis to address nutrient deficiencies in fertilization practices.
- To strengthen functioning of Soil Testing Laboratories (STLs) through capacity building, involvement of agriculture students and effective linkage with Indian Council of Agricultural Research (ICAR)/State Agricultural Universities (SAUs).
- To diagnose soil fertility related constraints with standardized procedures for sampling uniformly across states and analysis and design taluka/block level fertilizer recommendations in targeted districts.
- To develop and promote soil test based nutrient management in the districts for enhancing nutrient use efficiency and build capacities of progressive farmer for promotion of nutrient management practices.
- To ensure quality control requirements of fertilizers, bio-fertilizers and organic fertilizers under the Fertilizer (Control) Order (FCO), 1985, including revision of standards and testing protocols keeping in view the advances in research and technology and covering organic inputs under quality control regime.
- To promote Integrated Nutrient Management (INM) through judicious use of chemical fertilizers, including secondary and micronutrients, in conjunction with organic manures and bio-fertilizers, for improving soil health and its productivity.
- To support augmentation and strengthening of soil and fertilizer testing facilities
- To provide support to School Soil Health Programme
- To provide support to RAWE Programme for Agriculture Graduates

V. PKVY:

- To promote natural resource based integrated and climate resilient sustainable farming systems that ensure maintenance and increase of soil fertility, natural resource conservation, on-farm nutrient recycling and minimize dependence of farmers on external inputs;

- To reduce cost of agriculture to farmers through sustainable integrated organic farming systems thereby enhancing farmer's net income per unit of land
- To sustainably produce chemical free and nutritious food for human consumption.
- To protect environment from hazardous inorganic chemicals by adoption of ecofriendly low cost traditional techniques and farmer friendly technologies
- To empower farmers through their own institutional development in the form of clusters and groups with capacity to manage production, processing, value addition and certification management;
- To make farmers entrepreneurs through direct market linkages with local and national markets

VI. RAD:

- To undertake location specific and landscape-based approach to dry-land areas to ensure natural resources conservation and sustainable use, strengthening of agriculture production systems and livelihood development through integration/convergence of schemes in an area based approach.
- To make agriculture more productive, sustainable, remunerative and climate resilient by promoting location specific Integrated/Composite Farming Systems;
- To conserve natural resources through appropriate soil and moisture conservation measures;
- To develop capacity of farmers and stakeholders in conjunction with other ongoing Missions such as National Food and Nutrition Security Mission, National Initiative for Climate Resilient Agriculture (NICRA) etc., in the domain of climate change adaptation measures;
- To improve the productivity of rainfed farming by mainstreaming rainfed technologies refined under All India Coordinated Research Project on Dry land Agriculture (AICRPDA-NICRA) and by leveraging resources/provisions made under other Govt Schemes.

VII. Agro Forestry:

- To encourage and expand tree plantation in a complementary and integrated manner with crops to improve productivity, additional income generation and improved livelihoods of rural households, especially the small farmers.
- To ensure the availability of Quality Planting Materials (QPM) like seeds, seedlings, clones, hybrids, improved varieties, etc. Quality Planting Material (QPM) of healthy, resilient and adaptable nursery stock raised through seed or vegetative propagation with an overall goal to improve the quality of the plants available to farmers and growers.
- To popularize various agroforestry practices/models suitable to different agro-ecological regions and land use conditions through demonstration plots.
- To create a database, information and knowledge support in the area of agroforestry & to provide Research & Development (R&D), extension and capacity-building support to the agroforestry sector.
- To identify and catalyze linkages with traditional and emerging markets for the timber and non-timber products generated from agroforestry plantation on farmland including Bio-fuels, matchwood, plywood, silk, fiber, lac, beauty and wellness sector, handicrafts, construction, etc.
- To promote value addition and processing of agroforestry produce by creating 2 3-1/2021-NRM-SMAF I/25439/2023 collection and post-harvest facilities for additional income generation by farmers.
- To provide use of modern technology for monitoring and evaluation (M&E) on the impact of agroforestry in agro-ecology.

VIII. CDP:

- To demonstrate and promote the improved production technologies of alternate crops for diversion of paddy cultivation;
- To restore the soil fertility through cultivation of leguminous crops that generates, heavy biomass and consume lesser nutrient intake crops.

3. Eligibility Criteria:

PM-RKVY being a Centrally Sponsored Scheme, all States & UTs will be eligible for funding under PM-RKVY.

4. Inter-state allocation:

Criteria for interstate allocation is given under the programme components at **Annexure IV**

5. Cost Norm & Pattern of Assistance:

The cost norms and pattern of assistance applicable for DPR and each of the AAP components of PM-RKVY is elaborated in details in para 13 of this guideline**.** The funding pattern of the schemes will be in the ratio of 60:40 between centre and state except of 90:10 for NER states and Himalayan states. For UTs the funding pattern will be 100% central grant.

6. Nodal Department for PM-RKVY:

Agriculture Department of the States/UTs shall be the nodal department and Principal Secretary Agriculture/ACS Agriculture / Agriculture Production Commissioner will be the nodal officer for implementation of the PM-RKVY scheme. For administrative convenience and ease of implementation, State Governments may identify or create an exclusive agency for implementing the scheme on a fast-track basis. Even where such an Agency is created/designated, the entire responsibility of ensuring proper implementation of each components of PM-RKVY scheme rests with the Agriculture Department of the State. In a situation where the States notify a Nodal Agency, the costs of running the agency, will have to be met by them from within the 2.5% limit of allocation available under PM-RKVY for administrative expenditure. States may supplement any administrative expenditure in excess of the 2.5% limit, from their own resources.

The Agriculture Department / nodal agency will be also responsible for the following:

- Effective coordination, preparation and appraisal of projects, implementing, monitoring and evaluation with various Departments and implementing Agencies.
- Management of funds received from the Central Government and State Government and its disbursement to the implementing agencies.
- Furnishing of utilization certificates (including uploading UCs in PFMS) and reporting

monthly/ quarterly physical & financial progress to the Department of Agriculture & Farmers Welfare.

- To update the web enabled IT based Management Information System of various components of PM-RKVY regularly

7. State Level Sanctioning Committee (SLSC):

A State Level Sanctioning Committee (SLSC) headed by the Chief Secretary of the concerned State/UT will recommend and submit the consolidated Annual Action Plan (AAP) under each component (both DPR and AAP) of PM-RKVY to Government of India (GoI). The composition of SLSC is at **Annexure V**

SLSC should meet twice a year or as and when required to review the implementation of the scheme.

Roles and Responsibilities of SLSC

- To prepare and submit proposals to GoI as per approved guidelines and cost norms of the respective schemes up to a maximum of 125% of the amount allocated to the State under PM-RKVY in the prescribed format given at **Annexure I.**
- In case of projects having implementation period spanning more than one financial year, year-wise phasing of expenditure along with targets/milestones shall be specifically mentioned in the minutes of the SLSC meetings.
- To implement the sanctioned projects under PMRKVY as per the guidelines.
- To ensure that all extant procedures and instructions of the GoI are followed so that the expenditure incurred on implementation of the projects is the barest minimum with due concern for economy in expenditure and also in conformity with the canons of financial propriety, transparency and probity.
- To ensure that adequate coverage of small and marginal farmers, Scheduled Castes, Scheduled Tribes, Patta holders under FRA act, women and other weaker segments of society is to be given while selecting beneficiaries under any components of RKVY so that the benefits of implementation of a particular component of the scheme is received by the intended beneficiaries in accordance with guidelines and policies of the Government.

8. Project Approval Committee (PAC):

There will be a PAC under the Chairmanship of Secretary, DA&FW, Government of India consisting of Divisional Heads of the Department and other senior Officers to examine, deliberate and approve the AAP submitted by the States under PM-RKVY. The composition of the PAC is as follows:

S. No.	Designation	
1	Secretary, Department of Agriculture & Farmers Welfare	Chairman
2	Additional Secretary & Financial Advisor	Member
3	Additional Secretary, DA&FW	Member
4	Joint Secretary (RKVY)	Member
5	Joint Secretary (PDMC)	Member
6	Joint Secretary (RAD/Agro Forestry)	Member
7	Joint Secretary (M&T)	Member
8	Joint Secretary (INM)	Member
9	Joint Secretary (Crops)	Member
10	Joint Secretary (MIDH)	Member
11	Joint Secretary (Seeds)	Member
12	Agriculture Commissioner	Member
13	Horticulture Commissioner	Member
14	Joint Secretary (PC)	Member Secretary

9. Planning & Sanctioning of Schemes:

The extant process of formulation and approval of DPR and AAP components of PM-RKVY will be as follows:

i) A tentative interstate allocation of funds will be communicated to the State Governments for DPR & AAP component of PM-RKVY.

ii) A consolidated component-wise project proposal i.e. AAP/DPR shall be prepared

in the prescribed format incorporating all essential details like feasibility studies, competencies of the implementing agencies, outputs/outcomes framework, time-lines for implementation etc.

iii) Agriculture Department / Nodal department at state level will propose projects up to a maximum of 125% of the amount allocated to the state.

iv) Consolidated AAP should clearly indicate the year- wise physical & financial targets proposed under each project.

v) A meeting of SLSC will be convened to scrutinize /examine the projects proposed by Nodal Department and submit the consolidated AAP for approval by GoI.

vi) There will be flexibility to States for re-apportion of up to 50% of allocation for the component from one AAP component to another AAP component of RKVY. However, re-apportion of the allocation from AAP component to DPR component or vice versa is not permissible.

vii) In case one or more AAP components is not feasible to be implemented in a State due to low demand or some specific reasons, they may be allowed to transfer funds allocated for that component to another component of their choice after taking due approval of SLSC.

viii) RKVY Division, at the end of financial year, will reconcile the component wise expenditure with the approved outlay and necessary adjustments will be done while making interstate allocation in subsequent years.

ix) The nodal department of the States shall ensure that PM-RKVY projects/activities should not create duplication or overlapping of assistance/area coverage vis-à-vis other scheme/programmes of State/Central Government.

x) A presentation of all AAP & DPR components of PM- RKVY will be made by the State Agriculture Secretary to Project Approval Committee under the Chairmanship of Secretary, DA&FW. GoI will convey the approval of the consolidated AAP along with specific comments for each of the projects to the state.

xi) SLSC/State will ensure that no project shall be undertaken for implementation if GOI has not supported the project during AAP meeting.

xii) Further, if any new project(s) is deemed important for implementation under PM-RKVY by the State during the FY, the Nodal Department may send the DPR of the project(s) to GoI with the consent of SLSC. After detailed examination and deliberations of the projects by the respective divisions, GoI will convey the

approval of the AAP to the states. The projects have to be undertaken within the approved allocation of the state.

xiii) States will be allowed to utilize fund available in PM- RKVY scheme for any component as an interim measure to ensure that activities of the particular component of the scheme is not affected for want of funds. However, the activity for which the fund released under various components should be completed without any exception by the States subsequently by replenishing the appropriate amount in respective components.

10. Release of Funds:

PM-RKVY scheme funds will be released to the States/UTs subject to compliance of conditions prescribed by Department of Expenditure, Govt. of India & fulfillment of the following conditions:

- Submission of 100% Utilization Certificates (UCs) of the funds released up to the previous financial year;
- Submission of physical and financial progress report in the specified format.

The format for submitting Utilization Certificate is given at **Annexure III**

If a State fails to avail their full allocation, the balance funds may be re-allocated to better performing States.

The Nodal Agency/Nodal Department of the State/UT shall ensure that component-wise as well as project-wise accounts are maintained by the Implementing Agencies and are subjected to the normal process of statutory audit.

An inventory of the assets created under PM-RKVY projects should be carefully maintained and assets that are no longer required should be transferred to the Nodal Department, for its use and re-deployment wherever possible. Nodal Agency/Department of the States/UTs should ensure that the Central Assistance released under the scheme is utilized in accordance with the approved AAP.

All implementing agencies are required to maintain subsidiary accounts of the grants-in-aid and get the same audited from a Chartered Accountant.

Grants in aid will be released as per provisions regarding release of funds contained in GFR 2017 and instruction issued in this regard by Government of India from time to time

11. Pradhan Mantri Janjatiya Unnat Gram Abhiyan :

Ministry of Tribal Affairs has launched Pradhan Mantri Janjatiya Unnat Gram Abhiyan (PMJUGA) with an aim to improve the socio-economic condition of the tribal communities by adopting saturation coverage for tribal families in tribal-majority villages and Aspirational Districts. The Mission will cover approximately 63000 villages viz. (i)Villages with population of 500 or more and with at least 50% Scheduled Tribe population and (ii)Villages in Aspirational Districts with 50 or more Scheduled Tribes. Dovetailing schemes and beneficiary identification (FRA Patta Holders) is to be undertaken effectively while implementing schemes so as to achieve the Mission objectives.

Department of Agriculture & Farmers Welfare, has been included as one of the priority sector for the Mission. The financial assistance to these FRA patta holders would be provided from Development Action Plan for Scheduled Tribes (DAPST) Funds. While implementing PM-RKVY scheme, priority should be given to such villages identified for PMJUGA and inclusion of FRA patta holders should be ensured while selecting beneficiaries. **However, the beneficiary share in respect of patta holders under FRA act will be 10% only in each of the components of PM-RKVY**

12. Aspirational Districts and Vibrant Villages:

While implementing the PM-RKVY scheme, priority should be given to Aspirational Districts and Vibrant Villages identified by the Government. States should ensure that these Aspirational Districts and Vibrant Villages, if falling in their States, should necessarily be included in the State Annual Action Plan so that more beneficiaries falling in the Aspirational Districts and Vibrant villages are covered under the Scheme

13. Timelines:

As far as possible, the following timeline will be adhered to by the Centre and States.

Communication of allocation to States by GoI	By 30th November
AAP submission by the States with the approval of SLSC	By 31st December
Presentation of AAP/DPR by States to PAC, DA&FW	January- February
Communication of GoI approval to States	By 30th March
Issuance of Mother Sanction/ Release of funds	First week of April

14. Implementation of Programme Components under PMRKVY

The restructured PM-RKVY scheme has following components:

A. DPR based component.

B. Annual Action Plan (AAP)component.

C. Start-up & Accelerated Fund component.

A. DPR Based Component:

This component will be implemented in a project-based mode. States/UTs will have the flexibility with the option of proposing projects related to agriculture and allied sectors (**excluding** Animal Husbandry and Fisheries) for creation of infrastructure, production growth, innovative projects etc. States may also take up projects under the scheme in Public- Private Partnership for Agriculture Value Chain Development (PPPAVCD) mode that provide additional income to farmers. A revised framework for implementing projects under PPPVCD framework has been issued separately by DA & FW.

A maximum of 30% of total outlay will be earmarked for Detailed Project Report (DPR) component including Administrative charges and Startup component. **In case of NER & Himalayan states i.e. Uttarakhand, Himachal Pradesh & UTs, the ceiling will be maximum 50 % of the total outlay.**

Inter State Allocation of Funds:

The quantum of assistance (or fund allocation) to the States will be in accordance with the parameters and respective weights as explained in **Annexure-IV**

Cost Norms:

DPR is a gap filling scheme wherein projects related to agriculture and other sectors for creation of infrastructure and innovative projects that do not fit into the template of existing schemes of DA&FW are to be proposed by the States.

Activities proposed under RKVY-DPR like creation of infrastructure and value addition linked production are generally covered under various ongoing schemes/programmes of Central Government viz. Deptt. of Agriculture and Farmers Welfare, Deptt. of Land Resources, Ministry of Water Resources, Ministry of Food Processing Industries, Ministry of New & Renewable Energy, Ministry of Rural Development etc.

- Technical requirements/standards and financial norms (cost norms and pattern of assistance) etc. specified for these schemes will also be applicable for RKVY-DPR.
- In the absence of such criterion in respect of any component in Central Plan Scheme, norms and conditions prescribed by respective State Governments for their schemes may be applied.
- In cases where no Central / State Govt. norms are available, a certificate of reasonableness of the proposed project will in variably be given by SLSC.

For infrastructure and assets projects, 100% assistance will be provided if these are to be executed by public sector through PPPAVCD mode. In case of projects taken by Private sector under PPPAVCD, the assistance will be 50% &25% for infrastructure projects and production oriented projects respectively. States may refrain from undertaking activities/components as illustrated in **Annexure-VI** under RKVY–DPR component.

Preparation of DPR:

DPR component of PM-RKVY will be implemented as a project-based scheme. Thus, DPRs shall have to be prepared and submitted by the states in the format given at **Annexure VII** incorporating all essential details i.e. feasibility studies, competencies of the implementing agencies, anticipated benefits (outputs/outcomes) that will flow to the farmers/ State, definite time-lines for implementation etc.

In case of large projects costing more than Rs. 25 crore, DPRs should be subjected to third party 'techno-financial evaluation' and circulated well in advance to concerned Central Ministries for obtaining comments/observations.

DPRs for all projects should certify that there would be no duplication of funding and/or taking up similar activities as in other Plan schemes of Central/State Government. The projects under DPR should be prepared for the following:

i **Creation of Infrastructure and Assets:** States can establish pre and post-harvest infrastructure in agriculture and allied sectors under DPR component of RKVY. Projects will preferably emanate from State Agriculture Plan (SAP) or State Agriculture Infrastructure Development Programme (SAIDP) that States prepare for the Finance

Commission.

The Asset Building activity consists of creation of various assets like tissue culture labs, cold storage facilities, infrastructure for sorting, grading, vermin compost units, labs for production of bio control agents, soil testing labs, etc. The illustrative List of Projects that can be funded under DPR component of RKVY (Infrastructure &Assets) is given at **Annexure VIII**

While a number of infrastructure items are covered under Rural Infrastructure Development Fund (RIDF) and Viability Gap Funding (VGF) of the Ministry of Finance, DPR funds should supplement those sources and not replace them. In any case, quantum of assistance under RKVY should not exceed assistance under VGF. Recurring expenditure to the extent of human resources requirement on contractual basis and chemical components to run the testing labs will be allowed under the ceiling of 2.5% administrative expenditure

ii **Production growth:** Under this, states can take up innovative projects that take care from production to marketing of any agriculture sector activities. An illustrative list of activities which may be taken up under DPR component for production growth is given at **Annexure IX**

B. Annual Action Plan (AAP) component:

AAP component will comprise of seven schemes i.e SH&F, PKVY, RAD, PDMC, SMAM including CRM, Agro-forestry and CDP. A minimum of 70% will be allocated for Annual Action Plan (AAP) component including Administration, Monitoring and Evaluation purposes. In case of NER & Himalayan states i.e Uttarakhand, Himachal Pradesh & UTs, the ceiling will be minimum of 50 % of the total outlay.

Detailed guidelines for implementation of these sub components are as follows.

B.1 Per Drop More Crop:

Per Drop More Crop (PDMC) focuses on enhancing water use efficiency at farm level through Micro Irrigation viz. Drip and Sprinkler irrigation systems.

B.1.1 Salient Features:

i. Per Drop More Crop (PDMC) is a Centrally Sponsored Scheme implemented by the Department of Agriculture and Farmers Welfare (DA&FW) from the year 2015-16 to promote micro irrigation in the Country to benefit the farmer community. As a part of the restructuring/rationalization of the schemes of DA&FW, PDMC Scheme is being implemented under Rashtriya Krishi Vikas Yojana (RKVY) from the year 2022-23.

ii. District Irrigation Plans (DIP) is the cornerstone for planning and implementation of PDMC which identifies gaps in irrigation chain after taking into consideration currently available resources and resources that would be added from ongoing schemes, both State and Central.

iii. The Annual Action plans is to be drawn from District Irrigation Plans.

iv. State irrigation plan focuses on cluster based approach and integrated development of different components in the irrigation chain.

v. The scheme is to be implemented through the mechanism of Direct Benefit Transfer (DBT). Aadhaar details of the beneficiary are required to avail the benefit of the programme. Aadhaar details need to be linked through a web based registration process. States/UTs should ensure disbursement of subsidy in a time bound manner.

vi. The scheme will be monitored through web-portal of PDMC. Physical and Financial progress achieved during the preceding month is required to be up- loaded by states

on the web-portal of PDMC.

vii. More focus be given on promotion of micro irrigation in rainfed areas and also for water intensive/guzzling crops to minimize water requirement.

viii. The pattern of assistance payable to the beneficiary under the micro irrigation scheme will be 55% for small and marginal farmers and 45% for other farmers.

ix. The subsidy payable to the beneficiary will be limited to an overall ceiling of 5 hectare per beneficiary. Those beneficiaries, who have already availed subsidy benefits for his /her farm, would be eligible for subsidy again for the same land only after the end of projected life of the micro irrigation system which is 7 years.

x. The subsidy payment will be limited to the unit costs specified in the Operational Guidelines of the scheme. 25% higher amounts will be taken into calculation of subsidy for the North Eastern, Himalayan States and UTs of JK & Ladakh and 15% higher for States with low penetration of Micro Irrigation.

xi. Only BIS marked systems/components can be supplied under the scheme.

xii. The registration of manufacturers/companies under the scheme will be for a period of 5 years. The registration will be open round the year. The registration will, however, be subject to satisfactory performance by the company. In case of violations, penalty provisions have been specified in the guidelines. Repeated failures will lead to de-registration of the company with the approval of SLSC.

xiii. The company will provide free service after sales to the beneficiary for a period of at least three years from the date of installation of the system. If it fails to provide free after sales service, action as appropriate similar to other consumer products may be initiated.

xiv. In case the company intends to supply imported components, it shall be eligible for subsidy under the scheme subject to indigenization of manufacturing of the component within the country in a period of two years.

xv. Human resource development is an important component of the scheme and suitable provisions have been made in the guidelines for creating awareness, organizing training programs, Skill development and exposure visits etc.

B.1.2 Institutional Architecture

Per Drop More Crop will have the following institutional structure.

National Stewardship Council (NSC): National Stewardship Council(NSC)under the Chairmanship of Secretary (DA&FW) with the following members will be constituted to provide strategic direction for guidance and planning for effective implementation of the scheme;

S. No.	Designation	
1	Secretary, Department of Agriculture & Farmers Welfare	Chairman
2	Additional Secretary & Financial Advisor	Member
3	Additional Secretary, DA&FW	Member
4	Representative from Ministry of Water Resources	Member
5	Representative from Ministry of Rural Development	Member
6	Representative from Department of Agricultural Research & Education	Member
7	Representative from Department of Land Resources	Member
8	Joint Secretary (INM)	Member
9	Joint Secretary (Crops)	Member
10	Joint Secretary (RKVY)	Member
11	Technical Expert of National Rainfed Area Authority (NRAA)	Member
12	Director, Water Technology Center (WTC), ICAR	Member
13	Horticulture Commissioner	Member
14	Joint Secretary (NRM & RFS)	Member Secretary

Representative from three State Implementing Departments/Agencies; One representative from Precision Farming Development Centres (PFDC); One Micro Irrigation System Manufacturer/Industry; President/Representative of the Irrigation Association of India(IAI) and representative from two FPOs/farmers' cooperatives may be invited as special invitees.

Inter Departmental Working Group (IDWG): At the State level, under the Chairmanship

of Agriculture Production Commissioner/ Development Commissioner with Secretaries of line departments as members will be constituted to coordinate the planning and implementation of the scheme. States may take the advice/input of MI manufacturers by inviting representative from manufacturers/Micro Irrigation Industries /Irrigation Association of India (IAI) as special invitee in such Committees.

District Level Implementation Committee (DLIC): Under the Chairmanship of Collector/District Magistrate/CEO of Zila Parishad/ PD DRDA, Joint Director/Deputy Director of line departments in the district and progressive farmers, representative of MI industry, and leading NGO as members to oversee implementation of the scheme and inter-departmental coordination

B.1.3 District and State Irrigation Plans (DIPs & SIPs):

District Irrigation Plans (DIPs) are the cornerstone for planning and implementation of different schemes related to irrigation which will identify gaps in irrigation infrastructure after taking into consideration the District Agriculture Plans (DAPs) vis-à-vis irrigation infrastructure currently available and resources that would be added from ongoing schemes, both State and Central.

DIPs present holistic irrigation development perspective of the district outlining medium to long term development plans integrating three components viz. water sources, distribution network and water use applications.

The annual action plans for Per Drop More Crop will be drawn from DIPs and implemented in conjunction with the water sources created under convergence with other State/Central schemes.

Strategies:-

i. Priority should be given for promoting micro irrigation technologies in rainfed areas. More focus should be given to water scarce, water stressed and critical ground water blocks/districts to conserve water and get extended coverage in terms of area and time period for life saving irrigation.

ii. It is desirable to make potential use of the available water for sustained growth in agriculture sector. Preference should be given to adopt Micro Irrigation technology in water guzzling crops like sugarcane, cotton, banana etc. and the state implementing agencies should take suitable steps like publicity campaigns, policy provisions &

sharing responsibilities with the Micro Irrigation industry so that adoption of technology is initiated in such crops. Industry related to the specific crops like sugar factories should be actively involved in promotion of micro irrigation to their farmers through incentivisation and technical supervision. Apart from horticulture and water guzzling crops, cereals and pulses may also be brought under the ambit of Micro irrigation.

iii. In all the new irrigation commands where hydraulic heads are available, drip irrigation systems need to be encouraged as it can be operated without additional energy support.

iv. Facilities of micro irrigation is under utilized if it is not used for fertigation. States should encourage the use of liquid fertilizers using micro irrigation systems. Availability of liquid fertilisers, awareness among farmers on the benefits of fertigation need to be given desired attention for promoting fertigation.

v. Efforts may be made for integration of micro irrigation with solar pumping units. A solar water pump has a mini power house at its heart and consists of a calibrated and matching solar array of modules – tuned with the equivalent power of pump for that particular application. The solar water pumping system is capable of running all types of electrical water pumps with applications varying from irrigation to household demands. Irrigation pumps such as submersible, surface or deep well can also be coupled with drip irrigation systems to enhance the returns from this configuration. A 2000 Watt Peak (WP) solar water pump is capable of drawing and pumping approximately 80,000 litres of water per day from a source that is up to 10 meters deep. This is sufficient to irrigate about 1 ha of land with regular crops.

vi. The available water sources or the new sources those are being created need to be used in best possible manner to fulfil the vision of "Har Khet Ko Pani" through efficient water conservation (Jal Sanchaya) and water management (Jal Sinchan) practices. It is, in this context, more vital to link most of the water sources with micro irrigation to get extended coverage for a longer duration.

vii. PDMC focuses on micro irrigation for enhancing water use efficiency. States may take up sources creation activities as Other Interventions (OI) under the scheme and must be linked with Micro Irrigation to make potential use of the available funds for higher water use efficiency. These activities should be based on actual requirement and as per the needs of the farmer who adopts the Micro irrigation system.

viii. The amount for OI activities must be restricted to 20% of the total allocation for States/UTs and 40% for North East States, Himalayan States & UTs of Jammu Kashmir

and Ladakh.

ix. Assistance for installation of micro irrigation system is limited to five hectares per beneficiary. The land holding of a beneficiary to be covered under drip/sprinkler system could be located in one contiguous area or at different locations, but the financial assistance will be limited to the overall ceiling of five ha.

x. Those beneficiaries, who have already availed subsidy benefits for his /her farm, can not avail the assistance for the next seven years. A beneficiary if availed the benefit of subsidy for micro irrigation for a particular farm would be eligible for subsidy again for the same land only after the end of projected life of the micro irrigation system which is seven years. However, the beneficiary may be allowed to avail effective differential subsidy in case he intends to install Drip Irrigation System on the same plot/field from the existing Sprinkler Irrigation System at least after three years to promote crop diversification irrespective of seven years subsidy cycle.

xi. The unit cost/BoQs of the MI systems given in the Guidelines are indicative. The beneficiary will be allowed to opt to make his choice for items/components etc. In case any deviation from the BoQ, the differential cost shall be borne by the beneficiary subject to ceiling of unit cost.

xii. Sometimes beneficiaries may not be able to contribute the requisite amount to adopt micro irrigation technologies. States/UTs may involve financial institutions like NBFC/Bank/NABARD to fill the upfront credit gap faced by the farmers for micro-irrigation adoption. States may facilitate credit facility to farmers (such as enabling subsidy component as State guarantee).

xiii. In view of the continuous modernization of agriculture resulting into evolving ways to improve productivity and sustainability, crops spacings keeps on changing. Financial assistance for installation of Micro irrigation systems will be based the indicative cost of MI systems for different spacings and plot sizes provided in the guidelines. In case of crops with plant spacing other than those mentioned in the Guidelines, the amount of assistance could be calculated on pro rata/average basis of the nearest plant area.

xiv. Beneficiaries/Institutions that have opted for contract farming or taken land on lease are also eligible for obtaining financial assistance under the scheme. However, to become eligible, the beneficiary/institution shall have to produce lease agreement for a minimum period of 7 years from the date of approval of application by the MI implementing agency.

xv. ICAR, PFDCs, CIPET, ATMA etc. may be involved in planning, implementation,

demonstration, training and evaluation under the scheme. The implementing agency at the district level will ensure convergence of activities under the programme with the activities of various departments on water management to get the desired output.

xvi. Raw material price of polymers &other costs varies a lot because of fluctuation in national/international prices. Accordingly, periodic review of pricing may be carried out by the DA&FW, GoI.

xvii. States must include all Aspirational Districts identified by NITI Aayog in their Annual Action Plan (AAP)for coverage of Micro Irrigation under the Scheme in these Districts. Further, priority may be given to Namami Gange Districts/Gram Panchayats (GPs) along the stretch of river Ganga basin to be included in AAP for Micro Irrigation coverage.

xviii. Climate Change is known to have adverse impact on agriculture. Irrigation has been an effective tool in addressing climatic aberrations like drought, heat wave causing that is responsible for enormous loss to agriculture. States/UTs must ensure coverage of MI in dark zones and climatically vulnerable areas. The MI coverage should also be given priority to the areas under NICRA program of ICAR- CRIDA to promote climate resilient technologies.

xix. Micro Irrigation is an important component of various Centrally Sponsored Schemes, such as, National Mission of Edible Oils – Oilseeds (NMEO-OS), MIDH, NFSM, NMEO-OP. States/UTs should ensure that installation of Micro Irrigations systems under these schemes be dovetailed with PDMC. The Annual Action Plan must be prepared accordingly and progress of Micro Irrigation activity to be reported under the PDMC scheme.

xx. States may encourage Automation in the Micro Irrigation Systems for ease of operation with minimal or no manual intervention thereby achieving greater efficient use of Micro Irrigation Systems by the beneficiaries. The Automation unit may be linked with solar energy wherever possible at the farm. It is desirable that States should target5% of Micro Irrigation coverage under the scheme with Automation. The cost of automation may vary with the type of Automation adopted by the beneficiary. For adoption of Automation in the Micro Irrigation system under the scheme, the financial assistance to the beneficiary will be restricted on the existing rate of subsidy to the indicative cost of Rs. 40000/ha.

xxi. Preference for installation of micro irrigation will be given to farmers adopting crop diversification to enhance the production and their income substantially.

xxii. The Guidelines for implementation of Pradhan Mantri Kisan Urja Suraksha evem Utthan Mahabhiyan (PM KUSUM) Scheme, Ministry of New and Renewable Energy gives preference to farmers using Micro irrigation systems. Accordingly, PDMC should be converged with PM-KUSUM for promoting use of solar energy with MI systems. States/UTs to ensure that all solar pump beneficiaries under PM-KUSUM adopt micro irrigation system.

xxiii. The Atal Bhujal Yojana (ABY) focuses on sustainable management of ground water through participatory approach. The PDMC Scheme may be converged with ABY to achieve the objectives of the schemes.

xxiv. The Guidelines for New Generation Watershed Development Projects (WDC-PMKSY 2.0) envisage convergence of watershed projects with PDMC. Accordingly, priority may be given to areas under WDC-PMKSY 2.0 to integrate activities, particularly, creation of water sources with that of micro irrigation. Similarly, water sources created under MGNREGS may be integrated with micro irrigation for their potential use.

xxv. Department of Water Resources, River Development & GR is implementing Command Area Development & Water Management (CADWM) program. CADWM envisages the modernization of Irrigation Command Area i.e. providing Pressurized Piped Irrigation Command (PPIC) for use of Surface Water combined with other sources of water which provides network of established water source to farm gate for farmer to adopt micro irrigation in the farm to improve the Water use Efficiency at farm level. The States/UTs must ensure that the source/infrastructure created under the scheme shall be utilized for Micro Irrigation in coordination with WRD/CAD agencies. CADWM program shall be dovetailed with PDMC and it shall be ensured that Water user Societies covered under modernized CADWM program should be necessarily part of PDMC for adoption of MI systems. Such convergence shall make it possible to aggregate large areas under micro irrigation which enable better implementation, cost effective, maintenance & services and better market linkage of produce.

xxvi. States/UTs should facilitate the beneficiary of PDMC scheme to avail Soil Health Card and Kisan Credit Card under the respective programs.

B.1.4 Cluster Approach:

i. States/UTs should prioritize implementation of MI through Cluster approach to have effective integration of sources, connectivity, distribution and application. The size of cluster may be 50 ha. & above in mainland states and 20 ha. in NE & hilly states. Water

User Associations/Groups, Farmer Producer Organizations, Cooperative societies, Self-Help Groups, Growers' Associations etc. shall be encouraged to adopt Micro Irrigation in a cluster. In such cases the beneficiary will be entitled to avail financial assistance through their respective organizations / bodies. The total financial assistance available to the individual beneficiary in the group would be 55% under the scheme. The land holding of the beneficiary should be located in one contiguous area. Such farmers groups/organizations may be allowed to avail an administrative/institutional charges @ 3% of the cost of the Cluster.

ii. The States/UTs may encourage FPOs to take up micro irrigation at community level. States/UTs may ensure at least 5% micro irrigation target is implemented through FPOs.

iii. States/UTs may enable such farmers' groups to access capital from NBFC/Bank/NABARD so that such cluster implementation could be taken up through banks with Joint Liability Group (JLG).

B.1.5 Public Private Partnership (PPP-MI) approach:

States/UTs may take up projects with PPP mode of implementation. Public Private Partnership (PPP) approach in Project mode may be an important step for increasing MI coverage for the benefit of farming community. State Governments/UTs may take up projects in PPP approach involving farmer groups, private partners and concerned Departments in the State. Such projects should focus on improving water use efficiency, productivity, income of farmers, access to market and positive environment outcomes.

Rationale:

Judicious use of water is important to expand the agricultural area under irrigation. Micro irrigation promotes adopting optimum cropping pattern and efficient water application, that utilizes available water resources in an efficient manner. Saving of water will not only help in extending irrigation coverage but also in enhancing productivity and improving farmland ecosystem. The water use efficiency in irrigated areas as well as non-irrigated areas is presently at low level. In future there could be huge stress on water availability for agriculture as a result of negative impact of climate change. Very few farmers in irrigated commands are adopting micro irrigation system. Micro-irrigation system is cost intensive and technical with maintenance requirements. Capital investment in agriculture is still largely in sufficient. Micro

irrigation penetration to small and marginal farmers especially in most rural areas is still lagging. There is also a need to ensure equitable access of water availability to tail end farmers. Better market linkage opportunities of farm produce would help in enhancing farmers income. In this regard, collaborative efforts between the Government and Private partners in promotion of micro irrigation shall open new opportunities for the benefit of the farming community.

Strategy of PPP- Micro Irrigation:

i. Public Private Partnership for integrated Project on Micro Irrigation can be executed through an agreement between State Government and private partners. The arrangement would involve a whole-lifecycle with a predetermined period where the private partners can extend support for both implementation (installation, construction etc.) and operation of the MI systems.

ii. State /UT Governments may prepare projects involving Corporate/Private Partners/Other Entities, farmers groups and concerned Institutions/ Departments in the State. Under the project, allowed activities of PDMC scheme may be taken up through the scheme following the operational Guidelines. The other activities of the project would be converged from other schemes/investments from entities of the project. The proposals shall clearly indicate the interventions being made by the entities, the scale of the project, approx. number of farmers involved and the expected outcomes in terms of farmers benefits.

iii. Various Agri retail business companies may be involved for facilitating market linkages of farm produce in the project area.

iv. The aim is to set up PPP based projects wherein entities (eg. FPO/ Farmers Groups, Private Companies, Concerned Departments of the State etc.) may invest in creation of Common Infrastructure i.e. Water sources, pressurized pipe networks till farm end gate from canal /reservoir along with sumps/storages, lifting/pumping facility and the on-farm Micro irrigation system. Convergence with various related Government schemes may be made for effective utilization of available resources in the project area. Corporate/Industries shall be encouraged to participate in the project through their Corporate Social Responsibilities (CSR) outreached.

v. The PDMC scheme would be dovetailed with such PPP projects.

vi. Project document will have clearly marked out convergence of other Centrally Sponsored

Schemes of Ministries as well as State Schemes.

vii. Transparency of complementary investments of non-Government entities and visibility of public-domain infrastructure created shall be ensured.

viii. IT based solutions, use of advanced technologies of Micro Irrigation such as solar energy, Automation, use of AI, IoT etc. should be given priority for effective implementation & monitoring. Technologies that are complimentary to micro irrigation in reducing water losses or evaporation, improve soil water holding capacity etc. should be promoted along with MI.

ix. PPP projects should explore carbon market potential which will deliver additional income to farmers.

Procedure for Implementation:

i. The project on PPP should include information on geography & climate, potential of agriculture development, available irrigation infrastructure, potential for micro irrigation, strategy for development and plan of action proposed to be taken. The document should focus on adoption of aggregation/cluster approach for coverage of micro irrigation and linking with available infrastructure, or to be created. Willingness of the farmers to be a part of the proposed project should also be included.

ii. The project should reflect the whole-lifecycle with a predetermined period. The project shall clearly indicate the interventions/responsibilities/role of the entities, the scale of the project, approx. number of farmers involved and the expected outcomes in terms of farmers benefits and the way forward.

iii. Growers/farmers/farmers group under the project would be entitled for assistance under other schemes of DA&FW/other Departments. The project implementing agency or the private partner should collect the data and required documentations of all farmers in the project and facilitate to access the assistance available under the PDMC scheme.

iv. The State Nodal Department/Agency of PDMC of the State may call for proposals from entities interested in carrying out the project and short list them based on applicant's experience. State can set up a committee to select and finalize the projects.

v. Proposals shall be submitted to State Governments. The State Government will examine the project proposal from the viewpoint of suitability to need of the area. If found suitable, the proposal should be included in the Annual Action Plan of the State to be submit by

the SLSC to DA&FW for approval.

Operational Aspects:

i. The Implementing Agency need to widely publicize the importance of the scheme at block and village levels through its existing networks to create awareness among the farmers. Organize District Level Seminars/Workshops involving MI Manufactures/Companies. Further, the State Agriculture Extension Units should organize camps and Trainings in collaboration with MI Manufactures/Companies to explain system components and their functions, type of micro irrigation for crop, post installation services and frequency of maintenance etc. Trainings/camps to target the family, not individual beneficiary. The MI manufacturer / company may provide irrigation schedule to farmers, make efforts for linkage to agronomic practices.

ii. Dedicated Implementing Agency/Special Purpose Vehicle (SPV): States/UTs with good micro irrigation coverage have shown that dedicated Implementing Agency/Special Purpose Vehicle (SPV) can accelerate the scheme success with overall efficiency. Therefore, States/UTs should setup a dedicated Implementing Agency/Special Purpose Vehicle (SPV) at the state level with dedicated manpower to ensure that the needed attention is given in the implementation of the scheme.

iii. Dedicated portal for implementation: States having dedicated portal for implementation have performed better with high level of transparency. Hence, all States/UTs should develop their own portal dedicated for the implementation of the scheme. Government of India will also develop a reference portal for use of States. States using its own portals should make data available to the Government of India portal through APIs.

iv. All level of implementation including receipt of applications, work order, work completion, verification, payment release, monitoring, feedback etc. shall be captured by the State portal developed for the purpose. Also, the Portal should have online workflow, mapping all levels of implementation to ensure effective monitoring.

v. The States/UTs shall adopt bio-metric/facial authentication enabled Aadhar based registration of applicant developed by DA&FW. The details of the applicant, such as, Name, Gender, Date of Birth, Identifier Name (Father/Spouse Name), etc should be captured as per the Aadhare KYC. The assistance should be transferred to the Aadhar seeded and DBT enabled active bank account of the beneficiary through DBT. In case it is given in kind through Companies, the intimation should be conveyed as SMS to the beneficiary on his mobile phone with details of assistance. The States/UTs should ensure

that disbursement of subsidy is made a time bound activity.

vi. All land based interventions should be Geo Tagged/Geo Fenced. Krishi Mapper/Mobile App developed by DA&FW shall be used for Geo Tagging/Geo Fencing of farmers' field. The data captured by the App will automatically link with the State MIS portal through API.

vii. The State Implementing Agency will engage Third Party Inspection Agencies (TPIAs) for conducting inspection/physical verification of the installed Micro Irrigation Systems at every farmer field. The installed site will be verified by these agencies for material supplied and also conduct Trial Run at the site. TPIAs should capture and upload photographs/videos/report of the MI installation at site which should be made available in the State portal. States/UTs should ensure timely installation and third party verification of MI installation. The Implementing Agencies must complete the timely inspection/physical inspection of the MI systems to avoid delay. Ideally, the physical inspection should be completed within 60 days of installation. Due penalty should be imposed on supplier if any delay in installation is observed. States/UTs must also ensure timely release of subsidy/top-up to the beneficiaries.

viii. All scheme related information including progress and achievements should be captured by State portal which may be integrated with the National portal through API to ensure seamless flow of information.

ix. The beneficiary shall be free to choose MI equipment from any MI manufacturer out of the approved list of registered manufacturers and also to choose the type of MI system to be installed as per the system design compatible with his/her cropping pattern.

x. The State Implementing Agency/ SPV should conduct inspections at the factory site of the Supplier(s) through Third Party technical agencies such as Central Institute of Plastics Engineering and Technology (CIPET), ICAR Institutes, State Agriculture Universities etc. However, if any State/UT has already conducted such inspection of a supplier, the inspection report (of the supplier) may be considered by other States/UTs also.

xi. All the Micro Irrigation Systems will be QR Coded. The QR code of the system will be linked to Unique application no./Sanction ID of the farmer on installation of the system.

xii. The MI manufacturer/supplier should necessarily generate e-invoice for micro irrigation system supplied with details of all its components and the e-invoice shall be captured by the State Portal.

xiii. A module/hand book may be devised by the Implementing Agency/SPV for the benefit of the farmers with basket of services which includes Farmer Education & Training

(Agronomy services), maintenance & operating Micro Irrigation Systems etc.

xiv. The MI supplier Agency should provide necessary services to farmers after installation trail run of the system for at least three years free of cost. The List of service centers/offices/offices of authorized distributors with full address/telephone numbers/e-mail should be widely published (Inspection/repair/replacement).

xv. A toll free customer care number will be provided by the State implementing agency for providing information related to Micro Irrigation Systems. Also grievance redressal and feedback system of the beneficiaries should be provided.

xvi. To ensure strict adherence to quality standards in the use of MIS Components, the Implementing Agency of the State will ensure the BIS standards of supplied equipment.

xvii. States to develop modules on several aspects; fertigation schedule, acid treatment, issue of salts/salinity in water, linkage to agronomic practices, selection of the right system etc. Further, States to conduct trainings and best practices demonstrations for the beneficiaries as well as officials/staff for better learning.

B.1.6 Drip Irrigation System for states where it has been well accepted by farmers and good infrastructure is available

i. The scheme is well accepted by the farmers and substantial coverage has been made under micro irrigation system compared to other parts of the country with required infrastructure and service facilities in the States namely Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Telangana. These states are considered to be category “A” States with comparatively better penetration of micro irrigation technologies.

ii. Drip Irrigation technology involves irrigating root zone through emitters fitted on a lateral tube as well as inserted within the tubing as emitting pipe. The use of different emitters will depend upon specific requirements, which may vary from crop to crop.

iii. Fertigation is important for getting maximum benefits out of the micro irrigation technology. Therefore, it is mandatory to use a fertigation device by the farmers such as venturi injector or fertilizer tank on which the subsidy is available.

iv. Water requirement, age of plant, plant to plant spacing, soil type, water quality and availability etc are some of the factors which decide the choice of emitting system. The indicative cost of drip irrigation systems (assuming peak water requirement with source of water at the corner of plot), for different lateral spacing and plot sizes has been

provided in the guidelines. An indicative list of system components required for installing a drip irrigation system in the areas ranging from 0.2 ha to 5 ha is at **Annexure-XIII(a to g)**, on the basis of which subsidy will be calculated as per Table 1:

Table 1: Indicative cost of Drip Irrigation System for calculation of subsidy

(Cost in Rs.)

Spacing (mxm)	**0.2 ha**	**0.4 ha**	**1 ha**	**2 ha**	**3 ha**	**4 ha**	**5 ha**
12x12	10526	18009	24586	39098	60704	75521	96166
10x10	10854	18652	26181	42226	65487	82025	104292
9x9	11091	19114	27304	44469	68853	86606	110024
8x8	11330	19711	28777	47314	73272	92615	117529
6x6	12400	21693	34687	57987	93688	113618	142566
5x5	13144	23486	39378	67199	97110	123409	165815
4x4	14602	24326	41534	72799	113560	148684	176964
3x3	15792	26190	47751	82654	127306	160103	200455
2.5x2.5	19516	35393	68234	124216	189724	266274	325233
2x2	23932	41303	83085	161263	234280	325469	399494
1.5x1.5	28106	46995	97245	185324	276767	382246	470306
2.5x0.6	20201	35000	71733	131824	201464	279770	343433
1.8x0.6	24569	42992	91560	173298	260868	355323	442484
1.5x0.6	28003	50116	109531	207860	313909	425189	530905
1.2x0.6 (or lower spacing)	31436	57241	127501	242422	366950	495055	619326

v. In case of crops with plant spacing other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest plant area (Row to row x plant to plant spacing in metre). The example is given below.

a. If a subsidy has to be calculated for 1.5 x 1.5mspacing i.e. between 1.0 ha (₹97245) and 2.0 ha (₹185324), the cost would be: ₹97245 + [(₹185324-₹97245) /(2.0 ha–1.0ha) x (1.5ha–1.0ha)].

b. If a subsidy has to be calculated for 1.0 ha and 3.5 x 3.5m spacing i.e. between 4.0x4.0m (₹41534) and 3.0x3.0m (₹47751) the cost would be:₹41534+[(₹47751-₹41534)/(4.0x4.0–3.0x3.0)X(4.0x4.0–3.5x3.5)].

vi. The unit cost of Drip Irrigation system varies with respect to plant spacing and location of the water source. The farmer can avail other interventions as per **Annexure XIII (a-n)** as per specific requirement of the field in which micro- irrigation system is to be

installed.

vii. Assistance under the scheme is available for all types of drip irrigation systems such as on-line & in-line drip irrigation systems.

viii. As small farm holdings may not have individual source of water, it would be preferable to encourage a group of farmers to avail the benefits of drip irrigation through a common water source.

ix. A beneficiary having farms located at different places and having different water source may avail the subsidy as per the guidelines. However, a beneficiary cannot split area at one location into small pockets of the same crop for claiming assistance under the scheme. If a beneficiary has more than one crop with different crop spacing being grown separately in his/her land holding, assistance will be available for installing the drip irrigation system as per the individual crop spacing, the combined area of which will not exceed 5 ha per beneficiary.

x. In case of inter-cropping, assistance will be available for the prescribed plant spacing/ area, subject to the condition that the assistance will be provided only for one crop as per the farmers' choice.

B.1.7 Drip Irrigation System in states with low penetration

Based on the prevailing coverage and acceptance by farmers, states namely Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh, West Bengal, Goa, Punjab and Union Territories have been identified as states with low penetration of micro irrigation technology. These states are considered as category "B" in terms of implementation of micro irrigation. The cost of drip system is likely to be higher in these states due to various factors such as lesser presence of manufacturing companies in these states leading to higher cost of transportation, the companies will have to make considerable efforts in making the farmers ready for adoption of technology, and higher cost involved in providing after sales service in these states etc. Thus, 15% higher cost has been taken in consideration while working out the unit cost of drip system in the table below for these states for the purpose of subsidy calculation as per indicative list of system components given at **Annexure XIII(a - n)**

Table 2: Indicative cost of Drip Irrigation System for calculation of subsidy in the states where penetration level is low (Cost in Rs.)

Spacing (mxm)	0.2 ha	0.4 ha	1 ha	2 ha	3 ha	4 ha	5 ha
12x12	12105	20710	28274	44962	69810	86849	110591
10x10	12482	21450	30109	48560	75310	94329	119935
9x9	12755	21981	31399	51139	79181	99597	126527
8x8	13030	22667	33094	54412	84263	106507	135159
6x6	14260	24947	39890	66685	107741	130661	163951
5x5	15115	27009	45285	77279	111676	141921	190687
4x4	16792	27975	47765	83719	130594	170987	203508
3x3	18161	30119	54913	95052	146402	184119	230523
2.5x2.5	22444	40702	78469	142848	218183	306215	374018
2x2	27522	47498	95547	185453	269421	374289	459418
1.5x1.5	32322	54044	111832	213122	318282	439583	540852
2.5x0.6	23231	40250	82493	151597	231684	321735	394948
1.8x0.6	28255	49441	105295	199293	299998	408621	508857
1.5x0.6	32203	57634	125960	239039	360995	488967	610541
1.2x0.6 (or lower spacing)	36151	65827	146626	278786	421992	569313	712224

i. In case of crops with plant spacing other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest plant area (Row to row x plant to plant spacing in metres) similar to example given in 9.5.

ii. The assistance will be available for all types of drip irrigation systems; on- line and in-line drip irrigation systems.

iii. In case of inter-cropping, assistance will be available for the prescribed plant spacing/area, subject to the condition that the assistance will be provided only for one crop as per the farmers' choice.

B.1.8 Drip Irrigation System for North Eastern and Himalayan States

The coverage of MI system in North Eastern and hilly region is much low due to poor infrastructure and difficult terrain. The states namely Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim, Jammu & Kashmir, Himachal Pradesh and Uttarakhand are considered under category "C". In the Hilly states, following points need to be kept in mind while designing a drip irrigation system keeping in view the sloppy and terraced land:

i It is difficult to lay PVC main and sub-main lines below the ground surface and therefore HDPE pipes are required in place of PVC.

ii The undulating and vertical slopes would lead to comparatively larger length of pipes.

iii To maintain uniform pressure and to irrigate upper most terrace of land, control valve should be provided at sub-main/main lines at 4m vertical drop. Accordingly, the number of flush valves will also increase.

The cost of drip system is likely to be higher in North Eastern & Himalayan states because of the terrain, higher transport cost, lesser presence of manufacturing companies etc. Therefore, unit cost of micro irrigation systems is taken 25% higher in these states for the purpose of subsidy calculations and is given in table below (including 25%) for the indicative list of system components is at **Annexure XIII (a - n)**

Table 3: Unit cost for NE&H states

(Cost in Rs.)

Spacing (mxm)	**0.2 ha**	**0.4 ha**	**1 ha**	**2 ha**	**3 ha**	**4 ha**	**5 ha**
12x12	13157	22511	30733	48872	75881	94402	120207
10x10	13567	23315	32727	52783	81859	102531	130365
9x9	13864	23893	34130	55586	86066	108258	137530
8x8	14163	24638	35971	59143	91590	115768	146912
6x6	15500	27116	43358	72484	117110	142023	178207
5x5	16430	29357	49223	83999	121387	154262	207269
4x4	18252	30408	51918	90999	141950	185855	221205
3x3	19740	32738	59688	103318	159132	200129	250569
2.5x2.5	24395	44242	85292	155270	237156	332842	406542
2x2	29915	51628	103856	201579	292849	406836	499367
1.5x1.5	35132	58744	121556	231655	345959	477807	587883
2.5x0.6	25251	43750	89666	164780	251830	349712	429292
1.8x0.6	30712	53740	114451	216622	326085	444153	553106
1.5x0.6	35003	62645	136914	259825	392386	531486	663631
1.2x0.6 (or lower spacing)	39295	71551	159377	303028	458687	618819	774157

In case of crops with plant spacing other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest plant area (Row to row x plant to plant spacing in metres) similar to example given in 9.5.

B.1.9 Sprinkler Irrigation

i. In sprinkler irrigation, water is discharged under pressure in the air through a set of nozzles attached to a network of High Density Poly Ethylene (HDPE) pipes,

simulating the rainfall. Sprinkler irrigation systems are suitable for irrigating crops where the plant density is very high. It is widely used for cereals; pulses; seeds; spices; and field crops.

ii. Financial assistance would be restricted as per the cost of High Density Poly Ethylene (HDPE) pipes used in sprinkler irrigation systems, even though, the beneficiaries may use aluminum pipes as well. The sprinkler irrigation systems may be portable, mini sprinklers, micro sprinklers, semi-permanent sprinklers and large volume sprinkler systems (Rain-guns). Additional 25% and 15% on the indicated unit cost may be considered for calculation of subsidy for Hilly states including NE region and low penetrating State respectively.

B.1.10 Portable Sprinkler Irrigation System

i. In portable sprinkler irrigation systems the HDPE pipes are used for mains and sub-mains which can be shifted from one place to another as per the irrigation schedule with respect to design layout. These can be used in both, plains as well as in undulating terrains.

ii. The indicative number of components required for various area range of sprinkler irrigation system is annexed. Financial assistance will be provided based on the number of pipes procured by the beneficiary for the area under reference. An indicative list of system components required for installing portable sprinkler irrigation system is at **Annexure-XIV** on the basis of which subsidy will be calculated. The indicative cost for various area ranges and pipe sizes is given below in Table 4below:

Table 4: Indicative Cost of Portable Sprinkler Irrigation System

(Cost in Rs.)

Area	Pipe Dia.(mm)		
	63	75	90
Upto0.4ha	13211	NA	NA
1ha	21588	24194	0
2ha	31167	34657	0
3ha	NA	NA	46779
4ha	NA	NA	58995
5ha	NA	NA	66789

Note: i) In case of area other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest area.

ii) In case of low penetrating states and hilly states including NE region, 15% and 25% higher indicative cost respectively may be taken for calculation of subsidy.

B.1.11 Micro Sprinklers

i. Micro Sprinklers are mostly used for irrigating leafy vegetables, nurseries, hardening of seedlings and a few vegetables. Apart from providing irrigation, the micro sprinkler also helps in changing the micro climatic conditions near the plant. Micro sprinklers are low radius sprinklers. The selection of micro sprinklers depends on the type of crop, soil, types etc.

ii. An indicative list of system components required for installing a micro sprinkler system is at **Annexure-XV**. The indicative cost of Micro Sprinkler irrigation system at different lateral spacing & area is given in **Table5**:

Table 5: Indicative Cost of Micro Sprinkler Irrigation System

(Cost in Rs.)

Area(ha)	Spacing(mxm)	
	5x5	3x3
0.4	32713	38263
1	65102	74259
2	114426	133821
3	164937	191078
4	222721	263852
5	281557	321462

Note: i) In case of area other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest area.

ii) In case of low penetrating states and hilly states including NE region, 15% and 25% higher indicative cost respectively may be taken for calculation of subsidy.

B.1.12 Mini Sprinklers

They are commonly used for close growing crops like groundnut, potato, onion, ginger, short statured fodder crops, etc. Mini sprinklers are also suitable for frost protection. An indicative list of system components required for installing a mini sprinkler irrigation system is enclosed at **Annexure XVI.** The indicative cost of Mini Sprinkler irrigation system at different lateral spacing and area is given below in **Table 6** below:

Table 6: Indicative Cost of Mini Sprinkler Irrigation System

(Cost in Rs.)

Area(ha)	Spacing (mxm)	
	5x5	3x3
0.4	45694	47528
1	94134	103873
2	176766	187929
3	268422	290935
4	345497	380031
5	423236	469890

Note: i) In case of area other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest area.

ii) In case of low penetrating states and hilly states including NE region, 15% and 25% higher indicative cost respectively may be taken for calculation of subsidy.

B.1.13 Semi-Permanent Sprinkler Irrigation System

a) In Semi-Permanent Sprinkler System, the piping network for main line and lateral lines are permanently buried with risers fitted on the lateral lines. The sprinkler nozzles are fitted on each riser pipe and can be easily shifted from one place to another to irrigate the required area in shifts as per the irrigation schedule or the crop water requirement.

b) The indicative number of components required for various area ranges of semi-permanent sprinkler irrigation systems is enclosed at **Annexure XVII**

c) The estimated unit cost for various area ranges is given below in Table 7 below:

Table 7: Indicative Cost of Semi-Permanent Sprinkler System

Area(Ha)	Cost(in Rs)
0.4	24919
1	40440
2	77113
3	104083
4	132997
5	161345

Note: i) In case of area other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest area.

ii) In case of low penetrating states and hilly states including NE region, 15% and 25% higher indicative cost respectively may be taken for calculation of subsidy.

B.1.14 Large Volume Sprinkler Irrigation System (Raingun)

1) Large volume sprinkler irrigation systems (Rain guns) are used where larger areas are to be covered with one or two sprinklers. These sprinklers have a discharge ranging from 10,000 lph to 32,000 lph and radius of throw from24 m to 36 m. These systems require high pressure and high discharge pipes & pumps to operate them. These are preferred for irrigating crops spread over large areas in short time. The indicative list of components is enclosed at **Annexure XVIII**.

2) Pivot Irrigation system is used for a much larger area & are not suitable for the beneficiaries targeted under PDMC. However, if some beneficiary is interested, may avail financial assistance as per unit cost norms of rain-gun system. The estimated unit cost for various area is given in Table 9:

Table 9: Indicative Cost of Large Volume Sprinkler (Rain-gun)

(Cost in Rs.)

Area (Ha)	**Pipe Dia.(mm)**		
	63	**75**	**90**
1	31684	38127	NA
2	NA	48370	NA
3	NA	NA	62767
4	NA	NA	72751
5	NA	NA	79894

Note: i) In case of area other than those mentioned in above table, the amount of assistance could be calculated on pro rata/average basis of the nearest area.

ii) In case of low penetrating states and hilly states including NE region, 15% and 25% higher indicative cost respectively may be taken for calculation of subsidy.

B.1.15 Optional Components

1) The use of optional components depends upon the agro climatic conditions of the place & requirement of the beneficiary. The provision is kept to provide the said component on the then existing rate of subsidy to the beneficiary; if required & provided. These components are:

   i. Fertilizer tank - to increase fertilizer use efficiency, fertilizer tanks have been included in the list of equipment eligible for financial assistance. The beneficiary can opt for either fertilizer tank or venturi system or automated dosing system equipment and financial assistance will be provided for either of those components.

ii. Sand filters/media filters- to remove organic matter and inorganic contaminants from water sources like rivers, tanks and open wells. Sand/media filters have been included the financial assistance.

iii. Hydro Cyclone Filters/Sand Separators - to remove particles of the size of 75 microns (200 mesh) which have a higher density than water, hydro cyclone filters/sand separators have been introduced as an optional item for which financial assistance will be provided. These equipments require minimum maintenance and are useful for cleaning river water, canal water and tube well water which may contain sand.

iv. Drip Line Winder- for wrapping the drip laterals has been included for financial assistance.

2) The detailed guideline for water quality & filters selection is provided at **Annexure XX** respectively**.** The indicative cost of optional components such as sand filters, hydro cyclone filters and fertilizer tanks is annexed at **Annexure XXI**

3) States may take up sources creation -Other Interventions (OI) activities under the scheme and must be linked with Micro Irrigation to make potential use of the available funds for higher water use efficiency. These activities should be based on actual requirement and as per the needs of the farmer who adopts the Micro irrigation system. The details of eligible OI activities for financial assistance and cost Norms is provided at **Annexure XXII**

4) Optional items if any other than above may be allowed. However, cost of these items will be borne by the beneficiary.

B.1.16 Key Administrative requirements

(i) The unit cost norms indicated in the guidelines for various technologies/ specifications are for the purpose of calculating subsidy ceiling amount only i.e. it can be less but not more than the indicated amount if the cost is more. The actual cost of the system, however, would vary as per design of the field and other agro climatic conditions. It is to be ensured that all compulsory system components are provided to the farmer. The BOQ given in the table is indicative & may vary case to case.

(ii) An individual eligible to receive the benefits under the scheme is required to furnish proof of possession of Aadhaar Number or undergo Aadhaar registration. If one individual is eligible but do not possess the Aadhaar number she/he can get enrolled

visiting the Aadhaar enrolment centre. State Government/Union Territories Administration is required to offer Aadhaar registration facilities to the beneficiaries who are not enrolled and in case no Aadhaar enrolment centre is available in certain blocks/ taluka/ tehshil, the nodal department through its implementing agency is required to provide enrolment facilities at convenient locations in coordination with the Registrars of UIDAI. Till the time Aadhaar is assigned to individual, she/he can avail the benefit of the scheme on production of the following documents Aadhaar enrolment ID slip/ Copy of request for Aadhaar enrolment and Voter Identity Card/ PAN/ Passport/ Ration Card /Employee Govt. ID/Passbook of bank or post office/MGNREGS card/ Kissan photo passbook/ Driving License/ any other document as specified by State/UT.

(iii) Aadhaar details need to be linked through a web based registration process. The assistance if given in cash, need to be transferred to the bank account of the beneficiary and in case it is given in terms of kind through Companies, the intimation be conveyed as SMS to the beneficiary mobile phone with details of assistance. It should be ensured that no eligible beneficiary suffers for want of Aadhaar and it would be the responsibility of implementing agency to ensure that Aadhaar enrolment of such beneficiaries is carried out on priority. The notification issued in this respect is given at **Annexure-XXIII**

(iv) It must be ensured that at least 50% of the allocation is utilised for small, marginal farmers of which, at-least 30% should be women beneficiaries/farmers. Further, 16.5% and 8.5% of the total allocation or in proportion of SC/ST population in the district should be utilised for Special Component Plan (SCP) & Tribal Sub Plan (TSP) respectively.

(v) Transparency in beneficiary selection – It should be ensured that the Implementing Agency follows uniform procedures and full transparency in selection of beneficiaries and release of assistance to the beneficiaries in an efficient manner. Enlisting of the beneficiaries should be open round the year facilitating submission of applications by beneficiaries any time for availing the benefit of financial assistance under the scheme. The state implementing agency need to adopt a web based IT model for implementation of the scheme. Implementing Agency should ensure that selection of beneficiaries is done as per details included in the Annual Action Plan for the component for the year which has been derived from the DIP.

(vi) All level of implementation shall be in the State portal platform developed for the purpose. The Portal should have online workflow, mapping all levels of implementation to ensure effective monitoring.

a) Pre-installation activities

- The Implementing Agency need to widely publicize the scheme at the block and village levels through its existing networks.
- Appoint a nodal officer who is responsible for coordination of the scheme implementation with the Districts.
- Disseminate the list of suppliers and rate list approved by SLSC to the farmers.
- Organize at least one District Level Seminar/Workshop with the participation of Industry.
- Compile the application submitted by the farmers and scrutinize, codify and forward the same to the company's/Manufacturer's local office indicated by the farmer.
- The beneficiary share may be deposited with manufacturer/their representative or the state nodal agency as per the practices to be adopted by the state with the approval of SLSC.
- The beneficiary shall be free to purchase MI equipment from any MI manufacture out of the approved list of registered manufacturers.

b) The manufacturer/company will do/provide the following:

- Assess the crop water requirement as per the crop for which the system is to be provided.
- Design the system as per the crop water requirement.
- Prepare an estimate of cost and submit it to Implementing agency duly indicating the time frame in which the system will be installed in the farmer's field once work order is issued.
- The Implementing agency will approve the estimate, issue work order and ensure installation.
- Efforts will be made by the MIS Supplier to ensure coverage of MI in the water

scarce, stressed area, critical ground water districts/blocks and in potential & untapped area of the State.

c) The Company will install the system and commission it to the satisfaction of the beneficiary duly ensuring that:

- Quality components having BIS marking are installed in the farmer's field, and while making payment the implementing agency will ensure the BIS standard of supplied equipment, whichever the BIS standard exists.
- The date of manufacturing should be printed on the components as per prevailing statutory norms.
- Implementing agency will ensure that MI system installed in each field bears separate QR code.
- The installed system should match the water requirement of the crop.
- Necessary orientation and training is given to the beneficiary on the system maintenance & irrigating the crop with drip/sprinkler irrigation.
- Proper warranty and a user's manual for running & maintenance of the system - whether drip or sprinkler or both- as the case may be is provided to the beneficiary.
- A certificate towards successful installation/commissioning of the system is obtained from the beneficiary.

d) Disbursement of assistance post installation.

- Financial assistance to the beneficiary will be limited to the prescribed subsidy as per unit cost as prescribed under the guidelines or the actual Bill of Quantities (BoQ) whichever is less. On physical verification of satisfactory installation of the system & a certificate to that effect from the beneficiary, Implementing Agency will release payment to the beneficiary electronically in his/ her bank account.
- The Implementing Agency shall ensure proper invoice with statutory commercial details i.e. Serial number, GSTIN number etc. printed on it and countersigned by the authorized representative of the MI System manufacturer is issued to the beneficiary & subsidy released on the same.

- The manufacturer will install the system as per the agreement with the state nodal agency and the procedure for payment as decided by the SLSC may be adopted. Electronic mode of payment is required to be followed for most of the transactions for implementation of the programme. In case the amount is placed with manufacturers/ companies/financial institutions on behalf of beneficiary, the consent of beneficiary is required and the transaction details need to be conveyed to him over SMS immediately and subsequently in writing too.

Micro irrigation system may be insured for the period of its expected life and the premium may be borne by beneficiary/state government based on the decisions to be taken by States.

B.1.17 Registration of manufacturing companies

i Registration of micro irrigation system manufacturers shall be done with the approval of SLSC for a period of five years. The registration will be open round the year and a company can apply at any time. Only those manufacturing companies, which have all the facilities to ensure supply of quality product as per BIS standards and can provide prompt after sales services will be registered. The registration will be subject to the satisfactory performance of the company as assessed by the state implementing agency and repeated failures will lead to the de-registration by SLSC.

ii The companies willing to participate in the scheme should be manufacturing below mentioned components and own BIS in their name:

iii In the case of drip irrigation, company must manufacture at least laterals and emitting devices as specified conforming to BIS standards. For online drip irrigation systems the company should be manufacturing lateral tubing as well as drippers as per BIS and for inline drip irrigation systems, the company should be a manufacturer of inline emitting pipe.

iv In the case of portable sprinkler irrigation system the company should manufacture coupled HDPE pipes or sprinklers and should possess respective BIS.

v In the case of other sprinkler irrigation systems viz. Mini, Micro, Semi- permanent sprinkler irrigation systems the company should manufacture either of HDPE/PVC/PE pipes/nozzles and should possess respective BIS.

vi In the case of large volume sprinkler irrigation system (rain gun sprinklers) the

company should manufacture HDPE pipes or nozzle and should possess respective BIS.

vii The company must provide guarantee of quality assurance of other components which are not manufactured by them in various technologies covered under the scheme.

viii The company must provide free after sales service to the farmers for three years from the date of installation of system. Moreover, they should set up service centres for providing technological support at the grass root level.

ix The registration under the scheme should be open throughout the year to enable maximum flexibility and open participation.

x The company will supply only BIS marked material. The list of relevant BIS components is given at **Annexure XXIV.**

xi In case the company intends to supply imported components, it shall be eligible for subsidy under the scheme subjected to indigenization of manufacturing of the component within a period of two years. In case of imported equipment, the techno-economic analysis report will be provided by NCPAH after proper examination and verification and submit report to DA&FW.

xii The material should be supplied directly by the manufacturer or their authorized distributors/dealers. In all cases, the manufacturer should authenticate the invoices. Such manufacturers shall furnish a Bank Guarantee of quantum of which will be prescribed by SLSC valid for the period of registration.

xiii Each company may have its own pricing system. However, the company would be required to submit the same to the Registering Authority/SLSC at the beginning of the year and as and when the prices are revised by the company.

B.1.18 After sales services & campaigns

i Operation and Maintenance of the system requires adequate training of beneficiaries for system operation etc. The manufacturers should have required network for providing training and after sales service in their areas of operation. The manufacturers should provide detailed operational and maintenance manual in the local vernacular language at the time of installation of the system. The beneficiaries should be advised to follow the instructions provided by the manufacturers for the operation and maintenance of drip/sprinkler irrigation systems.

ii Service centres and / or offices of drip / sprinkler system manufacturers / authorised distributors should have facilities to provide technical guidance on system maintenance schedules, supply spare parts and ensure satisfactory performance of the system during the warranty period. The manufacturer must also operate a toll free customer care number where beneficiaries can register their complaints. List of service centres/offices/offices of authorised distributors with full address/telephone numbers/e-mail should be widely published.

iii After sales service should be provided by the manufacturer/authorized distributor, free of cost for at least a period of three years. The company shall repair or replace any components/instruments of the MI system free of cost within warranty period, if they are found to have manufacturing defects or workmanship defects.

iv Due to normal wear and tear, if any parts/components require repairing/replacement, the company shall supply the same and recover the cost from the beneficiary after the free period is over. The company or its authorised representatives shall provide acid/chlorine treatment to drip system once during the first year of operation of the system. However, the company should provide training to the beneficiary on this aspect to enable him to do further treatment by himself.

v If any system manufacturer fails to provide such service, the same should be brought to the notice of district level committee and SLSC. The manufacturer would be responsible for any dispute arising from the supply of their product/component directly or through their authorised distributors/dealers. The Implementing Agency/ SLSC of each State shall evolve a process and modus operandi to redress the disputes, if any. In cases where product quality related complaints from beneficiaries are received due sampling process mentioned in the guidelines shall be followed.

vi The SLSC may take measures against erring companies or their authorized dealers, as well as their own staff after due hearing in order to safeguard the interests of farmers/beneficiaries and to ensure effective utilization of public funds. However, before initiating any action, principle of natural justice should be followed.

vii There could be extension campaigns by the MI companies at a centralized location having area nodal officials, farmers & other related officials. Various aspects of system maintenance, acid treatment, fertigation etc. could be covered. The technical support group NCPAH would maintain a data appropriately to monitor these activities.

viii The State agencies ensure the campaigns by companies should cover all beneficiaries under warranty period & could be as under:

More than 5000 ha area coverage in the state 6 campaigns 1000-5000 ha area coverage in the state 4 campaigns Less than 1000 ha area coverage in the state 2 campaigns

ix The States should develop a grievance redresser system for farmers with a unique toll free number to assist the farmers for their queries and after sale service. If required, Micro Irrigation installing Company may also be asked to provide a Toll Free number.

B.1.19 Violations & Penalties

i The Central & State Governments, micro irrigation suppliers/manufacturers and other stake holders are putting in a lot of efforts for effective operations of micro irrigation systems. Any wrong operations could lead to system failure & financial loss to the beneficiary apart from loss of faith in the technology. It is, therefore, important to have well defined measures / terms for violation of norms by the stake-holders. Any violation to the quality, maintenance and other parameters need be viewed seriously. The list of violations mentioned below is not exhaustive and any other deviations, which affect the implementation of the scheme adversely may be considered by the DMIC/SLC as deemed fit for smooth functioning of the same.

ii A due process, where show cause is issued and adequate time is allowed for response, shall be followed and the MI companies as well as the beneficiary shall be adequately heard and natural justice provided.

iii In case of violations in respect of failure in quality control &quality assurance and to provide maintenance & after sales service, following penalties shall be imposed:

a) First time in a year, a warning letter may be issued to the manufacturer instructing to rectify the short coming immediately.

b) Second time in same year, a warning letter may be issued to the manufacturer instructing to rectify the shortcoming immediately with a penalty of 10% of invoice value.

c) Third time in same year, a penalty of 25% of invoice value may be charged.

d) Fourth time in same year, a show cause notice may be issued to the company and the case may be refer to SLSC for de-listing the company for a period of one year

or more as decided by SLSC.

iv The violations with regard to submission of bills without installation/partial installation, wrong invoicing, variations in component specifications, submission of wrong documents with reference to pump/system discharge, improper installation, quoting higher price than approved, deviations from prescribed material specifications etc. may be dealt with by the SLSC suitably apart from initiating suitable action under the relevant sections of Indian penal code and other relevant/ appropriate statutory enactments.

v In case of sale of the MI system to other farmers before expiry of average life of the system, for which subsidy has been claimed by the beneficiary, legal proceedings against the beneficiary as per applicable law may be initiated and the beneficiary may be blacklisted from availing any government assistance in future.

B.1.20 Quality Control

i Crucial aspect of supply of micro irrigation systems is the quality of hardware which is delivered to the farmer. It needs to be ensured that quality components having BIS marking (wherever applicable) are installed in the beneficiary field. Poor quality has an adverse impact on performance of the system which may affect yield of the crop, quantity of water applied, quantity of fertilizer delivered to the plant etc. It may also increase energy consumption. In fact, sub-standard system will not only adversely impact performance, but could also reduce the durability and the life of the components and/or system.

ii The SLSC shall form joint inspection teams for field inspection and frequent surveillance by inspection teams will be a regular feature under the Scheme. They will draw random samples periodically from the field, within a period of three years from the date of installation of the system. At the time of inspection, the system should be fully functional. The report should be submitted to the competent authority under SLSC for further action.

iii While one surveillance visit per operative year shall be kept as the general norm, more or less inspections may be planned depending on the performance or specific guidelines issued by SLSC.

iv Samples for testing should be collected jointly by the joint inspection team, state nodal official and the company representatives in triplicate and properly labelled, sealed and signed. The samples are collected for all major system components, especially pipes &

tubing. One set of samples should be sent to CIPET/BIS or any other approved product testing laboratory for testing as the SLSC may deem fit, another set is to be preserved in the custody of nodal officer and the third one is to be with the manufacturer. After collection of samples at random, they should be coded as per BIS guidelines for the purpose of security and further reference.

v Collection of samples with batch number is mandatory. The samples may be collected from the beneficiaries' fields as well as the supply chain of the manufacturer after the product has been dispatched from the manufacturing unit.

vi The quantity of material required for conducting the test is as detailed below:

Sl. No.	Test	Test samples required
Laterals as per IS : 12786 & Emitting Pipes as per IS : 13488		
1	Identification & composition analysis	15 meters for laterals. 50 meters emitting pipe.
2	Thickness	
3	Pressure Test	
4	Dimensions	
HDPE Pipes IS: 17425:2020		
1	Identification & composition analysis	1 mts
2	Thickness	
3	Pressure Test	
4	Dimensions	
UPVC Pipes IS: 4985		
1	Identification & composition analysis	1 mts
2	Thickness	
3	Pressure Test	
4	Dimensions	
Emitters / drippers as per IS : 13487		
1	Identification & composition analysis	50 Nos
2	Flow Rate	

vii The expenditure towards the testing charges shall be met from the administrative charges under the scheme.

viii The state nodal officer will do proper scrutiny of the test report provided by the testing laboratory and draw conclusion from the findings regarding conformity or otherwise of the samples under the test. After scrutiny, the details of test report and results of conformity/non-conformity shall be placed before SLSC for consideration. In case of non-conformity, SLSC may take action against the company/its authorised dealers as per penalty clause mentioned in the scheme guidelines. The SLSC shall follow principle of natural justice and the company as well as the beneficiary shall be heard before taking a

final action in the matter.

B.1.21 Human Resource Development and Media

i Human resource development is an important component of the scheme. Under the programme training of farmers, entrepreneurs, field level workers, officers, micro irrigation technician and farm pond lining technician and trainers' training may be taken up.

ii The financial provisions for the same would be as under:

a) Training of stake holders		
i) Within the State	Rs. 1000/day per farmer including transport	100% of the cost.
ii)Outside the State	Project based as per actual	100% of the cost.
b) Exposure visit of stake holders		
i) Outside the State	Project based as per actual	100% of the cost.
ii)Outside India	Rs. 4.00 lakh/participants	Project Based 100% of air/rail travel. Course fee cost to be funded under Mission Management
c) Study tour of technical staff/ field functionaries		
i) Within the State	Rs. 300/day per participant plus TA/DA as admissible	100% of the cost.
ii) Study tour to progressive States/units (group of minimum 5 participants)	Rs. 800/day per participant plus TA/DA as admissible	100% of the cost.
iii)Outside India	Rs. 4.00 lakh/participants	100% of air/rail travel and course fee cost to be funded under Mission Management

iii For organization of a workshop/conference or participation in an international event the financial provision is given below. However, prior approval of DA &FW will be required for participation in international events.

International level event	Rs. 7.50 lakh per event.	100% of the cost perevent of 4 days, on pro rata basis.
National level event	Rs. 5.00 lakh per event.	100% of the cost perevent of two days.
State level event	Rs. 3.00 lakh per event.	100% of the cost perevent of two days.
District level event	Rs. 2.00 lakh per event.	100% of the cost perevent of two days.

iv Area wise/District wise Awareness/Publicity creation - awareness creation and publicity of the micro irrigation technology will be undertaken through print and electronic media and other methods. The publicity campaigns at block/ district/state level need be undertaken by the state nodal agencies.

v The expenses for above Human Resource Development activities and awareness programmes etc. will be met from the administrative expenses earmarked under the

scheme.

B.1.22 Pattern of Assistance: The total financial assistance available to the beneficiary under the micro irrigation scheme from both Central and State Governments would be 55% for small & marginal farmers & 45% for other farmers. The unit cost would be limited to the Indicative costs mentioned in the guidelines for various technologies and areas as given at **Annexure Nos. XIII (a - n).** For the purpose of calculating subsidy the unit cost shall include the applicable GST.

B.2 SMAM

Agricultural machines take an important role to increase productivity with timely and precise fieldwork. To promote the usage of farm mechanization and increase the ratio of farm power to cultivable unit area the scheme will be implemented with the following strategies.

B.2.1 Strategy:

To achieve the objectives of SMAM, the following strategies will be adopted:

- Provide financial assistance to farmers for procurement of farm machinery and implements on individual ownership basis
- Establish Custom Hiring Centres of location and crop specific farm machinery and equipments.
- Promote appropriate mechanization technologies for crop production, processing, value addition and crops bi-product management by way of establishing Village Level Farm Machinery Banks in identified villages
- Promoting Agricultural Mechanization in North Eastern Region by providing appropriate agricultural mechanization technologies
- Promoting awareness on farm mechanization among stakeholders through demonstration, capacity building activities and differentiated Information, Education and Communication strategies;
- Conducting performance testing for various farm machines and equipments at the four Farm Machinery Training and Testing Institutes (FMTTIs) and authorized testing Centres.

B.2.2 Annual Action Plan Components:

The States will submit the Annual Action Plans towards the following components of SMAM. The funds sharing pattern between Centre and States/UTs will be 60:40 for the normal States, 90:10 for North Eastern and Himalayan States and 100:0 for Union Territories.

S. No.	Component	Implementing Agencies	Financial Assistance	Eligible Beneficiaries	Broad Criteria for Implementation
1	**Financial assistance to farmers for procurement of farm machinery**	State Governments/ UTs	(i) Financial assistance @ 50% of the cost of machine for small and	Farmers	(i) Beneficiaries will be identified by the State/district nodal agencies in

	and equipments on individual ownership basis		marginal farmers, farmers of the Scheduled Caste and Scheduled Tribe category, women farmers and farmers of the North Eastern States and Himalayan Regions. (ii) Financial assistance @ 40% of the cost of machine for all other farmers (iii) The machine-wise maximum permissible assistance is indicated in **Annexure-XXV**		a transparent manner. (ii) The areas of having lower level of mechanization may be focused to increase availability of appropriate region and crop specific machines.
2	**Establishment of Custom Hiring Centres (CHCs)**	State Governments/ UTs	(i) Financial assistance @ 40% of the project cost for the projects costing up to Rs. 250 lakhs (ii) The maximum permissible assistance per machine under the project will be the maximum permissible assistance indicated against 40% in **Annexure-XXV** (iii) Financial assistance to the agriculture	Rural Entrepreneurs (Rural youth and farmer as an entrepreneur), Cooperative Societies of Farmers, DAY-NRLM Self Help Groups (SHGs), Registered Farmers Societies, Farmer Producer Organizations (FPOs) and Panchayats	(i) Custom Hiring Centres of location and crop specific farm machinery and equipments, Post-Harvest Technology and Value addition machinery and precision farming technologies including Kisan Drones will be established in the districts identified for implementation in the State AAP.

			graduate for establishment of Kisan Drone CHCs will be @ 50% of the basic cost of agricultural drone and its attachments or Rs. 5.00 lakhs, whichever is less. (iv) The CHCs will be established under the model of Credit Linked Back Ended Capital Subsidy as per the broad guidelines indicated in **Annexure-XXVI**		(ii) The districts in State AAP will include villages having low farm power availability and large area under small and marginal holdings. (iii) Any business model including the PPP models may be adopted for expanding the reach of mechanization through CHCs. (iv) It will be necessary to maintain, upgrade the CHCs from time to time (v) From within the allocations made by the States towards CHCs/Hi-Tech Hubs, an allocation of 10% of the funds shall be earmarked towards SHGs under DAY-NRLM through State Rural Livelihood Mission (SRLM) and through Agriculture Department of the respective States. (vi) For Kisan Drone CHCs, the beneficiary should have passed his tenth examination or its equivalent from a

					recognized Board and should have a trained drone pilot for operation of drone.
3	**Establishing Village Level Farm Machinery Banks (FMBs)**	State Governments	(i) Financial assistance @ 80% of the project cost for the projects costing up to Rs. 30.00 lakhs/project. (ii) The beneficiaries may take up the projects costing more than Rs. 30 lakhs. In such cases, the maximum permissible financial assistance will be restricted to Rs. 24 lakhs/project. (iii) The maximum permissible financial assistance on individual machines under the farm machinery projects may be arrived by doubling the maximum permissible subsidy of 40% as indicated in **Annexure-XXV** (iv) The FMBs with the project cost above Rs. 10 lakhs will be established under the	Cooperative Societies of Farmers, Registered Farmer Societies, Self Help Groups, FPOs and Panchayats	(i) The Farm Machinery Banks may be established in the Villages having low level of mechanization and preferably in the most vulnerable rainfed districts identified for priority treatment indicated in the Report, "Prioritization of Districts for Development Planning in India – A Composite Index based Approach". The villages under Aspirational Districts should also be given preference. (ii) From within the allocations made by the States towards FMBs, an allocation of 10% of the funds may be earmarked towards SHGs through State Rural Livelihood Mission (SRLM) and through Agriculture

			model of Credit Linked Back Ended Capital Subsidy as per the broad guidelines indicated in **Annexure-XXVI**		Department of the respective States. (iii) Farm Machinery Banks may provide crop specific mechanization services to the farmers in the region including processing, value addition and crop by-product management. (iv) Women Groups may be encouraged to take up processing, value addition activities through the FMBs. (v) The Women Self Help Gropus identified under Namo Drone Didi Scheme should be given preference for purchase of Multi-utility machines, which may also be used for drone transport. (vi) Not more than one tractor may be allowed under the projects.
4	**Promotion of Agricultural Mechanization in North Eastern Region**	NER State Governments.	(i) For purchase of machines by the farmers on individual ownership basis, financial	Farmers	(i) Beneficiaries will be identified by the State/district nodal agencies

			assistant @ 100% of cost of machine costing up to Rs. 1.25 lakhs will be provided.		in a transparent manner.
			(ii) For establishment of Farm Machinery Banks (FMBs), financial assistance @ 95% of the project cost for the projects costing up to Rs. 30.00 lakhs. (iii) The beneficiaries may take up the projects costing more than Rs. 30 lakhs. However, the maximum permissible financial assistance will be restricted to Rs. 28.50 lakhs/project. (iv) The maximum permissible assistance per machine under the Farm Machinery Bank project will be calculated by multiplying the maximum permissible assistance indicated against 50%	Cooperative Societies of Farmers, Registered Farmer Societies, Self Help Groups (SHGs), FPOs and Panchayats	As indicated against 4.3

			in **Annexure-XXV** by 2 (Two) and then again multiplying the same by 0.95. (v) The FMBs with the project cost above Rs. 10 lakhs will be established under the model of Credit Linked Back Ended Capital Subsidy as per the broad guidelines indicated in **Annexure-XXVI**		
5	**Financial Assistance for Mechanized operations**	State Governments/ UTs	(i) The financial assistance to the small and marginal farmers of low mechanized regions will be provided @ 2000/ha for hiring of Drones from the Custom Hiring Centres, Women SHGs. (ii) This assistance will be available up to 2 ha land in a year. The amount of assistance will be proportionate to the actual land owned by the farmers.	Small and Marginal Farmers	(i) The States shall sign necessary MoUs with CHCs and Women SHGs for providing services of drones to the small and marginal farmers. (ii) The area of kisan drone application should be georeferenced and monitored online and financial assistance should flow to the farmers through DBT

2.0 Central Components (100% funded by Central Government):

S. No.	Component	Implementing Agencies	Financial Assistance	Broad Criteria for Implementation
1	**Demonstration of newly developed agricultural/ horticultural/ crop residue management machines post-harvest technologies and Kisan Drones at farmers' fields.**	FMTTIs, State identified institutions, ICAR institutions, ATMA institutions, KVKs under ICAR/SAUs, National Innovation Foundation (NIF), PSUs of GOI, FPOs.	(i) Depending on the requirements, the implementing agencies (except the FPOs) will be provided grants @ 100% of the cost for purchase of machinery and equipments including Kisan Drones for conducting their demonstrations on the farmers' fields. (ii) The FPOs will be provided grants @ 75% of the cost of machines including the kisan Drones. (iii) The Implementing agencies which do not want to purchase the machines for demonstration, will hire the machines to be demonstrated from the Custom Hiring Centres. In such proposals, financial assistance @ Rs. 6000 per hectare to meet contingency expenditure will be provided. (iv) The rate of grant to meet the contingent expenditure will be Rs. 3000/- per hectare in the case of the implementing agencies that will be provided grants for purchase of equipments and machines for demonstration.	(i) All these demonstrations should be georeferenced and properly monitored. (ii) All the demonstrations will be uploaded on the Krishi MApper (iii) The machines procured for demonstration may also be used for Custom Hiring to the farmers at reasonable rent. (iv) The funds provided as contingent expenditure may be used towards hiring of machines along with implements/ self-propelled machines/Kisan Drones, expenditure towards hands on training and miscellaneous expenditure such as expenditure towards transport, labour, publicity and printing of technical literature etc. However, these funds should not be used for recruitment of staff, TA/DA of staff, purchase of computer, video camera, vehicle etc. or for any construction. (v) The implementing agencies will engage Krishi Sakhis for collecting and uploading of data/pictures of demonstration and geo-plotting/polygon

			(v) Expenditure over and above specified limits will be borne by respective institutions.	mapping of demonstrations on Krishi MApper. A resource fee of Rs. 100 per hectare will be paid to the Krishi Sakhis from within the contingent funds of demonstration. The Krishi Sakhis will be digitally skilled to use the Krishi MApper App. (vi) The Institutions under ICAR, SAUs and other Central institutions may submit their proposals directly. However, the institutions under State Governments will have to route their proposals through State Department of Agriculture/ Agricultural Engineering.
2	**Skilling in field of farm mechanization, post-harvest management and Kisan Drones**	FMTTIs, State identified institutions, ICAR institutions, ATMA institutions, KVKs under ICAR/SAUs	(i) Assistance will be available as per the Common Norms for Skill Development Schemes of the Government of India as notified by the Ministry of Skill Development & Entrepreneurship (as may be amended from time to time). (ii) Depending on the requirements the implementing agencies will be provided financial assistance (100 % grant-in-aid) for purchase of machinery and equipments for conducting training.	(i) The Farm Machinery Training & Testing Institutes (FMTTIs) will organize skill development programmes as indicated in **Annexure – XXVII(A) and XXVII(B).** (ii) The States may also identify the institutions for organizing the skill development programmes as indicated in **Annexure- XXVII (B)**. (iii) The skilling on Kisan Drones may be taken through Remote Pilot Training

				Organizations (RPTOs). (iv) All implementing agencies will monitor the outcome of training in terms of employment generation, self-employment, improvement in productivity/ skills etc. (v) The Institutions under ICAR, SAUs and other Central institutions may submit their proposals directly. However, the institutions under State Governments will have to route their proposals through State Department of Agriculture/ Agricultural Engineering.
3	**Testing of agricultural machines and equipments for performance evaluation**	FMTTIs and Authorized Centres under ICAR/SAUs/State/ Central Governments	(i) The implementing institutions will be provided one time grant of Rs. 1.5 crores each as per their proposals for augmenting the facilities and infrastructure for testing. (ii) Additional grants up to Rs. 1.00 Crore over and above the one time grant may be provided for creating additional testing facilities for testing of new machines as may be approved by DA&FW.	(i) The grants provided will not be utilized to meet the recurring expenditure on testing activities and purchase of vehicles etc. (ii) The FMTTIs will test the machines and equipments as per their authorization. (iii) The identified institutions as per Annexure –XXIX or the institutions as may be recognized in future shall test all non-self-propelled agricultural machines/ equipment. Other equipments may be tested as per the separate

				authorization issued to individual centers by DA&FW. (iv) The testing charges for the machines and equipments may be as fixed by the Department of Agriculture & Farmers Welfare. (v) All the institutions shall scrupulously follow the Test Regulations and all other guidelines issued by the Department of Agriculture & Farmers Welfare from time to time (vi) The Institutions under ICAR, SAUs and other Central institutions may submit their proposals for financial assistance directly to DA&FW. However, the institutions under State Governments will have to route their proposals through State Department of Agriculture/ Agricultural Engineering.

Note:

1. The States may, if they so desire, set aside 25% of budget (including the Central and State Share) as flexi funds to be spent on any sub-scheme or component or innovation that is in line with the overall aim and objective of the approved scheme. In this regard the guidelines for Flexi funds within Centrally Sponsored Schemes of Department of Expenditure vide Office Memorandum No. 55(5)/PF-II/2011 dated 6th September 2016 shall be scrupulously followed.
2. For the financial assistance for kisan drone, the dones may be supplied as a package as indicated in the Operational Guidelines of Namo Drone Didi Scheme. The Kisan Drone specification and training syllabus for drone pilot shall also be as per Operational Guidelines of Namo Drone Didi Scheme.

3. 2.5% of annual outlay of SMAM will be earmarked for incurring administrative and other contingent expenses by the States

B.2.3 General Instructions for Smooth implementation of the Scheme:

(i) The manufacturers eligible for supply of machines based on machine quality conforming to standard specifications, relevant and valid test report of the authorized testing institution and availability of product warranty & after sales service infrastructure from the manufacturer etc. shall be empaneled by the States. The States shall ensure that the cost of machines are reasonable compared to the open market prices of the machines. The manufacturers shall observe transparency in selling prices and the product warranty including after sales services intended to be provided to the farmers/beneficiaries. The maximum selling prices should be displayed on the websites of the manufacturers and also in the dealer's shop.

(ii) The farmers/beneficiaries will be at their liberty to choose any machine/equipment and its variants depending on their requirements and as per their choice from within the empanelled manufacturers by the States and may negotiate the final price after bargaining with the manufacturer/dealer and the beneficiary will be eligible to get the applicable subsidy through DBT.

(iii) In the interest of promoting make in India and Atm-Nirbhar Bharat, it is desired that the States should not impose huge amount of Earnest Money Deposit (EMD) and Performance Security, as the manufacturers in small scale sector gets deprived of their participation in the process carried out by the State Governments for supply of machines under the scheme. The Performance Security, if at all necessary, may be 3-5% of the value of the contract and may be furnished in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt from a commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a commercial bank or online payment in acceptable form safeguarding the purchasers interest in all respects. Insisting on adequate after sales service infrastructure and blacklisting of the firms for failing to meet their obligations may also be adopted.

(iv) A comprehensive online system should be developed for implementing the farm mechanization programmes in the States and it should have arrangements for data sharing on Central portal i.e. https://agrimachinery.nic.in. The States which does not have their online portals will have to be on-boarded on the Central portal.

(v) Manufacturers/suppliers that have tested their products either from FMTTIs or any identified institute by DA&FW will only be eligible for supply of machines. The requirement of test report for the agricultural implements and tools costing less than 50,000 (Fifty thousand) may not be necessary. For such machines, self-certification for the desired specification/ quality/ performance of agricultural implements and tools may be accepted from manufacturers. However, the test report of the FMTTIs or authorized testing institutions may be mandatory for the first time manufacturer of such agricultural implements and tools.

(vi) The agricultural implements and tools costing less than Rs. 50,000 (Fifty thousand) as at SI. No (v) above covers only hand tools, non-powered horticultural & garden tools, animal /manual/ implements required for land preparation/sowing & planting/inter-cultivation/harvesting and threshing/ transportation operations, tractor drawn conventional/ mechanical implements such as ploughs, harrows, seed drills etc. However, a system of random pre/post-dispatch checks of above agricultural implements and tools shall be evolved by the State Governments and if the situation warrants, randomly picked up samples of such agricultural implements and tools shall be tested/ retested from any FMTTI or any authorized testing centre of DA&FW for asserting their specifications, performance and quality.

(vii) Every machine costing Rs. 1.00 lakh and above supplied under the scheme shall mandatorily be georeferenced. The self-propelled machines costing Rs. 1.00 lakh and above such as tractors, self-propelled crop reaper/reaper cum binders etc. supplied to individual farmers and Custom Hiring Centres should be installed with app based AI-powered telematics kit which can track the live movement & location of machine and keep the daily record of work done by the machine. The dashboard of the telematics kit shall be available with the beneficiary of the machines/CHCs and the district as well as State Nodal officer of the scheme. The telematics kit shall be provided by the manufacturers as standard attachment on their machines manufactured after 1st June 2023. The establishment of CHCs should be georeferenced and it should be mandatorily uploaded on the 'FARMS' Mobile App

(viii) It shall be mandatory that the all the Data of Custom Hiring Centres/Farm Machinery capital assets under the scheme including the demonstrations conducted shall mandatorily be uploaded on the Krishi Mapper.

(ix) The Soil Health Card may be necessary for getting the subsidy under the Scheme. If the beneficiary do no possess any Soil Health Card, the soil sample may be collected from the beneficiary and it may be tested for Soil Health Card generation. The expenditure may be adjusted with the subsidy amount of the beneficiary.

(x) The machines supplied under the subsidy programmes should have a standardized unique identification code provided on the body of the machine by laser cut through methods in such a way that it is clearly identifiable, visible and is tamperproof. The guidelines for providing the serial number are as under:

"GJ/6545/444/2023/0001"				
Manufacturin State Code	Manufacturers	Centralized Implement Code	Year of Manufacturin	Serial Number Machines Manufacture
Auto generated thro https://agrimachinery.nic.in/ portal			To be provided by the manufact	

(a) The type of letter should be 'Arial Bold, size of letter should be 25 mm. However, depending on the machine design and space constraints for various machines, the manufacturers are allowed the font size lesser than the indicated one which can be conveniently put on the body of the machine provided that the code is clearly identifiable and visible on the machines.

(b) All the manufacturers have to register themselves on 'agrimachinery.nic.in' portal and needs to obtain the registration number.

(c) The agricultural implement/ machinery costing Rs. 1.00 lakh and more should have laser cut serial number on the main frame which can be viewed from front side of the implement/machinery and the implements/machines on which laser cut serial number is not possible, should place of laser cut serial number plate by welding it on the main frame which can be viewed from front side of the implement/machinery.

(d) The agricultural implements/machines costing less than Rs. 1.00 lakh should have engraved serial number on the location of main frame which can be viewed from front side of the implement/machinery.

(e) The implements/machines having fiber or plastic body on which laser cutting serial number is not possible, such implement/machine should have engraved serial number

(f) The manufacturers those who may exhaust the 4 digit serial number due to their higher production capacities for any particular machine, the States may allow the manufacturers to use up to 6 digits serial number.

(g) This unique serial number coding system shall be accepted by all the States and there shall not be any State specific coding system.

(h) Apart from unique identification code, every machine shall also be provided with labeling plate firmly attached by riveting, hammer drive screws or welding in a conspicuous and readily accessible position on a part which is normally not likely to be replaced during use. It shall show clearly and indelibly the information (1) Complete name and address of the manufacturer (ii) Make & Model of the machine (iii) Type and size of machine (iv) Unique identification code of the machine (v) Month and year of manufacture (vi) Required size of prime mover.

(i) The type of letter should be 'Arial Bold, size of letter should be 25 mm. However, depending on the machine design and space constraints for various machines, the manufacturers are allowed the font size lesser than the indicated one which can be conveniently put on the body of the machine provided that the code is clearly identifiable and visible on the machines.

(j) All the manufacturers have to register themselves on 'agrimachinery.nic.in' portal and needs to obtain the registration number.

(k) The agricultural implement/ machinery costing Rs. 1.00 lakh and more should have laser cut serial number on the main frame which can be viewed from front side of the implement/machinery and the implements/machines on which laser cut serial number is not possible, should place of laser cut serial number plate by welding it on the main frame which can be viewed from front side of the implement/machinery.

(l) The agricultural implements/machines costing less than Rs. 1.00 lakh should have engraved serial number on the location of main frame which can be viewed from front side of the implement/machinery.

(m) The implements/machines having fiber or plastic body on which laser cutting serial number is not possible, such implement/machine should have engraved serial number

(n) The manufacturers those who may exhaust the 4 digit serial number due to their higher production capacities for any particular machine, the States may allow the manufacturers to use up to 6 digits serial number.

(o) This unique serial number coding system shall be accepted by all the States and there shall not be any State specific coding system.

(p) Apart from unique identification code, every machine shall also be provided with labeling plate firmly attached by riveting, hammer drive screws or welding in a conspicuous and readily accessible position on a part which is normally not likely to be replaced during use. It shall show clearly and indelibly the information (1) Complete name and address of the manufacturer (ii) Make & Model of the machine (iii) Type and size of machine (iv) Unique identification code of the machine (v) Month and year of manufacture (vi) Required size of prime mover.

(xi) The manufacturers eligible for supply of machines based on machine quality conforming to standard specifications, relevant and valid test report of the authorized testing institution and availability of product warranty & after sales service infrastructure from the manufacturer etc. shall be empaneled by the States. The States shall ensure that the cost of machines are reasonable compared to the open market prices of the machines. The manufacturers shall observe transparency in selling prices and the product warranty including after sales services intended to be provided to the farmers/beneficiaries. The maximum selling prices should be displayed on the websites of the manufacturers and also in the dealer's shop.

(xii) The farmers/beneficiaries will be at their liberty to choose any machine/equipment and its variants depending on their requirements and as per their choice from within the empanelled manufacturers by the States and may negotiate the final price after bargaining with the manufacturer/dealer and the beneficiary will be eligible to get the applicable subsidy through DBT.

(xiii) In the interest of promoting make in India and Atm-Nirbhar Bharat, it is desired that the States should not impose huge amount of Earnest Money Deposit (EMD) and Performance Security, as the manufacturers in small scale sector gets deprived of

their participation in the process carried out by the State Governments for supply of machines under the scheme. The Performance Security, if at all necessary, may be 3-5% of the value of the contract and may be furnished in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt from a commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a commercial bank or online payment in acceptable form safeguarding the purchasers interest in all respects. Insisting on adequate after sales service infrastructure and blacklisting of the firms for failing to meet their obligations may also be adopted.

(xiv) A comprehensive online system should be developed for implementing the farm mechanization programmes in the States and it should have arrangements for data sharing on Central portal i.e. https://agrimachinery.nic.in. The States which does not have their online portals will have to be on-boarded on the Central portal.

(xv) Manufacturers/suppliers that have tested their products either from FMTTIs or any identified institute by DA&FW will only be eligible for supply of machines. The requirement of test report for the agricultural implements and tools costing less than 50,000 (Fifty thousand) may not be necessary. For such machines, self-certification for the desired specification/ quality/ performance of agricultural implements and tools may be accepted from manufacturers. However, the test report of the FMTTIs or authorized testing institutions may be mandatory for the first time manufacturer of such agricultural implements and tools.

(xvi) The agricultural implements and tools costing less than Rs. 50,000 (Fifty thousand) as at SI. No (v) above covers only hand tools, non-powered horticultural & garden tools, animal /manual/ implements required for land preparation/sowing & planting/inter-cultivation/harvesting and threshing/ transportation operations, tractor drawn conventional/ mechanical implements such as ploughs, harrows, seed drills etc. However, a system of random pre/post-dispatch checks of above agricultural implements and tools shall be evolved by the State Governments and if the situation warrants, randomly picked up samples of such agricultural implements and tools shall be tested/ retested from any FMTTI or any authorized testing centre of DA&FW for asserting their specifications, performance and quality.

(xvii) Every machine costing Rs. 1.00 lakh and above supplied under the scheme shall mandatorily be georeferenced. The self-propelled machines costing Rs. 1.00 lakh

and above such as tractors, self-propelled crop reaper/reaper cum binders etc. supplied to individual farmers and Custom Hiring Centres should be installed with app based AI-powered telematics kit which can track the live movement & location of machine and keep the daily record of work done by the machine. The dashboard of the telematics kit shall be available with the beneficiary of the machines/CHCs and the district as well as State Nodal officer of the scheme. The telematics kit shall be provided by the manufacturers as standard attachment on their machines manufactured after 1st June 2023. The establishment of CHCs should be georeferenced and it should be mandatorily uploaded on the 'FARMS' Mobile App

(xviii) It shall be mandatory that the all the Data of Custom Hiring Centres/Farm Machinery capital assets under the scheme including the demonstrations conducted shall mandatorily be uploaded on the Krishi Mapper/Mobile app developed by DA&FW.

(xix) The Soil Health Card may be necessary for getting the subsidy under the Scheme. If the beneficiary do no possess any Soil Health Card, the soil sample may be collected from the beneficiary and it may be tested for Soil Health Card generation. The expenditure may be adjusted with the subsidy amount of the beneficiary.

(xx) The machines supplied under the subsidy programmes should have a standardized unique identification code provided on the body of the machine by laser cut through methods in such a way that it is clearly identifiable, visible and is tamperproof. The guidelines for providing the serial number are as under:

B.2.4 Scheme Monitoring

Mechanization & Technology (M&T) Division of Department of Agriculture & farmers Welfare will be responsible for implementing and monitoring of the Scheme as under:

- Visit the states regularly and frequently to provide guidance in organizational and technical matters.
- Help in the implementation, monitoring and evaluation of various interventions in the scheme and provide feedback reports

- Compile materials for capacity building, conduct and participate in the promotional events such as, workshops/ seminars/exhibitions on different subjects in different regions of the country.
- Undertake publicity/information campaign to create awareness on farm mechanization, document and disseminate the success stories.
- Assist the State Agencies in concurrent evaluation based on performance indicators
- Assess state-wise farm power status, availability and existing gap and identify the future requirements
- In order to enrich the knowledge base of the technical personnel/progressive farmers involved in the scheme, exposure visit/training of technical staff /officers at International organizations like IRRI, ICRISAT, CSAM China, NIAE Korea, JICA Japan, NTTL USA etc. or any other research organization in farm mechanization within the country and abroad would be organized.
- 2.5% of annual outlay of the Sub-Mission will be earmarked for incurring administrative and other contingent expenses towards the above

The component wise details of activities to be undertaken under the scheme are given at **Annexure-(XXV – XXVIII)**

B.3 CRM:

A large portion of the paddy straw / crop residues are burnt in the field primarily to clear the field after the harvest of the preceding crop for the sowing of next crop. Burning these crop residue causes phenomenal pollution problems in the atmosphere and huge nutritional loss and physical health deterioration to the soil. It has been estimated that The burning of one tonne of paddy straw releases 3 kg particulate matter, 60 kg CO, 1460 kg CO_2, 199 kg ash and 2 kg SO_2. These gases affect human health due to general degradation in air quality resulting in aggravation of eye and skin diseases. Fine particles can also aggravate chronic heart and lung diseases. One ton of paddy straw contains approximately 5.5 kg N, 2.3 kg P_2O_5, 25 kg K_2O, 1.2 kg S, 50-70% of micro-nutrients absorbed by rice and 400 kg of carbon, which are lost due to burning of paddy straw. Apart from loss of nutrients, some of the soil properties like soil temperature, pH, moisture, available phosphorus and soil organic matter are greatly affected due to burning.

Crop Residue Management Options can be classified as in-situ and ex-situ management options. Retaining, incorporating or mulching the crop residues in the field and decomposing using consortia of microbes are the two possible in-situ crop residue management options. Baling and transporting straw from the field is other feasible ex-situ option when alternate, effective and economically viable usage methods are identified and facilities and infrastructure are created.

It is envisaged that appropriate mix of in-situ and ex-situ crop residue management options through a holistic approach of providing appropriate solutions, optimally utilizing the existing resources and establishing appropriate supply chain through a cluster based approach in the vicinity of various industries utilizing the crop residue will help containing the burning of crop residues in the open field.

In view of above, the efforts of the States of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and NCT of Delhi in addressing the problems of crop residue burning through the interventions described hereunder:

B.3.1 Strategy:

To achieve the above objectives, a focused approach of providing appropriate and already accepted machines for in-situ management will be adopted. Optimal utilization of already

available machines and machines that will be made available to fulfil the gaps will be ensured. A supply chain will be established through a cluster based approach in the vicinity of various industries utilizing the paddy straw. The supply chain beneficiaries will collect, densify, store the paddy straw at desired locations and will make available the same to various users or industries as per requirement. Strategic Information, Education and Communication (IEC) will also be undertaken with the involvement of all stakeholders for mass awareness of farmers.

I. Financial assistance to farmers for procurement of crop residue management machines on individual ownership basis:

(a) **Implementing Agencies:** State Governments/UTs

(b) **Identification of Beneficiary:** Beneficiaries will be identified by the State/district nodal agencies in a transparent manner. The areas of having larger problems of crop residue burning may be focused to increase availability of appropriate machines.

(c) **Financial Assistance:** The rate of financial assistance will @ 50% of the cost of machinery. The list of machines identified for crop residue management together with ceiling limit for subsidy is indicated in **Annexure-XXIX**

In case of tractor drawn machines, preference may be given to those beneficiaries owning the compatible tractor for operation of the machine.

II. Establishment of Custom Hiring Centres of Crop Residue Management Machines:

(a) **Implementing Agencies:** State Governments

(b) **Composition of Custom Hiring Centres:**

(i) The machines/equipments for establishing Custom Hiring Centres (CHCs) appropriate for the crop residue management will be selected from within the list at **Annexure-XXIX.**

(ii) Purchase of One tractor of 60 HP & above will be allowed under the project.

(iii) Each CHC should be provided the machines and equipments for the entire operations of crop residue management.

(iv) The capacity of the machines may be selected on the basis of area to be covered in a cropping season.

(c) Financial Assistance:

Credit Linked Back Ended Subsidy@ 80% of the project cost for the projects of Custom Hiring Centres (CHCs) costing up to Rs. 30lakhs will be available to Rural Entrepreneurs (Rural youth and farmer as an entrepreneur), Cooperative Societies of Farmers, Registered Farmers Societies, Farmer Producer Organizations (FPOs) and Panchayats. The maximum permissible assistance per machine under the CHC project is indicated in **Annexure-XXX.** The maximum permissible subsidy for each project should not exceed Rs. 24.00 lakhs per project.

The broad Guidelines for Credit Linked Back Ended Subsidy are given in Annexure-XXXI

III. Establishment of crop residue/paddy straw supply chain:

The broader objectives of the crop residue/paddy straw supply chain will be as under:

- Enable better environmental practices for ex-situ management crop residue.
- Establishing collection infrastructure, bailing, transportation and handling of large amount of crop residue and creation of storage facilities.
- Utilizing the paddy straw in different industries utilizing it such as biomass power generation units, Biomass co-firing in Thermal Power Plants, Bio-CNG, Bio-Ethanol, etc.
- Assured procurement of paddy straw from farmers through the by the paddy straw aggregators.
- Ensure increase in income (both from the produce and later from the sale of paddy residue) for farmers and enhance rural employment and financial inclusion.

(a) **Implementing Agencies:** State Governments

(b) **Financial Assistance:**

(i) Based on the project proposals, a Credit Linked Back Ended Subsidy will be provided only on the capital cost of machinery and equipment like Higher HP Tractor, Cutters, Tedder, Medium to Large Balers, Rakers, Loaders, Grabbers and Telehandlers. The broad Guidelines for Credit Linked Back Ended Subsidy are given in **Annexure-XXXI**

(ii) The projects may be implemented under the bilateral agreement of the end user industry and the beneficiary. The capital subsidy will be released into the Subsidy Reserve Fund Account of the concerned borrowers through Direct Benefit Transfer (DBT).

(iii) For the project under bilateral arrangement, the financial contribution of each stakeholder may be as follows:

a) Government (jointly by Central and State Governments) will provide financial support of 65% up to a maximum limit as indicated in the Annexure-IV. The Government shall implement the intervention through a bilateral agreement between the Beneficiary and Industries and monitor the effectiveness with respective State Agriculture Departments to monitor and manage the project. *The expenditure will be met from the flexi funds of the Crop Residue Management Scheme.*

b) Farmer or group of Farmers or Rural Entrepreneurs or Cooperative Societies of Farmers or Farmers Producer Organizations (FPOs) & Panchayats will contribute the balance at least 10% and will be the primary aggregator of feedstock and direct beneficiary of this PPP model. They will perform the feedstock collection targets in line with the volume and quality guidelines of the end-use industry/project requirements throughout the life of the machinery.

c) Industry as primary promoter of the project will contribute the balance project cost and will act as the Primary consumer of the feedstock collected via machinery. Industry will be responsible for overall effective machinery deployment via most suitable machinery manufacturers, training of beneficiaries, aggregation planning along with volume and quality guidelines, on-ground execution of aggregation during post-harvest collection period, pricing of feedstock and offtake guidelines. Industry will be primary consumer of the feedstock throughout the life of the machinery.

(iv) For projects which are not under the bilateral arrangement of any end user industry and beneficiary and the beneficiaries are willing to contribute balance project cost, the financial contribution in such cases may be as follows:

a) Government (jointly by Central and State Governments) will provide financial support of 65% upto a maximum limit as indicated in the

Annexure-IV. The expenditure will be met from the flexi funds of the Crop Residue Management Scheme.

b) Farmer or group of Farmers or Rural Entrepreneurs or Cooperative Societies of Farmers or Farmers Producer Organizations (FPOs) & Panchayats will contribute the balance 35% and will be the primary aggregator of feedstock.

(v) Financial assistance from the Government will be provided only on the capital cost of machinery and equipment and the rest of the capital expenditure and required working capital may be arranged by the beneficiary through Bank financing.

(vi) The Indicative Capital Expenditure for Setting up Paddy Straw Supply Chain (For 3000 MT Paddy Straw per Season and 4500 MT Paddy Straw per Season) is given in **Annexure-XXXII.** However, the maximum allowable cost for each machine covered under the project shall be decided by the State Governments. For the purpose of financial assistance on 4500 MT paddy straw per season projects, the capital cost of project will be limited to Rs. 1.50 Crores/project.

(vii) The machines and equipments and their costs are indicative and beneficiaries may have the choice of selection of equipments from within the list as per their requirement. The total project cost can only be arrived based on the proforma invoices of the sale of machines. The States also have the flexibility to include any machine under the projects as per their requirement.

(viii) Purchase of only tractors under the project shall not be allowed. The large capacity balers may be replaced with a number of small balers for same capacity projects.

B.3.2 Management:

The implementation of the intervention is proposed on pilot project basis to support the investment planned for ex-situ machinery deployment. The programme will be monitored by Department of Agriculture & Farmers Welfare with the help of Agriculture Departments of the State Government. However, the management of supply chain is the responsibility of scheme beneficiaries' e.g. Farmers or a group of farmers, entrepreneurs, Cooperative Societies of Farmers, Farmers Producer Organizations (FPOs) and Panchayats in association with the participating industry.

(i) For the projects to be implemented under the bi-lateral agreement between the Beneficiary and Industries utilizing the paddy straw, an agreement shall be executed between the stakeholders to ensure smooth implementation of the interventions keeping the interests of the industrial project and beneficiaries interests by addressing measures for Risk Mitigation, Default clauses etc., to protect the investment made by all respective stakeholders.

(ii) The State Governments shall constitute a project sanctioning committee which shall devise a template for submission of project proposal by the beneficiaries. The Committee shall also evaluate the project proposals and recommend the proposals for approval or otherwise.

(iii) The sample format for the bilateral agreement is enclosed as **Annexure-XXXIII** and the provisions indicated in the sample agreement may be amended as per the requirements and mutual consent of the parties. There may not be requirement of such an agreement where the beneficiaries without the involvement of end user industry are ready to contribute remaining project cost (Project cost – applicable subsidy) at their own.

B.3.3 Information, Education and Communication (IEC) for awareness on crop residue management

(a) **Implementing Agencies:** The State Governments shall identify State Institutions, SAUs, KVKs, PSUs, ICAR & Central Government institutions for conducting the IEC activities and the funds will be provided by the States to these identified institutions based on their proposals.

(b) **Objectives:** (i) Launching Massive information and publicity campaign amongst the farmers through coordinated efforts of all stakeholders to mobilize farmers for not burning the crop residue. (ii) Conducting capacity building programmes and large scale demonstrations of the technologies on the farmer's fields for speedy adoption of technologies by the farmers.

(c) **Provisions and Financial Assistance:**

(I) Demonstration of crop residue management machines on the farmers' fields:

i. Depending on the requirements, State Government institutions, KVKs, ICAR institutions, Central Government institutions, PSUs, may be allowed purchase of machinery and equipments for demonstration.

ii. All demonstrations will be carried out under close supervision of Implementing Agency and the demonstrations sites shall be georeferenced and uploaded on the State portals.

iii. The machines to be demonstrated shall be identified by the implementing agencies. The implementing agencies will be provided full cost of machines to be procured and a contingency expenditure @ Rs. 6000/- per hectare will also be provided for taking up demonstrations on the farmers' fields.

iv. All implementing agencies will monitor the outcome of training and demonstration in terms of improvement in skills, and adoption of technologies etc.

(II) Demonstration of Bio-decomposer Technology on farmers' fields:

As the application of decomposer in the fields involves preparing and multiplying the formulation to a water soluble sprayable form in large quantities and then its application in the harvested fields through suitable sprayers, the implementing agencies (State Governments, KVKs and ICAR institutions) may engage service providers/custom hiring centres having adequate resources after following due procedure for engagement of such service providers, for the following broader tasks to be carried out:

(a) Conduct large scale demonstrations on the farmers' fields

(b) Identify the farmers and area for large scale application of bio-decomposer technology

(c) Geo-referencing of the identified area

(d) Procuring and making available bio-decomposer in required quantity

(e) Provide spraying services of the decomposer at scale through suitable sprayers

(f) Advising the farmers to follow irrigation and primary tillage operations for completing the protocol of decomposition.

(g) create awareness and ensure follow through on protocol for pre and post spraying operations

(h) Monitoring the fields through satellite and ground observations for decomposition of the crop residue and that the fields are not burnt by the farmers

(i) Reporting and documenting the entire demonstration programme and its outcome.

The financial requirements on actual basis towards these demonstrations may be met by the States from the overall funds made available for crop residue management.

The States may also procure this technology (bio-decomposer) from validated suppliers and provide the same to the farmers at free of cost.

(III) Capacity Building Programmes on crop residue management:

a) Depending on the requirements, State Government institutions, KVKs, ICAR institutions, Central Government institutions, PSUs, may be funded for purchase of machinery and equipments for providing training to farmers/users/stakeholders.

b) An amount of Rs. 6000/- per trainee per week (05 days) will be provided to the institutes identified for training to meet the expenses towards manpower, boarding/lodging and transport. This financial assistance will be proportionate to the training duration

c) All implementing agencies will monitor the outcome of training in terms of improvement in skills, and adoption of technologies etc.

(IV) Information and publicity campaigns

(i) The activities but not limited to the following may be implemented for mass awareness of farmers with the involvement of all stakeholders, social organizations and industry associations, NGOs etc.:

(a) Advertisements in the electronic and print media and social media platforms.

(b) Formation of social media groups for creating awareness, sharing benefits of crop residue management and relevant information & advisories among the farmers and other stakeholders

(c) Radio jingles, State specific Audio-visual clips in local language, Star campaigning etc.

(d) Mobilization of schools and colleges students through essay completion, painting, debate etc.

(e) Award for village / Gram Panchayat, role model farmers for achieving zero stubble burning

(f) Distribution of attractive publicity materials such as leaflets, pamphlets, placards, posters etc. Communication through banners, hoardings, wall paintings etc. at prominent locations.

(g) Organizing Gram Sabhas, meetings, functions, Kisan Melas etc.

(h) Special and innovative programs for sensitization and mass awareness through panel discussions of farmers, short and long films on Doordarshan/ DD-Kisan and other private channels.

(ii) The financial requirements on actual basis towards these activities may be met by the States from the overall funds made available for crop residue management.

The suggestive schedule of IEC activities are indicated below:

Period	Activities	Level of activity	Frequency
April-May	Preparation of short and long films / documentaries/ publicity materials including material for radio and TV programs	-	-
April-May	Preparation of publicity materials such as leaflets, pamphlets, placards, posters, banners, hoardings etc.	-	-
April to July	Formulating strategies action plans towards mobilizing the farmers through various IEC activities	-	-
August-November	Organizing Farmer Awareness /demonstration Camps by	At village/ cluster level	02 times

	organizing Gram Sabhas, meetings, functions, Kisan Melas etc.	Block/district level	01 time
		State level	01 time
July-November	Organization of capacity building programs by KVKs in association with Farmers' Clubs and Cooperative Societies	KVKs in Punjab Haryana, Uttar Pradesh and NCT of Delhi	Regularly
Start by 15th April intensify during September to November	Advertisements in the Print Media.	-	Weekly
Start by 15th April Intensify during September to November	Special programs for sensitization and mass awareness and panel discussions of farmers who have switched over to crop residue management at Doordarshan/ DD-Kisan and other private channels live telecast.	-	Weekly in normal month, twice a week during intensification
August to Novemb	Radio jingles, State specific Audio-visual clips in local language, Star campaigning (30-60 seconds duration)	-	Four times daily
July to December	Formation of social media groups for creating awareness, benefits of crop residue management, sharing of relevant information and advisories among the farmers and other stakeholders	-	Continuously
	Mobilization of schools and colleges students through essay completion, painting, debate etc.	School level	Monthly
		District level	once in two months
		State level	Quarterly
December-January	Award for village / Gram Panchayat for achieving zero straw burning	Block/district le	Yearly

B.3.4 Other instructions for Smooth implementation of the Interventions:

(i) The manufacturers eligible for supply of machines based on machine quality conforming to standard specifications, relevant and valid test report of the authorized testing institution and availability of product warranty & after sales service infrastructure from the manufacturer etc. shall be enlisted and updated on

regular basis by the States. The cost of machines and their variants shall be left to be decided by the manufacturers depending on the competitive market forces. The manufacturers shall observe transparency in selling prices and the product warranty including after sales services intended to be provided to the farmers/beneficiaries.

(ii) Manufacturers/suppliers that have tested their products either from FMTTIs or any identified institute by DA&FW will only be eligible for supply of machines.

(iii) The farmers/beneficiaries will be at their liberty to choose any machine/equipment and its variants depending on their requirements and as per their choice from within the list of empanelled manufacturers by the States and may negotiate the final price after bargaining with the manufacturer/dealer and the beneficiary will be eligible to get the subsidy amount as may be fixed by the States through DBT.

(iv) In the interest of promoting make in India and Atm-Nirbhar Bharat, it is desired that the States should not impose huge amount of Earnest Money Deposit (EMD) and Performance Bank Guarantees, as the manufacturers in small scale sector gets deprived of their participation in the empanelment process carried out by the State Governments for supply of machines under the scheme. The EMD and Performance Bank Guarantee, if at all necessary, may be kept at minimum level and proportionate the sale volume of the manufacturer or may be done away with and rather other measures such as surety bonds, insisting on adequate after sales service infrastructure and blacklisting of the firms for failing to meet obligations may be adopted.

(v) A comprehensive online system should be developed for implementing the interventions in the States having arrangements for data sharing on Central portal i.e. https://agrimachinery.nic.in.

(vi) Every machine costing Rs. 1.00 lakh and above supplied under the scheme shall mandatorily be georeferenced. The self-propelled machines costing Rs. 1.00 lakh and above such as tractors, self-propelled crop reaper/reaper cum binders etc. supplied to individual farmers and Custom Hiring Centres should be installed with app based AI-powered telematics kit which can track the live movement & location of machine and keep the daily record of work done by the machine. The dashboard of the telematics kit shall be available with the beneficiary of the machines/CHCs and the district as well as State Nodal officer of the scheme. The telematics kit shall

be provided by the manufacturers as standard attachment on their machines manufactured after 1st June 2023. The establishment of CHCs should be georeferenced and it should be mandatorily uploaded on the 'FARMS' Mobile App

(vii) The guidelines of SMAM will be applicable as mentioned at para X of B.2.3 above with regard to the machines supplied under the subsidy programmes

B.4 SH&F

The Soil Health Cards (SHCs) introduced in the year 2014-15 with objective to assist states in promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients in conjunction with organic manures & bio-fertilizers for improving soil health and its productivity. This scheme has sub-components like, setting up/ strengthening of Soil Testing, Fertilizers/ Bio-fertilizers & Organic fertilizers Quality Control Labs, promoting Micro-nutrients, and testing soil samples to issue Soil Health Cards.

B.4.1 Institutional Structure

SH&F will adopt the following institutional structure

a) National Advisory Committee

The National Advisory Committee (NAC) under Chairmanship of Secretary (A&FW) to will be the policy formulating body giving overall direction and guidance to monitor and review its progress and performance. It is empowered to lay down and amend/new changes in operational guidelines of Scheme other than those affecting financial pattern and Cost Norms. The NAC will comprise the following members:

b) State Level Steering Committee (SLSC)

The State Level Steering Committee (SLSC) headed by Chief Secretary constituted under PMRKVY will oversee the implementation of Soil Health & Fertility component in respective States. The Committee shall submit the Annual Action Plan prepared by the State Nodal Department/ Agency to GoI for approval. The committed liabilities & new activities of components are to be brought out clearly and distinctly in the AAP approved by the SLSC. Proposed allocation should not exceed 125% of tentative allocation under the scheme.

c) Role of Panchayati Raj Institutions (PRIs)

Panchayati Raj institutions are main instruments of village local government which play vital role in enhancement of agricultural developments and women participation in local government etc. The State Government and other designated implementing agencies to the extent possible to ensure active participation of the Panchayati Raj Institutions (PRIs) in the implementation of this scheme. PRIs may also be involved in publicizing the demonstrations and training of farmers and in ensuring participation of farmers from nearby areas for widespread

dissemination of technology.

B.4.2 Expected Outcome and Interventions:

The Scheme envisages the need based Soil Samples Collection, Testing & Soil Health Cards generation of SHC Portal to promote Soil Health Management. It will promote balanced and judicious use of plant nutrients. Promotion of integrated nutrient system is expected to reduce the consumption of chemical fertilizers. 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 as nutrient use efficiency.

Interventions proposed for the Scheme includes development of modalities for soil sample collection along with standard sampling norms, quality control in the soil analysis, intensive use of ICT for data base management for faster delivery of Soil Health Cards in PPP mode and popularizing soil test based INM through field demonstrations, training & knowledge sharing on farmer's field.

B.4.3 Component-wise details

I. Soil Samples Collection, Testing and online generation of Soil Health Card on SHC Portal:

Soil Health Card is field specific detailed report of soil fertility status and other important soil parameters that affect crop productivity. Besides, soil health, it also provides an advisory on soil test based use of fertilizers and amendments. Soil Health Card has the information like, status of soil fertility, dosage of fertilizer application in crops, soil amendments of saline or alkaline soil, recommendation on integrated nutrient management. Diagnostic need based soil health assessment of farmer fields may be taken up periodically to issue Soil Health Cards. The State Governments may prepare yearly action plan indicating number of land holdings to be covered in the selected districts & number of soil samples to be drawn and finally total number of samples to be drawn and tested. The quality of soil testing results and fertilizer recommendation depends upon proper soil sampling. For this, the following scientific norms are prescribed:

- The ideal time for collection of soil samples is between harvests of one crop and sowing/ planting of other crop, when fields are vacant.

- The sampling depth for field crops should kept 0 to 15 cm.
- Sample has to be collected preferably with the help of stainless steel tube augur, or alternatively with a khurpi /spade or kassi.

- A brief training to the soil sampling staff/students/ farmers'/field extension machinery would be necessary to ensure collection of representative soil sample, their labeling and transport to the STLs.
- GPS co-ordinates with Mobile Apps have to be essentially recorded at the time of soil sampling which will be downloaded in the STL computer.
- The need based villages/ farmers will use stratified sampling techniques. Samples will be collected from marginal, small and large farms to address variations that arise due to different management practices. Within each farm size class, samples will be chosen to represent all possible soil fertility variations.

In the new system, samples will be collected with the provision of proper sealing of samples with QR Code, geo tagging and mobile selfie.

The need based soil sample collection, analysis and generation of Soil Health Card on SHC Portal for farmers will be done by states/UTs with the help of mobile App. The mobile application after capturing the above data will scan a blank QR code or bar code which will capture the data of farmers and land details and this will be slicked to the sample collected. Simultaneously, the farmer would receive an SMS with information about the sample collection. The information regarding the farmer will be stored on the cloud. The sample is then sent to the nearest ICAR validated soil test lab/unit. **The detailed guidelines for mobile application to collect the sample are at Annexure-XXXIV.**

The mobile application has been linked with Agri Stack. Wherever the Agri Stack is implemented, the farmer's demographic details and land details will be captured through farmers ID. It will automatically capture the survey number and will validate the farmer's identity and land details. All the respective Sates, Districts, Villages where Agri Stack is existing, States are requested to provide the data of the farmers through API to the technical team of Soil Health Card.

Soil sample collection, analysis and generation of Soil Health Card on SHC Portal farmers will

be done for which the financial assistance @ Rs.300 per sample will be given to the states/UTs. The breakup of Rs.300 per sample will be as under-

S. No.	Activities/ Items	Revised Cost (in Rs.
1.	Soil sample collection, including Sample Kit (Sample bag 6”x4” size, sealing Wax, Thread, QR code, Candle & Match etc).	50.00
2.	Engaging Contractual services & training per STL	40.00
3.	For analyzing soil samples:- cost of chemicals, glass ware miscellaneous includes gas, filter papers, distilled water etc.	188.00
4.	Printing and Distribution of SHC.	05.00 (Based on Sta requirements)
5.	Demonstration & Awareness on SHC requirement for Health & Fertility.	15.00
6.	Maintenance/House Keeping of Lab.	02.00
	Total Cost	300.00

States/UTs are permitted for inter-component flexibility in cost upto 10% in each component as mentioned above.

Demonstration & Awareness component amounting to Rs. 15 will be given by State to Krishi Sakhi (SRLM) and ATMA for each soil health card.

The entire activity will be undertaken as per Citizen Charter issued by this Ministry (Annexure-XXXV)

II. Allotment & monitoring of targets through SHC portal

Scheme will be monitored through revamped portal https://soilhealth.dac.gov.in . State – wise targets will set in the portal by Central Admin for soil sample collection as per Annual Action Plan of State Government in April month. These targets will be further bifurcated by States to their STLs. Sample collection; testing and generation of SHC will be updated on portal on real time basis. State wise target for other components will be set in Portal and state will update the achievement against the target on daily basis. State and STLs will be provided separate login credential to operate the portal. The manuals for the portal is at **Annexure- XXXVI**

III. Setting up of Village Level Soil Testing Labs (VLSTLs) and Incentive to Entrepreneurs :

Setting of village level soil testing labs will generate employment for rural youth and facilitate

quick analysis of soil samples at farm gate level and enhance soil-testing capacity. The Financial assistance @ Rs.1.50 lakh-total project cost will be provided to beneficiaries, which will be shared on 60:40 bases between GOI and states (90:10 in case of NE and Hilly States). There is no required of beneficiary contribution for purchase of machinery & equipment, glassware and miscellaneous laboratory articles to create facilities for analysis of NPK, secondary and micronutrients. **The guidelines for setting up of Village Level Soil Testing Lab is at Annexure-XXXVII.**

Financial assistance for setting up of Village Level Soil Testing Labs can be availed by Individuals, Farmer Producer Organizations (FPOs), PACS, Agri-Clinics & Agri-Business Centers (AC&ABC), Agri-preneurs, Ex-servicemen, Self Help Groups (SHGs), Farmer Producer Companies (FPCs), Farmer Joint Liability Groups, Farmer Co-operative Societies, Input Retailers and Schools/Colleges. The State Governments will also allot area/ villages to them for sample collection.

Incentives serve as a catalyst to start a dynamic process of entrepreneur's development. The financial and promotional assistance provided to the entrepreneurs for boosting up private sector development. In order to encourage the entrepreneurs in the scheme for soil testing, the incentive @ Rs.20/- per Soil Health Card will be provided to entrepreneurs who have set up village level STLs and perform Soil sample collection and testing beyond 300 Samples.

IV. Demonstrations, Training & Knowledge Sharing on Farmer's Field:

The utility of Soil Health Card lies in the adoption of recommendations entailed therein by the farmers. In the selected villages, financial assistance for soil test based nutrient balancing will be provided to states for demonstration on farmer's field. Under demonstration, all the required fertilizer inputs i.e. fertilizers, bio-fertilizers, micro-nutrients, organic manure and soil amendments (Gypsum or Liming material) are to be provided for demonstration of soil test based balanced use of fertilizers i.e. Integrated Nutrients Management (INM) with financial assistance @ Rs.5000/- per demonstration of one hectare.

V. Setting up New Soil Testing Laboratories (Static/ Mobile):

In order to promote soil test base balanced and judicious use of chemical fertilizers, assistance will be provided to set up new static/mobile labs. The financial assistance @ Rs.75 lakhs per lab will be provided for purchase of machinery & equipment, chemicals & glass wares,

miscellaneous laboratory articles & contingencies for Static/Mobile labs as per indicative list at **Annexure XXXVIII & XXXIX** respectively. The suggested list of equipment's can be changed in special circumstances only with the specific approval of INM Division.

Involvement of Private Sector- Whereas, normally Soil Testing labs will be setup 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, Agri-clinics, NGOs, Cooperative Societies and private entrepreneurs (Agri-entrepreneurs). The State Governments will need to announce clear guidelines for involving the private sector agencies in the operation and management of the 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. In proposed system of mobile applications Static Labs for soil testing will also be mapped in the portal with their unique ID and Geo-coordinates.

VI. Strengthening of Soil Testing Labs:

Many of the existing STLs do not have facilities for micronutrient analysis and the existing capacities of analyzing NPK also is not being fully utilized. A onetime grant shall be provided to create facilities for analysis of micronutrients such as Zinc, Iron, Copper, Manganese, Boron, etc. Normally Existing Static STLs/ MSTLs working under the control of the State Governments/UTs will be eligible for strengthening. For strengthening of STLs having no micronutrient 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 for operation and management of existing STL and MSTL, along with strengthening under the scheme.

The one-time financial assistance will be provided for inclusion of modern & faster equipment

viz. Intensively Coupled Plasma Spectrophotometer (ICP) @ Rs.65.00 lakh per lab and @ Rs.40.00 lakhs per lab for Atomic Absorption Spectrophotometer (AAS) under the component of strengthening of existing soil testing labs. Inductively Coupled Plasma Spectrophotometer (ICP)/Atomic Absorption Spectrophotometer (AAS) and its accessories with required chemicals and glassware of standard quality are given in indicative list at **Annexure-XL.**

Soil labs can also be strengthened to test Fertilizers and Bio-fertilizers. The rate will be application as per the existing provision in this regard.

VII. Setting up of new Fertilizer Quality Control Laboratories (FQCLs) by State Governments:

The capacity of existing testing facilities is quite inadequate, it is therefore, proposed to setup new FQCLs by the State Governments for quality testing with annual analyzing capacity of 4000 samples each. The one-time financial assistance @ Rs.75.00 lakhs per laboratory shall be provided for purchase of machinery & equipment, chemicals, glass wares and miscellaneous laboratory articles to create facilities for analysis of NPK, secondary and micronutrients as per **Annexure XLI**.

VIII. Strengthening of the existing State Fertilizer Quality Control Laboratories:

In order to check the quality of the fertilizers sold in the country, FQCLs are working under the control of deferent State Governments. Since quality testing is a statutory requirement under the Fertilizer Control Order (FCO), it is imperative to maintain all the instruments and equipment and to ensure supply of quality chemicals and glassware for the analysis. This requires time-to-time up gradation and replacement of the equipment. Many of the State Laboratories are also facing acute financial problem to maintain these facilities. Therefore, in order to maintain the high standard of analysis potential, it is proposed to upgrade and strengthen the existing FQCLs.

The one-time assistance will be provided to only those State laboratories, which are functional and working well. Financial assistance @Rs.40.00 lakhs per laboratory is to be provided for purchase of machinery & equipment, chemicals, glassware and miscellaneous laboratory articles as indicated at **Annexure XLII.**

IX. Setting up of Bio-fertilizer & Organic-fertilizer Quality Control Laboratories:

For setting up of Bio-fertilizers & Organic-fertilizer Quality Control Laboratories assistance as Grant-in-Aid shall be provided up to maximum limit of Rs.85.00 lakhs for new laboratory to State Governments/UTs. Details of equipment machinery are given **at Annexure XLIII.**

X. Strengthening of existing BOQCL Laboratories:

For existing Bio-fertilizers and Organic-fertilizer Quality Control Laboratories established by State Government assistance shall be provided as Grant-in-Aid up to a maximum limit @ Rs.45.00 lakhs per lab for their strengthening in terms of equipment's/instruments etc. Any of the equipment's shall be the admissible items for strengthening given at **Annexure XLIV.**

XI. Promotion of Micronutrients:

Intensive agriculture is experiencing widespread deficiency of micronutrients particularly of zinc, iron, manganese, boron, etc. Therefore, promotion of use of micronutrients as per Soil Health Card recommendation in the deficiency areas @ Rs.500 per ha would be given.

XII. Reclamation of Problem Soils:

Based on recommendation of NITI Ayog, the sub-scheme 'Reclamation of Problem soils' which was earlier in RKVY-RAFTAAR has been transferred and kept as sub component with Soil Health Management (SHM) scheme. Further, the Soil Health Management (SHM) has been merged as Soil Health & Fertility component with RKVY-cafeteria scheme.

The financial assistance will be provided as per details given below:

S. No.	Activity	Financial Assistance per
I	For Gypsum/ Lime application, Green manuring and Bunding in	
	a. Acidic soils	Rs.0.10 lakh
	b. Alkali soils	Rs.0.20 lakh
II	For Saline Soils by sub surface drainage in	
	a. Alluvial soils	Rs.0.65 lakh
	b. Heavy textured soils	Rs.1.25 lakh

XIII. New Initiatives (Research & Development):

Under this component, R& D Initiatives can be under taken either through States or through ICAR or other research institutes. Setting up of command centres for Soil Health and Fertility scheme is also allowed under this component.

XIV. NABL Accreditation / Recognition of Lab-

In order to ensure quality of labs, the NABL accreditation / recognition of Soil and Fertiliser labs are mandatory. State to go for NABL Recognition of soil testing labs in first phase and after that NABL Accreditation will be undertaken. State has to go for NABL accreditation of all Fertiliser Labs. For NABL accreditation, Rs. 1 lakh under the scheme will be provided. For NABL recognition of labs, amount will be provided as per actual or Rs. 1 Lakh whichever is less.

B.4.4 Support to School Soil Health Programme-

Under the scheme labs will be set up in identified schools by the Government of India in consultation with Department of School Education and Literacy and Tribal Affairs. Funding will be arranged as per the labs cost either from the scheme or from the fund arranged from the outside agency like NABARD etc. States will cooordiante the programme with identified schools, ATMA, KVKs and SRLM Krishi sakhi for training, soil sample collection, testing, generation of Soil health card and organizing Gram Sabha wherein Students will give awareness to farmers about the recommendation of Soil Health Card. Recurring cost for labs setup in schools for reagents will be met from the scheme or from the fund arranged from schools or any outside agency like NABARD.

B.4.5 Support to RAWE Programme-

Under RAWE programme of ICAR, support will be given under the scheme to SAUs graduates to collect soil samples from farmer's field, testing in labs of SAUs, KVKs or State Government Labs. Graduates will also educate farmers about recommendation of Fertilsers as per soil health card, once the SHCs are generated.

B.4.6 Awareness to farmers through Krishi Sakhi and ATMA Network-

As a part of the Convergence Initiative, between the Ministry of Agriculture & Farmer Welfare and Ministry of Rural Development a joint initiative i.e Krishi Sakhis Training Programme to certify 70,000 Krishi Sakhis as "Para-Extension Workers" Krishi Sakhis has been initiated to play a pivotal role in implementing schemes like NMNF, Bio Resource Centres, PMFBY, etc.

Krishi Sakhis, women from villages identified by SRLMs, will be trained to bridge the gap in rural agricultural services with their innate potential and firm rooting to farming & villages. These will become para-extension workers, community resource persons for creating awareness and building capacity of farmers and also acts as a link between farmers, KVKs, Agriculture and Allied Departments. They will act as key resources, guiding farmers to access the benefits of these initiatives. They would carry out awareness generation meetings on Natural Farming, Soil health Management and Testing as part of Janbhagidari.

Under the scheme, the fund for awareness generation will be used through Krishi sakhi and ATMA network. The fund of Rs. 15 out of the Rs. 300 earmarked for each soil health card will be provided to Krishi Sakhi and ATMA network. The awareness will be spread to farmers individually or through farmers mela wherein three activities will be undertaken i.e. (i) generation awareness about importance of soil health card. (ii Advisory before sample collection. (iii) Advisory after generation of soil health card.

B.4.7 IMPACT ASSESSMENT, MONITORING, PERIODIC EVALUATION AND REPORTING:

The Scheme envisages coordinated approach for monitoring with active involvement of implementing agencies, beneficiaries and other stakeholders. A combination of periodic desk review, field visits, and web-based mechanism will be adopted for releasing of funds, physical and financial progress and monitoring the progress of Scheme interventions at National level by INM Division of the DA & FW. INM Division may 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. Information and communication technology will be deployed extensively for ensuring transparency in the implementation process and effective monitoring of the Scheme.

B.5 PKVY

"Paramparagat Krishi Vikas Yojana (PKVY)" aims at development of sustainable models of organic farming through a mix of traditional wisdom and modern science to ensure long term soil fertility build-up, resource conservation and helps in climate change adaptation and mitigation. It primarily aims to increase soil fertility and thereby helps in production of healthy food through organic practices without the use of agro-chemicals. It also aims at empowering farmers through institutional development using clusters approach not only in farm practices management, input production, quality assurance but also in value addition and direct marketing through innovative means.

Participatory Guarantee System under PGS-India programme was taken up as the key approach for quality assurance. Under the scheme farmers will have option to adopt any form of organic farming in compliance of PGS-India standards.

B.5.1 INSTITUTIONAL FRAMEWORK AT NATIONAL, STATE AND DISTRICT LEVEL

I. National Level

I.(a) National Advisory Committee (NAC)

The National Advisory Committee (NAC) under Chairmanship of Secretary (DA&FW) will be the policy-formulating body giving overall direction and guidance to the Mission and monitor and review its progress and performance. The composition of the NAC is given below:

Secretary, Agriculture, Cooperation& Famers Welfare (A&FW)	Chairman
Secretary, MOFPI	Member
Secretary, MSME	Member
Additional Secretary & Financial Advisor, DA&FW	Member
Additional Secretary (INM), DA&FW	Member
Additional Secretary (Panchayati Raj)	Member

Additional Secretary (Rural Development)	Member
Representative from Department of Agriculture Research & Education	Member
Joint Secretary (NHM)	Member
Joint Secretary (Crops)	Member
Joint Secretary (NRM & RFS)	Member
Joint Secretary (DOF)	Member
Joint Secretary (INM)	Member Secretary
Representative of State Governments	Associate members on rotation basis

NAC may invite 3-4 states as associated members in each meeting on rotation basis. NAC will meet at least once in six months.

I.(b) Executive Committee (EC):

Executive committee will be headed by Additional Secretary (INM). It will comprise of the following Members:

Additional Secretary (INM), DA&FW	Chairman
Joint Secretary (Department of Fertilizers)	Member
Joint Secretary (INM)	Member Secretary
Joint Secretary (MOFPI)	Member
Joint Secretary (MSME)	Member
Joint Secretary (Panchayati Raj)	Member
Joint Secretary (Rural Development)	Member

DDG (NRM), ICAR, Agriculture Commissioner, Horticulture Commissioner, ADC (INM), Director, NCOF and Director, CFQC&TI	Expert Members

During the Annual Action plan approval meetings, the State Secretary of Agriculture/ nodal department shall be co-opted as member of the E.C.

- EC will oversee activities of the Scheme and approve Action Plans of various states in accordance with the prescribed norms.
- EC is empowered to reallocate resources across States and components
- EC will meet at least once every quarter.

INM Division in DA&FW will Oversee dissemination, implementation, monitoring and evaluation of various interventions in the mission and provide feedback reports to the NAC and EC.

I.(c) National Centre of Organic and Natural Farming (NCONF)

NCONF being the secretariat for PGS-India programme shall be the monitoring body for PGS certification programme including authorization of RCs, selection of NABL accredited labs and random surveillance through the RCONFs. It will provide technical trainings to state Government officers on organic crop and livestock management as per PGS standards. it will have following functions:

- Monitoring of functioning of Support agencies& implementation of the scheme in states as directed by INM Division from time to time.
- Management and maintenance of data, MIS development, report generation and digital surveillance on group activities on PGS certification through PGS portal

I.(d) Project Management Cell (PMC) in INM Division will function under JS (INM). Consultants in organic farming management, PGS certification and agri-marketing as programme Manager, Senior Programmers, Technical Assistants, and supporting staff will form part of the PMC.

I.(e) Project Management Unit (PMU) to hand hold states in capacity building, facilitate convergence with different schemes, handhold developing clusters for market linkages,

branding and linking clusters and FPOs with organic agri-value chain professional Project Management Units (PMU) shall be hired on contract/outsourcing basis. The functions of the PMC and PMU are given at **Annexure-XLVII**.

II. State Level

II.(a) The State Level Executive Committee (SLEC):

Agriculture Production Commissioner/Principal Secretary Government	Chairman
Commissioner (Agriculture)/ Director (Agriculture)	Member Secretary
Commissioner (Horticulture)/ Director (Horticulture)	Member
Commissioner (Panchayati Raj)	Member
Commissioner (Rural Development)	Member
Representatives of SAUs/ICAR//NCOF/other line Departments	Expert Members
Lead Farmers	Expert Members

The above SLEC is only indicative. States can choose to set up their own SLEC/already existing structures as per the need and availability under information to GoI.

The SLEC will oversee the implementation of scheme's components of the respective States through regular meetings with the nodal and other line Departments. It will also provide inputs to the Executive Committee for appropriate policy formulation and post facto approval, if required.

II.(b) State Project Management Team (PMT): States can engage consultants, technical assistants at state and district level having technical and administrative expertise for providing technical guidance and effective monitoring of the scheme implementation. States can decide the number based on their requirements at State and District level. Financial support for the same will be obtained from 2.5% administrative costs provided to the States.

II.(c) Support Agencies: States can implement the programme through their own staff or can engage /outsource programme implementation through professional support agencies empaneled by the DA&FW through NCONF. Essential qualifications for Support Agency may be seen at **Annexure-XLVIII.** Support agencies shall be required for the following two-fold

functions:

- Implementation of Cluster formation, capacity building including exposure visits, trainings, deployment of manpower, management of entire programme implementation including data management, handholding to groups and clusters, facilitating value addition and marketing of PGS certified produce.
- PGS Certification endorsement, physical verification and issue of certificates including sample collection and analysis for residue analysis.
- While any support agency fulfilling the prescribed criteria/qualifications and empaneled by the NCONF can take up the functions as listed at (A), States shall engage already registered Regional Councils (RCs) for functions as listed at (B).
- States need to ensure that PGSI RCs authorized by NCONF are hired only for PGS certification activity and support agencies empaneled by NCONF for cluster development, capacity building and handholding including PGS surveillance, peer appraisal support and documentation on PGSI portal.
- Roles and responsibilities of Support Agency in detail is at **Annexure-XLIX**
- Eligible Criteria for Regional Councils is given at **Annexure-XLX**
- Roles and responsibility of Regional Councils is given at **Annexure-XLXI**

III. District Level

III.(a) The indicative structure for District Level Executive Committee (DLEC) is as follows; states can choose their own setup under intimation to GoI

Collector	Chairman
Joint Director/Deputy Director (Agriculture)	Member Secretary
District Agriculture/Horticulture/Soil Conservation officer	Member
Representative of (PR, RD, Health, Education of others)	Member
Representatives of SAUs/ KVKs/ other line Departments	Expert Members

III.(b) DISTRICT LEVEL PROJECT MANAGEMENT TEAM: DPMT will be set up for implementation and monitoring of programme at District level.

B.5.2 CRITERIA FOR SELECTION OF AREA AND FARMERS

For selection of areas/ Farmers' groups the following will be taken in to consideration:

- Organic farming under PKVY will be promoted preferably in hilly, tribal and rain-fed areas.
- Cluster approach will be adopted in large patches of up to 500 ha area in plain areas and 200 ha in hilly areas.
- Cluster chosen shall be in contiguous patch, as far as possible, may be extending over few adjacent villages (but not over large areas in sparsely distributed villages).
- Formation of Gram Panchayat based Farmer Producer Organizations will be encouraged or already existing FPOs will be promoted under the scheme.
- In a cluster, there should be maximum number of small and marginal farmers. Women farmers/ SHGs should be given preference.
- Success in marketing shall be one of the key component taken up for outcome evaluation along with other indicators such as soil health improvement, reduction in cost of cultivation etc.

B.5.3 Formation of FPOs

Efforts should be made to ensure that all PKVY clusters are federated into Farmer Producer Organization (FPOs). For this, funds can be leveraged from 10,000 FPO scheme of DA&FW.

States while preparing Annual Action Plans can indicate their demand for FPOs. DA&FW in turn will allot necessary quota of FPOs for PKVY clusters through any of the designated **Implementing Agency.** States can collaborate these Implementing Agency and identify CBBOs to take up FPO formation activity.

B.5.4 Pattern of Assistance

- The project is to be executed over a period of 3 years, every year audited report (GFR 19-A) duly signed by Chattered Accountant along with physical report is to be submitted to DAC&FW, Ministry of Agriculture and Farmers Welfare, Govt. of India. State that requires additional time to implement the project, beyond 3 years

may seek prior permission before the end of the project period during first 2 years subject to the condition that they should not exceed the overall per hectare and per farmer cost ceilings.

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- Funds for certification reimbursement under individual farmers and small farmer groups away from PKVY clusters will be provided as reimbursement directly to the certification agencies within the ceiling prescribed at S. No. 15-B (3&4) of these guidelines.

B.5.5 MONITORING AND EVALUATION

- At the national level regular monitoring of the scheme will be done by NCONF, RCONFs and National Project Management Units (PMUs). Monitoring formats will be developed for the same.
- At State and district levels also the Project Management Units engaged for the purpose will do regular monitoring of the implementation of the scheme.
- Information and communication technology will be deployed extensively for ensuring transparency in the implementation process and effective monitoring of the programme.
- A dedicated MIS have been developed to capture the information from planning of project, approval, execution to progress report. Timely data uploading into the MIS portal is mandatory and shall form the basis for progress evaluation while considering the requests for fund releases
- States will send quarterly progress reports to MIS and in hard copy also.
- Geo-tagging: The clusters taken up under PKVY will be geo tagged for monitoring purpose as well as for facilitating marketing mechanism based on the crops grown.
- DA&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. Concurrent, midterm and final evaluations will be conducted by DAC to incorporate midterm corrections and final evaluation of the scheme implementation.
- States shall also take up third party based concurrent, midterm and final evaluations from time to time.

B.5.6 JAIVIK KHETI PORTAL

A dedicated portal for organic farming acting as both a knowledge platform as well as marketing platform has been developed. Details of farmers involved in Organic farming, input supplier, certification agency (PGS), and marketing agencies will be available for smooth implementation from production to marketing. PKVY/PGS groups can take the advantage of this portal for capacity building, technical know-how, communicating with marketing channels/ other groups and direct marketing of their produce to prospective buyers and consumers.

B.5.7 FORMATION OF GROUP AND CLUSTERS

Formation of Groups: A group of farmers having a total area of 20 ha, in as far as possible, in contiguous patch within a village or closely located villages shall be considered a PKVY/PGS Group. A group shall comprise minimum 20 farmers (may be more if individual holdings are less). All PGS group requirements for PGS certification shall be taken up by this group (called local group in PGS manual). 25 such groups covering 500 ha area shall constitute one "Cluster".

Formation of Clusters: State Government shall identify the target PKVY/PGS Groups covering 500 ha area for formation of clusters. The group of clusters should be identified preferably in the existing FPO areas. Creation of new FPOs shall be taken up funds for FPO formation shall be leveraged through convergence from 10,000 FPO scheme of Govt of India

a. PKVY farmer organizations in respective clusters shall initiate necessary activities for formation of FPO for all postharvest activities such as collection and aggregation of produce, primary processing including washing, cleaning, grading, packing and branding & marketing of the organic produce within six months of cluster formation.

b. Farmers in a group can avail benefit to a maximum of two ha as per provision of PKVY, however the entire land of farmer could be allowed in the cluster without extending any additional support to the rest of the area and the same can be facilitated by the service provider for certification by the group and endorsed by the Regional Council without any extra cost involvement for data management and certification.

c. For mobilization of farmers in groups and clusters, their capacity building, day-to-day handholding in standards implementation, assisting farmers in peer appraisal, documentation, data management and data uploading, services of support agencies/facilitation agencies empaneled by NCONF may be used.

d. In cases where individual willing farmers or small farmer groups are interested to join the scheme and are located at distance from new/ existing PKVY clusters or large

farmers that have not been included in the groups, then such farmers will also be considered as an extension of the group/ clusters and will be supported only for certification under component 14-B (3 & 4) PGS Certification through Regional Councils. Farmers will also be free to adopt third party certification under NPOP. States need to ensure that such farmers are taken into consideration for capacity building activities and market linkages. Methodology for providing certification assistance to such farmers is given at **Annexure XLXIII.**

e. In cases where states are willing to bring traditionally organic/ default organic area (such as in hills, islands or in tribal or desert belt) without any crop/ commodity focus and want to declare the entire identified traditional organic areas as organic with certification, then all the farmers in the contiguous area in a village shall be considered as cluster. Such clusters will be supported only for certification under the component, 14-B (3 & 4) PGS Certification through Regional Councils. States need to ensure that such farmers are taken into consideration for capacity building activities and market linkages. Methodology for providing certification assistance to such large contiguous clusters is given at **Annexure XLXIII.**

B.5.8 CAPACITY BUILDING

After formation of a cluster, state Government in consultation with Support agency shall draw up a strategy for capacity building of farmers on organic farm management, organic input production and use, organic approaches for pest management, adoption of PGS standards in field practices, PGS certification procedures at group level documentation requirements for PGS and peer appraisal procedures through trainings, exposure visits and on-hand data management systems for data uploading.

Every year a minimum of 3 trainings shall be done at a cluster level, covering all the groups. In cases, where cluster is spread over large area (as in hills), trainings may be done at group level comprising members from 3 groups. In first year farmers shall also be exposed to PGS certification systems through exposure visits to existing PGS groups.

For mobilization of farmers in groups and clusters, their capacity building, day-to-day handholding in standards implementation, assisting farmers in peer appraisal and documentation and data management and data uploading necessary manpower shall be deployed by the support agency

Training of Officers /Executives of PKVY Team: Officers/Executives of PKVY Team, members of PMUs at different levels, and Regional Councils, to be trained on Sustainable Agriculture System and Governance Management of FPOs/PCs.

B.5.9 INCENTIVES TO FARMERS

For organic conversion and on-farm and off-farm inputs

Financial assistance to farmers shall be provided as incentive for eco-system service and for procurement/ management of organic inputs. Necessary funds under the head shall be released directly to the farmer beneficiaries as Direct Benefit Transfer (DBT) in their bank accounts.

On-farm inputs can be like composting, green manuring etc. and Off-farm inputs like organic seeds, manures, vermi composts, bio fertilizers, bio pesticides, neem formulations, PROM, botanical and physical and biological plant protection agents etc. can be considered.

States can issue necessary guidelines and suggest inputs as recommendatory measures. Farmers can choose inputs out of the recommendations as per their choice. In any case farmers should not be forced to buy the recommended inputs by the implementation Department and professional support agencies. Farmers will also be free to utilize the assistance fully for creation of on-farm input production infrastructure.

B.5.10 MARKETING AND PUBLICITY

States will prepare plans and programme for such activity. Efforts should focus in local nearby areas for marketing through weekly bazaars/ haats or by supporting the FPO in opening an outlet. Efforts should be made to develop at least one marketing outlet in each of the cluster/FPO.

Components and Financial break up of components for 500 ha organic farming clusters under PGS Certification (Target 6 lakh ha)

Sl No.	Component	Year 1	Year 2	Year 3	Total cost ha for 3 ye	Total cost of 20 ha for 3 years (Rs in lakh)	Total cost of 500 ha for 3 years (Rs in lakh)
1.	**Value Chain Institutional Development**						
1.1	Cluster formation	1500	1500	1500	4500	0.90	22.50

	and Capacity building including exposure visits, and trainings of field functionaries						
1.2	Deployment of manpower and management cost for implementation of programme including data management and uploading	1500	1500	1500	4500	0.90	22.50
2	**Value Chain Production**						0
2.1	Certification (PGS or NPOP)	1000	1000	1000	3000	0.60	15.00
2.2	Incentive to farmers as DBT	5000	5000	5000	15000	3.00	75.00
3.	**Value addition, marketing and publicity**						
3.1	Support for marketing, common packaging, branding, space rent, transport etc	1000	1500	2000	4500	0.90	22.50
3.2	Value addition infrastructure creation through FPC/ FPO case to case basis*						
3.3	Brand building, trade fairs, exhibitions, local publicity, organic fairs/ melas, local marketing initiatives, participation in national trade fairs						
	Total for Cluster development	10000	10500	11000	@ Rs 31500/ha	6.30	157.50

B.6 RAINFED AREA DEVELOPMENT (RAD)

To main stream development of rainfed are as in a sustainable manner, Rainfed Area Development (RAD) Scheme was made operational from 2014-15 in the country as a component of National Mission for Sustainable Agriculture (NMSA). Rainfed Area Development (RAD) aims at promoting sustainable agriculture production through adaptation of agricultural climatic zone wise Integrated Farming System (IFS) models developed by Indian Council of Agriculture research (ICAR). RAD aims at promoting location specific improved agronomic practices through soil health management, enhanced rain water use efficiency, judicious use of chemicals, crop diversification and progressive adoption of crop-livestock-tree farming systems in an integrated approach.

The scheme will adopt an area based approach for development and conservation of natural resources along with farming systems. This component has been formulated in a 'watershed plus framework' to explore potential utilization of natural resources base/assets available/created through watershed development and soil conservation activities/interventions under MGNREGS, PMKSY-WDC, etc. A cluster based approach of 20 ha. (contiguous or non-contiguous in difficult terrain with a close proximity in a village/adjoining villages) would be developed to derive noticeable impact of convergence encouraging local participation and for future replication of the model in larger areas. It will introduce appropriate farming systems by integrating multiple components of agriculture such as crops, horticulture, livestock and fishery with agro based income generating secondary agriculture activities and value addition.

Farming Systems recommended by ICAR and successful findings of NICRA flag ship project shall also be considered in development of integrated project plan. Since millets can grow under adverse climatic conditions on marginal poor soils with little inputs and are tolerant to drought and resistant to pests and diseases, they can also be part of broader farming strategy to adopt to increasingly harsh growing conditions brought by climate change. Also, reducing over-reliance on more commonly grown crops with high input use thus fostering more diverse diets and promoting food security and nutrition. Besides millets, pulses and oilseeds are also climate resilient and to further boost the vegetable oil production in the country, farming systems that are envisaged to promote are mainly based on PMO (Pulses, Millets and Oilseeds)

B.6.1 Salient features:

- RAD promotes enhancing soil productivity through crop diversification and crop

rotation increasing soil cover (mulching) periods which is important to enhance organic matter of the soil.

- Expanding protective irrigation from rain water source through efficient water management techniques that is required to secure rainfed crops in times of short interval droughts.
- Encouraging indigenous seeds with better adaptability while ensuring its quality, diversity and timely availability for climate resilience.
- Location specific agronomic innovations while enhancing farmers' knowledge and management skills towards developing regenerative integrated farming systems.
- Appropriate small farm mechanization (small machines and implements for women) for ensuring timely operations and reducing drudgery of woman labour.
- Development and strengthening of FPOs to deal with multiple and diverse commodities in small quantities and varied quality.
- Strengthening support systems for Extensive Livestock Systems (health care, breeding, drinking water, fodder in commons, etc.)
- Promote fisheries in rainfed water bodies through institutionalized support systems.
- Integrated value chain support systems to realize growth potential in pulses, millets and oilseeds based farming production systems including infrastructure and processing facilities – focus on local markets.
- j. Risk minimization, resilience building and enhancing private investment.

B.6.2 Strategy:

To achieve the objectives, RAD will have following multi-pronged strategy:

i. Promoting integrated farming system covering crops, livestock and tree plantation (horticulture and/or agroforestry) based composite farming for enhancing livelihood opportunities, ensuring food security and minimizing risks from crop failure through supplementary/ residual production systems;

ii. Popularizing resource conservation technologies (both on-farm and off-farm) and introducing practices that will support mitigation efforts in times of extreme climatic events or disasters like prolonged dry spells, floods etc.

iii. Promoting effective management of available rain water resources and enhancing water

use efficiency through application of technologies coupled with demand and supply side management solutions;

iv. Interventions on Agriculture Extension shall be emphasized upon for capacity building, awareness generation, information support, pooling resources together through convergence etc. Capacity building for improved agronomic practices through extension programs for higher farm productivity, improved soil treatment, increased water holding capacity, judicious use of chemicals/energy, enhanced soil carbon storage etc. are key to the success of the program.

v. Selection of rain-fed/dry-land areas: State Government shall identify the priority blocks for undertaking the rainfed area development in an integrated approach. Priority shall be given to the following areas under the scheme;

- Gram Panchayat/Blocks having more than 60% of the area under uplands/rain-fed.
- Natural Farming Clusters.
- Watershed areas taken up under WDC project in last 20 years shall be given preference.
- Gram Panchayat/Blocks which are the focus are as of NRLM.
- Aspirational blocks selected by NITI Aayog.
- Villages included under Pradhan Mantri Janjatiya Unnat Gram Abhiyan (PMJUGA).
- Districts and Blocks selected under NFSM Pulse/Oilseeds/Millets.

vi. Millets perform exceptionally well in rainfed areas due to its hardiness and capacity to withstand climatic aberration. Cultivation of millets shall be preferred in RAD thus contributing to Government's strategy to promote millets. Cluster approach in a village or an area of not less than 20 ha. to be adopted to utilize the potential of available/created common resources. At least 25% area of the cluster shall be taken up for Millets cultivation.

vii. States/UTs should facilitate the beneficiary of RAD scheme to avail Soil Health Card and Kisan Credit Card while implementing RAD.

viii. RAD system increases carbon storage potential due to multiple plant species and enhances green coverage in agricultural lands. Carbon sequestration potential in RAD

system is generally greater than that of single crop based system. RAD thus contributes to increasing the scope for emerging carbon market.

ix. Involving knowledge institutions and professionals in developing climate change adaptation and mitigation strategies for specific agro climatic situations and promoting them through appropriate farming systems. Recommendations of ICAR's Contingency Plans and technologies developed under NICRA project on climate resilient farming shall also be integrated in the project plan.

x. Programmatic interventions as per land capability and conducive to climatic parameters for ensuring integrated development through dissemination and adoption of rainfed technologies with greater reach in disadvantaged areas & location specific planning by way of coordination, convergence and leveraging investments from other Schemes/Missions. A consortium approach would be evolved with various stakeholders including knowledge partners like State Agricultural Universities (SAUs), Krishi Vigyan Kendras (KVKs), Indian Council of Agricultural Research (ICAR) institutes, other professional/academic organizations like DST, DBT etc. to provide single window service/knowledge provider system for the benefit of farming community.

xi. State Government may involve additional field level Community Resource Persons (CRPs) as per the requirement in implementing the programme. Efforts should be made to make optimum utilization of field cadre of SRLM, NF programme, BTM/ATM under ATMA. State Govt. may select field level NGOs/Young Professionals to supports programmes implemented through Women SHGs/ FPOs.

xii. All land based interventions should be Geo Tagged/Geo Fenced. Krishi Mapper/Mobile App developed by DA&FW shall be used for Geo Tagging/Geo Fencing of farmers' field. The data captured by the App will automatically link with the program MIS portal of the State/Central through API.

xiii. Strong technical monitoring and feedback systems on climate change mitigation and adaptation issues for regular updates on technical feasibility of various components and their effectiveness in bringing about the climate resilience should be ensured. The experts of central institutes and state agricultural universities would be part of such technical monitoring/feedback. The capacity building of the implementing agencies would be steered by MANAGE.

B.6.3 Interventions:

RAD aims at promoting Integrated Farming System (IFS) with emphasis on multi-cropping, rotational cropping, inter-cropping, mixed-cropping practices with allied activities like horticulture, livestock, fishery, plantation, apiculture, etc. to enable farmers not only in maximizing the farm returns for sustaining livelihood, but also to mitigate the impacts of drought, flood or other extreme weather events which are occurring frequently due to climate change;

Depending on the type and extent of natural resources/assets/commodities already developed or supported, location-specific crops, fruits, feed & fodder, livestock, fisheries, apiculture, mushroom, medicinal & aromatic plantation and related income generating activities would be supported. Activities like construction of ponds, land treatment, wells, supply of pumps, micro irrigation/other water saving devices, seed and sapling support etc. would be converged/supplemented to promote value addition through a sustainable farming system;

i. Adoption of a cluster approach in a village or an area of not less than 20. Ha. (contiguous or non- contiguous in difficult terrain with close proximity, in a village/adjoining villages and at least 25% area to be covered for Millets cultivation) may be preferred for injecting investments to utilize the potential of available/created common resources;
ii. Support will be given to those who wish to add other compatible farming component(s) to their existing crops/ system. It should have the potential to introduce/merge at least one or more major components/activities apart from cropping system of the integrated farming systems to qualify for the support. Support for only cropping system will not be allowed under this component unless it is diversified from the regular practice to a farming system suitable to that particular ecological conditions through effective on farm rain water management and soil health care. Farmers would have the option to choose one or the other combination of farming systems suitable to the specific eco-system supported through local KVKs, SAUs, ICAR institutes, ICRISAT, ATMA etc., for maximizing agricultural productivity from the existing natural resource assets;
iii. Support to each farming family under RAD component will be restricted to financial assistance of Rs.30,000/-.The amount of assistance shall be uniform for all farmers irrespective of the size of their land holding. The details of interventions' supported under RAD and Format for preparation of AAP are given at **Appendix –I and Appendix –II** respectively.

iv. State Government shall involve additional field level Community Resource Persons in the implementation of the program. Monitoring and capacity building of the beneficiaries through Community Resource Persons (CRPs) under SRLM, Self Help Groups, Champion Farmers under NF program etc. shall be taken up. Provision of Rs.10,000/- per cluster has been made for such field level support.

v. Farmland development would be taken up through location specific interventions like resource conservation, rainwater harvesting, land development in watershed areas, last mile connectivity etc. Farmers' Producer Companies/Organizations, Registered Farmers' Societies, Farmers' Cooperatives would also be eligible for developing a cluster.

vi. Converging the upgraded utilities developed through watershed development programs (WDC- PMKSY)/ NREGA in terms of water harvesting and micro water storages through effective application and distribution systems like improved conveyance, field channels, pressurized irrigation, water lifting devices etc. to enhance the potential of farming systems.

vii. Suitable linkage for agro-processing and Marketing may be established for the cluster. Possibilities of building post-harvest and market linkage under PPP model may be explored.

B.6.4 Convergence:

Convergence of relevant developmental programs in project areas is important for optimal utilization of resources by establishing an integrated and coordinated system involving different sectors and institutions. The upgraded utilities developed through watershed development programs (WDC- PMKSY)/MGNREGA/ other schemes of Ministry of Rural Development in terms of soil and water conservation and micro water storages can be made use to enhance the potential of farming systems. Areas/Commodities being developed under National Food and Nutrition Security Mission (NFNSM), National Mission on Edible Oil-Oilseeds (NMEO-OS), Mission for Integrated Development of Horticulture (MIDH), National Mission on Natural Farming, Sub Mission on Agricultural Extension (SMAE) etc. can be supplemented with other interventions under RKVY to make it an Integrated Farming System facilitating additional livelihood opportunities to farmers. Interventions on Agriculture Extension shall be appropriately made use for capacity building, awareness generation, information support, farm mechanization, availability of seeds/planting materials etc.

I. Support to RAD through MNREGA:

Under MNREGA, mandatory expenditure of at least 60% on the works to be taken up is for agriculture and allied activities. The scheme provides for various plantation models such as block plantation, canal side plantation, sericulture, horticulture plantation, boundary plantation, farm forestry, wasteland plantation, shelter belt trees plantation, coastline plantation, development of silvipasture grassland etc. There are many line Departments such as the Forest Department, Agriculture Department, Horticulture Department, Soil Conservation Department, Tribal Development, Watershed Department etc. that are working as implementing agency under MNREGS in the States. Every asset/land based intervention is geo-tagged in three stages, stage 1- before, Stage 2- during and Stage 3 -after completion of work under MNREGA and these assets would be utilized under RAD for promoting sustainable farming systems.

Since MNREGA provides sufficient opportunities for agriculture and allied activities, States/UTs must be ensured convergence of RAD with MNREGA to augment the impact of the scheme. Further, as MNREGA has robust monitoring system, monitoring of works at the micro level shall be carried out by Panchayat institutions through existing mechanism of MNREGA.

II. Support to RAD through PMKSY-WDC:

i. The objectives of Watershed Development Program includes; a) Securing production and farmers' income against climate variability and its risks of drought spells through diversification of crop systems & animal husbandry, and varied livelihood portfolios; efficient water harvesting and retention of rainwater in soil profile; and entitling all project members to ground and surface water resources for life saving irrigation on equitable basis. b) Improving intensity and productivity of various crops, livestock, fisheries and biomass production systems through optimal, integrated, sustainable and efficient use of natural resources in project areas. c) Recognizing the stake of non- land holding project members, and promoting alternate livelihood opportunities. d) Building an ecosystem of enterprises for facilitating efficient scales of operations, access to credit, and market linkages; knowledge sharing; and resource convergence led by vibrant member managed farmers' institutions.

ii. Convergence of RAD with PMKSY-WDC (Department of Land Resource) shall compliment the much needed resources for promoting Integrated Farming System.

Watershed Development Projects of MoRD are to improve productive potential of rainfed / degraded land through integrated watershed management. It strengthens community based local institutions for promotion of livelihoods. At macro - level, the vision of WDC-PMKSY projects is to accelerate the economic growth rate of agriculture in the less endowed rainfed areas of the country. Moreover, this is to be achieved by adopting harmony with ecological principles of development for ensuring sustained transformation of economy and ecology. The guiding principles are better Economy, Ecology and Equity in the rainfed regions of the country. At watershed level, the development plan is guided by the need to achieve higher incomes for farmers, expanded livelihood options for landless, equity in distribution of benefits, community ownership and management, and ecologically sustainable action plan.

iii. Similarly, RAD aims at promoting location specific improved agronomic practices through soil health management, enhanced water use efficiency, crop diversification, progressive adoption of crop- livestock farming systems and integrated approaches like crop-sericulture, agro-forestry, fish farming, etc. Therefore, States/UTs must ensure close convergence of Watershed Developments Programs with RAD. Priority should be given to the are as covered under Watershed projects for RAD implementation.

III. Support to RAD through National Food and Nutrition Security Mission (NFNSM):

NFNSM supports increase in production of food crops including PMO through production and productivity enhancement in a sustainable manner in the identified Districts of the country, restoring soil fertility and productivity at the individual farm level and enhancing farm level economy (i.e. farm profits) and post-harvest value addition at farm gate for better price realization to farmers through efficient market linkage. NFNSM promotes intensive package of practices (crop production & protection technologies) on compact blocks in cluster approach. This ensures inclusion of all the farmers in the block irrespective of their size of holding or the social status of the farmers. Accordingly, latest crop production & protection technologies including quality seeds, nutrients, plant protection measures, resource conservation technologies, exposure visit of farmers are promoted incompact blocks in cluster approach. New extension models involving non-governmental organizations are also adopted for reaching out to the farmers in remote and in accessible areas. RAD should be closely supported under NFNSM through various interventions including extension activities for promotion of PMO based farming systems.

IV. Support to RAD through National Mission on Natural Farming:

i. Natural Farming if done effectively enhances restoration of soil fertility and environmental health, and mitigating and/or reducing greenhouse gas emissions thus aiding to move towards chemical free agriculture. Natural Farming builds on natural or ecological processes that exist in or around farms. Under this, soil is always supposed to be covered with organic mulch, which creates humus and encourages the growth of friendly microorganisms. Farm made bio-cultures named 'Jeevamrit, Beejamrit etc.' are added to the soil instead of any fertilizers to improve microflora of soil.

ii. Extension program is an important component of National Mission on Natural Farming. Under the Mission, natural farming practitioners shall be identified in consultation with local Gram Panchayat who are successful natural farmer with their entire land holding under natural farming since last 2-3 years. Such practicing natural farmers are identified as "Champion Farmers". Selected champion farmer shall have adequatel and for demonstration of natural farming practices, have necessary facility for monthly trainings on field (like preparation of Bijamrit, Jivamrit etc) and have organizational capacity and good communication skills. In addition, one rural youth belonging to a family of natural farmer (other than Champion farmer) is identified as "Community Resource Person (CRP) in consultation with Grampanchayat. Champion Farmer (CF) and Community Resource Persons(CRPs) lead the natural farming cluster right from Farmer Field School to registration of farmers, regular meetings, motivating the farmers to join natural farming movement and support participating farmers in implementation of best natural farming practices, problem solutions, farm management, certification, collective marketing of their produce etc.

iii. RAD also emphasizes on the principles of natural farming. This requires adequate awareness and capacity building efforts for farmers. RAD shall be supported by Natural Farming programs especially on the capacity building of the farming community through Champion Farmers. Priority should be given to areas taken under Natural Farming while identifying clusters for RAD program in order to achieve close convergence.

V. Support to RAD through Sub-Mission on Agriculture Extension (SMAE):

The Scheme ATMA (Agriculture Technology Management Agency) supports State Extension Programmes for bringing Extension Reforms across the country and it has now been included as a Centrally Sponsored component of the Sub-Mission on Agriculture Extension (SMAE). It

is now under implementation in 696 districts of 28 States & 5 UTs of the country. Innovative and restructured institutional arrangements have been made for technology dissemination amongst the farmers on a pilot tested Agricultural Technology Management Agency (ATMA) model at district level. Under the Scheme, fund is provided to States with an objective to support State Governments efforts of revitalization of their extension system and making available the latest agricultural technologies and good agricultural practices to farmers in different thematic areas to increase agricultural production through various extension activities. As extension initiatives are the key to success of RAD program, states must ensure that all beneficiaries under RAD shall be covered under SMAE programs.

B.6.5 Rainfed Area Development – NRAA as Knowledge Partner

National Rainfed Area Authority (NRAA), Department of Agriculture and Farmers Welfare servesasa knowledge and technology platform for promoting the growth of agriculture and welfare of farmers in rainfed regions of the country. In this capacity, NRAA is actively engaged with various Ministries and Departments at the union level, and with the State Governments as well. The focus of such engagements is always promotion of rainfed agriculture by enabling knowledge-based interventions and efficient coordination with various agencies, and convergence of different services. The Department of Agriculture and Farmers Welfare (DA&FW) amongst a bouquet of its several prorammes targeting growth of the country's agricultural sector including the rainfed area, has specifically designed 'Rainfed Area Development' (RAD) to enhance greater resilience to the production systems, and promoteegalitari an agricultural growth. NRAA with its specific mandate dedicated to the accelerated growth of the country's rainfed agriculture can be a useful partner in this regard.

In this context, National Rainfed Area Authority (NRAA) is notified asa **'Knowledge and Partner'** to the DA&FW in carrying out its flagship programme. Some of the specific mandates of NRAA vis-a-vis this partnership are as follows:

(i) Provide technology and knowledge support including identification of project clusters and priority areas.

(ii) Formulate guidelines and operational manuals for promoting integrated farming and livelihood systems (IFLS)

(iii) Serveasa supervising agency and towards this, undertake field visits and coordinate with state and field implementation agencies

(iv) Design and help in adopting a system of' Monitoring and Information System(MIS)

(v) Undertake capacity building, training and skill development activities for the states and its implementing agencies

(vi) Anchor the process of convergence with IWMP and such other initiatives (projects, programmes, schemes etc.) that will enhance inter-initiative convergence and yield synergistic outcome

(vii) Provide any other support as is felt necessary from time to time on issues, that emerge as a result of consultation between concerned Division(s) of the DA&FW and NRAA

B.6.6 Monitoring and Evaluation

Geo- Tagging of land based interventions: A robust Monitoring and Evaluation mechanism using modern technology shall be emphasized upon. Monitoring and Evaluation (M&E) mechanism to keep a tab on project areas/ physical assets created, name of beneficiaries, assistance provided etc. under RAD would be developed. Monitoring of works shall be carried out through existing mechanism of MNREGA/schemes of Ministry of Rural Developmental so. All and based interventions shall be Geo- tagged through Apps based monitoring system. Krishi Mapper/Mobile App developed by DA&FW shall be used for Geo Tagging/Geo Fencing of farmers' field. The data captured by the App will automatically link with the State/Central MIS portal through API. Geo-tagged photograph of area covered under RAD scheme shall be made available in the MIS Portal.

Project based studies and assessment for Soil carbon sequestration, soil organic matter, improvement in livelihood, productivity enhancement of crop and cropping systems etc. shall also be undertaken. MIS and periodical assessment using GIS technologies would be adopted for ensuring effective monitoring of the programme. States will upload approved AAP, Physical and financial progress under the Scheme should also be updated every month and uploaded in the portal as per Performa given at **Annexure-XLVI.** The information on physical and financial achievements under TSP & SCSP and Women components has to be furnished periodically as Performa given at **Annexure-XLVI-A**.

B.6.7 Expected Outcome

RAD program shall increase the area covered under Integrated Farming System resulting in augmenting farmers income. It is expected to transform rain-fed agriculture areas which are

more sensitive areas to climatic aberrations into more climate resilient production system through suitable adaptation and mitigation measures. Integrating farming systems with horticulture, livestock, bee rearing and fisheries shall provide income security to farmers in time of abnormal climatic condition. Millets being climate friendly crops, promoting their cultivation through RAD program shall result in increase in cultivation area and production of millets.

B.7 AGROFORESTRY

i. Agroforestry is known to have the potential to mitigate the climate change effects through microclimate moderation, conservation of natural resources and creation of an additional source of livelihood and income opportunities. In order to make agriculture less vulnerable to climatic aberrations, the Government of India formulated the National Agroforestry Policy in 2014.The policy recommends setting up a Mission or Board with an initial corpus of Rs4000-5000 crore annually to address the development of agroforestry sector in an organized manner. As a follow-up to the policy, the Sub-Mission on agroforestry (SMAF) under National Mission for Sustainable Agriculture (NMSA) was launched in 2016-17 to encourage and expand tree plantation on farmland, with the motto of "*Har Med Par Ped*", along with crops/cropping system.

ii. There have been many initiatives to upscale agro forestry in farm lands, degraded, barren and wastelands. The adoption of agroforestry by farming community is on an upward trend after the coming of the National Agroforestry Policy in 2014.There is ample evidence to show that agroforestry enhances productivity, soil fertility improvement, soil conservation, nutrient cycling, micro climate improvement etc. Over70% of nurseries in the country are privately owned. Approximately only10% of seedlings supplied for agroforestry are of Quality Planting Material. Quality Planting Material (QPM) like seeds, seedlings, clones, hybrids, improved varieties, etc. of healthy, resilient and adaptable nursery stock must be made available to farmers. QPM can be considered as part of a value chain that begins with the source of tree seed and ends at the market for the tree product or environmental service, or even at the consumer level. The quality of the initial input, which is the tree seed source determines the productivity and quality of the productor service at the end of the chain.

iii. Agroforestry has varieties of produce from timber to non-timber products. Strengthening farmer access to markets for tree products is important hence, providing support price and buy-back guarantee for farm-grown trees and other agroforestry products can be an important step to promote agro forestry for the farmers. Marketing infrastructure similar to what is available for agricultural commodities including market information can be taken up in agroforestry with more private sector participation**.**

iv. Agroforestry has the potential to contribute to the government's strategy to promote millets. Traditionally millets are grown along with trees in tropical as well as sub-tropical regions of the country. In agroforestry systems, millets perform exceptionally

well due to their hardiness and capacity to with stand prolonged periods of drought, and high temperatures and also having higher efficiency in absorbing and utilizing carbon dioxide.

v. Agroforestry can support the action plan for Mission LiFE (Lifestyle for Environment) which makes environmental protection and conservation as a participative process. Agroforestry promotes agro ecology and is one of the potential areas for Carbon Credits as well as Green Credit Program (GCP). Agro forestry system is known to have high carbon sequestration potential thereby increasing the soilor ganic carbon(SOC)in farmer's field.

Reduction of diversity in agricultural landscapes across India severely reduces the resilience to climate and pest shocks, while also missing out on potential economic and ecological opportunities. Increase in the green cover through agroforestry will mitigate pollution, and climate change impacts and contribute to biodiversity conservation in the agricultural ecosystem.

vi. Agroforestry has importance as a carbon sequestration strategy because of the carbon storage potential in its multiple plant species considering its applicability in agricultural lands and reforestation. Evidence is now emerging that agroforestry systems are promising land use systems to increase and conserve above ground and soil carbon stock. The carbon sequestration potential of an agroforestry system is generally greater than that of an annual cropped-based system. Agroforestry thus contributes to the resilience of agriculture by adaptation and mitigation of climate change effects and provides scope for emerging carbon market.

vii. Agroforestry supports agro-ecology and reduces vulnerability to climate and environmental change. Activities under the NMSA strategy and technologies associated with Climate Resilient Agriculture may be promoted through the scheme.

viii. Institutional support from the Indian Council of Forest Research & Education (ICFRE), ICAR-Central Agroforestry Research Institute (CAFRI), Council of Scientific and Industrial Research (CSIR),ICRAF, etc. which have the technical knowledge and experience on agroforestry will for man integral part of the intervention.

B.7.2 Strategy: Quality Planting Material (QPM) and Certification:

i. The scheme shall promote the setting up of new small, medium and hi-tech nurseries for producing Quality Planting Materials (QPM) like seeds, seedlings, clones, and improved

varieties to meet the requirement of farmers. Various agroforestry practices/models suitable to different agro ecological regions and land use conditions shall be promoted that will support adaptation and mitigation efforts in accordance with NMS A guidelines.

ii. ICAR-CAFRI as Nodal Agency for QPM:

a) ICAR-Central Agroforestry Research Institute(CAFRI) shall be the nodal agency for providing technical support, capacity building, setting up of nurseries, production, and certification of QPM etc. CAFRI shall extend support through its All India Coordinated Research Project (AICRP) centers on agroforestry situated at various locations around the country. ICAR-CAFRI shall coordinate activities with other agencies/ institutes like ICFRE, CIFOR-ICRAF, FAO-India, SAUs, CAUs, Private Partners, etc. while facilitating the implementation of the scheme.

b) All nurseries setup under the scheme shall comply with the registration and accreditation requirements as laid down by CAFRI. The States shall also make efforts for accreditation of other existing Forest Department/Private/Cooperative nurseries in the State that produce planting material for Agro forestry.

c) Certification of QPM from accredited nurseries shall be done as per guidelines laid down by CAFRI in association with empaneled agencies/experts.

d) CAFRI shall provide the standard sand modalities for Registration, Certification and Accreditation of Nurseries as well as Certification of QPM from such Registered/Accredited nurseries.

e) Capacity building in agroforestry shall be through ICAR-CAFRI and it may be notified as the Central HRD Institution that shall train Master Trainers for different states.

iii. The State Nodal Department/Agency: For the implementation of the scheme State Nodal Department/Agency shall be identified for each State/UTs.

iv. The Nodal Department/Agency shall ensure the availability of QPM by producing on its own or through the collaborative arrangement with individuals/institutions suchas SAUs, KVKs, FPOs, SHGs, NGOs, Entrepreneurs/Startups, Forest/Agriculture institutes, farmers/cooperative societies etc.

v. Capacity building/training for officials/workers, scientists and farmers, extension activities including demonstration of Nursery Techniques for the raising of QPM, seminars/workshops/conferences/fairs& exhibitions and exposure visits of stake holders shall be emphasized upon.

vi. Physical verification of the Nurseries and seed lings raised under the scheme shall be

done by the State Nodal Department/Agency based on the technical guidelines from CAFRI. Third party verification may also carried out to ensure quality of nurseries/seed lings. Verification certificate shall be obtained by the individual/institution that raised the nursery.

vii. Nursery Accreditation will ensure the availability of high quality planting material for trees and other woody perennials for agroforestry purposes. Accordingly, each State Nodal Departments should ensure that publicity of these certified seedlings should be done to all other Govt Departments/Municipalities to go for sourcing of certified seedlings produced from these Accredited Nurseries.

viii. PMUs constituted at the State levels will have the responsibility to ensure collaboration among various line departments in the Centre/State/District to achieve the targets. A national level PMU shall be operational at DAC&FW for overall implementation and monitoring of the scheme.

ix. Technical Support Groups (TSG) with experts from ICAR-Central Agro forestry Research Institute (CAFRI), Indian Council of Forest Research & Education (ICFRE), ICRAF and other organizations/individuals shall be constituted at National level.

x. ICAR-CAFRI will act as Nodal Agency for repository of agroforestry related works with a preamble note to states for providing all related information to CAFRI.CAFRI may undertake project-based activities including transfer of agroforestry technology in various agro climatic zones, business incubation and training to stake holders.

B.7.3 Seed source:

ii. Supply of Quality Planting Material (QPM) which essentially is healthy, resilient and adaptable nursery stock raised through seed or vegetative propagation is the key for promoting agroforestry. The scheme envisages a sustainable supply of Quality Planting Material (QPM) of healthy, resilient nursery stock raised in hi-tech centralized nurseries as well as small-scale decentralized model nurseries. QPM may be of multipurpose tree species, species having timber value, medicinal plants etc. Also, various agroforestry practices/models suitable to different agro-ecological regions and land use conditions shall be promoted.

iii. The Nodal Department/Agency shall coordinate with the Forest Department/CAFRI/ICFRE/SAUs/private growers for germplasm/seed source required for the production of QPM. In many States, the State Forest Department through their

research programs are taking up various tree improvement initiatives which also include Agro forestry species. The scheme should leverage coordination with the State Forest Department for sourcing quality seeds/germplasm. The need to establish a national-level coordinating centre for streamlining the supply, while ensuring the quality of the seeds shall be explored.

B.7.4 Distribution of Quality Planting Material (QPM):

QMP raised under the scheme shall be made available for farmers/SHGs free of cost or as decided by the respective States/UTs. The plantation and maintenance in subsequent years shall be done by beneficiaries. However, nodal departments/ agencies shall make efforts to meet out the plantation and maintenance cost through convergence with MNREGA/other schemes of Department of Rural Development/Forests/Agriculture/Horticulture.

B.7.5 Geo-Tagging of land-based interventions:

a. Digital information and support system to farmers shall be promoted (ICAR-Central Agroforestry Research Institute (CAFRI) has developed a *bilingual* mobile app *'Farm Tree'* for effective out reach to its stake holders and farmers. With the help of this farm tree app, farmers can know about the suitable tree species, spacing, cultivation practices, etc. Similarly, International Centre for Research in Agroforestry (ICRAF) with the Department of Agriculture, Odisha has developed App-Agroforestry App Odisha (India) for farmers 'support on agroforestry. Both the ICAR-CAFRI and ICRAF will also work towards establishing data base for knowledge support in agroforestry.
b. All and based intervention should be Geo Tagged/Geo Fenced. Krishi Mapper/Mobile App developed by DA&FW shall be used for Geo Tagging/Geo Fencing of farmers' field. The data captured by the App will be automatically linked with the State/Central MIS portal through API.
c. National Web portal shall be developed where such information on registered nurseries, plantations, availability of seedlings, price, seed source, genetic makeup etc. Shall be made available. All scheme related information including progress and achievements should be captured by State Management Information System (MIS) which the States may also develop and this may be integrated with the National portal or information should be made accessible through API to ensure seamless flow of information.
d. M&E platforms using modern geo-spatial technology/satellite imagery in collaboration

with MNCFC/ICAR-CAFRI shall be taken up.

B.7.6 Support of Agro forestry through MNREGA

i. Agroforestry envisages close convergence with MNREGA (Department of Rural Development). Under MNREGA mandatory expenditure of at least 60% on the works to be taken up is for agriculture and allied activities. The scheme provides for various plantation models such as block plantation, canal side plantation, sericulture, horticulture plantation, boundary plantation, farm forestry, wastel and plantation, shelterbelt trees plantation, coastline plantation, development of silvipasture grass land etc. Further, raising of nursery is a permissible activity under the scheme. Plantation works are permissible in the community as well as in individual beneficiary land. There are many line Departments such as the Forest Department, Agriculture Department, Horticulture Department, Soil Conservation Department, Tribal Development, Watershed Department etc. that are working as implementing agency under MNREGS in the States. Every asset/land-based intervention is geo-tagged in three stages, stage 1- before, Stage 2- during and Stage 3 -after completion of work under MNREGA.

ii. During the implementation of agroforestry scheme, an incentivized system will promote the local communities/**SHGs**/farmers to adopt agroforestry/restore waste land/degradedl and by plantation (agro-ecological sustainable models). Agroforestry scheme made provision of QPM distribution to farmers. Since MNREGA provides sufficient opportunities for agroforestry related works, States/UTs must ensure convergence of the scheme with MNREGA to meet the cost of plantation including maintenance.

iii. Works such as nurseries, plantations, survival of seedling in the field etc. shall be closely monitored. As MNREGA has robust monitoring system, monitoring of works such as plantation and maintenance at the micro level shall be carried out by State PMUs with support of Panchayat institutions through existing mechanism of MNREGA.

B.7.7 Scheme Interventions:

i. **Establishment of nurseries for Quality Planting Material (QPM):** Expanding the scope of business opportunities as startups in agroforestry, the small nurseries, big nurseries, Hi-Tech nurseries and Tissue Culture facilities shall be supported under the scheme as given at **Annexure-I**. Such nurseries and QPM labs shall adopt standards/ protocols developed by ICAR-CAFRI/ICRAF. Also, nurseries shall be registered and accredited as per the protocol developed by ICAR-CAFRI with suitable third-party

certification procedure.

ii. **Skill development and awareness campaign:** Activities like training of farmers/field workers to ensure raising quality planting material, skill development to youth for business opportunities in agroforestry, awareness campaign, publications, information sharing, exposure visits, seminars/workshops at national/ international levels etc. would be supported under the scheme. States can utilize upto5% of the allocated funds for capacity building and training activities. The training activities, materials and report should be made publicly available for the benefit of all stakeholders.

iii. **Research and Development**: Specific projects for demonstration for extension purposes on specific innovative agro forestry models by ICAR-CAFRI/SAUs/CAUs/CSIR/ICFRE institutes/State Government/ other National & International level organizations/ Private Partners shall be supported. Also project based studies on carbon sequestration, soil health improvement, etc will be supported under the scheme. Following themes/topics shall be supported for Research & Development:

a. Works related to accreditation of Agroforestry nurseries and certification of seedlings.

b. Agroforestry as system approach.

c. Nexus of Biodiversity, Soil and Water conservation.

d. Climate Resilient Agroforestry Species and Practices.

e. Economic viability and market linkages.

f. Quantification of Community Participation and Social dynamics.

g. Indigenization of digital augmentation and tools.

iv. **Monitoring & Evaluation and Other specialized technical works**: For M&E, use of geo-spatial technology/satellite imageries, AI & ML etc. shall be taken up with ICAR-CAFRI/ICFRE/MNCFC institutes.

v. **Local Initiative**: States can utilize upto2% of the allocated funds for promoting innovations as per local needs/transportation of seedlings/local level monitoring mechanism through SHG**s** etc.

Eligible components and pattern of assistance for interventions is given in the Table below.

B.7.8 Convergence architecture with other Central Government schemes

i. An incentivized system will promote the local communities/SHGs/farmers to adopt agroforestry/restore waste land/degradedl and by plantation. Under the agroforestry scheme, cost of plantation including maintenance of QPM distributed shall be met through convergence with WDC-PMKSY/MNREGA/other schemes of Department of Rural Development.

ii. Need based interventions and activities of tree plantation, Industry development & market linking to agriculture and allied sectors will be automatically converged/dovetail for integrated and holistic development of project are a under Central & State Government programmes. Convergence with other schemes of DA & FW viz. RAD, Integrated Farming System, Per Drop More Crop (micro irrigation enhances growth and yields), Agri-infrastructure Fund, formation of 10,000 FPOs and other organizations is envisaged for enhanced returns. Convergence with programmes like National Clean Ganga Mission, National Medicinal Plant Board, M/o AYUSH, Central Silk Board, Indian Institute of Petroleum, etc. may also be explored.

B.7.9 Monitoring &Evaluation:

i. Monitoring & Evaluation shall for man integral part of the scheme. Sustainable supply of QPM, survival of seedling in the field, enhanced agroforestry produce, increase in agroforestry area of the country etc. shall be closely monitored. Monitoring of plantation and maintenance works shall be carried out through existing mechanism of MNREGA/schemes of Ministry of Rural Development. Also, SHGs (under NRLM)/village level institutions shall be closely involved in monitoring the implementation of the scheme.

ii. All land-based interventions shall be Geo-tagged through Apps based monitoring system. Project based studies and assessment for Soil carbon sequestration, soil organic matter, improvement in livelihood, productivity enhancement of crop and cropping systems etc. shall also be under taken. MIS and periodical assessment using GIS technologies would be adopted for ensuring effective monitoring of the programme. M&E initiatives using geo-spatial technology shall be taken up with Mahalanobis National Crop Forecast Centre (MNCFC)/ICAR under the program.

B.7.10 Expected Outcome:

i. Sustainable availability of Quality Planting Material for agroforestry.

ii. Increase in tree cover on farm lands, community land, government land, leading to increased production of timber and non-timber produce out of agroforestry to meet the increasing demand of raw materials for wood-based industries.

iii. Reduction in pressure and dependence on forests and forest produce. Reduction in import of timber and other tree products.

iv. Additional Income to farmers even under adverse climatic conditions & livelihood improvement.

v. Enhanced carbon sequestration in farm lands as well as ecosystem services.

B.8 CDP

Crop Diversification refers to a shift from the regional dominance of one crop to regional production of a number of crops, to meet ever increasing demand of cereals, pulses, vegetables, fruits, oilseeds, fibres, fodder, grasses etc. It aims to improve soil health and to maintain dynamic equilibrium of the agro-ecosystem. It is intended to promote technological innovations for sustainable agriculture and enable farmers to choose crop alternatives for increased productivity and income.

The concerns relating to diversification of rice-wheat cropping systems area in the country came to fore when yield levels of these two most important food crops experienced stagnancy and net profit accruals showed diminishing trend. The problem got further aggravated due to depletion of water table in North-West plains zone comprising Punjab, Haryana and West Uttar Pradesh. Thus, dwindling ground water resource in these States due to excessive withdrawal of water for irrigation led to impurities in the water-a cause of attendant crop health effects.

B.8.1 Coverage

The programme is to be implemented in 3 states namely Punjab, Haryana and Western Uttar Pradesh. The notified over-exploited and critical blocks based on recommendation of Central Ground Water Board of major paddy growing districts of each state would be identified for implementation of Crop Diversification programme. At least 5% of area under paddy in identified blocks would be diverted towards alternate crops.

Sl.	States	Rice area	% share of	Targeted area of
		(`000' ha)	**respective**	**paddy for diversion**
		(QE:2011-12)	**state rice area to total all states three rice area**	**('000' ha)**
1	Punjab	2759.2	50.25	140.00
2	Haryana	1194.0	21.75	60.00
3	West Uttar Pradesh	1537.2	28.00	80.00
	Total	**5490.4**	100	**280.00**

B.8.2 Crops and activity covered

In order to divert area to other alternate crops, it is proposed to motivate the farmers for cultivation of maize, kharif pulses (arhar, mungbean, urdbean, cluster bean), oilseeds (soybean, til), poplar based agro-forestry system (cultivation of rabi and kharif inter-crops), it is also proposed to provide the assistance to the farmers for land development, farm mechanization, establishment of agro-based food processing units for value addition and marketing support to generate additional income and restore soil fertility.

B.8.3 Allocation of funds

In order to implement the proposed programme on Crop Diversification in Original Green Revolution States to divert 5% area of Paddy to other alternate crops fitting in the prevalent wheat-paddy cropping system.

B.8.4 Institutional Architecture

I. National Level

In order to implement & monitor the programme of **"Crop Diversification in Original Green Revolution States",** a **Central Steering Committee (CSC) would be constituted under** the chairmanship of Secretary (A &C). The composition of CSC is as under:-

1	Secretary (A&C), Department of Agriculture & Cooperation, Ministry of Agriculture, Krishi Bhavan, New Delhi-110 001.	Chairman
2	Additional Secretary (Seeds & RKVY), Department of Agriculture & Cooperation, Ministry of Agriculture, Krishi Bhavan, New Delhi-110001	Member
3	Agriculture Commissioner, Department of Agriculture & Cooperation, Ministry of Agriculture, Krishi Bhavan, New Delhi-110 001.	Member
4	DDG (NRM), ICAR, Anusandhan Bhavan, New Pusa, New Delhi-110012	Member
5	Joint Secretary (Crops), Department of Agriculture & Cooperation, Ministry of Agriculture, Krishi Bhavan, New Delhi-110 001.	Member-Secretary

CSC will meet the quarterly basis and review & monitor the implementation of the scheme. CSC will also be responsible for addition, deletion & modification of the ongoing activity of the programme.

II. State Level

A state level committee (SLC) would be constituted under the chairmanship of Secretary, Agriculture of the state with the following constituents

1.	Secretary , Agriculture	Chairman
2.	Director, Agriculture	Member secretary
3.	Representative of Forest Department	Member
4.	Director Research of State Agriculture University	Member
5.	Representative from DAC	Member

The SLC of **"Crop Diversification in Original Green Revolution States"** will be fully responsible for approval of district specific programme, implementation and monitoring of programme in the state. Each state will create a cell at state level to look after day to day work for implementation and monitoring of the programme at state and district level from available manpower under ATMA/ Extension functionaries.

III. District Level

The scheme will be implemented through State Department of Agriculture in the identified districts in a cluster approach. A Programme Management Group (PMG) would be constituted under the chairmanship of Additional Collector/ Chief Development officer (CDO) of the district with the following constituents:

1.	Additional Collector	Chairman
2.	District Agriculture Officer (DAO)	Member Secretary
3.	Representative of Forest Department	Member
4.	Representative of Department of Food Processing	Member
5	State Agriculture University	Member
6.	Representative of KVK (Crop Production)	Member

PMG will be fully responsible for identification of beneficiaries for cluster demonstrations of alternate crops to paddy and collaborate with other stakeholders for implementation of programme at field level.

B.8.5 Pattern of assistance for Activities

i. Cluster Demonstrations

Cluster demonstration units (one unit=10 hectares) of identified alternate crops in each district will be organized through identified beneficiaries groups by State Department of Agriculture. One progressive farmer will be designated as group leader for organization of cluster demonstration. Honorarium of Rs.2000/ per cluster demonstration of 10 ha will be provided in one time basis for organization of cluster demonstration. Assistance @ of Rs.10000 per ha for Maize, kharif pulses (arhar, mung bean, urd bean, cluster bean), oilseeds (soybean, til) and Rs.10000/- perhectare for poplar based agro-forestry system for sole crop. The financial assistance of Rs 10000 per hectare expect poplar based agro-forestry system will be given in the form of Rs. 5000 for critical inputs including honorarium & other activities, Rs.2500 for land development and Rs.2500 for marketing support. An amount of Rs. 5000/- per hectare for inter-cropping of pulses and wheat will be provided to the farmers in the terms of critical inputs for organization of demonstrations. District Programme Management Group (PMG) will be responsible for arrangement of critical inputs for organizing cluster demonstrations. All critical inputs will be ensured by the State Department of Agriculture (SDA) well in advance before the sowing/transplanting of the crops. State will decide crop specific cluster demonstrations as per the availability of quality seeds of identified alternate crops. **Crop & component-specific pattern of assistance is given as under:**

S.N.	**Components**	**Crops**	
		Maize , kharif pulses (Arhar, mungbean, urd bean,) cluster bean, oilseeds and Bsa (directed seeded)	**Eucalyptus (water logged conditions) Poplar/ based agrofor system for sole**
A.	Cost of Critical inputs(seeds, micronutrients, seed treating chemical & P.P chemical etc	4500	9500
	Production technology & publicity materials	150 __ 200	_____ 1 5 0 200
	Honorarium & mobility to group leader of cluster demonstration		

	Visit of GOI/State officials for hiring of vehicle or POL	150	150
	Sun —total	5000	10000
B.	Land development Charges*	2500	-
C.	Marketing Support (store bin etc)**	2500	-
D	Inter crops with poplar (critical inputs)	-	5000
	Grand —Total	**10000**	**15000**

* &** Land development charge and marketing support will he paid to the farmers in cash to support the losses incurred due to diversion of area from paddy to alternate crops.

ii. Farm mechanization, processing and value addition

In order to create sustainability in diversion of paddy area to alternate crops, the necessity of farm machinery, agro-processing and value addition is of immense importance. An amount of 23 % of total state allocation is earmarked for farm machinery, processing and value addition items. The crop specific farm machinery will be provided to the farming community (group of 10 farmers) on custom hiring basis. An assistance @ of 50% cost of machine limiting to Rs. 25000/- for Maize sheller, Rs.5.00 lakh for portable maize dryer, Rs. 3000 for powered sprayer, Rs.25000 multi-crop thresher, Rs. 2.0 lakh for portable cleaner cum grader for pulses and Rs. 10.00 lakh maize processing unit etc.

iii. Site Specific activities

An amount of 15 % of total state allocation is earmarked for site specific activities. The identified site specific activities to promote alternate crops should be included in the action plan to be submitted by the respective state.

iv. Incentive for implementation of programme

An amount of 10 % of total state allocation is earmarked and kept at central level for incentive to the state for implementation of the programme through diversion of paddy area to alternate crops as per target fixed. The amount will be released separately after monitoring and evaluation of the programme by designated agency i.e National Centre for Agricultural Economics and Policy Research (NCAP).

Indicators are to be developed by NCAP for assessment of implementation of the programme at state, districts & individual.

v. Awareness trainings, implementation and monitoring

a) Awareness trainings

State Departments of Agriculture would organize awareness trainings of farmers for diversification of paddy to other alternate crops for additional income generation, restoration of soil fertility, agro-processing, value addition of crop produce to make farming as a profitable enterprise. The State Department of Agriculture would develop training material with help of other line departments like Forest and SAUs. Assistance @ of Rs. 5000/- for a group of 50 beneficiary farmers of cluster demonstration would be provided for awareness training programme.

b) In order to effective implementation and monitoring of the programme at state and district level, and encouragement of effective implementation of the programme in the state & district level, funds @ 2% of the total state allocation is earmarked for awareness trainings , implementation & monitoring of the programme. Out of which an amount of Rs.2.00 lakh for state level and Rs.2.00 lakh per district is to be incurred for publicity, organization of review meetings, implementation & monitoring visits, contingencies etc.

(C) Agri. Start-up & Accelerator Fund Components:

This component will be utilized for promotion of innovation and agri entrepreneurship by providing technical and financial support and nurturing an incubation ecosystem in the country. The Agri start- ups will provide practical, technical and business insights for end-to-end solution to agri. entrepreneurs through skill development and financial support. Agri start up and Accelerator fund will be implemented as 100% central assistance &7% funds will be earmarked for startup component from the total budget of DPR based component of RKVY.

The Agri Accelerator Fund will help scale up start-ups with innovative ideas/ technologies having the potential to modernize the agriculture ecosystem of the country. This initiative is envisioned to help farmers by supporting innovations at scale that does value addition to the agricultural processes, establish a more efficient and effective supply chain and create market linkages etc. for significant improvement in the farmer's income and boost agricultural economy.

Detailed guidelines of Agri. Start-up /Agri Accelerator Fund have been issued separately.

15. Administrative Expenses & Contingencies:

The State can useup to 2.5% of its total PM-RKVY funds for incurring administrative expenditure that includes Monitoring and Evaluation, payment to consultants, recurring expenses of various kinds, staff costs, etc. DA&FW may retain 2.5% of the PM-RKVY scheme funds at the Central level for UTs, evaluation activities, publicity, conducting studies, IEC activities on various components of PM-RKVY schemes and for hiring Project Management Unit (PMU) at Central level for implementation and monitoring of the scheme. The Nodal Agency of the State may hire Consultants /Consulting agencies to prepare DPR/AAP from the admin fund.

An integrated Project Management Unit (PMU)for implementation and monitoring of DPR component & AAP based components will be set up at DA&FW. Consultants, technical staff and other resource persons as part of Project Management Unit (PMU) will be hired on contractual basis.

16. Monitoring & Evaluation:

RKVY-Management Information System

(RKVY-MIS): States will be responsible for timely submission/updating project data online in the MIS web-based Management Information System(MIS) developed by Govt of India for DPR/AAP component under PM -RKVY on monthly/quarterly basis to provide current and authenticated data on outputs/outcome of DPR as well as AAP components of PM-RKVY.

Geo-tagging of assets created under all components of RKVY shall be made by States and project status of all such assets should mandatorily be uploaded through Krishi Mapper App/Mobile app for monitoring. The detailed user manual to operate the field inspection module of Krishi Mapper may be accessed from the https://krishimapper.dac.gov.in.

Twenty five percent (25%) of the projects sanctioned by the State each year under all components of RKVY shall have to be compulsorily taken up for third party monitoring and evaluation by the implementing States/UTs.

The State Government will be free to choose any reputed agencies for conducting the monitoring and evaluation work in their States. Requisite fees/cost to wards monitoring & evaluation will be met by the State Government from the 2.5% allocation retained by them for administrative expenses or from their own resources

At Government of India Level, Department of Agriculture and Farmers Welfare will conduct concurrent evaluation, mid-term and end-term evaluation of all the scheme components by a

suitable 3rd party. The performance of the States will be reflected in the Outcome Budget document of this Ministry.

17. Convergence: There is a need to optimise efforts through inter-sectoral approaches to facilitate sustainable development. States shall ensure convergence of PM-RKVY with various ongoing Central Schemes/ programmes of Ministry of Agriculture & Farmers Welfare, Ministry of Food Processing Industries, Ministry of New and Renewable Energy, Department of Land Resources, Ministry of Rural Development, Ministry of Water Resources etc. to deliver better outcomes and optimal and effective utilization of available resources. It will bring in synergies between different programmes / schemes of Central and State Governments in terms of planning, process and implementation.

18.Changes in the PM-RKVY: Department of Agriculture and Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Govt. of India may effect changes in the PM-RKVY guidelines, other than those affecting the financing pattern as the scheme evolves, whenever such changes are considered necessary.

19. Applicability of guidelines:

These guidelines are applicable to all the States and Union Territories for all components of restructured PM-RKVY.

Annexure-I

Format for Submitting the Minutes of SLSC

Format – I

Sl. No.	Particulars	Total Approved Amount (As approved by SLSC) (in lakhs)
1	Name of the Components (RKVY DPR/PDMC/RAD / SH&F / PKVY etc.) (Separate sheet for each component)	
2	Implementing Departments / Agencies	
3	Allocation of the each component	
4	Project Cost	
5	Resolution	
6	Convergences	
7	Final Remarks / Observations (if any)	

Annexure-II

Details of activities/projects as approved by SLSC

Format – II

Sl. No.	Name of the Activities / Projects / Sub – Components	Physical Outlay as approved by SLSC (No/Units/etc)	Financial Outlay as recommended by SLSC (Rs. in lakh)	Final Remarks / Observation of SLSC
1				
2				
3				
	Total			

Format – III

S. No.	Name of Components	SNA balance (As on date)	SNA 09	Allocation (GoI share)	Allocation (State share)	Total (GoI + State Share)	Committed Liability (All previous years)	New Projects Cost	Total fund requirement (Committed Liability + New Projects Cost)	125% of allocation (As approved by SLSC)	Remarks
1	**2**	**3**	**4**	**5**	6	**7 = (5+6)**	8	9	**10= (8+9)**	11	12

Annexure-III

Form of Utilization Certificate

Sl. No.	Letter No. and date	Amount
	Total	

Certified that out of Rs._____of grants-in-aid sanctioned during the year _____in favour of _____under this Ministry/Department Letter No. given in the margin and Rs._____on account of unspent balance of the previous year, a sum of Rs._____has been utilized for the purpose of _____for which it was sanctioned and that the balance of Rs._____remaining unutilized at the end of the year has been surrendered to Government (vide No._____, dated _____)/will be adjusted towards the grants-in-aid payable during the next year _____.

2. The Utilization Certificate should also disclose whether the specified, quantified and qualitative targets that should have been reached against the amount utilized, were in fact reached, and if not, the reasons thereof. They should contain an output-based performance assessment instead of input-based performance assessment.

3. Certified that I have satisfied myself that the conditions on which the grants-in-aid was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised

1.
2.
3.
4.
5.

Signature_____

Designation_____

Date_____

Note:

(i) Component -wise UCs may be furnished for General, SCSP, & TSP separately

(ii) Sanction No. and date of sanction for release of State share fund should be mentioned in UC.

Annexure:IV

Inter State Allocation of the funds under RKVY - DPR

Inter-State allocation of RKVY-DPR funds will be based on the following parameters and weights:

Sl. No.	Criteria/Parameters	Weightage
1	Percentage share of net un-irrigated area in a State to the net un-irrigated area of all States.	**20%**
2	Percentage of small and marginal farmers in the state compared to total number of small and marginal farmers in the country.	**30%**
3	Average Gross State Value Added (GSVA) in agriculture and allied sectors in the last 3 years.	**25%**
4	Percentage of youth population in the state compared to total youth in the country.	**10%**
5	Inverse of Yield gap between state average yield and potential yields as indicated in the frontline demonstration data.	**15%**

Ministry of Agriculture & Farmers Welfare could modify above criteria/weights depending upon new parameters be coming relevant in future.

Annexure-V

Composition of State Level Sanctioning Committee (SLSC)

Chief Secretary	-	Chairman
Agri. Prod. Commissioner/ACS/Principal Secretary(Agriculture)	-	Vice-Chairman
Secretary, Finance	-	Member
Secretary, Planning	-	Member
Secretary, Environment and Forests	-	Member
Secretary, Panchayati Raj	-	Member
Secretary, Rural Development	-	Member
Secretary, Water Resources/Irrigation/Minor Irrigation	-	Member
Director, Agriculture	-	Member
Director, Horticulture	-	Member
Representative of State Agriculture University	-	Member
Representative of NITI Aayog	-	Member
Secretary, Agriculture	-	Member-Secretary

Note:

1. SLSC may co-opt two more members from reputed NGOs working in the field of Agriculture, Deputy Commissioners of important districts, and leading farmers.

Annexure-VI

ILLUSTRATIVE LIST OF PROJECTS/ACTIVITIES THAT SHOULD NOT BE FUNDED UNDER RKVY- DPR component

1. Creation/topping up of any kind of revolving fund / corpus fund;
2. Expenditure towards maintenance of assets or any such recurring expenses;
3. Expenses towards Salary, Transport, Travelling Allowances (TA), Daily Allowances (DA) of permanent /semi-permanent employees. However, expenses towards hiring of man power on outsourcing/contractual basis can be met within 2.5% allocation earmarked for administrative expenses with approval of SLSC.
4. Expenses towards POL (Petrol, Oil, Lubricants);
5. Financing State's share and/or topping up subsidy level in respect with other Central/State Schemes;
6. Foreign Visits/Tours including study tours of farmers abroad;
7. Purchase of vehicles;
8. Financing any kind of debt waiver, interest subvention, payment of insurance premium, compensation to farmers and calamity relief expenditure; additional bonus over & above Minimum Support Price (MSP);
9. Creating/Strengthening assets in Private Sector/NGO's beyond what is permissibleunder any schemes/programmes of Govt. of India.
10. Projects pertaining to allied sectors like Animal Husbandry, Dairying & Fisheries, Sericulture and Forests (like production and processing of lac).
11. Plantation crops like Tea, rubber and coffee etc.
12. Construction of boundary walls of Govt. agriculture farms and individual farms.
13. Projects related to soil and water conservation works like reclamation of problem soils, desalination of soil etc
14. Furnishing of offices, hostels including purchase of computers/ printers etc may be taken up from Administrative expenses available with the State Govt.
15. State universities projects pertaining to AHD&F activities.
16. Production of Feed and Fodder grasses.

Annexure-VII

Detailed Project Report

FORMAT

ii. **Context/Background:** This section should provide a general description of the scheme/project being posed for appraisal.

iii. **Problems to be addressed:** This section should describe the problem to be addressed through the project/scheme at the local/regional/national level. Evidence regarding the nature and magnitude of the problems should be presented, supported by baseline data/survey/reports etc.

iv. **Aims and Objectives:** This section should indicate the development objectives proposed to be achieved, ranked in order of importance. The outputs/deliverables expected for each development objective should be spelt out clearly.

v. **Strategy:** This section should present an analysis of alternative strategies available to achieve the development objectives. Reasons for selecting the proposed strategy should be brought out. Basis for prioritization of locations should be indicated (wherever relevant). This section should also provide a description of the ongoing initiatives, and the manner in which duplication can be avoided and synergy created with the proposed project.

vi. **Target Beneficiaries:** There should be a clear identification of target beneficiaries. Stakeholder analysis should be undertaken, including consultation with stakeholders at the time of scheme/project formulation. Impact of the project on weaker sections of society, positive or negative, should be assessed and remedial steps suggested in case of any adverse impact.

vii. **Management:** Responsibilities of different agencies for project management of scheme implementation should be elaborated. The organization structure at various levels, human resource requirements, as well as monitoring arrangements should be clearly spelt out.

viii. **Finance:** This section should focus on the cost estimates, budget for the scheme/project, means of financing and phasing of expenditure. Options for cost sharing and cost recovery (user charges) should be explored. Issues relating to project sustainability, including stakeholder commitment, operation-maintenance of assets after project completion and other related issues should also be addressed in this section.

ix. **Time Frame:** This section should indicate the proposed zero date for commencement and also provide a PERT/CPM chart, wherever relevant.

x. **Cost Benefit Analysis:** Financial and economic cost-benefit analysis of the project should be under taken wherever such returns are quantifiable. Such an analysis should generally be possible for infrastructure projects, but may not always be feasible for public goods and social sector projects.

xi. **Risk Analysis:** This section should focus on identification and assessment of risks in implementation and how these are proposed to be mitigated. Risk analysis could include legal/contractual risks, environmental risks, revenue risks, project management risks, regulatory risks, etc.

xii. **Outcomes:** Criteria to assess success and whether or not the development objectives have been achieved should be spelt out in measurable terms. Base-line data should be available against which success of the project will be assessed at the end of the project (impact assessment). Success criterion for scheme deliverables/outcomes should also be specified in measurable terms to assess achievement against proximate goals.

xiii. **Evaluation:** Evaluation arrangements for the project, whether concurrent, mid-term or post-project should be clearly spelt out. It may be noted that continuation of schemes from one period to another will not be permissible without a third-party evaluation.

xiv. Last but not the least, a self-contained **Executive Summary** should be placed at the beginning of the document

Annexure:VIII

Illustrative List of Projects that can be funded under RKVY-DPR (Infrastructure& Assets)

1. **Climate Resilient Agriculture**
   - Area specific projects to address local impacts of climate change
   - Training programs with quantifiable outcomes
   - Demonstration of climate resilient varieties

2. **Horticulture**
   - Cluster of new crops (both exotic & indigenous) not covered under existing schemes
   - Hydroponics & aeroponics for production of quality seed & planting materials
   - Gaps in value chain of predominant crops
   - Demonstrations of new varieties, including Tomato, Onion and Potato

3. **Seeds**
   - Seed testing labs, including strengthening & upgradation
   - Support for development and modernization of State seed farms and nurseries, for multiplication of seeds and planting materials.
   - State seed processing facilities for gap filling, including dehumidified refrigerated storage.
   - Seed Certification Agencies & Certification Infrastructure

4. **Marketing & Post Harvest**
   - Projects for specific gaps in marketing infrastructure

5. **Pest Management & Pesticide Quality Control**
   - Support for State labs for testing pesticide residues, pesticide & biopesticide testing labs
   - Specific area-based projects for pest control or reduction.

6. **Soil Nutrient Management**
   - Establishment and Upgradation of soil testing laboratories to include micro nutrient testing & micro-organism testing & infective agents.

7. **Bio Fertilizers/ Organic Farming**
   - Quality control labs
   - Bio pesticide units, liquid carrier-based units.

8. Integrated Manure Management
   - State units for liquid bio-fertilizer consortia, liquid bio- pesticides & phosphate rich organic manure.

9. **Agriculture Mechanization**

   - Projects for mechanization of State farms- for intensification of agriculture, demonstration of techniques to save cost etc

- Post-harvest technology units for specific crops.

10. Projects for gap filling for bio-ethanol & CBG projects.

11. Agriculture waste to wealth projects

- Economically viable and self-sustaining projects for use of agricultural waste, linked to crop clusters
- Projects for alternative or new uses of crop residues for specific crops

Note:

1. The above illustrative list of projects is indicative and not exhaustive.
2. Food processing units, especially those industries which get assistance under various schemes of the MoFPI, should not be eligible for assistance under RKVY.
3. Infrastructure and Assets stream emphasizes promoting group approach for subsidies. Accordingly, level of subsidies in the case of unspecified projects should be kept to the minimum for higher coverage of beneficiaries/ areas.
4. State should form of stake holders‟ groups/organizations involving them in planning, execution and future maintenance of the created assets.

Annexure:IX

Activities relating to Production stream under RKVY - DPR component

The components/ activities which would be eligible for project based assistance under RKVY-DPR are elaborated below. This is an illustrative list and the States may choose other components/activities, but ensure that they are reflected adequately in the SAP.

a) **Integrated development of major food crops such as wheat, paddy, coarse cereals, minor millets, pulses, oilseeds:** Assistance can be provided for making available certified/HYV seeds to farmers; production of breeder seed; purchase of breeder seed from institutions such as ICAR, public sector seed corporations, production of foundation seed; production and distribution of certified seed; seed treatment; Farmers Field Schools at demonstration sites; training of farmers etc. Similar support would be provided for development of other crops such as sugarcane, cotton or any other crop/variety that may be of importance to the state.
b) **Agriculture mechanization:** Assistance can be provided to individual beneficiaries for farm mechanization efforts especially for improved and gender friendly tools, implements and machinery. However, assistance for large equipment e.g. tractor, combine harvester, sugar cane harvester, cotton picker etc. for which individual ownership may not be economically viable, assistance should only be limited for establishing custom hiring centres under RKVY (Infrastructure & Assets) stream.
c) **Activities related to enhancement of soil health:** Assistance can be provided to the farmers for distributing soil health cards; micro nutrient demonstration; training of farmers for promotion of organic farming including printing of publicity/utility literature; amelioration of soils affected with conditions such as alkalinity and acidity.
d) **Development of rainfed farming systems in and outside watershed areas:** Assistance for promoting integrated farming system (agriculture, horticulture etc.) generating livelihoods for farmers Below the Poverty Line (BPL).
e) **Integrated Pest Management schemes:** This would include training of farmers through Farm Field Schools etc. on pest management practices; printing of literature/other awareness programmes.

The above list is not exhaustive. Therefore, schemes that are important for agriculture and allied sector development, but cannot be categorized under (a)to (i) can also be proposed under this stream.

Annexure-X

Recommended norms for use of treated sewage quality for specified activities at point of use

						Landscaping, Horticulture & Agriculture			
S.N	Parameter	Toilet flushing	Fire Protection	Vehicle Exterior washing	Non-contact impoundments	Horticulture, Golf course	Crops		
							None dible Crops	Crops which are eaten	
								Raw	Cooked
1	Turbidity(NTU)	<2	<2	<2	<2	<2	AA	<2	AA
2	SS	nil	Nil	Nil	Nil	nil	30	nil	30
3	TDS	2100							
4	pH	6.5to8.3							
5	Temperature °C	Ambient							
6	Oil & Grease	10	nil	Nil	Nil	10	10	nil	nil
7	Minimum Residual Chlorine	1	1	1	0.5	0	Nil	nil	nil
8	Total K jeldahl Nitrogen as N	10	10	10	10	10	10	10	10
9	BOD	10	10	10	10	10	20	10	20
10	COD	AA	AA	AA	AA	AA	30	AA	30
11	Dissolved Phosphorous as P	1	1	1	1	2	5	2	5
12	Nitrate Nitrogen as N	10	10	10	5	10	10	10	10
13	Faecal Coliformin 100 Ml	nil	Nil	Nil	Nil	nil	230	nil	230
14	Helminthic Eggs/litre	AA	AA	AA	AA	AA	<1	<1	<1
15	Colour	Colourless	Colourless	Colourless	Colourless	Colourless	AA	Colourless	Colourless
16	Odour	Aseptic which means motseptic and no foul odour							

All units in mg/l unless specified; AA-as arising when other parameters are satisfied; A toleranceofplus5%isallowablewhen yearly average values are considered.

Format for Annual Action Plan–Per Drop More Crop (PDMC)

A) Micro Irrigation:

(i)District wise details:

Sr.No.	District(Ensure to cover all Aspirational Districts, and Namami Gange Districts)	Drip irrigation						Sprinkler irrigation						Total		
		Field Crops			Horticultural Crops			Field Crops			Horticultural Crops					
		Area	Farmers to be benefitted	Cost	Area	Farmers to be benefitted	Cost	Area	Farmers to be benefitted	Cost	Area	Farmers to be benefitted	Cost	Area	Farmers to be benefitted	Cost
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15=3+6+9+12	16=4+7+10+13	17=5+8+11+14
						Note: Major Crop wise details of both field & horticultural crops may be mentioned										

(ii)State Summery (MI):

Rs.in Lakh

S No	**Activity**	**Area(ha)**	**No of Farmers to be benefitted**	**Subsidy**			**Farmers Contribution**	**Total Cost**
				GOI Share	**Matching State Share**	**Total**		
1	Drip Irrigation system							
2	Sprinkler Irrigation system							
Total A								
Administrative cost-B								
Total A+B								
% MI cost to total AAP			…….. %					

B) Other Interventions (Optional)- Linked with Micro irrigation(i)District wise details:

Rs.in lakh

SN	**District**	**Activity1**				**Activity2……..**
		Quantity	***Unit***	***Unit rate (Rs.)***	***cost***	

(ii)State Summary(OI):

Rs.in Lakh

S N	Activity	Quantity	Unit	Unit rate	No of Farmers to be benefitted	Subsidy			Farmers contribution	Total Cost
						GOI Share	Matching State Share	Total		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Total A										
Administrative cost-B										
Total A+B										
%OI cost to total AAP						**……..%**				

Annexure-XII

Format for Physical Progress Monitoring Report for Per Drop More Crop (Micro Irrigation)

	Name of the State:									**Period of the report:**	
	Area in hectare:										
Name of District	**Physical Target**				**Total Physical Target**	**Physical Achievement**				**Total Physical Achievement**	**% Achievement**
	Horticulture		**Agriculture**			**Horticulture**		**Agriculture**			
	Drip	**Sprinkler**	**Drip**	**Sprinkler**		**Drip**	**Sprinkler**	**Drip**	**Sprinkler**		

Annexure-XII b

Format for Financial Progress Monitoring Report for Per Drop More Crop (Micro Irrigation)

Name of District	**Name of the State:**																**Period of the report:**	
	Rs. in Lakh																	
	Financial Target								Financial Achievement									% Achievement
	Horticulture		Agriculture		Training	Seminar /Exhibition	Scheme Admin. Cost	Total Financial Target	Horticulture		Agriculture		Training	Seminar /Exhibition	Scheme Admin. Cost	Total Financial Achievement		
	Drip	Sprinkler	Drip	Sprinkler					Drip	Sprinkler	Drip	Sprinkler						

Annexure- XIII

Drip Irrigation Technology-Indicative Bill of Quantities for 0.2 ha at farmer's field

SN	Component/Lateral to Lateral x Dripper spacing (mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5x0.6	1.2x0.6
	Control Unit																
1	Screen filter 10m^3/hr/Disc filter	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
2	Ventury & manifold(11/2")	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
3	Air releaseValve1"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
4	Non Return Valve-1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
5	By-passAssembly-1.5"x1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
	Field Unit																
6	PVCPipe50mm, class-III;6kg/cm^2	m	-	-	-	-	-	-	-	-	-	48	48	48	48	48	48
7	Lateral 12mm,ClassII;2.5kg/cm^2	m	-	-	-	-	-	-	-	-	-	1010	1347	20	27	32	40
8	EmittingPipe12mm;Class II**:**(0.6mx1to4lph)	m	-	-	-	-	-	-	-	-	-	0	0	808	1122	1347	1683
9	Emitter/Dripper 4/ 8lph	No.	-	-	-	-	-	-	-	-	-	1020	907	0	0	0	0
10	Control Valve 50mm	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
11	FlushValve50mm	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
12	Throttle Valve- 1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
13	Fittings/installation & Accessories @5%	set	-	-	-	-	-	-	-	-	-	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII b

Drip Irrigation Technology-Indicative Bill of Quantities for 0.4 ha at farmer's field

SN	Component/Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X4	3 X3	2.5X2.5	2 X2	1.5X1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter 10 m^3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Ventury & manifold(11/2")	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Air release Valve 1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Non Return Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	By-passAssembly-1.5"x1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Field Unit																
6	PVCPipe63mm,class-II;4kg/cm^2	m	0	0	0	0	0	0	0	0	30	30	30	0	0	0	0
7	PVCPipe50mm,class-III; 6kg/cm^2	m	96	96	96	96	96	96	96	96	66	66	66	96	96	96	96
8	Lateral12mm,ClassII;2.5 kg/cm^2	m	0	0	0	0	0	0	0	0	1616	2020	2693	38	53	64	79
9	Emitting Pipe 12 mm; Class II**:** (0.6 m x1 to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	1616	2245	2693	3367
10	Lateral12mm, Class II ;2.5kg/cm^2	m	339	406	452	508	677	813	1016	1355	0	0	0	0	0	0	0
11	Emitter/Dripper 4/8lph	No.	113	163	201	255	453	653	510	907	1293	2010	1796	0	0	0	0
12	Control Valve 63mm	No.	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
13	Control Valve 50mm	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	Flush Valve63mm	No.	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
15	Flush Valve50mm	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Throttle Valve -2"	No.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
17	Throttle Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
18	Fittings/Installation&Accessories@5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII c

Drip Irrigation Technology-Indicative Bill of Quantities for 1.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X 4	3 X3	2.5X2.5	2 X2	1.5X1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter 20/25m^3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Ventury & manifold(2")	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	AirreleaseValve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Non Return Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	By-passAssembly-1.5"x1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Field Unit																
6	PVCPipe75mm,class-II;4kg/cm^2	m	0	0	0	0	0	0	0	54	54	54	54	54	54	54	54
7	PVCPipe63mm,class-II;4kg/cm^2	m	0	0	0	0	54	156	156	102	102	102	102	102	102	102	102
8	PVCPipe50mm,class-III;6kg/cm^2	m	156	156	156	156	102	0	0	0	0	0	0	0	0	0	0
9	Lateral 16mm,Class II;2.5kg/cm^2	m	833	1000	1111	1250	1667	2000	2500	3333	4000	5000	6667	60	83	100	125
10	Emitting Pipe 16 mm; Class II**:** (0.6 m x1 to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	4040	5611	6733	8417
11	Emitter/Dripper 4/8lph	No.	278	400	494	625	1111	1600	1275	2267	3232	5050	4489	0	0	0	0
12	Control Valve 75mm	No.	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
13	Control Valve 63mm	No.	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1
14	Control Valve 50mm	No.	1	1	1	1	0	0	0	0	1	1	1	1	1	2	2
15	FlushValve63mm	No.	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2
16	FlushValve50mm	No.	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
17	Throttle Valve -2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	Fittings/Instalation&Accessories@5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII d

Drip Irrigation Technology-Indicative Bill of Quantities for 2.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X4	3 X3	2.5 X 2.5	2 X2	1.5 X 1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter 20/25m^3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Ventury & manifold(2")	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	AirreleaseValve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Non Return Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	By-passAssembly-1.5"x1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Field Unit																
6	PVCPipe75mm,class-II;4kg/cm^2	m	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
7	PVCPipe63mm,class-II;4kg/cm^2	m	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
8	Lateral 16mm,Class II;2.5kg/cm^2	m	1850	2130	2350	2600	3500	4200	5200	6900	8250	11000	14000	120	150	170	200
9	Emitting Pipe 16 mm; Class II**:** (0.6 mx1to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	8200	11500	13600	17000
10	Emitter/Dripper 4/8lph	No.	600	800	1000	1300	2300	3300	2600	4800	6600	10400	9000	0	0	0	0
11	Control Valve 75mm	No.	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
12	Control Valve 63mm	No.	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2
13	FlushValve63mm	No.	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
14	Throttle Valve -2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Fittings/Instalation&Accessories@5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII e

Drip Irrigation Technology-Indicative Bill of Quantities for 3.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X4	3 X3	2.5X2.5	2 X2	1.5 X 1.5	2.5X0.6	1.8 X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter30m^3/hr/ Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
2	Screen filter20/ 25m^3/hr/Disc filter	No	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
3	Ventury & manifold(2")	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	AirreleaseValve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	NonReturnValve-2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
6	Non Return Valve–1.5"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
7	By-passAssembly-2"x1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Field Unit																
8	PVC Pipe 90mm,class-II; 4kg/cm^2	m	0	0	0	0	0	0	0	0	90	90	90	90	90	90	90
9	PVC Pipe 75mm,class-II; 4kg/cm^2	m	0	0	0	0	216	216	216	216	132	132	132	132	132	132	132
10	PVC Pipe63mm,class-II;4kg/cm^2	m	216	216	216	216	336	336	336	336	174	174	174	174	174	174	174
11	PVC Pipe50mm,class-III; 6kg/cm^2	m	336	336	336	336	0	0	0	0	0	0	0	0	0	0	0
12	Lateral16mm, ClassII; 2.5kg/cm^2	m	2500	3000	3333	3750	5000	6000	7500	10000	12120	15150	20200	156	217	260	325
13	Emitting Pipe 16 mm; Class II**:** (0.6 mx1to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	12120	16833	20200	25250
14	Emitter/Dripper 4/8lph	No.	833	1200	1481	1875	3333	2400	3750	6667	9696	15150	13467	0	0	0	0
15	Control Valve 90mm	No	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
16	Control Valve 75mm	No.	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2
17	Control Valve 63mm	No.	1	1	1	1	4	4	4	4	4	4	4	4	4	4	4
18	Control Valve 50mm	No	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0
19	Flush Valve75mm	No	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
20	Flush Valve63mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
21	Throttle Valve -2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
22	Throttle Valve–1.5"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
23	Fittings/Installation&Accessories@5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII f

Drip Irrigation Technology-Indicative Bill of Quantities for 4.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X4	3 X 3	2.5X2.5	2 X2	1.5 X 1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter 30m^3/hr/ Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
2	Screen filter 20/ 25m^3/hr/Disc filter	No	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
3	Ventury & manifold(2")	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Air release Valve1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Non Return Valve-2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
6	Non Return Valve–1.5"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
7	By-pass Assembly-2"x1.5"	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
8	By-pass Assembly–1.5"x1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	Field Unit																
9	PVC Pipe 90mm,class-II; 4kg/cm^2	m	0	0	0	0	0	0	0	0	138	138	138	138	138	138	138
10	PVC Pipe 75mm,class-II; 4kg/cm^2	m	222	222	222	222	222	222	222	222	276	276	276	276	276	276	276
11	PVC Pipe 63mm,class-II; 4kg/cm^2	m	402	402	402	402	402	402	402	402	402	402	402	402	402	402	402
12	Lateral 16mm, Class II; 2.5kg/cm^2	m	3400	4080	4533	5100	6800	8160	10200	13600	16160	20200	26933	180	250	300	375
13	Emitting Pipe 16 mm; Class II**:** (0.6 mx1to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	16000	22000	26950	33100
15	Emitter/Dripper 4/8lph	No.	1133	1632	2015	2550	4533	4896	7700	9244	12800	20000	17800	0	0	0	0
16	Control Valve 90mm	No	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2
17	Control Valve 75mm	No.	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2
18	Control Valve 63mm	No.	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4
19	Flush Valve 75mm	No	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Flush Valve 63mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
21	Throttle Valve -2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
22	Throttle Valve–1.5"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
23	Fittings/Installation & Accessories @5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII g

Drip Irrigation Technology- Indicative Bill of Quantities 5.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing (mxm)	Unit	12X12	10X10	9 x9	8 X8	6 X6	5 X5	4 X 4	3X3	2.5X2.5	2 X2	1.5X1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	Screen filter 30m^3/hr/Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
2	Screen filter20/25m^3/hr/Disc filter	No	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
3	Ventury & manifold(21/2")	No	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
4	Ventury & manifold(2")	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
5	Air release Valve1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Non Return Valve –2.5"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
7	Non Return Valve –2"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	By-pass Assembly– 2.5"x2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
9	By-pass Assembly- 2"x1.5"	No.	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
	Field Unit																
10	PVCPipe90 mm, class-II; 4kg/cm^2	m	114	114	114	114	114	114	114	114	168	168	168	168	168	168	168
11	PVCPipe75 mm, class-II; 4kg/cm^2	m	168	168	168	168	168	168	168	168	342	342	342	342	342	342	342
12	PVCPipe63 mm, class-II; 4kg/cm^2	m	450	450	450	450	450	450	450	450	456	456	456	456	456	456	456
13	Lateral16mm, Class II; 2.5kg/cm^2	m	4250	5100	5667	6375	8500	10200	12750	17000	20200	25250	33667	268	373	447	559
14	Emitting Pipe 16 mm; Class II**:** (0.6m x1to 4lph)	m	0	0	0	0	0	0	0	0	0	0	0	20200	28056	33667	42083
15	Emitter/Dripper 4/8lph	No.	1417	2040	2519	3188	5667	8160	6500	11556	16160	25250	22444	0	0	0	0
16	Control Valve 90mm	No	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2
17	Control Valve 75mm	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	Control Valve 63mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
19	Flush Valve 75mm	No	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Flush Valve 63mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
21	Throttle Valve–2.5"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
22	Throttle Valve–2"	No	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
23	Fittings/Installation & Accessories @5%	set	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII h

NEH States-Drip Irrigation Technology -Indicative Bill of Quantities for 0.2 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing(mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5x0.6	1.2x0.6
	Control Unit																
1	Screen filter 10m^3/hr/Disc filter	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
2	Ventury & manifold(11/2")	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
3	Air release Valve1"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
4	Non Return Valve-1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
5	By-pass Assembly-1.5"x1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
6	**Field Unit**																
7	HDPE Pipe 50mm; 4kg/cm^2	m	-	-	-	-	-	-	-	-	-	54	54	54	54	54	54
8	Lateral 12mm, Class II; 2.5 kg/cm^2	m	-	-	-	-	-	-	-	-	-	1010	1347	20	27	32	40
9	Emitting Pipe 12mm; Class II**:** (0.2-0.3mx 1 to 2-4 lph)	m	-	-	-	-	-	-	-	-	-	0	0	808	1122	1347	1683
10	Pressure regulating Emitter/Dripper 2/4/8lph	No.	-	-	-	-	-	-	-	-	-	1020	907	0	0	0	0
11	Control Valve 50mm	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
12	Control Valve 63mm	No.	-	-	-	-	-	-	-	-	-	1	1	0	0	0	0
13	Flush Valve 50mm	No.	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2
14	Throttle Valve -1.5"	No.	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
15	Fittings/Installation & Accessories @5%	set	-	-	-	-	-	-	-	-	-	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII i

NEH States- Drip Irrigation Technology- Indicative Bill of Quantities for 0.4 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing(mxm)	Unit	12 X12	10X10	9x9	8X8	6 X6	5 X5	4 X4	3X3	2.5 X2.5	2 X2	1.5X1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	HDPE Pipe50mm;4kg/cm^2	m	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
2	HDPE Pipe63mm;4kg/cm^2	m	0	0	0	0	0	0	0	0	30	30	30	0	0	0	0
3	Lateral 12mm, Class II ;2.5kg/cm^2	m	339	406	452	508	677	813	1016	1355	0	0	0	0	0	0	0
4	Lateral 16mm, Class II; 2.5kg/cm^2	m	0	0	0	0	0	0	0	0	1616	2020	2693	38	53	64	79
5	Emitting Pipe 16 mm; Class II**:** (0.2-0.3mx1to 2-4 lph)	m	0	0	0	0	0	0	0	0	0	0	0	1616	2245	2693	3367
6	Pressure regulating Emitter/Dripper2/ 4/8lph	No.	113	163	201	255	453	490	765	1360	1306	2010	3627	0	0	0	0
7	Control Valve 50mm	No.	6	6	6	6	6	6	6	6	6	6	6	4	4	4	4
8	Control Valve 63mm	No.	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
9	Flush Valve 50mm	No.	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4
10	Air release Valve 1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	Non Return Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	Throttle Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	Screen filter 10m^3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	By-pass Assembly- 1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Ventury & manifold-1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII j

NEH States- Drip Irrigation Technology- Indicative Bill of Quantities for 1.0 ha at farmer's field

SN	Component/ Lateral to Lateral x Dripper spacing(mxm)	Unit	12X12	10X10	9x9	8X8	6X 6	5 X5	4X4	3 X3	2.5X2.5	2 X2	1.5X1.5	2.5X0.6	1.8X0.6	1.5X0.6	1.2X0.6
	Control Unit																
1	HDPE Pipe40mm;6kg/cm^2	m	172	172	172	172	112	0	0	0	0	0	0	0	0	0	0
2	HDPE Pipe50mm;4kg/cm^2	m	0	0	0	0	60	172	172	172	172	172	172	0	0	0	0
3	HDPE Pipe63mm;4kg/cm^2	m	0	0	0	0	0	0	0	60	60	60	60	118	118	118	118
4	HDPE Pipe75mm;4kg/cm^2	M	0	0	0	0	0	0	0	0	0	0	0	62	62	62	62
5	Lateral12mm, Class II ;2.5kg/cm^2	m	980	1150	1300	1400	1800	2000	2500	3333	0	0	0	0	0	0	0
6	Lateral16mm, Class II; 2.5kg/cm^2	m	0	0	0	0	0	0	0	0	4040	5050	6733	60	83	100	125
7	Emitting Pipe 16 mm; Class II**:** (0.2-0.3mx1to 2-4 lph)	m	0	0	0	0	0	0	0	0	0	0	0	4040	5611	6733	8717
8	Pressure regulating Emitter/ Dripper2/4/ 8lph	No.	350	440	540	650	1150	1224	1913	3400	3232	5050	9067	0	0	0	0
9	Control Valve 40mm	No.	10	10	10	10	0	0	0	0	7	7	7	0	0	0	0
10	Control Valve 50mm	No.	0	0	0	0	10	10	10	0	3	3	3	4	4	4	4
11	Control Valve 63mm	No.	0	0	0	0	0	0	0	10	0	0	0	1	1	1	1
12	Control Valve 75mm	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
13	Flush Valve50mm	No.	1	1	1	1	1	0	0	0	1	1	1	4	4	4	4
14	Flush Valve63mm	No.	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1
15	AirreleaseValve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Non Return Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Throttle Valve -1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	Screen filter 10m3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	By-pass Assembly- 1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Ventury & manifold-2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII k

NEH States-Drip Irrigation Technology-Indicative Bill of Quantities for 2.0 ha at farmer's field

SN	Component Lateral to Lateral x Dripper spacing(mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5 X 0.6	1.2x0.6
1	HDPE Pipe50mm; 4kg/cm^2	m	165	165	165	165	165	165	165	165	165	165	165	120	120	120	120
2	HDPE Pipe63mm;4 kg/cm^2	m	88	88	88	88	88	88	88	88	88	88	88	80	80	80	80
3	HDPE Pipe75mm;4 kg/cm^2	m	0	0	0	0	0	0	0	0	0	0	0	90	90	90	90
4	Lateral 12mm, Class II ;2.5kg/cm^2	m	1850	2130	2350	2600	3500	4200	5200	6900	0	0	0	0	0	0	0
5	Lateral 16mm Class II, 2.5kg/cm^2	m	0	0	0	0	0	0	0	0	8400	11400	14600	120	150	170	200
6	Emitting Pipe 16 mm; Class II**:** (0.2-0.3m x 1to 2-4 lph)	m	0	0	0	0	0	0	0	0	0	0	0	8200	11500	13600	17000
7	Pressure regulating Emitter/ Dripper2/4/ 8lph	No.	600	800	1000	1300	2300	2448	3825	6800	6600	10400	18133	0	0	0	0
8	Control Valve 50mm	No.	12	12	12	12	12	12	12	12	12	12	12	8	8	8	8
9	Control Valve 63mm	No.	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4
10	Control Valve 75mm	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
11	Flush Valve 50mm	No.	3	3	3	3	3	3	3	3	3	3	3	8	8	8	8
12	Flush Valve 63mm	No.	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4
13	Air Release Valve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	Non Return Valve 1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Throttle Valve 1.5"	No.	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1
16	Throttle Valve 2"	No.	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0
17	Screen Filter 10m^3/hr/Disc filter	No.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
18	Screen Filter 30m^3/hr/Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
19	By-pass Assembly-1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Venturi & Manifold2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII l

NEH States-Drip Irrigation Technology-Indicative Bill of Quantities 3.0 ha at farmer's field

SN	Component Lateral to Lateral x Dripper spacing(mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5 X 0.6	1.2x0.6
1	HDPEPipe90mm;4 kg/cm^2	m	0	0	0	0	0	0	0	0	105	105	105	0	0	0	0
2	HDPEPipe75mm;4 kg/cm^2	m	0	0	0	0	240	240	240	240	144	144	144	105	105	105	105
3	HDPEPipe63mm;4 kg/cm^2	m	240	240	240	240	380	380	380	380	190	190	190	150	150	150	150
4	HDPEPipe50mm; 4kg/cm^2	m	380	380	380	380	0	0	0	0	0	0	0	200	200	200	200
5	Lateral 16mm Class II, 2.5kg/cm^2	m	0	0	0	0	0	0	0	0	12120	15150	20200	156	217	260	325
6	Lateral12mm, Class II ;2.5kg/cm^2	m	2500	3000	3333	3750	5000	6000	7500	10000	0	0	0	0	0	0	0
7	Emitting Pipe 16 mm; Class II**:** (0.2-0.3 mx1to 2-4lph)	m	0	0	0	0	0	0	0	0	0	0	0	12120	16833	20200	25250
8	Pressure regulating Emitter/ Dripper2/4/ 8lph	No.	833	1200	1481	1875	3333	3672	5738	10200	9696	15150	26933	0	0	0	0
9	Control Valve 90mm	No	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
10	Control Valve 75mm	No	3	3	3	3	3	3	3	3	5	5	5	1	1	1	1
11	Control Valve 63mm	No.	8	8	8	8	8	8	8	8	8	8	8	2	2	2	2
12	Control Valve 50mm	No.	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8
13	Flush Valve75mm	No.	3	3	3	3	3	3	3	3	5	5	5	0	0	0	0
14	Flush Valve63mm	No.	8	8	8	8	8	8	8	8	8	8	8	1	1	1	1
15	Flush Valve50mm	No.	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
16	AirReleaseValve1"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Non Return Valve 1.5"	No.	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
18	Non Return Valve 2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
19	Throttle Valve1.5"	No.	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
20	Throttle Valve2"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
21	Screen Filter 30m^3/hr/Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
22	Screen Filter 20/25m^3/hr/Disc filter	No.	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
23	Screen Filter 10m^3/hr/Disc filter	No.	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0
24	By-pass Assembly-2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	Venturi & Manifold2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

NEH States-Drip Irrigation Technology-Indicative Bill of Quantities 4.0 ha at farmer's field

SN.	Component Lateral to Lateral x Dripper spacing(mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5X0.6	1.2x0.6
1	HDPE Pipe 90mm; 4kg/cm ^{2}	m	0	0	0	0	0	0	0	0	160	160	160	150	150	150	150
2	HDPE Pipe 75mm; 4kg/cm ^{2}	m	245	245	245	245	245	245	245	245	300	300	300	300	300	300	300
3	HDPE Pipe 63mm; 4kg/cm ^{2}	m	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
4	HDPE Pipe50mm;4kg/cm^2	m	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167
5	Lateral 16mm Class II,2.5kg/cm^2	m	0	0	0	0	0	0	0	0	16160	20200	26933	180	250	300	375
6	Emitting Pipe16mm;Class II**:**(0.2-0.3mx1 to2-4 lph)	m	0	0	0	0	0	0	0	0	0	0	0	16000	22000	26670	33100
7	Lateral 12mm, Class II ;2.5kg/cm2	m	3400	4080	4533	5100	6800	8160	10200	13600	0	0	0	0	0	0	0
8	Pressure regulating Emitter/ Dripper2/4/ 8lph	No.	1133	1632	2015	2550	4533	4896	7700	13600	12800	20000	35911	0	0	0	0
9	Control Valve 90mm	No.	0	2	0	0	0	0	0	0	2	2	2	2	2	2	2
10	Control Valve 75mm	No.	0	0	0	0	3	3	3	3	3	3	3	2	2	2	2
11	Control Valve63mm	No.	5	5	5	5	3	3	3	3	8	8	8	5	5	5	5
12	Control Valve50mm	No.	3	3	3	3	2	2	2	2	4	4	4	3	3	3	3
13	Flush Valve75mm	No.	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1
14	Flush Valve63mm	No.	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4
15	Flush Valve50mm	No.	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2
16	Air Release Valve1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Non Return Valve1.5"	No.	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
18	Non Return Valve2"	No.	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
19	Non Return Valve2.5"	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
20	Throttle Valve 1.5"	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
21	Throttle Valve 2"	No.	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0
22	Throttle Valve 2.5"	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
23	Screen Filter30m^3/hr/Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
24	Screen Filter20/25m^3/hr/Disc filter	No.	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0
25	Screen Filter10m^3/hr/Disc filter	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
26	By-pass Assembly-2"	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
27	By-pass Assembly-1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
28	Venturi & Manifold2"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIII n

NEH States-Drip Irrigation Technology-Indicative Bill of Quantities 5.0 ha at farmer's field

SN	Component Lateral to Lateral x Dripper spacing(mxm)	Unit	12x12	10x10	9x9	8x8	6x6	5x5	4x4	3x3	2.5x2.5	2x2	1.5x1.5	2.5x0.6	1.8x0.6	1.5X0.6	1.2x0.6
1	HDPE Pipe 90mm; 4kg/cm^2	m	124	124	124	124	124	124	124	124	180	180	180	180	180	180	180
2	HDPE Pipe 75mm; 4kg/cm^2	m	180	180	180	180	180	180	180	180	372	372	372	375	375	375	375
3	HDPE Pipe 63mm; 4kg/cm^2	m	300	300	300	300	300	300	300	300	300	300	300	310	310	310	310
4	HDPE Pipe50mm;4kg/cm^2	m	212	212	212	212	212	212	212	212	212	212	212	200	200	200	200
5	Lateral 16mmClassII,2.5kg/cm^2	m	0	0	0	0	0	0	0	0	20200	25250	33667	268	373	447	559
6	EmittingPipe16mm;Class II:(0.2-0.3mx1 to2-4 lph)	m	0	0	0	0	0	0	0	0	0	0	0	20200	28056	33667	42083
7	Lateral12mm, Class II ;2.5kg/cm^2	m	4250	5100	5667	6375	8500	10200	12750	17000	0	0	0	0	0	0	0
8	Pressure regulating Emitter/ Dripper2/4/ 8lph	No.	1417	2040	2519	3188	5667	6120	9563	17000	16610	25250	44889	0	0	0	0
9	Control Valve 90mm	No.	2	2	2	0	0	0	0	0	0	0	0	2	2	2	2
10	Control Valve 75mm	No.	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2
11	Control Valve 63mm	No.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
12	Control Valve 50mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	Flush Valve75mm	No.	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
14	Flush Valve63mm	No.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
15	Flush Valve50mm	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	Air Release Valve 1.5"	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Non Return Valve 1.5"	No.	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
18	Non Return Valve 2.5"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
19	Throttle Valve1.5"	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
20	Throttle Valve2"	No.	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
21	Throttle Valve2.5"	No.	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
22	Screen Filter 30m^3/hr/Disc filter	No.	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
23	Screen Filter 20/25m^3/hr/Disc filter	No.	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0
24	Screen Filter 10m^3/hr/Disc filter	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
25	By-pass Assembly-2.5"	No.	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1
26	By-pass Assembly-2"	No.	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
27	Venturi & Manifold2"	No.	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
28	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIV

Indicative Bill of Quantities (BoQ) for Portable Sprinkler Irrigation System

Using 63 mm coupler								
SN	**Components/Area(Ha)**	**Unit**	**0.4**	**1**	**2**	**3**	**4**	**5**
1	HDPE Pipes with Quick coupled (Pipe of Class II;3.2kg/cm^2 IS:17425:202063 mm diameter & 6m long)	No	18	30	41	NA	NA	NA
2	Quick coupled HDPE 63mm Foot batten Assembly;	No	3	5	9	NA	NA	NA
3	GI/PP/PVC Riser Pipe3/4"diameterx75cm long	No	3	5	9	NA	NA	NA
4	Sprinkler Nozzles(1.7to2.8kg/cm^2);IS12232 Part I Brass/Plastic	No	3	5	9	NA	NA	NA
5	Quick coupled HDPE Bend with Coupler 90^0(63/50mm);	No	1	1	1	NA	NA	NA
6	Quick coupled HDPE Pump Connecting Nipple 63mm;	No	1	1	1	NA	NA	NA
7	Quick coupled HDPE End Plug (63mm);	No	1	2	2	NA	NA	NA
8	Quick coupled HDPE Tee with Coupler(63mm);	No	1	1	1	NA	NA	NA
Using 75mm coupler								
SN	**Components/Area(Ha)**	**Unit**	**0.4**	**1**	**2**	**3**	**4**	**5**
1	HDPE Pipes with Quick coupled (Pipe of Class **I**;2.5kg/cm^2 IS:17425:2020, 75mm diameter & 6m long)	No	NA	30	41	NA	NA	NA
2	Quick coupled HDPE 75mm Foot batten Assembly;	No	NA	5	9	NA	NA	NA
3	GI/PP/PVC Riser Pipe3/4"diameter x75cm long	No	NA	5	9	NA	NA	NA
4	Sprinkler Nozzles (1.7to2.8kg/cm^2); IS12232 Part I Brass/Plastic	No	NA	5	9	NA	NA	NA
5	Quick coupled HDPE Bend with Coupler 90^0(75mm);	No	NA	1	1	NA	NA	NA
6	Quick coupled HDPE Pump Connecting Nipple, 75mm;	No	NA	1	1	NA	NA	NA
7	Quick coupled HDPE End Plug (75mm);	No	NA	2	2	NA	NA	NA
8	Quick coupled HDPE Tee with Coupler(75mm);	No	NA	1	1	NA	NA	NA
Using 90mm coupler								
SN	**Components/Area(Ha)**	**Unit**	**0.4**	**1**	**2**	**3**	**4**	**5**
1	HDPE Pipes with Quick coupled (Pipe of Class **I**;2.5kg/cm^2; IS:17425:2020, 90mm diameter & 6m long)	No	NA	NA	NA	41	52	58
2	Quick coupled HDPE 90mm Foot batten Assembly;	No	NA	NA	NA	11	14	16
3	GI/PP/PVC Riser Pipe3/4" diameterx75cm long	No	NA	NA	NA	11	14	16
4	Sprinkler Nozzles (1.7to2.8kg/cm^2);IS12232Part I Brass/Plastic	No	NA	NA	NA	11	14	16
5	Quick coupled HDPE Bend with Coupler 90^0(90mm);	No	NA	NA	NA	2	2	4
6	Quick coupled HDPE Pump Connecting Nipple, 90mm;	No	NA	NA	NA	1	1	1
7	Quick coupled HDPE End Plug(90mm);	No	NA	NA	NA	2	2	2
8	Quick coupled HDPE Tee with Coupler(90mm);	No	NA	NA	NA	1	1	2

Note: In the cases of area upto 2ha, the beneficiary may be allowed for using higher dia HDPE pipe as per his choice. However, financial assistance may be allowed as per the indicative Unit cost for 75 mm dia HDPE pipe.

Annexure-XV

Indicative Bill of Quantities (BoQ) for Micro Sprinkler Irrigation System

SN	Components/Area(Ha)	5mx5m							3mx3m					
		Unit	0.4	1.0	2.0	3.0	4.0	5.0	0.4	1.0	2.0	3.0	4.0	5.0
1	PVCPipe90mm,class-II;4kg/cm^2	m	0	**0**	0	0	0	160	0	0	0	0	0	150
2	PVCPipe75mm,class-II;4kg/cm^2	m	30	54	80	100	252	600	30	54	100	140	220	520
3	PVCPipe63mm,class-II;4kg/cm^2	m	66	102	150	180	402	0	66	102	150	180	380	0
4	20mmLLDPEplainlaterals,ClassII;2.5 kg/cm^2	m	0	2000	4000	6000	8000	10000	0	3350	6660	10000	13330	16600
5	Lateral16mm,ClassII;2.5kg/cm^2	m	800	0	0	0	0	0	1336	0	0	0	0	0
6	Micro sprinkler Set	No.	160	400	800	1200	1600	2000	444	1111	2222	3333	4444	5556
7	ControlValve90mm	No.	0	0	0	0	2	2	0	0	0	0	0	1
8	ControlValve75mm	No.	1	1	1	1	4	4	1	1	1	1	4	4
9	ControlValve63mm	No.	1	1	4	4	0	0	1	1	4	4	0	0
10	FlushValve75mm	No.	0	0	0	0	4	6	0	0	0	0	4	4
11	FlushValve63mm	No.	1	1	1	1	0	0	1	1	1	1	0	0
12	FlushValve50mm	No.	2	0	0	0	0	0	0	0	0	0	0	0
13	AirreleaseValve-1"	No.	1	1	1	1	1	1	1	1	1	1	1	1
14	NonReturnValve-2"	No.	1	1	0	0	0	0	1	1	1	1	1	1
15	NonReturnValve-2.5"	No.	0	0	1	1	1	1	0	0	0	0	0	0
16	ThrottleValve-2"	No.	1	1	0	0	0	0	1	1	1	1	1	1
17	ThrottleValve-2.5"	No.	0	0	1	1	1	1	0	0	0	0	0	0
18	Screenfilter30m^3/hr	No.	0	1	1	1	1	1	0	1	1	1	1	1
19	Screenfilter20/25m^3/hr	No.	1	0	0	0	0	0	1	0	0	0	0	0
20	By-passAssembly-2.5"x2"	No.	0	0	1	0	0	0	0	0	0	0	0	0
21	By-passAssembly-2"x1,5"	No.	1	1	0	1	1	1	1	1	1	1	1	1
22	Venturi&manifold-2"	No.	1	1	1	1	1	1	1	1	1	1	1	1
23	Fittings/Installation & Accessories		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XVI

Indicative Bill of Quantities (BoQ) for Mini Sprinkler Irrigation System

SN	Components/Area(Ha)	Unit	10x10						8x8					
			0.4	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**0.4**	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**
1	PVCPipe90mm,class-II;4kg/cm2	m	0	0	80	210	235	310	0	0	80	210	235	310
2	PVCPipe75mm,class-II;4kg/cm2	m	30	60	150	320	420	480	30	60	150	320	420	480
3	PVCPipe63mm,class-II;4kg/cm2	m	66	110	0	0	0	0	66	110	0	0	0	0
4	*25/*32mmLLDPEplainlaterals,2.5kg/cm2-ClassII	m	400	1000	2000	3000	4000	5000	500	1250	2500	3750	5000	6250
5	Mini Sprinkler Head/Nozzle	No.	40	100	220	300	400	500	63	156	312	470	625	780
6	Riser Assembly(MS/Plastic)	No.	40	100	220	300	400	500	63	156	313	470	625	781
7	ControlValve90mm	No.	0	0	0	0	2	2	0	0	0	0	2	2
8	ControlValve75mm	No.	0	1	1	1	4	4	0	1	2	4	4	4
9	ControlValve63mm	No.	1	1	2	0	0	0	1	1	2	0	0	0
10	ControlValve32mm	No.	0	20	34	52	68	84	0	24	36	54	72	90
11	FlushValve75mm	No.	0	0	1	4	4	4	0	1	2	4	4	4
12	FlushValve63mm	No.	1	1	0	0	0	0	1	0	0	0	0	0
13	AirreleaseValve-1"	No.	1	1	1	1	1	1	1	1	1	1	1	1
14	NonReturnValve-2.5"	No.	0	1	1	1	1	1	0	1	1	1	1	1
15	NonReturnValve-2"	No.	1	0	0	0	0	0	1	0	0	0	0	0
16	ThrottleValve3"	No.	0	0	0	0	1	1	0	0	0	0	1	1
17	ThrottleValve-2.5"	No.	0	1	1	1	0	0	0	1	1	1	0	0
18	ThrottleValve-2"	No.	1	0	0	0	0	0	1	0	0	0	0	0
19	Screenfilter30m3/hr	No.	0	0	1	1	1	1	0	0	1	1	1	1
20	Screenfilter20/25m3/hr	No.	1	1	0	0	0	0	1	1	0	0	0	0
21	By-passAssembly-2"x1,5"	No.	0	0	0	0	0	1	0	0	0	0	0	1
22	By-passAssembly-1.5"x1.5"	No.	1	1	1	1	1	0	1	1	1	1	1	0
23	Venturi&manifold-2"	No.	1	1	1	1	1	1	1	1	1	1	1	1
24	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: Installation of PVC or HDPE pipes for main/sub mains may be the choice of beneficiary. However, financial assistance will be limited to the PVC pipe and differential amount to be borne by beneficiary.

Annexure-XVII

Indicative Bill of Quantities (BoQ) for Semi Permanent Sprinkler Irrigation System

SN	Particulars/ha area	0.4	1	2	3	4	5
1	PVC Pipe90mm,class-II;4kg/cm2	0	0	0	0	0	173
2	PVC Pipe75mm,class-II;4kg/cm2	0	0	110	135	156	0
3	PVC Pipe63mm,class-II;4kg/cm2	96	154	273	340	395	440
4	PVC Pipe25mm Class-V;10Kg/cm2	350	950	1904	0	0	0
5	32mm LLDPE plain laterals,2.5 kg/cm2-ClassII	0	0	0	3006	4000	5014
6	Control Valve 63mm	1	1	2	2	2	2
7	By-pass Assembly-2.5"x2"	1	1	1	1	1	1
8	Control Valve 25mm	12	20	42	51	80	88
9	Sprinkler Nozzles (1.7to2.8kg/cm2);IS12232 Part I Brass/Plastic	12	12	12	12	12	12
10	Screenfilter20/25m3/hr	1	1	1	1	1	1
11	Fittings/Installation & Accessories	5%	5%	5%	5%	5%	5%

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XVIII

Indicative Bill of Quantities (BoQ) for Rain-gun Sprinkler Irrigation System

Using 63 mm coupler						
SN	**Components/Area(ha)**	**1**	**2**	**3**	**4**	**5**
1	HDPE Pipes with Quick coupled(Pipe of Class 3;4kg/cm^2 IS:17425:202063 mm diameter & 6m long)	30	NA	NA	NA	NA
2	Raingun Sprinkler1.25"female threaded connection	1	N.A	N.A	N.A	N.A
3	Tripod Stand with adapter to feederline1.25"x1.5m	1	N.A	N.A	N.A	N.A
4	Quick coupled HDPE Bend with Coupler 90^0(63/50mm);	1	N.A	N.A	N.A	N.A
5	Quick coupled HDPE Pump Connecting Nipple 63mm;	1	N.A	N.A	N.A	N.A
6	Quick coupled HDPE End Plug(63mm);	1	N.A	N.A	N.A	N.A
7	Quick coupled HDPE Tee with Coupler (63mm);	1	N.A	N.A	N.A	N.A
8	Screenfilter20/25m3/hr	1	N.A	N.A	N.A	N.A
9	By-pass Assembly-2"x1,5"	1	N.A	N.A	N.A	N.A
Using75mmcoupler						
SN	**Components/Area(ha)**	**1**	**2**	**3**	**4**	**5**
1	HDPEPipeswithQuickcoupled(PipeofClass3;4kg/cm^{2}IS:17425:202075mmdiameter &6mlong)	30	42	NA	NA	NA
2	RaingunSprinkler1.25"femalethreadedconnection	1	1	N.A	N.A	N.A
3	TripodStandwithadaptertofeederline1.25"x1.5m	1	1	N.A	N.A	N.A
4	Quick coupled HDPE Bend with Coupler 90^0(75mm);	1	1	N.A	N.A	N.A
5	Quick coupled HDPE Pump Connecting Nipple,75mm;	1	1	N.A	N.A	N.A
6	Quick coupled HDPE End Plug (75mm);	1	1	N.A	N.A	N.A
7	Quick coupled HDPE Tee with Coupler(75mm);	1	1	N.A	N.A	N.A
8	Screenfilter20/25m3/hr	1	1	N.A	N.A	N.A
9	By-passAssembly-2"x1,5"	1	1	N.A	N.A	N.A
Using90mmcoupler						
SN	**Components/Area(ha)**	**1**	**2**	**3**	**4**	**5**
1	HDPE Pipes with Quick coupled (Pipe of Class3;4kg/cm^2 IS:17425:202090mm diameter &6mlong)	NA	NA	45	52	60
2	Raingun Sprinkler1.5"female threaded connection	N.A	N.A	1	1	1
3	Tripod Stand with adapter to feederline1.5"x1.5m	N.A	N.A	1	1	1
4	Quick coupled HDPE Bend with Coupler 90^0(90mm);	N.A	N.A	1	1	1
5	Quick coupledHDPEPumpConnectingNipple,90mm;	N.A	N.A	1	1	1
6	Quick coupled HDPE End Plug(90mm);	N.A	N.A	1	1	1
7	Quick coupled HDPE Tee with Coupler(90mm);	N.A	N.A	1	1	1
8	Screenfilter30m3/hr	N.A	N.A	0	1	1
9	Screenfilter20/25m3/hr	N.A	N.A	1	0	0
10	By-passAssembly-2"x1,5"	N.A	N.A	1	0	0
11	By-passAssembly-2.5"x2"	N.A	N.A	0	1	1

Note: The above items/components are indicative for calculation of subsidy. Deviation if any, from the above items/components is subject to ceiling of cost and differential amount to be borne by the beneficiary.

Annexure-XIX

Water Quality Criteria in Relation to Clogging

The criteria for water quality for conventional irrigation is different from the one meant for irrigating through drip. The clogging hazard with different water qualities are presented below:

Extent of Clogging on the Basis of Quality of Irrigation Water

Quality of Water	**Clogging Hazard**		
	Slight	**Moderate**	**Severe**
Suspended Solids(ppm)	<50	50-100	>100
pH	<7.0	7.0-8.0	>8.0
TDS(ppm)	<500	500-2000	>2000
Manganese(ppm)	<0.1	0.1-1.5	>1.5
Iron(ppm)	<0.1	0.1-1.5	>1.5
Calcium and Magnesium (ppm)	<20	20-40	>40
Hydrogen sulphide (ppm)	<0.5	0.5-2.0	>2.0
Bacterial population(No./ml)	<10000	10000-50000	>50000

***Source**: Dasberg and Dani,1999*

Annexure-XX

Guidelines for Selection of Filter

Water Quality	Type of Filter	Remarks
Good without any physical and biological impurities.	Screen	Screen filter shall be suggested only if the physical impurity do not call for cleaning of filter element more than once a Day
Water sources with heavy physical and biological impurities.	Only screen filter will not be sufficient	Additional filter is required depending upon the type of water impurity
Water sources with sand and other heavier particles.	Hydro cyclone Separator or Hydro cyclone of matching Flow capacity.	Disc/Screen Filter shall be provided after hydro cyclone
Water sources with heavy of Biological Impurities such as Algae, trash and other debris.	Media/sand filter	Disc/screen filter should be provided after Media filter
Water sources with heavy Sand and other biological Impurities such as Algae and trash.	Combination of Hydro Cyclone followed by a Sand Filter	Screen/disc filter should be After sand filter

Annexure- XXI

Indicative Price of Optional Components

SN	Optional Component	Appr. Price (Rs)
1	**Sand Filter with back wash assembly IS1 4606**	
a	$10m^3$/hr x1.5”	9775
b	$20m^3$/hr x2”	13225
c	$25m^3$/hr x2”	16100
d	$30m^3$/hr x2.5”	18400
2	**Hydrocyclone Filter IS14743**	
a	$20m^3$/hr x2”	4025
b	$25m^3$/hr x2”	4600
c	$30m^3$/hr x2.5”	6325
3	**Fertilizer Tank with Assembly IS14483-PartIII**	
a	30litres	3220
b	60litres	5750
4	**Winder**	
	Drip Line Winder	2000

Annexure- XXII

Other Interventions to be provided as optional, if and only if a farmer opted to install micro-irrigation System in his/her field

SN	Activities	Cost Norms
1	Water harvesting system for individuals	50%of cost (Construction cost-Rs. 125 for plain/ Rs. 150 per cum for hilly areas) limited to Rs. 75000 for plain areas and Rs. 90000 for hilly areas including lining. For smaller size of the ponds/dug wells, cost admissible on prorate basis. Cost for non-lined ponds/tanks will be 30% less.
2	Construction of Tube wells/ Bore wells(Shallow/ Medium) only in areas which are not categorized under over-exploited, critical & semi-critical zones by Central Ground Water Board.	**50%of the total cost** of installation limited to Rs.25,000/-per unit
3	Restoration/Renovation of small tank	**50% of the cost** of renovation limited to Rs.15,000/-per unit
4	Recharge of defunct bore well	**50% of the cost** of recharging limited to Rs.5000/-per unit
5	Pipe/pre-cast distribution system	**50% of the** cost of system limited to Rs. 10,000/-per ha
6	Water Lifting Devices (Electric, Diesel, wind/Solar)	**50%of the cost** of installation limited to Rs.15,000/-per electric/diesel unit and Rs. 50,000/-per solar/wind unit
7	Petrol Irrigation Pumps-upto15 hp	**Rs.10000/unit or 50% of the cost** of the system(including installation)whichever is less.

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

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कृषि एवं किसान कल्याण मंत्रालय

(कृषि, सहकारिता एवं किसान कल्याण विभाग)

अधिसूचना

नई दिल्ली, 17 मार्च, 2017

का.आ. 893(अ).— सेवाओं या फायदों या सहायिकियों के परिदान के लिए एक पहचान दस्तावेज के रुप में आधार का उपयोग सरकारी परिदान प्रक्रियाओं का सरलीकरण करता है, पारदर्शिता और दक्षता लाता है और फायदाग्राहियों को सुविधापूर्वक और निर्बाध रीति में उनकी हकदारियों को सीधे प्राप्त करने में समर्थ बनाता है और आधार किसी व्यक्ति की पहचान को साबित करने के लिए बहुल दस्तावेज प्रस्तुत करने की आवश्यकता को समाप्त करता है;

और जबकि भारत सरकार में कृषि एवं किसान कल्याण मंत्रालय (जिसे इसमें इसके पश्चात मंत्रालय कहा गया है) अनुमोदित वित्त पोषण पद्धति के अनुसार राज्य सरकार अथवा संघ राज्य क्षेत्र प्रशासन के अधीन नोडल विभागों (जिसे इसमें इसके पश्चात विभाग कहा गया है) को अनुदान सहायता प्रदान करके केन्द्रीय प्रायोजित स्कीम के रूप में प्रधानमंत्री कृषि सिंचाई स्कीम (पीएमकेएसवाई) (जिसे इसमें इसके पश्चात स्कीम कहा गया है) के "प्रति बूंद अधिक फसल घटक" का कार्यान्वयन कर रहा है।

और जबकि स्कीम के अधीन दी जा रही अनुदान सहायता राज्य नोडल अभिकरणों अथवा रजिस्टीकृत अथवा पैनलीकृत कम्पनियों (जिसे इसमें इसके पश्चात कार्यान्वयन अभिकरण कहा गया है) के माध्यम से किसानों (जिसे इसमें इसके पश्चात लाभार्थी कहा गया है) को सहायता प्राप्त सूक्ष्म सिंचाई प्रणालियां तथा अन्य फायदे अथवा अन्य सेवाएं प्रदान करने के लिए है।

और जबकि स्कीम के अधीन प्रदान किए गए फायदों में भारत की संचित निधि से उपगत पूर्ण अथवा आंशिक आवर्ती व्यय अंतर्वलित है।

अत: अब, केन्द्रीय सरकार आधार (वित्तीय और अन्य सहायिकियों, प्रसुविधाओं और सेवाओं का लक्ष्यित परिदान) अधिनियम, 2016 (2016 का 18) (जिसे इसमें इसके पश्चात अधिनियम कहा गया है) की धारा 7 के उपबंधों के अनुसरण में निम्नलिखित अधिसूचित करती हैं, अर्थात्:-

1. (1) स्कीम के अधीन फायदा प्राप्त करने के पात्र व्यक्ति से अपेक्षा की जाती है कि वह आधार संख्या रखने का सबूत प्रस्तुत करे अथवा आधार अधिप्रमाणन करवाएं।

(2) इस स्कीम के अधीन फायदे प्राप्त करने के हकदार व्यक्ति, जिसके पास आधार संख्या नहीं है अथवा जिसने आधार के लिए नामांकन नहीं करवाया है, परंतु वह इस स्कीम के अधीन फायदा प्राप्त करने का इच्छुक है, के लिए 31.12.2017 तक आधार नामांकन के लिए आवेदन करना आवश्यक है परन्तु वह उक्त अधिनियम की धारा 3 के अनुसार आधार अधिप्राप्त करने का हकदार ही और ऐसा व्यक्ति आधार के लिए नामांकन करवाने के लिए किसी भी आधार नामांकन केंद्र (भारतीय विशिष्ट पहचान प्राधिकरण की वेबसाइट www.uidai.gov.in पर उपलब्ध सूची) पर जा सकते हैं।

(3) आधार (नामांकन और अद्यतन) विनियम, 2016 के विनियम 12 के अनुसार कार्यान्वयन अभिकरणों राज्यों अथवा संघ राज्य क्षेत्रों में स्कीम के कार्यान्वयन का भारसाधक संबंधित विभाग, जो किसी व्यक्ति से आधार प्रस्तुत करने की अपेक्षा करता है, से अपेक्षा की जाती है कि वह उन फायदाग्राहियों को आधार नामांकन सुविधा प्रदान करे जिन्होंने आधार के लिए अभी तक नामांकित नहीं किया है और यदि संबद्ध ब्लॉक अथवा तालुका अथवा तहसील में कोई भी आधार नामांकन केंद्र स्थित नहीं है तो राज्यों अथवा संघ राज्य क्षेत्रों में स्कीम के कार्यान्वयन में संबंधित भारसाधक विभाग कार्यान्वयन अभिकरण के माध्यम से अपेक्षित है कि वह भारतीय विशिष्ट पहचान प्राधिकरण के वर्तमान रजिस्ट्रार के सहयोग से अथवा स्वयं भारतीय विशिष्ट पहचान प्राधिकरण रजिस्ट्रार बनकर सुविधाजनक स्थान पर आधार नामांकन सुविधाएं प्रदान करे।

परन्तु यह कि उस व्यक्ति को आधार नामांकित किए जाने के लंबित तक उक्त स्कीम के अधीन फायदा निम्नलिखित पहचान दस्तावेज प्रस्तुत करने के अधीन रहते हुए ऐसे व्यक्तियों को प्रदान किया जाएगा, अर्थात:-

(क) (i) आधार नामांकन पर्ची, यदि हितधिकारी ने आधार के लिए नामांकन किया है;

अथवा

(ii) हितधिकारी द्वारा पैरा-2 के उप पैरा (ख) में यथा विनिर्दिष्ट आधार नामांकन के लिए किए गए अनुरोध की प्रति; और

(ख) (i) मतदाता पहचान पत्र; अथवा (ii) स्थाई खाता संख्यांक (पैन) कार्ड; अथवा (iii) पासपोर्ट; अथवा (iv) राशन कार्ड; अथवा (v) सरकारी कर्मचारी का आईडी कार्ड; अथवा (vi) बैंक/पोस्ट ऑफिस पासबुक फोटो के साथ; (vii) मनरेगा कार्ड; अथवा (viii) किसान फोटो पासबुक; अथवा (ix) मोटर अधिनियम, 1988 (1988 का 59) के अंतर्गत अनुज्ञापन प्राधिकारी द्वारा जारी चालन अनुज्ञप्ति; अथवा (x) सरकारी लैटर हैड पर किसी राजपत्रित अधिकारी अथवा तहसीलदार द्वारा जारी ऐसे सदस्य की फोटो सहित पहचान प्रमाण पत्र; अथवा (xi) राज्य सरकार अथवा संघ राज्यक्षेत्र प्रशासन द्वारा यथाविनिर्दिष्ट अन्य कोई दस्तावेज:

परन्तु यह और कि इस उद्देश्य के लिए राज्य सरकार अथवा संघ राज्य क्षेत्र प्रशासन द्वारा विनिर्दिष्ट रूप से पदाभिहित अधिकारी द्वारा उपयुक्त दस्तावेज की जांच की जाएगी।

2. इस स्कीम के अधीन हितधिकारियों को सुविधाजनक व बाधारहित फायदे प्रदान करने के लिए अभिकरणों राज्य सरकार अथवा संघ राज्य क्षेत्र प्रशासन में स्कीम के कार्यान्वयन का भारसाधक संबंधित विभाग सभी आवश्यक व्यवस्थाएं, जिनमें निम्नलिखित भी हैं, करेंगे अर्थात:

(क) इस स्कीम के अधीन आधार की आवश्यकता के बारे में हितधिकारियों को जागरूक बनाने के लिए कार्यान्वयन अभिकरणों के माध्यम से प्रिंटिंग व्यापक सूचना के माध्यम से व्यापक प्रचार किया जाए और यदि आवेदक ने नामांकन नहीं

करवाया है तो उन्हें 31.12.2017 तक अपने क्षेत्रों में उपलब्ध निकटतम नामांकन केंद्रों पर नामांकन करवाने की सलाह दी जाए और उन्हें स्थानीय रूप से उपलब्ध नामांकन केंद्रों (www.uidai.gov.in पर सूची उपलब्ध) की सूची उपलब्ध कराई जाएगी।

(ख) यदि निकट भूतपूर्व जैसे ब्लॉक अथवा तहसील अथवा तालुका में नामांकन केंद्रों की अनुपलब्धता के कारण इस स्कीम के अधीन हिताधिकारी आधार के लिए नामांकन करवा पाने में समर्थ नहीं है, कार्यान्वयन अभिकरणों के माध्यम से राज्य सरकार या संघ राज्य क्षेत्र प्रशासन में स्कीम के कार्यान्वयन के भारसाधक संबंधित विभाग से सुविधाजनक अवस्थानों पर आधार नामांकन सुविधाएं सृजित करना अपेक्षित है और इस उद्देश्य के लिए कार्यान्वयन अभिकरणों अथवा वेब-पोर्टल के माध्यम से संबंधित अधिकारियों को अपना नाम, पता व मोबाइल नंबर और पैरा 1 के उप पैरा (3) के परंतुक में यथाविनिर्दिष्ट अन्य ब्यौरा देकर आधार नामांकन के लिए रजिस्ट्रीकरण करवाने का हिताधिकारियों से अनुरोध किया जाये।

3. यह अधिसूचना असम, मेघालय और जम्मू-कश्मीर को छोड़कर सभी राज्यों और संघ राज्य क्षेत्रों में राजपत्र में इसके प्रकाशन की तारीख से प्रभावी होगी।

[फा. सं. 19-59/2016-आरएफएम-III]

आर. बी. सिन्हा, संयुक्त सचिव

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(Department of Agriculture Cooperation and Farmers Welfare)

NOTIFICATION

New Delhi, the 17th March, 2017

S.O. 893(E).—Whereas, the use of Aadhaar as identity document for delivery of services or benefits or subsidies simplifies the Government delivery processes, brings in transparency and efficiency, and enables beneficiaries to get their entitlements directly in a convenient and seamless manner and Aadhaar obviates the need for producing multiple documents to prove one's identity;

And whereas, the Ministry of Agriculture and Farmers Welfare (hereinafter referred to as Ministry) in the Government of India is implementing the "Per Drop More Crop" component of the Prime Minister Krishi Sinchayee Yojana (PMKSY) (hereinafter referred to as the Scheme) as a Centrally Sponsored Scheme by providing Grant-in-Aid to the concerned nodal Departments (hereinafter referred to as Department) under the State Government or Union territory Administration, as per the approved funding pattern;

And whereas, the Grant-in-Aid given under the Scheme is meant for providing subsidized Micro-Irrigation System and other benefits or services (hereinafter referred to as the benefits) to the farmers (hereinafter referred to as beneficiaries) through the State Nodal Agencies or Registered or Empanelled Companies (hereinafter referred to as Implementing Agencies);

And whereas, the benefits offered under the Scheme involve full or partial recurring expenditures incurred from the Consolidated Fund of India;

Now, therefore, in pursuance of the provisions of section 7 of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 (18 of 2016) (hereinafter referred to as the said Act), the Central Government hereby notifies the following, namely:-

1. (1) An Individual eligible to receive the benefits under the Scheme is hereby required to furnish proof of possession of Aadhaar number or undergo Aadhaar authentication.

(2) Any Individual entitled to receive the benefits under the Scheme, who does not possess the Aadhaar number or, has not yet enrolled for Aadhaar, but desirous of availing the benefits under the Scheme, is hereby required to make application for Aadhaar enrollment by 31.12.2017, provided she or he is entitled to obtain Aadhaar as per section 3 of the said Act and such individuals shall visit any Aadhaar enrolment centre (list available at Unique Identification Authority of India (UIDAI) website www.uidai.gov.in) to get enrolled for Aadhaar.

(3) As per regulation 12 of Aadhaar (Enrolment and Update) Regulations, 2016, the concerned Department in charge of implementation of the Scheme in the States or Union territories through its Implementing Agencies, which requires an individual to furnish Aadhaar, is required to offer Aadhaar enrolment facilities for the beneficiaries who are not yet enrolled for Aadhaar, and in case there is no Aadhaar enrolment centre located in

the respective Block or Taluka or Tehsil, the concerned Department in charge of implementation of the Scheme in the States or Union territories through its Implementing Agencies is required to provide Aadhaar enrolment facilities at convenient locations in coordination with the existing Registrars of UIDAI or by becoming UIDAI Registrar themselves:

Provided that till the time Aadhaar is assigned to the individual, benefits under the Scheme shall be given to such individuals subject to the production of the following identification documents, namely:-

(a) (i) if she or he has enrolled, her or his Aadhaar Enrolment ID slip; or

(ii) a copy of her or his request made for Aadhaar enrolment, as specified in sub-paragraph (b) of paragraph 2 below; and

(b) (i) Voter Identity Card; or (ii) Permanent Account Number (PAN) Card; or (iii) Passport; or (iv) Ration Card; or (v) Employee Government ID Card; or (vi) Bank / Post office Passbook with Photo (vii) MGNREGS card; or (viii) Kisan Photo passbook; or (ix) Driving license issued by the Licensing Authority under the Motor Vehicles Act, 1988 (59 of 1988); or (x) Certificate of identity having photo of such member issued by a Gazetted Officer or a Tehsildar on an official letter head; or (xi) Any other document as specified by the State Government or Union territory Administration;

Provided further that the above documents shall be checked by an officer specifically designated by State Government or Union territory Administration for that purpose.

2. In order to provide convenient and hassle free benefits under the Scheme to the beneficiaries, the concerned Department in charge of implementation of the Scheme in the State Government or Union territory Administration, shall make all the required arrangements including the following, namely:-

(a) Wide publicity through media and individual notices through shall be given through its Implementing Agencies to the beneficiaries to make them aware of the requirement of Aadhaar under the Scheme and they may be advised to get themselves enrolled at the nearest Aadhaar enrolment centres available in their areas by 31.12.2017, in case they are not already enrolled and the list of locally available enrolment centres (list available at www.uidai.gov.in) shall be made available to them.

(b) In case, the beneficiaries under the Scheme are not able to enroll for Aadhaar due to non-availability of enrolment centres in the near vicinity such as in the Block or Taluka or Tehsil, the concerned Department in charge of implementation of the Scheme in State Government or Union territory Administration through its Implementing Agencies is required to create Aadhaar enrolment facilities at convenient locations, and the beneficiaries may be requested to register their requests for Aadhaar enrolment by giving their names, addresses, mobile numbers and other details as specified in the proviso to sub-paragraph (3) of paragraph 1, with the concerned official of the Implementing Agencies or through the web portal provided for the purpose.

3. This notification shall come into effect from the date of its publication in the Official Gazette in all States and Union territories except the States of Assam, Meghalaya and Jammu and Kashmir.

[F. No. 19-59/2016-RFS-(I)]

R. B. SINHA, Jt. Secy.

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ALOK KUMAR Digitally signed by ALOK KUMAR Date: 2017.03.22 14:29:28 +05'30'

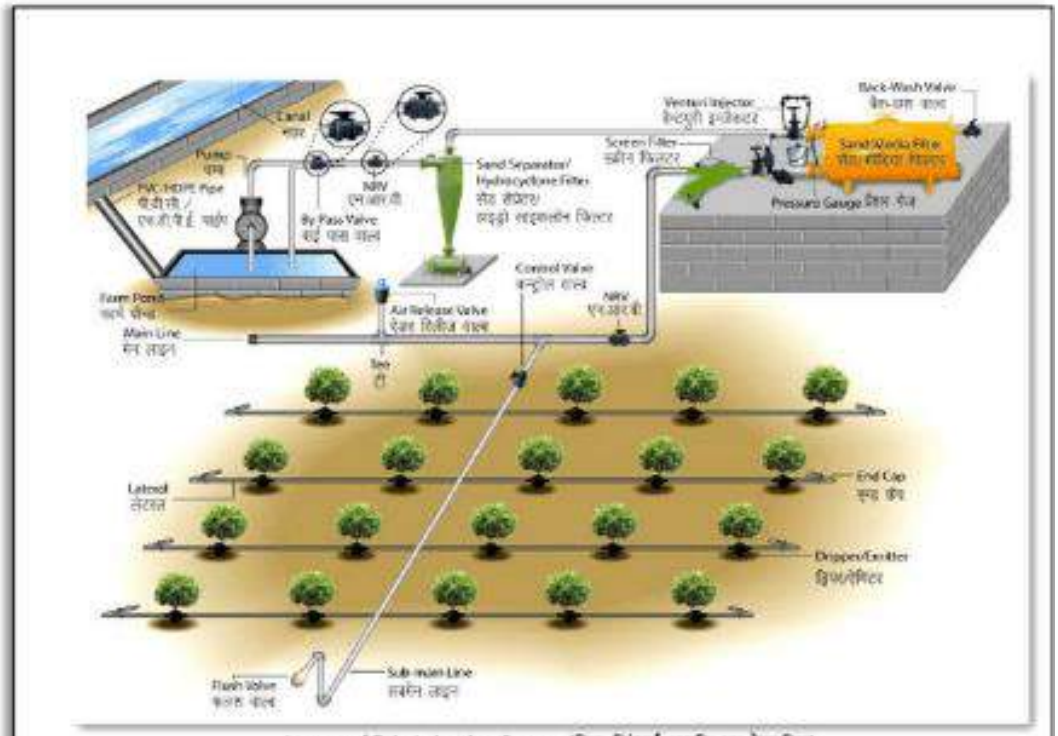
Annexure-XXIV

List of BIS Standards

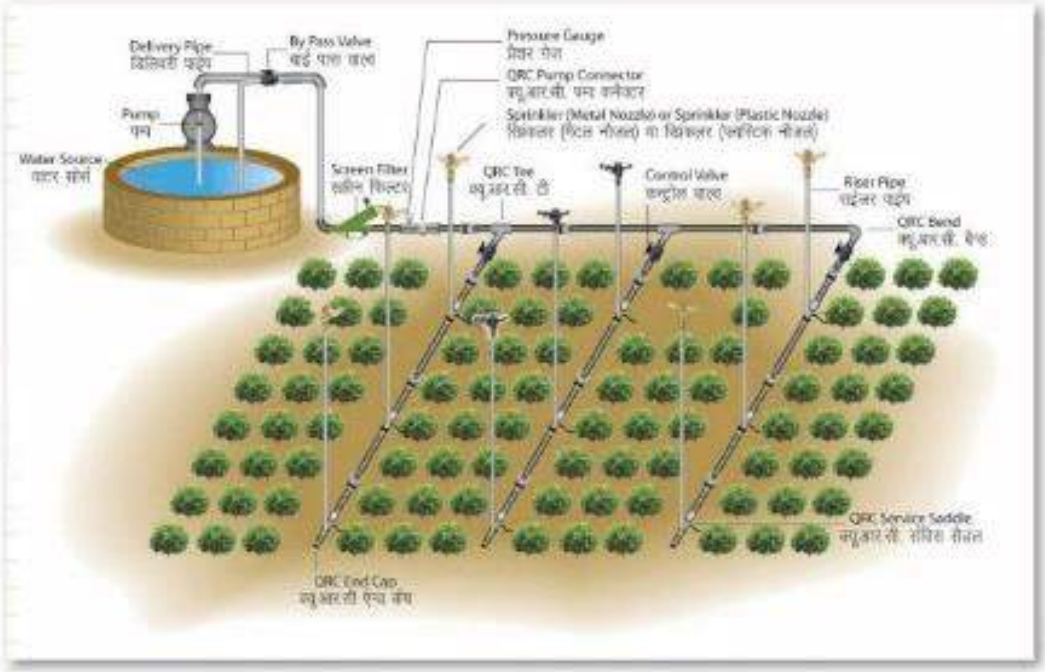
SN	Component Description	BIS
1	Polyethylene pipes for Irrigation-Laterals with amendment number6	IS12786:1989(reaffirmed2009)
2	Irrigation Equipment-Emitters-Specification	IS13487:1992(reaffirmed2009)
3	Irrigation Equipment-Emitting pipes system-Specification(first revision)	IS13488:2008(reaffirmed2014)
4	Irrigation Equipment-Strainer type filters Specification (first revision)	IS12785:1994(reaffirmed2011)
5	Irrigation equipment rotating sprinkler Part I, Design and Operational requirements (1strevision)	IS12232(PartI)-1996(reaffirmed 2011)
6	Irrigation equipment rotating sprinkler Part2, Test method for uniformity of distribution (1strevision)	IS12232(Part2)-1995(reaffirmed 2011)
7	Fertilizer and Chemicals Injection system Part IV enturi Injector	IS14483(Part1)1997(reaffirmed 2009)
8	Irrigation Equipment-Media Filters-Specification	IS14606:2022
9	Irrigation Equipment-Hydro cyclone filter-Specification	IS14743:1999(reaffirmed2009)
10	Un plasticized PVC pipes for agriculture-Specifications	IS4985–2021TYPEB
11	Irrigation Equipment–Quick Coupled Polyethylene Pipes and Fittings for Sprinkler Irrigation Systems.	IS17425:2020
12	High Density Polyethylene Pipes for water supply-Specification (fourth revision)	IS4984:2016
13	Fertilizer & Chemical Injector System-Part 2 Water Driven Chemical Injector Pump	IS:14483Part2–2002
14	Fertilizer & Chemical Injector System-Part 3 Fertilizer Tank	IS:14483Part3–2018
15	Irrigation equipments-Micro sprayers-Specifications	IS:14605:1998
16	Agricultural Irrigation equipment-Manually operated serviceable plastic valves-Specifications	IS:18286:2023
17	Injection Moulded PVC Socket Fittings with solvent Cement Joints	IS:7834:1987(Part1toPart7)
18	Fabricated PVC-U fittings	IS:10124:2009(Part1toPart13)
19	Injection moulded/machined polyethylene fittings	IS:8008:2022
20	Fabricated Polyethylene fittings	IS:8360:2022

Source: Online catalogue of Bureau of Indian Standards

LAYOUT DESIGN OF DRIP & SPRINKLER IRRIGATION SYSTEMS



Layout of Drip Irrigation System (ड्रिप सिंचाई पद्धति का रेखाचित्र)



Layout of Sprinkler Irrigation System (छिड़काव सिंचाई प्रणाली का रेखाचित्र)

Annexure-XXV

Pattern of Assistance and Maximum Permissible Subsidy

Type of Agricultural Machinery	For SC, ST, Small & Marginal farmers, Women and NE States beneficiary		For other beneficiary	
	Maximum Permissible subsidy per Machine/ Equipment per beneficiary (Rs in Lakhs)	Pattern of Assistance	Maximum Permissible subsidy per Machine/ Equipment per beneficiary (Rs. in Lakhs)	Pattern of Assistance
Tractors				
(i) Tractor 2WD (up to 20 PTO HP)	2.00	50%	1.60	40%
(ii) Tractor 4WD (up to 20 PTO HP)	2.45	50%	1.96	40%
(iii) Tractor 2WD (above 20 PTO HP and up to 40 PTO HP)	3.00	50%	2.4	40%
(iv) Tractor 4WD (above 20 PTO HP and up to 40 PTO HP)	3.60	50%	2.88	40%
(v) Tractor 2WD (above 40 PTO HP and up to 50 PTO HP)	4.50	50%	3.60	40%
(vi) Tractor 4WD (above 40 PTO HP and up to 50 PTO HP)	5.45	50%	4.36	40%
(vii) Tractor 2 WD (Above 50 PTO HP)	6.00	50%	4.80	40%
(viii) Tractor 2 WD (Above 50 PTO HP)	6.50	50%	5.20	40%
Power Tillers				
(i) Power Tiller (8 BHP and up to 11 BHP)	1.00	50%	0.80	40%
(ii) Power Tiller (Above 11 BHP)	1.20	50%	1.00	40%
Combine Harvesters				
(i) Combine Harvester (self-propelled)	9.60	50%	7.68	40%
(ii) Combine Harvester -Tractor powered (without tractor)	3.60	50%	2.88	40%
(iii) Combine Harvester -Tractor powered (with tractor)	8.70	50%	6.96	40%
(iv) Combine Harvester-Chopper-Collector – Tractor Mounted (without tractor)	4.00	50%	3.20	40%
(v) Combine Harvester-Chopper-Collector – Tractor Mounted (with tractor)	7.75	50%	6.20	40%
(vi) Combine Harvester (Track Type)- <6 feet cutter bar width	8.40	50%	6.72	40%
(vii) Combine Harvester (Track Type) - > 6 feet cutter bar width)	12.50	50%	10.00	40%
(viii) Combine harvester (Tractor Operated) for potato, groundnut, and other tuber crops	12.00	50%	9.60	40%

(ix)	Sugarcane harvester (Self Propelled) –Wheel type/Track type (Full/Half) (To be procured by the Custom Hiring Centres only)	50.00	50%	40.00	40%
(x)	Maize Combine Harvester (Self-propelled)	12.00	50%	9.60	40%
Kisan Drone -		5.00	50%	4.00	40%
Rice/Paddy Transplanter					
(i)	Self-Propelled Rice Transplanter – walk behind type (4 rows)	1.70	50%	1.36	40%
(ii)	Self-Propelled Rice Transplanter- 4 rows and up to 8 rows including riding type	6.00	50%	4.80	40%
(iii)	Self-Propelled Rice Transplanter- above 8 rows - riding type	8.60	50%	6.88	40%
Self-Propelled Machinery Agricultural/Horticultural Machinery					
(i)	Crop Reaper cum Binder (3 wheel)	1.90	50%	1.52	40%
(ii)	Crop Reaper cum Binder (4 wheel)	2.75	50%	2.20	40%
(iii)	Power Weeder (engine operated below 2 BHP)	0.30	50%	0.24	40%
(iv)	Power Weeder (engine operated 2 BHP and below 5 BHP)	0.40	50%	0.32	40%
(v)	Power Weeder (engine operated 5 BHP and below 7.5 BHP)	0.75	50%	0.60	40%
(vi)	Power Weeder (engine operated 7.5 BHP and above)	0.85	50%	0.68	40%
(vii)	Crop Reaper (Diesel/Petrol engine operated and Battery operated)	0.85	50%	0.68	40%
(viii)	Post Hole Digger/Auger – self propelled	0.20	50%	0.16	40%
(ix)	Pneumatic/Other planter	1.25	50%	1.00	40%
(x)	Areca nut climber harvester	0.30	50%	0.24	40%
(xi)	Tea leaf harvester (Hand held)	0.11	50%	0.088	40%
(xii)	Self-propelled 4 wheel tea leaf harvester	15.00	50%	12.00	40%
(xiii)	Self-Propelled Tool Bar (Ride on Type)	1.55	50%	1.24	40%
(xiv)	Self-Propelled electric agricultural Tool Bar	1.75	50%	1.40	40%
(xi)	Track Trolley	2.10	50%	1.68	40%
(xii)					
(xiii)	Nursery Media Filling Machine	2.10	50%	1.68	40%
(xiv)	Multipurpose Hydraulic System	2.10	50%	1.68	40%
(xv)	Power operated horticulture tools for pruning, budding, grating, shearing etc.	0.35	50%	0.28	40%
(xvi)	Brush Cutter (Electric/Engine Powered)	0.25	50%	0.20	40%
(xvii)	Self-propelled Maize Harvester	0.85	50%	0.68	40%
(xviii)	Electric Tiller/Weeder	0.63	50%	0.504	40%
(xix)	Self-Propelled Forage Harvester				

(a) Single Row	1.50	50%	1.20	40%
(b) Two Row	7.00	50%	5.60	40%
(c) Four Row	9.50	50%	7.60	40%
Tractor/Power Tiller (below 20 BHP) driven equipments.				
A. Land Development, tillage and seed bed preparation equipments:				
(i) MB Plough (Single Bottom)	0.22	50%	0.176	40%
(ii) MB Plough (Single Bottom-Reversible)	0.25	50%	0.20	40%
(iii) Disc Plough	0.25	50%	0.20	40%
(iv) Cultivator	0.20	50%	0.16	40%
(v) Harrow	0.15	50%	0.12	40%
(vi) leveler Blade	0.16	50%	0.128	40%
(vii) Cage wheel	0.15	50%	0.12	40%
(viii) Furrow opener	0.25	50%	0.20	40%
(ix) Ridger	0.20	50%	0.16	40%
(x) Weed Slasher	0.20	50%	0.16	40%
(xi) Furrow opener	0.20	50%	0.16	40%
(xii) Bund former	0.25	50%	0.20	40%
(xiii) Crust breaker	0.10	50%	0.08	40%
(xiv) Rotopuddler	0.13	50%	0.104	40%
(xv) Rotocultivator	0.44	50%	0.352	40%
(xvi) Power Harrow	0.45	50%	0.36	40%
(xvii) Rotavator (up to 4 ft.)	0.45	50%	0.36	40%
(xviii) Chisel Plough	0.15	50%	0.12	40%
B. Sowing, Planting, Reaping and Digging Equipments:				
(i) Post Hole digger	0.40	50%	0.32	40%
(ii) Potato Planter	0.33	50%	0.264	40%
(iii) Potato Digger	0.30	50%	0.24	40%
(iv) Ground nut digger	0.18	50%	0.144	40%
(v) Strip till drill (5 tines)	0.60	50%	0.48	40%
(vi) Tractor drawn crop reaper/ reaper cum binder	0.33	50%	0.264	40%
(vii) Onion harvester	0.33	50%	0.264	40%
(viii) Rice straw Chopper	0.25	50%	0.20	40%
(ix) Raised Bed Planter	0.25	50%	0.20	40%
(x) Sugar cane cutter/Stripper planter (5 tines)	0.33	50%	0.264	40%
(xi) Multi crop planter (5 tines)	0.28	50%	0.224	40%
(xii) Ridge furrow planter	0.23	50%	0.184	40%
(xiii) Pneumatic Planter	0.75	50%	0.60	40%
(xiv) Pneumatic vegetable transplanter	0.75	50%	0.60	40%
(xv) Pneumatic vegetable seeder	0.75	50%	0.60	40%
(xvi) Plastic Mulch Laying Machine	0.23	50%	0.184	40%
(xvii) Raised Bed Planter with inclined plate metering and shaper attachment. (5-7tines)	0.43	50%	0.344	40%
(xviii) Seed treating drum	0.17	50%	0.136	40%
(xix) Seed cum fertilizer drill(5tines)	0.17	50%	0.136	40%

(xx) Aqua ferti seed drill (5-7tines)	0.17	50%	0.136	40%
(xxi) Lateral laying machine	0.40	50%	0.32	40%
C. Inter Cultivation Equipments:				
(i) Grass Weed Slasher	0.25	50%	0.20	40%
(ii) inter row cum intra row weeder	0.18	50%	0.144	40%
D. Equipments for Residue management/Hay and Forage Equipments:				
(i) Sugarcane thrash Cutter	0.25	50%	0.20	40%
(ii) Coconut Frond Chopper	0.30	50%	0.24	40%
(iii) Stubble shaver	0.28	50%	0.224	40%
E. Harvesting & Threshing Equipments (Operated by engine/electric motor below 3 hp and by power tiller, and tractor of below 20 BHP tractor):				
(i) Ground Nut Pod Stripper	0.40	50%	0.32	40%
(ii) Thresher	0.38	50%	0.304	40%
(iii) Multi crop Threshers	0.40	50%	0.32	40%
(iv) Paddy Thresher	0.38	50%	0.304	40%
(v) Brush Cutter (Electric/Engine Powered)	0.20	50%	0.16	40%
(vi) Winnowing fan	0.30	50%	0.24	40%
(vii) Maize Sheller	0.33	50%	0.264	40%
(viii) Mower	0.30	50%	0.24	40%
(ix) Flail Harvester	0.30	50%	0.24	40%
(x) Mower Shredder (ALL PURPOSE/All crops)	0.30	50%	0.24	40%
F. Chaff Cutter (Operated by engine/electric motor below 3 HP and by power tiller and tractor of below 20 BHP tractor)	0.25	50%	0.20	40%
Tractor (above 20- 35 BHP) driven equipments.				
A. Land Development, tillage and seed bed preparation equipments:				
(i) MB Plough (Single Bottom)	0.35	50%	0.28	40%
(ii) Disc Plough	0.25	50%	0.20	40%
(iii) MB Plow (Single Bottom Reversible)	0.35	50%	0.28	40%
(iv) Cultivator	0.18	50%	0.144	40%
(v) Harrow	0.28	50%	0.224	40%
(vi) Leveler Blade	0.18	50%	0.144	40%
(vii) Cage wheel	0.18	50%	0.144	40%
(viii) Ridger	0.15	50%	0.12	40%
(ix) Weed slasher	0.23	50%	0.184	40%
(x) Rotopuddler	0.63	50%	0.504	40%
(xi) Furrow opener	0.18	50%	0.144	40%
(xii) Bund former	0.13	50%	0.104	40%
(xiii) Crust breaker	0.13	50%	0.104	40%
(xiv) Rotocultivator	0.43	50%	0.344	40%
(xv) Power Harrow	0.63	50%	0.504	40%
(xvi) Rotavator up to 5 feet	0.46	50%	0.368	40%
(xvii) Chisel Plough	0.25	50%	0.20	40%

(xviii) MB Plow (Two Bottom -Hydraulic Reversible)	0.71	50%	0.568	40%
(xix) MB Plow (Two Bottom -Mechanical Reversible)	0.40	50%	0.32	40%
(xx) Laser Land Leveller	2.00	50%	1.60	40%
B. Sowing, Planting, Reaping and Digging Equipments:				
(i) Post Hole digger	0.44	50%	0.352	40%
(ii) Potato Planter	0.70	50%	0.56	40%
(iii) Potato Digger	0.65	50%	0.52	40%
(iv) Ground nut digger	0.70	50%	0.56	40%
(v) Crop reaper	0.80	50%	0.64	40%
(vi) Onion harvester	0.75	50%	0.60	40%
(vii) Raised Bed Planter	0.70	50%	0.56	40%
(viii) Sugar cane cutter/Stripper	0.70	50%	0.56	40%
(ix) Multi crop planter	0.50	50%	0.40	40%
(x) Ridge furrow planter	0.45	50%	0.36	40%
(xi) Zero –Till Drill - Multi Crop (7 tines)	0.23	50%	0.184	40%
(xii) Seed treating drum	0.18	50%	0.144	40%
(xiii) Seed cum fertilizer drill (7 tines)	0.23	50%	0.184	40%
(xiv) Direct Rice Seeder (DSR- 7 tines)	0.23	50%	0.184	40%
(xv) Pneumatic Planter (04 rows)	2.00	50%	1.60	40%
(xvi) Pneumatic vegetable transplanter	2.00	50%	1.60	40%
(xvii) Pneumatic vegetable seeder	2.00	50%	1.60	40%
(xviii) Plastic Mulch Laying Machine	0.50	50%	0.40	40%
(xix) Aqua ferti seed drill (9tines)	0.75	50%	0.60	40%
(xx) Raised Bed Planter with inclined plate metering and shaper attachment	0.83	50%	0.664	40%
C. Inter Cultivation Equipments:				
(i) Grass Weed Slasher	0.39	50%	0.312	40%
(ii) Inter row cum intra row weeder	0.50	50%	0.40	40%
D. Equipments for Residue management/Hay and Forage and Transport Equipments:				
(i) Sugarcane thrash Cutter	0.50	50%	0.40	40%
(ii) Coconut Frond Chopper	0.50	50%	0.40	40%
(iii) Rake (small capacity)	1.10	50%	0.88	40%
(iv) Balers(Round) (up to 16 kg per bale)	2.20	50%	1.76	40%
(v) Balers(Round) (Above 16 and up to 25 kg per bale)	2.40	50%	1.92	40%
(vi) Straw reaper	0.75	50%	0.60	40%
(vii) Feed block machine(100- 200 kg/hr)	1.50	50%	0.96	40%
(viii) Stubble shaver	0.43	50%	0.344	40%
(ix) Straw Chopper/Shredder/Mulcher Mounted type 5 ft	0.725	50%	0.58	40%
(x) Trailer/Trolley (upto 3 Ton capacity)	0.75	50%	0.60	40%
(xi) Trailer/Trolley (upto 5 Ton capacity)	1.00	50%	0.80	40%
(xii) Narrow Rear Rim (one pair) for tractors	0.08	50%	0.064	40%

(xv) Tractor front mounted straw loader/grabber	0.75	50%	0.60	40%
E. Harvesting & Threshing Equipments (Operated by engine/electric motor below 5 BHP and tractor of below 35 BHP				
(i) Ground Nut Pod Stripper	0.50	50%	0.40	40%
(ii) Thresher	1.00	50%	0.80	40%
(iii) Multi crop Threshers	1.25	50%	1.00	40%
(iv) Paddy Thresher	1.00	50%	0.80	40%
(v) Brush Cutter (Electric/Engine Powered)	0.44	50%	0.352	40%
(vi) Maize Sheller	1.00	50%	0.80	40%
(vii) Mower	0.40	50%	0.32	40%
(viii) Flail Harvester	0.40	50%	0.32	40%
(ix) Mower Shredder (ALL PURPOSE/All crops)	0.75	50%	0.60	40%
(x) Crop Reaper cum binder (tractor drawn)	1.25	50%	1.00	40%
F. Chaff Cutter (Operated by engine/electric motor above 3- 5 HP and by tractor of below 35 BHP)	0.34	50%	0.272	40%
Tractor (above 35 BHP) driven equipments.				
A. Land Development, tillage and seed bed preparation equipments:				
(i) Disc Plough (3 Bottom)	0.50	50%	0.40	40%
(ii) Cultivator (9-13 tines)	0.25	50%	0.20	40%
(iii) Harrow – Mounted Type	0.50	50%	0.40	40%
(iv) Harrow – Trailed type	0.50	50%	0.40	40%
(v) Leveler Blade	0.70	50%	0.56	40%
(vi) Cage wheel	0.20	50%	0.16	40%
(vii) Furrow opener	0.33	50%	0.264	40%
(viii) Ridger	0.33	50%	0.264	40%
(ix) Laser Land Leveller				
6 feet	1.35	50%	1.08	40%
7 feet	1.40	50%	1.12	40%
8 feet	1.45	50%	1.16	40%
9 feet	1.60	50%	1.28	40%
10 feet	1.70	50%	1.36	40%
Extended 7-9 feet	1.90	50%	1.52	40%
Extended 8-10 feet	2.00	50%	1.60	40%
(x) Rotavator				
a) 6 feet	0.60	50%	0.48	40%
b) 7 feet	0.70	50%	0.56	40%
c) 8 feet	0.73	50%	0.584	40%
d) 9 feet	0.85	50%	0.578	40%
e) 10 feet	0.95	50%	0.76	40%
(xi) Roto-puddler (7 feet)	0.80	50%	0.64	40%
(xii) Roto-puddler (10 feet)	1.00	50%	0.80	40%
(xiii) Reversible Hydraulic MB plough(2 bottom)	0.705	50%	0.564	40%

(xiv)	Reversible Hydraulic MB plough(3 bottom)	0.915	50%	0.732	40%
(xv)	Reversible Mechanical MB plough(2 bottom)	0.36	50%	0.288	40%
(xvi)	Reversible Mechanical MB plough(3 bottom)	0.50	50%	0.40	40%
(xvii)	Reversible Hydraulic MB plough(4 bottom)	1.25	50%	1.00	40%
(xviii)	Sub –Soiler				
	Single Bottom	0.175	50%	0.14	40%
	Two Bottom	0.30	50%	0.24	40%
	Three Bottom	0.55	50%	0.44	40%
	Four Bottom	0.75	50%	0.60	40%
(xix)	Trench makers (PTO operated)	2.00	50%	1.60	40%
(xx)	Bund former (PTO operated)	1.50	50%	1.20	40%
(xxi)	Backhoe /Loader Dozer (Tractor operated)	3.75	50%	3.00	40%
(xxii)	Backhoe (Tractor operated)	1.50	50%	1.20	40%
(xxiii)	Bund former	0.30	50%	0.24	40%
(xxiv)	Crust breaker	0.35	50%	0.28	40%
(xxv)	Rotocultivator	1.00	50%	0.80	40%
(xxvi)	Power Harrow (PTO operated)	1.35	50%	1.08	40%
(xxvii)	Rotary Disc Harrow (PTO powered)	0.75	50%	0.60	40%
(xxviii)	Stone collector	1.50	50%	1.20	40%
(xxix)	Rotaridger	0.75	50%	0.60	40%
(xxx)	Check Basin Former	0.38	50%	0.304	40%
B. Sowing, Planting, Fertigation Equipments:					
(i)	Raised Bed Planter	0.55	50%	0.44	40%
(ii)	Seed cum fertilizer drill/Zero till Seed cum fertilizer drill/Spatial Zero Till Drill				
	a) 9 tines	0.25	50%	0.20	40%
	b) 11 tines	0.26	50%	0.208	40%
	c) 13 tines	0.28	50%	0.224	40%
	d) 15 tines	0.30	50%	0.24	40%
(iii)	Direct Rice Seeder (DSR)				
	a) 9 tines	0.45	50%	0.36	40%
	b) 11 tines	0.48	50%	0.432	40%
	c) 13 tines	0.50	50%	0.40	40%
(iv)	Inclined Plate Planter with pre-emergence herbicide strip applicator	0.75	50%	0.60	40%
(v)	Sugarcane settling Planter (Two Row)	0.63	50%	0.504	40%
(vi)	Post Hole digger (24 inch and above)	0.75	50%	0.60	40%
(vii)	Potato Planter (automatic)	0.75	50%	0.60	40%

(viii)	Ground nut digger	0.45	50%	0.36	40%
(ix)	Sugarcane cutter/stripper/ planter	0.75	50%	0.60	40%
(x)	Zero –till multi crop planter (9 tines and above)	0.53	50%	0.424	40%
(xi)	Multi crop planter (9 tines and above)	0.90	50%	0.72	40%
(xii)	Happy/Turbo Seeder/Strip Till (Smart) Seeder				
	(a) 09 Tynes	0.814	50%	0.651	40%
	(b) 10 Tynes	0.842	50%	0.674	40%
	(c) 11 Tynes	0.864	50%	0.691	40%
	(d) 12 Tynes	0.902	50%	0.722	40%
(xiii)	Super Seeder				
	(a) 6 Feet	1.30	50%	1.04	40%
	(b) 7 Feet	1.35	50%	1.08	40%
	(c) 8 Feet	1.42	50%	1.14	40%
	(d) 9 Feet	1.55	50%	1.24	40%
	(e) 10 Feet	1.65	50%	1.32	40%
(xiv)	Surface Seeder				
	(a) 5 Feet	0.60	50%	0.48	40%
	(b) 6 Feet	0.68	50%	0.54	40%
(xv)	Pneumatic Planter	2.25	50%	1.80	40%
(xvi)	Pneumatic, semi-automatic vegetable/multi-seedling transplanter	2.25	50%	1.80	40%
(xvii)	Pneumatic Vegetable Seeder	2.25	50%	1.80	40%
(xviii)	Cassava Planter (9 tines and above)	0.75	50%	0.60	40%
(xix)	Manure spreader	1.50	50%	1.20	40%
(xx)	Urea Deep Placement Applicator	0.75	50%	0.60	40%
(xxi)	Fertilizer Spreader – PTO operated	0.40	50%	0.32	40%
(xxii)	Plastic Mulch Laying Machine	0.50	50%	0.40	40%
(xxiii)	Automatic rice nursery sowing machinery	1.75	50%	1.40	40%
(xxiv)	Aqua ferti seed drill (9 tines and above)	0.75	50%	0.60	40%
(xxv)	Raised Bed Planter with inclined plate metering and shaper attachment.	0.60	50%	0.48	40%
(xxvi)	Precision Multi-crop Planters	2.50	50%	2.00	40%
(xxvii)	Precision Seed Drills	0.80	50%	0.64	40%
(xxviii)	Precision fertilizer applicators	2.00	50%	1.60	40%
(xxix)	Tractor operated seeder for mat type rice nursery	1.50	50%	1.20	40%
(xxx)	Power operated sugarcane sett cutter	0.37	50%	0.296	40%
C. Inter Cultivation Equipments:					

(i) Grass/ Weed Slasher,	0.75	50%	0.60	40%
(ii) inter row cum intra row weeder Weeder (PTO operated)	0.83	50%	0.664	40%
D. Harvesting & Threshing Equipments (Operated by engine/electric motor above 5 hp and tractor of above 35 BHP tractor)				
(i) Ground Nut Pod Stripper	1.00	50%	0.80	40%
(ii) Thresher/Multi crop Threshers upto 4 tonne/hr. capacity	1.25	50%	1.00	40%
(iii) Paddy Thresher	1.40	50%	1.12	40%
(iv) Chaff Cutter	1.00	50%	0.80	40%
(v) Maize Sheller	1.10	50%	0.88	40%
(vi) Crop Reaper cum Binder (tractor drawn)	1.50	50%	1.20	40%
(vii) Thresher/Multi crop Threshers above 4 tonne/hr capacity at least in 2 crops	2.25	50%	1.80	40%
(viii) Infielder	1.00	50%	0.80	40%
(ix) Mower	1.00	50%	0.80	40%
(x) Flail Harvester	1.25	50%	1.00	40%
(xi) Mower shredder (All Purpose/All crops	1.25	50%	1.00	40%
(xii) Potato Digger	0.75	50%	0.60	40%
(xiii) Tractor operated cassava harvester cum lifter	1.00	50%	0.80	40%
(xiv) Tractor operated banana bunch harvester	1.00	50%	0.80	40%
(xv) Motorized Harvesting Sickle/Machine	0.50	50%	0.40	40%
(xvi) Tractor drawn crop reaper	0.75	50%	0.60	40%
(xvii) Onion harvester	0.80	50%	0.64	40%
Equipments for Residue management/Hay and Forage Equipments:				
(i) Sugarcane thrash Cutter,	1.38	50%	1.104	40%
(ii) Coconut Frond Chopper,	1.50	50%	1.20	40%
(iii) Hay Rake				
(a) 6 Arms	1.65	50%	1.32	40%
(b) 9 Arms	2.00	50%	1.60	40%
(c) 11 Arms	2.38	50%	1.904	40%
(iv) Balers				
(a) Round – Mini up to 16 kg per bale	2.00	50%	1.60	40%
(b) Round – Medium –above 16 and up to 40 kg per bale)	2.395	50%	1.916	40%
(c) Round –big more than 180 kg per bale and up to 500 kg per bale)	9.90	50%	7.92	40%

(d) Round – more big - above 500 kg per bale – to be provided under CHCs projects only	17.00	50%	13.60	40%
(e) Rectangular – up to 20 kg per bale	6.60	50%	5.28	40%
(e) Rectangular – more than 200 kg per bale - to be provided under CHCs projects only	17.00	50%	13.60	40%
(v) Silage Baler (1400-1500 Kg/hr capacity)	3.75	50%	3.00	40%
(vi) Wood chippers	1.38	50%	1.10	40%
(vii) Sugarcane ratoon manager	1.25	50%	1.00	40%
(viii) Cotton stalk uprooter	0.75	50%	0.60	40%
(ix) Cotton stalk shredder	0.75	50%	0.60	40%
(x) Straw reaper	1.50	50%	1.20	40%
(xi) Feed block machine (above 200 kg/hr)	3.00	50%	2.40	40%
(xii) Stubble shaver	0.88	50%	0.704	40%
(xiii) Straw Chopper/shredder/ Mulcher				
a) Mounted type 5 ft	0.725	50%	0.58	40%
b) Mounted type 6 ft	0.858	50%	0.686	40%
c) Mounted type 7 ft	0.902	50%	0.722	40%
d) Mounted type 8 ft	0.957	50%	0.766	40%
e) Trailed type	1.471	50%	1.179	40%
f) Trailed (Combo type)	2.00	50%	1.60	40%
(xvi) Super Straw Management System (Super SMS)	0.597	50%	0.478	40%
(xviii) Shrub Master/Cutter cum spreader	0.275	50%	0.220	40%
(xix) Rotary Straw Slasher	0.275	50%	0.220	40%
(xx) Tractor front mounted straw loader/grabber	3.05	50%	2.44	40%
(xxi) Tractor Operated Hydraulic Press Straw Baler	7.00	50%	5.60	40%
(xxii) Rotary Tedder/Hay Tedder (04 Rotors)	2.62	50%	2.10	40%
(xxiii) Rotary Tedder/Hay Tedder (08 Rotors and above)	6.00	50%	4.80	40%
All Manual /Animal drawn equipment/implements/Tools				
A. Land Development, tillage and seed bed preparation equipments: (i) MB Plow/Wedge Plough (ii) Disc Plow	0.10	50%	0.08	40%

(iii) Cultivator (iv) Harrow (v) Leveler/Planker (vi) Furrow opener (vii) Ridger/bund former (viii) Puddler (ix) Mulch laying machine (x) Digger (Turmeric/Ginger)				
B. Sowing and Planting Equipments: (i) Paddy planter (ii) Cotton Planter (iii) Seed cum fertilizer drill (iv) Raised Bed Planter (v) Planter/zero-till-planter for multi crop use (vi) Dibbler (vii) Equipments for raising paddy nursery (viii) Marker for SRI (ix) Seed treating drum (x) Rice-wheat seeder	0.10	50%	0.08	40%
(xi) Drum Seeder (Below 4 Row)	0.03	50%	0.025	40%
(xii) Drum Seeder (Above 4 Row)	0.04	50%	0.04	40%
(xiii) Stubble Collector	0.030	50%	0.024	40%
C. Harvesting & Threshing Equipments: (i) Ground Nut Pod Stripper (ii) Thresher (iii) Winnowing fan (iv) Tree climber (v) Horticulture Hand tools (vi) Maize sheller (vii) Feed block machine (viii) Spiral grader	0.10	50%	0.08	40%
(vi) Chaff Cutter (up to 3 feet)	0.06	50%	0.048	40%
(vii) Chaff Cutter (above 3 feet)	0.070	50%	0.056	40%
(viii) Manual Cotton Pluckers (12 V battery operated)	0.040	50%	0.032	40%
(ix) Manual Harvesting Tool (Scythe)	0.030	50%	0.024	40%
(x) Telescopic harvesting Poles	0.050	50%	0.040	40%
D. Inter Cultivation Equipments: (i) Grass Weed Slasher, (ii) inter row cum intra row weeder (iii) Cono Weeder (iv) Garden Hand Tools	0.012	50%	0.010	40%
E. Manual Battery Operated Fertilizer Spreader/Broadcaster (Capacity 3-5 Litre)	0.031	50%	0.025	40%
SELF PROPELLED/OTHER POWER DRIVEN HORTICULTURAL MACHINERY				
(i) Chain Saw /Wheel Barrow /Mango Grader/Planter and other suitable	0.45	50%	0.36	40%

self-propelled machineries and equipments for horticulture crops.				
Manual Horticultural equipments				
(i) Aluminium Ladder/Ladder	0.15	50%	0.12	40%
(ii) Aluminium Pole	0.13	50%	0.104	40%
(iii) Plucker	0.05	50%	0.04	40%
Post-Harvest and Value addition Equipments for food grains, Oilseeds and Horticultural Equipments				
(a) **Mini Rice Mill**				
(i) Up to 0.5 TPH	1.50	50%	1.20	40%
(ii) More than 0.5 TPH and up to 1.0 TPH	1.80	50%	1.44	40%
(iii) Above 1.0 TPH	2.40	50%	1.92	40%
(b) **Composite Rice Milling Plant consisting of cleaner cum grader, de-stoner, separator, polisher and elevator**				
(i) Capacity more than 500 kg/hr and below 1000 kg/hr	5.40	50%	4.32	40%
(ii) Capacity - 1000 kg/hr and above	9.60	50%	7.68	40%
(c) **Mini Dal Mill**				
(i) Capacity less than 50 kg/hr	1.20	50%	0.96	40%
(ii) Capacity -50 kg/hr and below 100 kg/hr	1.80	50%	1.44	40%
(iii) Capacity - 100kg/hr and below 150 kg/hr	2.70	50%	2.16	40%
(iv) Capacity -150 kg/hr and above	3.50	50%	2.80	40%
(d) **Millet Mill**				
(i) Capacity – 40-60 kg/hr	0.60	50%	0.48	40%
(ii) Capacity – More than 60 kg/h and below 100 kg/hr	0.90	50%	0.72	40%
(iii) Capacity 100 kg/hr and above	5.40	50%	4.32	40%
(e) **Millet Processing Plant consisting of Millet Mill, Cleaner cum Grader, De-stoner and elevators**				
(i) Capacity from 100 to 200 kg/hr	5.40	50%	4.32	40%
(ii) Capacity more than 200 kg/hr	9.60	50%	7.68	40%
(f) Multipurpose Millet Thresher	0.30	50%	0.24	40%
(g) Double Stage Millet de-husker	0.90	50%	0.72	40%
(h) Centrifugal de-huller for Millets	0.72	50%	0.576	40%
(i) Double headed centrifugal de-huller	0.45	50%	0.36	40%
(j) Millet flaking machine	0.60	50%	0.48	40%
(k) Millet popping machine	0.60	50%	0.48	40%
(l) Pedal operated cleaner cum grader for millet	0.15	50%	0.12	40%
(m) Mini Oil Mill/Expeller with filter press(for all types of Horticulture/Food grain/oilseed crop)	3.00	50%	2.40	40%
(n) Mini Oil Mill without filer press (for all types of Horticulture/Food grain/oilseed crop)	1.80	50%	1.44	40%

(o)	Pomegranate Aril Extractor	1.80	50%	1.44	40%
(p)	Custard apple pulper	1.80	50%	1.44	40%
(q)	Dehydration unit/Pricking Machine/Humidifier (for all types of Horticulture/Food grain/oilseed crop)	1.80	50%	1.44	40%
(r)	Packing Machines(for all types of Horticulture/Food grain/oilseed crop	3.00	50%	2.40	40%
(s)	All types of Power driven De-husker /sheller /Threshers /Harvesters / De-spiking/ Deconing Machine/Peeler/ Spliter /Stripper /Shredder (for all type of Horticulture / food grain/oil seeds Crops)	0.75	50%	0.60	40%
(t)	All types of Boiler/Steamer/Drier (for all types of Horticulture/Food grain/oilseed crop)	1.00	50%	0.80	40%
(u)	All types of Solar Driers (for all type of Horticulture / food grain/oil seeds Crops) with floor area of about 400 to 1000 sq. feet.	3.50	50%	2.80	40%
(v)	All types of Washing Machines(for all types of Horticulture/Food grain/oilseed crop)	0.60	50%	0.48	40%
(w)	All types of Grinder/Pulveriser/Polisher (for all types of Horticulture/Food grain/oilseed crop)	0.60	50%	0.48	40%
(x)	All types of Cleaner cum Grader/ Gradient separator /specific gravity separator (for all types of horticulture/Food grain/oilseed crop)				
	(i) Capacity less than 1 TPH	1.50	50%	1.20	40%
	(ii) capacity from 1 THP and less than 2 TPH	2.40	50%	1.92	40%
	(iii) Capacity 2 TPH and above	3.00	50%	2.40	40%
(y)	**Indented Cylinder**				
	(i) Capacity – less than 1 TPH	0.72	50%	0.576	40%
	(ii) Capacity –1 TPH and less than 2 TPH	1.02	50%	0.82	40%
	(iii) Capacity –2 TPH and above	1.74	50%	1.392	40%
(z)	**Air Screen Cleaner**	0.45	50%	0.36	40%
(aa)	Flexible Elevator cum Conveyor				
	(i) Capacity – less than 1 TPH	1.32	50%	1.056	40%
	(ii) Capacity –1 TPH and less than 2 TPH	1.62	50%	1.296	40%
	(iii) Capacity –2 TPH and above	2.76	50%	2.208	40%
(bb)	Grain Pick up and weighing cum packaging with Silo				
	(i) Capacity – less than 1 TPH	8.00	50%	6.40	40%
	(ii) Capacity –1 TPH and less than 2 TPH	10.00	50%	8.00	40%
	(iii) Capacity –2 TPH and above	14.00	50%	11.20	40%
(cc)	Broom Stick Extractor	0.072	50%	0.058	40%
(dd)	Grain Collector	0.63	50%	0.504	40%
(ee)	Flattened rice/Puffed rice making machine	1.20	50%	0.96	40%

(ff) Papad/Chips making machine	0.90	50%	0.72	40%
(gg) Tofu/Vegan Paneer Plant	1.08	50%	0.864	40%
(hh) Ripening Chamber for Horticultural Produce (1 ton capacity)	1.20	50%	0.96	40%
(ii) Sugarcane rind removing machine foe juice making	0.39	50%	0.312	40%
(jj) Pedal operated cleaner cum grader for millet	0.15	50%	0.12	40%
(kk) Modular Onion Storage Structure (1-5 ton capacity)	0.15	50%	0.12	40%
(ll) Moringa Leaf Stripper	0.30	50%	0.24	40%
(mm) Rope Twisting and winding equipment for plant fibre extract	0.90	50%	0.72	40%
(nn) Multifeed Banana fibre extraction equipment	1.35	50%	1.08	40%
(oo) Makhana Popping and Decortication Machine	3.30	50%	2.64	40%
(pp) Automatic Wadi Making Machine	3.30	50%	2.64	40%
(qq) Mechanized system for primary processes and roasting of raw makhana/Rotating open pan roasting machine-LPG heated	1.02	50%	0.82	40%
(rr) Solar operated phase change material based fruits-vegetables vending pushcart	1.20	50%	0.96	40%
(ss) Paddy mobile dryer	9.00	50%	7.20	40%
(tt) Tractor PTO/Electric Motor operated Onion De-topper cum grader	4.20	50%	3.36	40%
(uu) Tractor PTO/Electric Motor operated garlic (vv) bulb breaker cum grader	4.20	50%	3.36	40%
(ww) Tractor PTO/Electric Motor operated Cleaner cum grader with conveyor (for all millets, cereals and pulses)	4.20	50%	3.36	40%
(xx) Cattle Dung Collector	0.16	50%	0.128	40%
(yy) Cow dung Briquetting Machine	0.42	50%	0.336	40%
(zz) Cow dung dewatering machine	0.90	50%	0.72	40%
Plant Protection Equipments				
(i) Manual sprayer: Knapsack/foot/Battery operated sprayer.	0.01	50%	0.008	40%
(ii) Solar powered Knapsack Sprayer	0.02	50%	0.016	40%
(iii) Bullock Cart mounted solar powered high clearance sprayer	0.40	50%	0.32	40%
(iv) Bullock Cart mounted air mist canopy sprayer	0.48	50%	0.384	40%
(v) Powered Knapsack sprayer/Power Operated sprayer (capacity 8 - 12 litres)- ≤ 0.75 hp engine)	0.03	50%	0.024	40%

(vi) Powered Knapsack sprayer/Power Operated sprayer (capacity above 12-16 litres): (> 0.75 to 1.00 hp engine)	0.04	50%	0.032	40%
(vii) Powered Knapsack sprayer/Power Operated sprayer (capacity above 16 litres (> 1.0 hp engine)	0.10	50%	0.08	40%
(viii) Powered Knapsack Mist blower sprayer cum Duster (> 1.0 hp engine)	0.10	50%	0.08	40%
(ix) Tractor Operated Sprayer (air carrier/assisted)	1.38	50%	1.104	40%
(x) Battery operated Sprayer (Boom Type)	0.05	50%	0.04	40%
(xi) Battery Operated Boom Sprayer (walk behind type)	0.05	50%	0.04	40%
(xii) Tractor Operated Sprayer (boom type)	0.41	50%	0.328	40%
(xiii) Eco Friendly Light Trap	0.02	50%	0.016	40%
(xiv) Solar insect trap	0.04	50%	0.032	40%
(xv) Tractor Operated Electrostatic Sprayer	2.50	50%	2.00	40%
(xvi) Bird Scarer	0.75	50%	0.60	40%
(xvii) Self-propelled high ground clearance sprayers (Boom type)	4.00	50%	3.20	40%
(xviii) Tractor mounted precision spraying machines	3.50	50%	2.80	40%
(xix) Vehicle Mounted Sprayer for locust Control	2.50	50%	2.00	40%
(xx) Soil Plant Analysis Development (SPAD) Meter	0.08	50%	0.064	40%
(xxi) Pseudostem injector for Banana	0.08	50%	0.064	40%
(xxii) Tractor operated EPN/Bio agent applicator for sugarcane	0.23	50%	0.184	40%
(xxiii) Power Operated Sugarcane sett Treatment Device (30 – 120 Litres capacity)	0.30	50%	0.24	40%
Specialized Agricultural Machinery				
(a) Solar operated/electric operated animal deterrent bioacoustics equipment (with solar panel)	0.35	50%	0.28	40%
(b) Solar operated/electric operated Animal deterrent bioacoustics equipment (without solar panel)	0.25	50%	0.20	40%
(c) Solar operated/electric operated Hydroponic machine for rising nursery of various crops (below 500 kg capacity)	3.00	50%	2.40	40%
(d) Solar operated/electric operated Hydroponic machine for rising nursery of various crops (500 kg and above capacity)	6.00	50%	4.80	40%
(e) Battery Operated Rubber Tapping Machine	0.10	50%	0.08	40%

Irrigation Equipments				
(i) Petrol/Diesel/Electric/Tractor PTO operated/ portable irrigation pumps up to 15 HP (with ISI/BEE labeled with Minimum 4 Star rated)	0.10	50%	0.08	40%
(ii) Remote motor operators for Electric Pump-sets	0.07	50%	0.05	40%
(iii) Digital Soil Moisture Indicator (DSMS)	0.036	50%	0.029	40%
(iv) Digital Soil Moisture Indicator (DSMS) (GSM Module)	0.045	50%	0.036	40%

Note:

- The States will have the flexibility to add any new machine under the appropriate categories of machines
- The States may make the price discovery of the machines through the process of empanelment as per relevant rules of GFR. The States shall ensure that the prices of the machines are reasonable and comparable with the open market prices.
- The cost subsidy applicable will be limited to the percentage of the cost of the machine fixed by the States through price discovery or max. permissible subsidy per machine as indicated above, whichever is lower.
- The maximum permissible subsidy as indicated above will be inclusive of GST.

Annexure-XXVI

Procedure for Credit Linked Capital Subsidy

The following is the gist of procedure to be followed:

1. **Advance Subsidy:** The 50% eligible subsidy amount for the projects will be released as advance by the Implementing Agencies to the participating Financial Institutions (Banks) on submission of project scrutiny note cum claim form as per requirement and the norms of the interventions. The same would be kept in a Subsidy Reserve Fund Account of the concerned borrowers, to be adjusted finally against loan amount of the bank towards the end of the repayment period and life of the project as per the time schedule.

2. **Final Installment of Subsidy**: the remaining 50% would be disbursed to the participating Banks by the Implementing Agencies after conduct of an inspection and physical verification of the machines and equipments by the State Level Project Sanctioning Committee and officials from the financing banks.

3. **Adjustment of Subsidy to Borrower's Account:** The subsidy released to the bank for individual project will be kept in a separate borrower-wise account. The adjustment of subsidy will be back ended. Accordingly, the full project cost including the subsidy amount, but excluding the margin money contribution from the beneficiary, would be disbursed as a loan by the Banks. The repayment schedule will be drawn on the loan amount in such a way that the total subsidy amount is adjusted after the full bank loan component with interest is liquidated.

4. **Utilization Certificate:** After release of final installment of subsidy, a Utilization Certificate is required to be submitted by the financing Bank certifying that the full amount of subsidy received in respect of the project has been fully utilized (by way of crediting to the "Subsidy Reserve Fund Account- Borrower –wise") and adjusted in the books of Account under the sanctioned terms and conditions of the project within overall guidelines of the scheme.

5. **No Interest is chargeable on Subsidy Portion**: For the purpose of charging interest on the loan component, the subsidy amount would be excluded. The balance lying to the credit of the subsidy reserve fund account will not form part of demand and time liabilities for the purpose of SLR/CRR

6. **Institutional Lending:**

(a) **Eligible Financial Institutions:** The eligible financing institutions under the scheme may be (i) Commercial Banks, Regional Rural Banks (RRBs), State Cooperative Banks (SCBs), State Cooperative Agricultural and Rural Development Banks (SCARDBs), Scheduled Primary Urban Cooperative Banks (PUCBs), Agricultural Development Finance Companies (ADFCs) and such other institutions (ii) Cooperatives where they seek loan from National Cooperatives Development Corporation (NCDC).

(b) Term Loan

For the projects, the amount as eligible as capital subsidy of the project cost can be raised as term loan from the financing banks. The repayment schedule will be drawn on the total loan amount (including subsidy) in such a way that the subsidy amount is adjusted after liquidation of the net bank loan (excluding subsidy). The financial institution may provide working capital separately for undertaking the business by the entrepreneurs.

(c) **Rate of interest and Scale of Financing to the ultimate borrower**: As decided by the financing bank, as per their respective Board approved policy.

(d) **Security:** The security will be as per norms prescribed by RBI from time to time.

(e) **Repayment Period:** Repayment period will depend upon the cash flow and may be generally up to 5 years with a grace of one year.

7. Procedure to be followed for sanctioning of project and release of subsidy

(a) Interested beneficiaries will submit the project proposal for term loan and subsidy to Bank on application form as prescribed by the concerned bank along with project report and other documents for appraisal and sanction of loan.

(b) Bank after appraisal and scrutiny of loan application will furnish a brief project profile-cum-claim form for advance subsidy in the prescribed format as may be devised by the project sanctioning committee at the State level. The loan shall be disbursed by the Bank only after the project has been cleared and approved by the State level project sanctioning committee, which shall also have a representative of the concerned Bank.

(c) The Implementing Agencies on the recommendation of State level project sanctioning committee shall release 50% of the eligible amount of subsidy as advance subsidy to the participating bank for keeping the same in the subsidy fund account (borrower-wise)

(d) The participating bank shall provide eligible amount of subsidy as term loan to the beneficiary. The banks at their discretion may extend full project cost as term loan to the beneficiary.

(e) The beneficiary will inform the Bank that the required machines and equipments have been acquired by the beneficiary and the State level project sanctioning committee involving the bank official shall conduct the physical verification of the machines and equipments. After inspection the Bank will submit the claim form to the Implementing Agencies for final subsidy. The claim form shall necessarily be enclosed with inspection report of the committee. The Implementing Agency shall release the final subsidy to banks which will be adjusted against the subsidy amount provided to the banks in advance.

(f) Monitoring of each project will be done by Banks branches and district level officers of the Implementing Agencies with periodic reporting to the Implementing Agency.

Annexure-XXVII (A)

LIST OF TRAINING PROGRAMMES CONDUCTED AT THE FARM MACHINERY TRAINING & TESTING INSTITUTES

Sl. No.	Name of the Course		Duration	Charges per person per course
I.	**USER LEVEL COURSES:**			
	U1	Appropriate Mechanization Technology for Energy Management in Agriculture	4 weeks	**FREE**
	U2	Selection, Operation, Safety and Maintenance of Improved Agricultural Machinery	6 weeks	
	U3	Operation, maintenance and Management of power tiller	2 weeks	
	U4	Training Program on Agro Processing & value addition Equipments	2 weeks	
	U5	Gender friendly Equipments for Women farmers	3 days	
	U6	Utilization of Non-conventional Energy Sources in Agriculture.	1 week	
	U7	Water Management Through sprinkler and drip Irrigation & Water saving devices.	1 week	
	U8	Selection, Operation, and Maintenance of Plant Protection Equipments	1 week	
	U9	Selection, Operation, and Maintenance of improved Harvesting & Threshing machines	2 weeks	
	U10	Selection, Operation, and Maintenance of Hand Pump	1 week	
	U 11	Selection, operation and maintenance of agril. Machinery for dry land agriculture.	2 week	
	U12	**Crop Specific Machines:**		
	a)	Package of agricultural machinery for Paddy cultivation.	1 week each	**FREE**
	b)	Package of agricultural machinery for Maize cultivation.		
	c)	Package of agricultural machinery for Vegetable cultivation.		
	d)	Package of agricultural machinery for Sugarcane cultivation.		
	e)	Package of agricultural machinery for Horticulture & Medicinal crops cultivation.		
	f)	Package of Agricultural machines for oil seeds & pulses		
	g)	Package of Agricultural machinery for forage/fodder production and fodder management.		
	U13	IT application in farm mechanization		
II.	**TECHNICIAN LEVEL COURSES**			
	A. Courses on Repair and Overhauling			
	T1	Repair and overhauling of Stationery engines and tractors	6 weeks	Rs. 300/-
	T2	Repair & overhauling of power tillers	2 weeks	Rs. 100/-
	T3	Establishment and management of agricultural machinery repair and maintenance workshop	4 weeks	Rs. 200/-
	T4	Study & Repair of Hydraulic system in Agriculture Machines.	4 weeks	Rs. 200/-
	T5	Repair and maintenance of Auto Electrical equipments and Battery re-conditioning	3 weeks	Rs. 150/-
	T6	Repair, maintenance & rewinding of Electrical motors and submersible pumps	3 weeks	Rs.150/-
	T7	Operation & maintenance of Land shaping and Development machinery	4 weeks	Rs. 500/-

	T8	Repair, maintenance & overhauling of diesel pumping sets	2 weeks	Rs. 100/-
	T9	Maintenance, repair and installation of Combine Harvesters and Straw Reaper.	3 weeks	Rs. 150/-
	B. Earning While Learning Courses:			
	TEL-1	Repair and overhauling of Stationery engines, tractors and diesel pumping sets.	6 months	Rs. 200/-
	TEL-2	Repair & overhauling of power tillers	6 months	Rs. 200/-
	TEL-3	Establishment and management of agricultural machinery repair and maintenance workshop	6 months	Rs. 200/-
	TEL-4	Repair and maintenance of Auto Electrical equipments, Battery re-conditioning, Rewinding of electrical motors and submersible pumps.	6 months	Rs. 200/-
	TEL-5	Maintenance, repair and installation of Combine Harvesters and Straw Reaper.	6 months	Rs. 200/-
III.	**MANAGEMENT LEVEL COURSES: (for trainees sponsored by the commercial organizations / Banks/ Manufacturers)**			
	M1	Testing and Evaluation of Farm Machinery	1 week	Rs. 2500/-
	M2	Agriculture Machinery Management	1 week	Rs. 2500/-
	M3	Export Management of Agricultural Machinery.	1 week	Rs. 2500/-
	M4	Instrumentation for Farm Machinery Testing and Evaluation	1week	Rs. 2500/-
	M5	Entrepreneurship development to establish custom hiring agro-service centre	8 weeks	Rs. 20000/ (Except for farmers)
	M6	Farm machinery management for dealers / traders/ manufacturers, etc.	1week	Rs. 2500/
IV	**ACADEMIC LEVEL TRAINING PROGRAM**			
	A1	Trg. program on Farm Power & Machinery for Degree/Diploma Engg.Students. (4 weeks)	4 weeks	Rs. 2000/- per course
	A2	Practical Training programme on Farm Power and Machinery for ITI & 10 +2 vocational students	4 weeks	
V	NB	**Need based Training Programme on Mechanization**	As per requirement of the Sponsoring agency.	Rs. 1000/- per month (Except Farmers)
VI	FN	**Training programme for Foreign National as per requirements under Bilateral programme**	10 to 18 weeks (As per requirement of the Sponsoring agency)	As per Govt. policy
VII	**TECHNOLOGY TRANSFER CAMPS – OFF CAMPUS**			
	TT1	Energy conservation & safety in farm machinery	1 – 2 days	Free
	TT2	Familiarization and demonstration of improved/modern agril. Machines.	1 – 2 days	Free

Annexure-XXVII(B)

Skill Development Programmes aligned to NSQF and notified by ASCI in the area of Farm Machinery for 12 Job Roles

Qualification Pack Title	QP ID.	Proposed NSQF level	Entry requirements	Total Hours
Tractor operator	AGR/Q1101	4	Class X	200
Harvesting Machine Operator	AGR/Q1102	4	Class X	200
Agriculture Machinery Operator	AGR/Q1103	4	Class 8 preferably	200
Agriculture Machinery Repair and Maintenance Service Provider	AGR/Q1111	5	Class 12 preferably	200
Custom Hiring Service Provider	AGR/Q1112	5	Class 12 preferably	200
Irrigation Service Technician	AGR/Q1104	4	Class 8 preferably	200
Operator-Reaper Thresher and Crop Residue Machinery	AGR/Q1105	4	Class 8 preferably	220
Service and Maintenance Technician-Farm Machinery	AGR/Q1106	4	Class 10 preferably	205
Agriculture Machinery Demonstrator	AGR/Q1107	5	Class 10 preferably	200
Tractor Mechanic	AGR/Q1108	4	Class 10 preferably	220
Farm Workshop Foreman/Supervisor	AGR/Q1109	5	ITI or Class 10 preferably	200
Farm Workshop/Service Manager	AGR/Q1110	6	B. Tech/ B.E / Graduate in Business Administration	200

Annexure-XXVIII

List of institutions approved by the Department for Testing and Certifying Agricultural Machineries and Equipments

S. No.	Name of the State	Name of the Institute
1	**BIHAR**	Faculty of Agricultural Engineering, Rajendra Agriculture University, **PUSA (BIHAR)**
2	**CHHATTISGARH**	State level Agriculture Implement Testing Centre, Directorate (Agricultural Engineering), Agriculture Department, Govt. of Chhattisgarh, TeliBandha, Gorav Path, **RAIPUR (CHHATTISGARH)**
3	**DELHI**	Division of Agricultural Engineering, Indian Agricultural Research Institute, **NEW DELHI-12.**
4	**GUJARAT**	College of Agricultural Engineering & Technology, Junagarh Agricultural University, **JUNAGARH (GUJARAT)#**
5	**HARYANA**	College of Agricultural Engineering & Technology, Chaudhary Charan Singh Agriculture University, **HISAR (Haryana)#**
6		CCSHAU- Regional Research Station, CCSHAU, Uchani, Karnal (Haryana)
7	**JAMMU & KASHMIR**	Sher-e-Kashmir University of Agri. Science & Technology, **SRINAGAR REGION (J. & K.)**
8		Sher-e-Kashmir University of Agri. Science & Technology, **JAMMU REGION (J. & K.)**
9	**JHARKHAND**	Birsa Agriculture University, Kanke, **RANCHI (JHARKHAND)**
10		Jharkhand Agriculture Machinery Testing and Training Centre (JAM-TTC), Govt. of Jharkhand, **RANCHI (JHARKHAND)**
11	**KARNATAKA**	University of Agricultural Sciences, Gandhi Krishi Vignyan Kendra, **BANGALORE (KARNATAKA.)**
12		College of Agricultural Engineering, University of Agricultural Sciences, **RAICHUR, KARNATAKA - 584104**
13		College of Agriculture Vijaypur, University of Agricultural Sciences Belgaum Rd, Krishi Nagar, Dharwad, Karnataka 580005
14		Farm Machinery Testing Centre, College of Food Technology, University of Horticultural Sciences, Udyanagiri, Navanga**, Bagalkot (Karnataka) - 587104**
15	**KERALA**	Farm Machinery Testing Centre, Kerala Agricultural University Kelappaji College of Agricultural Engineering & Technology Tavanur, Malappuram (Dist), Kerala-679573
16	**MADHYA PRADESH**	Central Institute of Agricultural Engineering, Berasia Road, **BHOPAL (MP) #**
17		College of Agricultural engineering, Jawaharlal Nehru Krishi Vishvidyalaya, **Jabalpur (Madhya Pradesh)**
18	**MAHARSHTRA**	Dr. A.S. College of Agricultural Engineering Mahatma Phule Krishi Vidyapeeth, Rahuri, Distt. Ahmednagar, Maharashtra **(MPKV)**
19		Farm Machinery Testing, Training and Production Centre, Department of Farm Power and Machinery, **Dr. PDKV, Akola #**
20		College of Agricultural Engineering and Technology, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, **DAPOLI (MAHARSHTRA)**
21		College of Agricultural Engineering, V. N. Marathwada Krishi Vidyapeeth, **PARBHANI (MAHARASHTRA)**-431402

Annexure-XXVIII (Contd.)

S. No.	Name of the State	Name of the Institute
22	**ODISHA**	College of Agricultural Engineering and Technology, Orissa University of Agriculture and Technology, **BHUBANESWAR**
23		State Level Farm Machinery Training & Testing Centre, Agriculture Department, Government of Odisha, **Bhubaneswar, Odisha.##**
24	**PUNJAB**	College of Agricultural Engineering and Technology, Punjab Agriculture University, **LUDHIANA (PUNJAB)**
25		Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana , 141004##
26	**RAJASTHAN**	Farm Implements and Machinery Testing & Training Centre, Central Workshop, Swami Keshwanand Rajasthan Agricultural University, **Bikaner (Rajasthan).**
27		College of Technology and Agricultural Engineering, Maharana Pratap, University of Agriculture and Technology, **UDAIPUR (RAJASTHAN)**
28	**SIKKIM**	College of Agricultural Engineering and Post-Harvest Technology, **RANIPOOL, GANGTOK (SIKKIM)**
29	**TAMIL NADU**	Agricultural Engineering Collage & Research Institute (AEC&RI) , Tamil Nadu Agricultural University, **Kumulur, Trichy (TAMIL NADU)**
30		Farm Machinery Testing Center, ICAR-Central Institute of Agricultural Engineering- Regional Center, near AMRC, **Coimbatore -641003##**
31	**TELANGANA**	Prof. Jayashanker Telengana State Agriculture University, Hydrabad
32	**UTTAR PRADESH**	State Level Farm Machinery Training and Testing Institute, Govt. of U.P., Rehmankhera, **LUCKNOW (U.P.)**
33		Sam Higginbottom Institute of Agriculture, Technology & Science (AAI), Deemed University, **ALLAHABAD (U.P.)**
34	**UTTARAKHAND**	College of Technology, Gobind Ballabh Pant University of Agriculture and Technology, **PANTNAGAR (UTTARANCHAL)**
35	**WEST BENGAL**	Department of Agriculture & Food Engineering, Indian Institute of Technology**, KHARAGPUR (WEST BENGAL.)**
36		State Farm Machinery Training-cum-Testing Institute, Faculty of Agricultural Engineering, Bidhan Chandra Krishi Viswavidyalaya (BCKVV), **Mohanpur, DISTT. NADIA (WEST BENGAL)**
37		CSIR-Central Mechanical Engineering Research Institute (CMERI), Durgapur **(West Bengal)**

Note: # These designated testing Centres are also authorized to test Plant Protection Equipments
These testing Centres are also authorized to test post-harvest technology equipment and machines

Annexure-XXIX

Pattern of Assistance and Maximum Permissible Subsidy for the Farmers for procurement of crop residue management machines on individual ownership basis

S.No.	Name of the machine/equipment	Pattern of Assistance	Maximum Permissible subsidy per Machine/ Equipment per beneficiary inclusive of GST @ 12% (Rs.)
1.	**Super Straw Management System (Super SMS) to be attached with Combine Harvester**	50%	59,700
2.	**(a) Happy Seeder** **(b) Smart Seeder**		
	a) 09 tine	50%	81,400
	b) 10 tine	50%	84,150
	c) 11 tine	50%	86,350
	d) 12 tine	50%	90,200
3.	**Paddy Straw Chopper/ Shredder/Mulcher**		
	a) Mounted type (Straw Chopper & Mulcher)		
	i) 5 ft	50%	72,500
	ii) 6 ft	50%	85,800
	iii) 7 ft	50%	90,200
	iv) 8 ft	50%	95,700
	b) Trailed type	50%	1,47,100
4	**Shrub Master/Rotary Slasher**	50%	27,500
5.	**Hydraulic Reversible M.B. Plough**		
	a) Two bottom	50%	70,500
	b) Three bottom	50%	91,500
	c) Four bottom	50%	1,25,400
6.	**(a) Zero Till Seed cum Fertilizer Drill** **(b) Spatial Zero Till Drill**		
	9 tine	50%	24,800
	11 tine	50%	28,200
	13 tine	50%	30,800
	15 tine	50%	33,000
7.	**Super Seeder**	50%	1,20,000
8.	**Surface Seeder**	50%	44,000
9.	**Baling Machines**		
	Balers (Round – Mini – upto 16kg per bale)	50%	2,20,000
	Balers (Round – Medium –above 16-25 kg per bale)	50%	2,39,500
	Balers (Round –big-180-200 kg per bale)	50%	9,90,000
	Baler (Rectangular 18-20 kg per bale)	50%	6,60,000
	Straw Rake	50%	1,65,000

10.	**Crop Reaper**		
	(a) Tractor mounted	50%	82,500
	(b) Self-Propelled	50%	90,000
	Self-Propelled reaper cum Binder (3 wheel)	50%	1,92,500
	Self-Propelled reaper cum Binder (4 wheel)	50%	2,60,000

Note:

(a) The financial assistance will be limited to 50% of the cost of the machine or the maximum permissible subsidy per machine as indicated above, whichever is lower.

(b) The States will at their liberty to add any machine as per requirement provided that the machine is useful for crop residue management.

Annexure-XXX

Pattern of Assistance and Maximum Permissible Subsidy per machine under the projects of Custom Hiring Centres

S.No.	Name of the machine/equipment	Pattern of Assistance	Maximum Permissible subsidy per Machine/ Equipment inclusive of GST @ 12% (Rs.)
1.	Tractor 60 HP and above	80%	9,60,000
2.	**Super Straw Management System (Super SMS) to be attached with Combine Harvester**	80%	95,520
3.	**(a) Happy Seeder** **(b) Smart Seeder**		
	a) 09 tine	80%	1,30,240
	b) 10 tine	80%	1,34,640
	c) 11 tine	80%	1,38,160
	d) 12 tine	80%	1,44,320
4.	**Paddy Straw Chopper/ Shredder/Mulcher**		
	a) Mounted type (Straw Chopper & Mulcher)		
	i) 5 ft	80%	1,16,000
	ii) 6 ft	80%	1,37,280
	iii) 7 ft	80%	1,44,320
	iv) 8 ft	80%	1,53,120
	b) Trailed type	80%	2,35,360
4	**Shrub Master/Rotary Slasher**	80%	44,000
5.	**Hydraulic Reversible M.B. Plough**		
	a) Two bottom	80%	1,12,800
	b) Three bottom	80%	1,46,400
	c) Four bottom	80%	2,00,640
6.	**(a) Zero Till Seed cum Fertilizer Drill** **(b) Spatial Zero Till Drill**		
	9 tine	80%	39,680
	11 tine	80%	45,120
	13 tine	80%	49,280
	15 tine	80%	52,800
7.	**Super Seeder**	80%	1,92,000
8.	**Surface Seeder**	80%	70,400
9.	**Baling Machines**		
	Balers (Round – Mini – upto 16kg per bale)	80%	3,52,000
	Balers (Round – Medium –above 16-25 kg per bale)	80%	3,83,200
	Balers (Round –big-180-200 kg per bale)	80%	15,84,000
	Baler (Rectangular 18-20 kg per bale)	80%	10,56,000
	Straw Rake	80%	2,64,000

10.	**Crop Reaper**		
	(a) Tractor mounted	80%	1,32,000
	(b) Self-Propelled	80%	1,44,000
	Self-Propelled reaper cum Binder (3 wheel)	80%	3,08,000
	Self-Propelled reaper cum Binder (4 wheel)	80%	4,16,000

Note:

(a) The financial assistance will be limited to 80% of the cost of the machine or the maximum permissible subsidy per machine as indicated above, whichever is lower.

(b) The States will be at their liberty to add any machine as per requirement provided that the machine is useful for crop residue management.

Annexure-XXXI

Procedure for Credit Linked Capital Subsidy on the Custom Hiring Centres Projects and Paddy Straw Supply Chain Projects

The following is the gist of procedure to be followed, to be read along with the flow charts and formats annexed:

1. **Advance Subsidy:** The 50% eligible subsidy amount for the projects will be released as advance by the State Agriculture Departments to the participating Financial Institutions (Banks) on submission of project scrutiny note cum claim form as per requirement and the norms of the interventions. The same would be kept in a Subsidy Reserve Fund Account of the concerned borrowers, to be adjusted finally against loan amount of the bank towards the end of the repayment period and life of the project as per the time schedule.

2. **Final Installment of Subsidy**: the remaining 50% would be disbursed to the participating Banks by the State Departments of Agriculture after conduct of an inspection and physical verification of the machines and equipments by the State Level Project Sanctioning Committee and officials from the financing banks.

3. **Adjustment of Subsidy to Borrower's Account:** The subsidy released to the bank for individual project will be kept in a separate borrower-wise account. The adjustment of subsidy will be back ended. Accordingly, the full project cost including the subsidy amount, but excluding the margin money contribution from the beneficiary, would be disbursed as a loan by the Banks. The repayment schedule will be drawn on the loan amount in such a way that the total subsidy amount is adjusted after the full bank loan component with interest is liquidated.

4. **Utilization Certificate:** After release of final installment of subsidy, a Utilization Certificate is required to be submitted by the financing Bank certifying that the full amount of subsidy received in respect of the project has been fully utilized (by way of crediting to the "Subsidy Reserve Fund Account- Borrower –wise") and adjusted in the books of Account under the sanctioned terms and conditions of the project within overall guidelines of the scheme.

5. **No Interest is chargeable on Subsidy Portion**: For the purpose of charging interest on the loan component, the subsidy amount would be excluded. The balance lying to the credit of the subsidy reserve fund account will not form part of demand and time liabilities for the purpose of SLR/CRR

6. **Institutional Lending:**

(a) **Eligible Financial Institutions:** The eligible financing institutions under the scheme are (i) Commercial Banks, Regional Rural Banks (RRBs), State Cooperative Banks (SCBs), State Cooperative Agricultural and Rural Development Banks (SCARDBs), Scheduled Primary Urban Cooperative Banks (PUCBs), Agricultural Development Finance Companies (ADFCs) and such other institutions (ii) Cooperatives where they seek loan from National Cooperatives Development Corporation (NCDC).

(b) Term Loan

For the projects of Custom Hiring Centres and Paddy Straw Supply Chain projects, the amount as eligible as capital subsidy of the project cost can be raised as term loan from the financing banks. The repayment schedule will be drawn on the total loan amount (including subsidy) in such a way that the subsidy amount is adjusted after liquidation of the net bank loan (excluding subsidy). The financial institution may provide working capital separately for undertaking the business by the entrepreneurs.

(c) **Rate of interest and Scale of Financing to the ultimate borrower** : As decided by the financing bank, as per their respective Board approved policy.

(d) **Security:** The security will be as per norms prescribed by RBI from time to time.

(e) **Repayment Period:** Repayment period will depend upon the cash flow and may be generally up to 5 years with a grace of one year.

7. Procedure to be followed for sanctioning of project and release of subsidy

(a) Interested beneficiaries will submit the project proposal for term loan and subsidy to Bank on application form as prescribed by the concerned bank along with project report and other documents for appraisal and sanction of loan.

(b) Bank after appraisal and scrutiny of loan application will furnish a brief project profile-cum-claim form for advance subsidy in the prescribed format as may be devised by the project sanctioning committee at the State level. The loan shall be disbursed by the Bank only after the project has been cleared and approved by the State level project sanctioning committee, which shall also have a representative of the concerned Bank.

(c) The State Department of Agriculture on the recommendation of State level project sanctioning committee shall release 50% of the eligible amount of subsidy as advance subsidy to the participating bank for keeping the same in the subsidy fund account (borrower-wise)

(d) The participating bank shall provide eligible amount of subsidy as term loan to the beneficiary. The banks at their discretion may extend full project cost as term loan to the beneficiary.

(e) The beneficiary will inform the Bank that the required machines and equipments have been acquired by the beneficiary and the State level project sanctioning committee involving the bank official shall conducted the physical verification of the machines and equipments. After inspection the Bank will submit the claim form to the State Department of Agriculture for final subsidy. The claim form shall necessarily be enclosed with inspection report of the committee. The State Department of Agriculture shall release the final subsidy to banks which will be adjusted against the subsidy amount provided to the banks in advance.

Monitoring of each project will be done by Banks branches and district level officers of the State Department of Agriculture with periodic reporting to the State Agriculture Department.

Annexure-XXXII

(A) Indicative Capital Expenditure for Setting up Paddy Straw Supply Chain (For 3000 MT Paddy Straw per Season)

Sr No	Required machines	Approximate Rate / Unit (Rs. in lakhs)	Qty	Tentative Amount (Rs. in Lakhs)
1	Cutter /Rotary Slasher	0.70	1	0.70
2	Tedder Machine	5.25	1	5.25
3	Raker	5.85	1	5.85
4	Tractor 75 HP and above	18.00	1	18.00
5	Baler (200-300 kg Bale) – Rectangular or round bale	36.50	1	36.50
6	Tractor 50 HP for Tedder and Rake	8.5	2	17.00
7	Trolley (Flat, Single Axle, Local Fabricator) /Automatic bale loading trolley	3.50	3	10.50
8	Tractor attachment for Stacking (grabber)/ telehandler	5.00	1	5.00
9	Moisture Meter	0.35	1	0.35
10	Water tank (5000 Ltr)	0.25	1	0.25
11	Fire Extinguisher	0.05	1	0.05
12	Lightening Arrestor	0.40	1	0.40
Total				**99.85 or say Rs. 1.00 Crore**

Note:

(i) Tractors required for transport trollies and grabber are supposed to be taken on rental basis.

(ii) The machines and equipments and their costs are indicative. The total project cost can only be arrived based on the proforma invoices of the sale of machines.

(iii) Beneficiaries may have the choice of selection of equipments from within the list as per their requirement.

(iv) The States also have the flexibility to include any machine under the projects as per their requirement.

(B) Indicative Capital Expenditure for Setting up Paddy Straw Supply Chain (For 4500 MT Paddy Straw per Season)

Sr No	Required machines	Approximate Rate / Unit (Rs. in lakhs)	Qty	Tentative Amount (Rs. in Lakhs)
1	Cutter /Rotary Slasher	0.70	1	0.70
2	Tedder Machine	12.00	1	12.00
3	Raker	25.00	1	25.00
4	Tractor 90-110 HP	44.00	1	44.00
5	Baler (200-500 kg Bale) – Rectangular or round bale	46.00	1	46.00
6	Tractor 50 HP for Tedder and Rake	8.5	2	17.00
7	Trolley (Flat, Single Axle, Local Fabricator) /Automatic bale loading trolley	3.50	3	10.50
8	Telehandler	25.00	1	25.00
9	Moisture Meter	0.35	1	0.35
10	Water tank (5000 Ltr)	0.25	1	0.25
11	Fire Extinguisher	0.05	1	0.05
12	Lightening Arrestor	0.40	1	0.40
Total				**181.25 or say Rs. 1.80 Crores**

Note:

(i) For the purpose of financial assistance, the project cost will be limited to Rs. 1.50 Crores i.e. the project cost may be above Rs. 1.50 Crores/project, but the financial assistance from the Government will calculated based on the project cost of Rs. 1.50 Crores/project.

(ii) The machines and equipments and their costs are indicative. The total project cost can only be arrived based on the proforma invoices of the sale of machines.

(iii) Beneficiaries may have the choice of selection of equipments from within the list as per their requirement.

(iv) The States also have the flexibility to include any machine under the projects as per their requirement.

Annexure-XXXIII

Sample Bi-Lateral Agreement

This Agreement (herein referred to as "Agreement") is made on this day of **(DATE)** at **(PLACE).**

By and Between:

1. **-------** (Name of the Biomass Based Industry) **-----**, a Company Incorporated under Companies Act, 2013 and having its registered office at----------(complete address of Biomass industry)----------**(**hereinafter referred to as "**Industry**" or "-----(Short Title of Biomass Based Industry)**---------** " which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns) of the **FIRST PARTY;**

AND

2. **BENEFICIARY**, which expression shall unless repugnant to the context or meaning thereof, be deemed to include Farmer or group of Farmers or Rural Entrepreneurs or Cooperative Societies of Farmers or Farmers Producer Organizations (FPOs) or Panchayats (hereinafter referred to as "**Aggregator**" which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns) of the **SECOND PARTY;**

(Both of the parties mentioned hereinabove shall be individually referred to as the **"Party"** and collectively as the **"Parties"**)

WHEREAS

(a) The "**Government"** intends to contain the burning of Agri-residue / paddy straw in the open fields through an approach of providing accepted solutions for ex-situ management of Agri-residue / paddy straw and released guidelines vide OM No. -------- Dated ------ for providing financial assistance to Aggregator to establish Agri-residue / paddy straw supply chain for its utilization in different industries utilizing the same to achieve farmer's welfare by way of reduced stubble burning and utilizing the abundant Agri-residue / paddy straw towards useful applications.

(b) ----(Name of Biomass Based Industry) -------- referred to as an **"Industry"** is inter alia engaged in the manufacturing of --- (Products name) ------ from Agri-residue / paddy straw and other biomass. ---- (Name of Biomass Based Industry) -------- has set up a --- (Products name) ------ Project with capacity (----------), will utilize approximately ----- tons of Agri-residue / paddy straw per day and will utilize approximately ---------- tons of Agri-residue / paddy straw per year. The plant is in ----------(Location address of Biomass Based Industry /Plant).

(c) The --------(Name and address of Aggregator) -------- referred to as an **"Aggregator"** is desired and willing to invest into the establishment of Agri-residue / paddy straw supply chain by way of acquiring required machinery and equipments through financial support of the

Government and Industry and has agreed to collect, transport, store the Agri-residue / paddy straw at the allocated area or areas allotted by ---- (Name of Biomass Based Industry) -------- and will supply the same to ---- (Name of Biomass Based Industry) --------.

NOW THEREFORE, in consideration of the foregoing and the mutual covenants contained in this agreement, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

ARTICLE 1
DEFINITIONS AND INTERPRETATION

1.1 Definitions: In this agreement, unless the context otherwise requires or expressly provides, the following words shall have the following meaning respectively:

a) **Business day** shall be construed as a reference to a day (other than a Sunday) on which banks in the state where I&C Facility is situated are generally open for business

b) **Biomass Based Industry** means industries utilizing the Agri-residue / paddy straw for various purposes

c) **Catchment area** shall herein mean area within the radius of 10 to 35 kms of ------ (Name of Biomass Based Industry) ---- plant site situated ----- (Complete address of location) -------

d) **Price** in reference to this agreement will mean the price at which biomass-based industry will purchase Biomass from the Aggregator.

e) **Equipment or Machinery** means equipments and machines that are covered under the supply chain i.e., Cutters/Rotary Slashers, tedder, Raker, Baler, tractor, loader, trolley, telehandler etc.

f) **Financial Assistance** shall be in the form of subsidy which will be provided to the farmer by the Government and biomass-based industry in the ratio mentioned in the scheme guidelines under para ------.

g) **Law** shall mean all statutes, enactments, acts of legislature or parliament, laws, ordinances, rules, regulations, code, directives and orders of any Government Authority, Tribunal, Board or Court and if applicable, International Treaties and regulations.

h) **MT** means Metric tonnes

i) **OEMs** shall mean Original Equipment Manufacturer of the equipments and machines that are covered under the supply chain

j) **Principal place of Business** in reference to this agreement means for parties -------- ----- (Complete address of location of the biomass-based industry) ----------

k) **Supply (collection, transport and storage of Agri-residue / paddy straw)** shall have meant ascribed to it in

l) **Supply Process Flow** as indicated in para 8 of the concept note

m) **Software** in reference to this agreement shall be called Straw management and automation mobile application which shall be given to the aggregators by ---------- (name of biomass-based industry) ----------.

n) **TPD** means tonnes per day.

1.2 **Interpretation**

Except where the context requires, this agreement shall be interpreted as follows:

1 References in this Agreement to any statutory provision shall include a reference to that statute or provision as amended, extended or re-enacted and to any statutory replacement thereof from time to time and shall also include reference to all statutory instruments and orders made pursuant to any such statutory provision.
2 the division of this Agreement into clauses and schedules and the insertion of headings and bold typeface are only for convenience and shall not affect the construction or interpretation of any provision of this Agreement;
3 words and numbers importing the singular shall include the plural and vice versa;
4 references to the Recitals, Clauses and Schedules are to the recitals and clauses of, and schedules to, this Agreement;
5 the Schedules to this Agreement form part of this Agreement and shall be deemed to be expressly set out in the body of this Agreement;
6 all words (whether gender-specific or gender neutral) shall be deemed of any gender are deemed to include the other gender;
7 the terms “hereof”, “herein”, “hereby”, “hereto” and derivative or similar words refer to this entire Agreement or specified Clauses of this Agreement, as the case may be;
8 a reference to any Party in this Agreement, including the Parties, shall, where the context permits, include such Person’s executors, administrators, heirs, legal representatives, successors and permitted assigns;
9 any obligation under this Agreement not to do something includes an obligation not to agree or allow that thing to be done;
10 an agreement, representation or warranty on the part of 2 (two) or more Persons binds them jointly and each of them individually;
11 a reference to any Law or to any provision thereof includes references to such Law as it may, during the term of this Agreement or the completion of the transactions

contemplated herein, be amended, consolidated, modified, re-enacted or replaced by any other Law and to any subordinate legislation or regulation made under the relevant Law;

12 Unless the context otherwise requires, any period of time refereed to shall be deemed to expire at the end of the last day of such period;

13 the expressions "hereof", "herein" and other similar expressions shall be construed as references to this Agreement as a whole and not limited to the particular Clause or Schedule in which the relevant expression appears;

14 references to writing include in electronic form;

15 references to "Rupees", "Rs." and "INR" are references to the lawful currency of the Republic of India;

16 reference to any document includes an amendment or supplement to, or replacement or novation of, that document, but disregarding any amendment, supplement, replacement or novation made in breach of this Agreement;

17 reference to an "amendment" includes a supplement, modification, novation, replacement or re-enactment and "amended" is to be construed accordingly;

18 any word or phrase defined in the body of this Agreement as opposed to being defined in Article 1.1 above shall have the meaning assigned to it in such definition throughout this Agreement, unless the contrary is expressly stated or the contrary clearly appears from the context;

19 the Parties have each participated in the negotiation and drafting of this Agreement and if an ambiguity or question of interpretation should arise, this Agreement shall be construed as if drafted jointly by the Parties thereto and no presumption or burden of proof shall arise favouring or burdening either party by virtue of the authorship of any of the provisions in this Agreement;

20 This agreement is made and executed in the English, Hindi and Punjabi Language which shall be the governing text for all purposes.

21 Any reference to any period of time shall mean a reference to that according to Indian Standard Time;

22 Any reference to day shall mean a reference to a calendar day;

23 "**Lakh**" mean a hundred thousand (100,000) and crore means ten million (10,000,000);

24 Reference to a "**person**" and wording denoting a natural person shall be construed as a reference to any individual, firm company, corporation society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;

25 The words "**include"** and "**including"** are to be construed without limitation and shall be deemed to be followed by "**without limitation**" or "**but not limited to"** whether or not they are followed by such phases;

26 Reference to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this agreement;

27 The damages payable by either party to the other of them, as set forth in this agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-

estimated loss and damage likely to be suffered and incurred by the party entitled to receive the same and are not by way of penalty (the "Damages") and

28 Time shall be of the essence in the performance of the parties' respective obligations. If any time period specified herein is extended, such extended time shall also be of the essence.

ARTICE 2
SCOPE OF THE AGREEMENT

2.1 This Agreement details the terms and conditions, financial arrangement and obligation of Government, Industry and Aggregator. Further, any specific terms or conditions, procedure or methodology specified/not specified in this Agreement, but relevant to the scope and deemed necessary to be amended/included, may be mutually discussed and agreed to between the Industry and Aggregator within two (2) months of signing of this Agreement and shall be included as an amendment as per Amendment Article of this Agreement.

2.2 Aggregator will undertake Activity at collection end of Agri-residue / paddy straw, transport, storage and supply it to industry in terms of this Agreement. The Industry and Aggregator shall respectively and faithfully abide by and subject themselves to the terms and conditions and stipulations of the Agreement.

2.3 The implementation of this Bi-lateral agreement is based on the Guidelines OM No. (…….) Dated……., a pilot project basis to support the investment planned for ex-situ machinery deployment. The programme will be monitored by Department of Agriculture & Farmers Welfare with the help of Agriculture Departments of the State Government. However, the management of supply chain is the responsibility of the Industry in association with the Aggregator.

ARTICE 3
FINANCIAL ARRANGEMENTS

3.1 The projects will be implemented under this Bi-lateral agreement between the (Name of biomass-based Industry) who shall be utilizing the Agri-residue / paddy straw ---------- and ---------- (name of the Aggregator) ----------. This agreement is executed between the parties to ensure smooth implementation of the projects keeping the interests of the ---------- (name of biomass-based industry) ---------- project and ----------(Name of Aggregator) ---------- interests.

3.2 Financial assistance will be provided to the Aggregator only on the capital cost of machinery and equipment as indicated in the guidelines issued by the Government and the rest of the capital expenditure and required working capital may be arranged by the aggregator. For working capital, National Agriculture Infra Financing Facility (AIF) by the Farmer or NABARD project financing or financing from any other Banks may be used.

3.3 The Escrow agreement shall be executed between the Industry and the Aggregator. All cash inflows and outflows arising out of this agreement or matters incidental thereto shall be credited and debited, as the case may be, in accordance with the provisions of the escrow agreement. All the expenses and liabilities towards arrangement of such escrow account and agreement shall be borne by the Industry and Aggregator equally and jointly.

ARTICE 4
OBLIGATIONS

4.1 Obligations of the Government:

(a) Empanel the machinery suppliers
(b) constitute a project sanctioning committee which shall devise a template for submission of project proposal by the Aggregator.
(c) examine the proposals through project sanctioning committee and approve the projects of Agri-residue / paddy straw supply chain management within 5 days of receipt of proposals
(d) facilitate the aggregator to get financing from AIF/NABARD/Other financial institutions
(e) guide the Aggregator for obtaining all regulatory clearances, such as fire, land sealing, conversion from agricultural to non-agricultural and, availability of government land, electricity supply, transmission system, waiver of development charges of development authority etc.
(f) physical inspection of the machinery procured by the Aggregators and process for release of financial assistance through Escrow Agreement.

4.2 Obligations of the Industry:

(a) Finalize and submit the project proposal in co-ordination with the Aggregator.
(b) facilitate the Aggregator in site selection and obtaining all regulatory clearances
(c) contribute required Industry share of the project as per guidelines into the Escrow account of the Aggregator
(d) facilitate the Aggregator to get financing from AIF/NABARD/Other financial institutions
(e) facilitate the Aggregator in procuring the required machinery and equipments from the OEMs empanelled by the Government.
(f) provide daily scheduling to the Aggregator for supply of required quantity of paddy
(g) create awareness amongst farmers residing/owing land/property in the catchment area by through convenient mode.
(h) purchase all the collected Agri-residue / paddy straw from the Aggregator at a rate as may be mutually agreed by Aggregator and Industry. Revisit the rate Year-on-Year based on the market condition.
(i) shall throughout monitor the effectiveness of the project
(j) facilitate Aggregator in maintenance and service of the equipments and machines through the authorized service network of the OEMs.

(k) take actions against the Aggregator for not supplying the desired Quality, Quantity, Price and misuse of the equipment and machine in association with the Government through appropriate committee duly constituted for the purpose.
(l) Responsible for asset utilization on yearly basis to the Government in terms of annual Agri- residue/ paddy straw collection (in tonnes per Agri-residue / paddy straw type).

4.3 Obligations of the Aggregator:

(a) arrange land for storage of the collected paddy under the guidance of Industry
(b) obtain all regulatory clearances, such as fire, land sealing, conversion from agricultural to non-agricultural, electricity supply, transmission system, development charges of development authority etc.
(c) place order with the empanelled OEMs for procurement of machinery as included in the project proposal.
(d) Contribute required Aggregator share of the project as per guidelines into the Escrow Account.
(e) secure Industry contribution for the proportionate amount as per the project proposal and guidelines of the Government
(f) receive financial assistance from the Government in the Escrow account
(g) secure required working capital either through own funding or AIF or NABARD or other bank financing
(h) make payments to the OEMs towards the procurement of machinery in alignment with the Escrow Account regulations.
(i) tie up with the farmers for procurement of straw from the farmer's fields
(j) engage necessary skilled and non-skilled manpower for continuous operation of the aggregation of Agri-residue / paddy straw
(k) acquire required machines and collect the straw as per the scheduling as may be decided by Aggregator and Industry.
(l) insure equipment or machinery against loss by theft, fire or by the Act of God
(m) store baled straw as per the SOPs provided by the industry
(n) insure the risk for the stock of biomass in storage, transit, fire and theft.
(o) shall be responsible for the management of machinery for collection, Transportation, Storage of Agri-residue / paddy straw and also delivering the end product to the industry on timelines decided by Industry
(p) shall exclusively provide the Agri-residue / paddy straw at a agreed price to Industry only with whom the agreement is made and not to any other industry.
(q) Restrict the use of machines only for the use of the industry in designated cluster. In case of use of machines for other Industry, shall take prior consent or no objection from the industry with whom the agreement is signed.
(r) shall not transfer/sell/mortgage/ hypothecate the machines and equipment in any manner whatsoever.

ARTICLE 5
PURCHASE OF MACHINERY AND EQUIPMENT

5.1 The AGGREGATOR shall place an order with the empanelled manufacturers for procurement of Machinery and Equipments**.**

5.2 The Parties shall before (…….), open and establish an escrow account with the _____Bank (the Escrow Bank"). The payment shall be made according to the timelines stated below:

Financial Milestone/ Timelines:

S.NO	Parties to the Agreement	Contribution in terms (%)	Tentative timelines for releasing payment in "ESCROW ACCOUNT" (Tentative)
1.	**GOVERNMENT**	65	30.10.2024
2.	**INDUSTRY**	as may be agreed between industry and aggregator	10.07.2024
3.	**AGGREGATOR**	Minimum 10	10.07.2024

5.3 The payment toward the purchase of Equipment and Machinery will be made from the ESCROW Account to be opened in the name of INDUSTRY. The parties and government will transfer their respective contribution in the ESCROW account according to the ESCROW Agreement.

5.4 All the expenses and liabilities towards arrangement / opening of such escrow account and agreement shall be borne by the INDUSTRY and AGGREGATOR Jointly in 50 – 50 Ratio.

ARTICE 6
OWNERSHIP OF EQUIPMENT AND MACHINES

6.1 The Government shall not own any Equipment or Machine. It would just purely provide financial support and would monitor the effectiveness of the project.

6.2 Industry shall throughout monitor the effectiveness of the project.

6.3 Industry shall act as the primary or only consumer of feedstock aggregated by the procured machinery under the scheme and shall have the first right of ownership of

machinery and can acquire possession in case of expiry of tenure of the agreement or termination due to any non-compliance or default on behalf of the Aggregator.

ARTICE 7
QUALITY COMPLIANCE PARAMETER

7.1 Below are the Quality acceptance criteria/ parameters of the straw to be supplied by the farmer at Industry Plant site.

S. No.	Description	Acceptance Criteria	Remarks
1.	Type of Bales	To be decided by the industry	
2.	Moisture	To be decided by the industry	
3.	Mandatory use of balers with cutting system	To be decided by the industry	
4.	Compression	To be decided by the industry	
5.	Stacking height	To be decided by the industry	

ARTICE 8
INDEMNITY

Either party will indemnify, defend, and hold harmless other party (including its successors, affiliates and assigns) and their respective directors, officers, employees, agents and/or any third party (the "indemnified persons") against any and all losses, liabilities, judgments, awards, costs, claims, expenses, charges etc. (individually and collectively, referred to as "Damage") (i) a rising out of breach by the defaulting party of any of the terms contained herein; (ii) due to any representation, or other statement made by the defaulting party being or becoming untrue in any manner, (iii) due to any act, omission or negligence of the defaulting party or its personnel and/or persons engaged by him(in) any claims that may be made by the defaulting party's personnel against the suffering party for any reason Whatsoever, without any limit in the amounts or time.

ARTICLE 9

INSURANCE

9.1.Insurance against storage of Machine and equipments:

a) It is a responsibility of the AGGREGATOR, at its own cost, during the tenure, to acquire adequate comprehensive insurance cover for corresponding to the risk of Equipment and machines against Marine, theft, fire etc;

b) For corresponding to the risk for the stock of biomass in storage, transit, fire and theft;

c) The copy of insurance papers shall be supplied to Industry before training by OEMs for Machinery and Equipments starts for Aggregator &

d) The Selection of insurer shall be the responsibility of the industry.

9.2 Insurance against Machine and Equipments

a) The Industry and the Aggregator shall purchase an Insurance cover in which contribution in terms of premium shall be borne by the Industry and the Aggregator;

b) The industry shall pay premium in proportion to its own share as well as Government's share in the capital cost of the machinery and equipment which comes out to be 90% (25% + 65%) contribution in terms of premium amount;

c) The Aggregator shall pay premium contribution in proportion to its 10% share in the capital cost of the Machine and Equipments &

d) The selection of Insurer shall be the responsibility of the industry.

ARTICLE 10

VOLUME, QUALITY AND TRANSPORTATION OF CROP RESIDUE

10.1 INDUSTRY shall accept Crop Residue in case AGGREGATOR make compliance to the following criteria as given below

(A) Volume for aggregation of Biomass (Agri-residue / paddy straw)

S.No	Description	Default	Remarks
	Volume: Capacity to supply Biomass fuel as per desired specifications (Per season)	In case the supply is <40% (For supply of 3000 MT)	Written Notice will be issued stating with a onetime warning post Non-compliance of which can lead to a situation where ownership of the machines will be transferred to another AGGREGATOR after consulting with the committee defaulting AGGREGATOR.
		In case the supply is <30% (For supply of 4500 MT)	

(B) Quality compliance parameters

S.No.	Description	Acceptance Criteria	Remarks
1.	Type of Bales		
2.	Moisture		
3.	Mandatory use of balers with cutting system		.
4.	Compression		
5.	Stackling height		

(C) TRASNPORTATION OF BIOMASS FROM FARM TO GATE

In case the AGGREGATOR defaults in supplying the agreed biomass from farm to gate i.e not transporting aggregated biomass to the gate then a Written Notice will be issued stating with a onetime warning post Non-compliance of which can lead to a situation where ownership of the machines will be transferred to another AGGREGATOR after consulting with the committee defaulting Aggregator.

ARTICLE 11

ASSIGNMENT AND SUBCONTRACT AND SUBSTITUTION

11.1 The "AGGREGATOR" shall not without the prior written approval of INDUSTRY, assign or transfer its rights or obligations under the agreement or any part thereof, or any share, or interest therein to any other person.

11.2 That in case "AGGREGATOR" is unable to perform in any Season, he can propose the name of other person in writing and if approved by Committee, he can substitute the AGGREGATOR for the Season and accordingly Rights and Obligation under this agreement will be Assigned to that Person and that Person for the purposes of this Agreement will know as Substituted Aggregator for that Season.

11.3 That in case of Assignment to Substituted Aggregator, Machinery and Equipment will be hand over by AGGREGATOR to that person for that particular Season.

11.4 That proposal of substitution should be made before 1st August of Every Year.

ARTICLE 12
AMENDMENTS TO THE AGREEMENT

No amendment or modification of this Agreement shall be valid unless the same is made in writing by the Parties and their authorized representatives and specifically stating the same to be an amendment of this Agreement. The modifications/ changes shall be effective from the date on which they are made/ executed unless otherwise agreed to.

ARTICLE 13
NOTICES

All notices and communications required to be served under this agreement shall be considered to be duly served if the same been posted by registered mail at its last known address of business.

ARTICLE 14
TENURE

This agreement shall come into force from the date of signing of this agreement and will continue till supply of quantity as given in Article… (which shall be added at the later stage) or Five years, whichever is earlier.

ARTICLE 15
EFFECTIVE DATE AND TERMINATION OF THE BI-LATERAL AGREEMENT

15.1 This Agreement shall be deemed to have come into effect from the date of signing of the Agreement.

15.2 **Termination**: This Agreement may be terminated by Industry in consultation with Government constituted committee by giving a one **(7) days'** notice in writing to Aggregator in the following cases:

(a) If Aggregator obtains the financial assistance on the basis of false information/ false statement.
(b) If Aggregator and Industry does not take up the Activity as per the terms of the Agreement.
(c) If performance of Aggregator or Industry is not found satisfactory as per obligations indicated in Article 4 of the Agreement.
(d) If any fraud/ embezzlement is detected subsequently and not reported by Aggregator or Industry.
(e) Suppressing information regarding Conflict of Interest by the parties.
(f) If Aggregator or Industry is declared insolvent by the relevant competent authority.
(g) If Aggregator and Industry commits material breach of this Agreement.
(h) Non-payment/ non-realization of penalties or any dues by the aggregator and/or Industry

15.3 In the event of termination of the Agreement vide Clause 15.2, the rights and obligations of the Parties thereto shall be settled through mutual discussion between the Parties. Provided that any pending payments with respect to invoices for all completed Activities shall be paid by the Aggregator within thirty (30) days of date of termination of this Agreement. Provided further that in the event of termination of the Agreement vide Clause 15.2, the machines and equipment together with all physical assets acquired under the project are taken into the custody by the Industry.

ARTICLE 16

FORCE MAJEURE

16.1 Neither of the party, in any way, except for any payment related obligations, be held liable for non-performance either whole or in part of this agreement or for any delay in the performance thereof in consequence of any Act of God, epidemics, quarantine restrictions, lawful strike, lock out, delivery interruptions, orders including administrative orders or decrees of any Government or Government authority, revolutions, wars, acts of enemies embargoes or other import restrictions or by any other acts, whether or not of the same class or kind as those set forth above, not within the control of the party, fulfilment on whose part is interfered with and which by exercise of reasonable diligence, the said party is unable to prevent.

16.2 Promptly but not later than 2 days, upon the occurrence of an event or circumstance that a party considers may subsequently lead it to claim force majeure relief under this agreement, such party shall give notice to such effect to the other party, describing such event or circumstance and the obligations the performance of which could be delayed or prevented thereby,

(a) The parties shall exercise reasonable diligence to resume normal performance of this agreement as soon as possible, after the occurrence of an event of force majeure.

(b) Even prior to resumption of normal performance, the parties shall continue to perform their obligations under this agreement to the extent not prevented by such event of force majeure.

ARTICLE 17

GOVERNING LAWS AND JURISDICTION

This agreement shall be governed and construed in accordance with the laws of India including without limitation, the relevant Central and State acts and the rules, regulations and notifications issued and amended there under from time to time and subject to clause 18 below, the courts of (……..) shall have the exclusive jurisdiction in relation to all disputes arising from or relating to the agreement.

ARTICLE 18
DISPUTE RESOLUTION

18.1 A dispute shall be deemed to have arisen under this agreement, when either party notifies the other party of any issue, difference or dispute in writing to that effect.

18.2 Any dispute arising out of this agreement shall be resolved amicably through discussions in good faith with a view to expeditiously resolve such dispute. In the event the Dispute cannot be resolved amicably with the period of 30 days from the date of its occurrence, either party may refer the dispute for resolution to State Government and even if not resolved, actions may be taken according to Arbitration and conciliation act, 1996.

18.3 The venue of arbitration shall be ---------- and the language of arbitration shall be in English or Punjabi. The arbitrator shall pass a reasoned award and the award shall be final and binding on all the parties.

SEAL OF PARTIES

In witness whereof the Parties here to have signed this Agreement on the day of (Month) and year mentioned hereinbefore

For and on behalf of Industry Name: Designation: Seal:_____	For and on behalf of Aggregator Name: Designation: Seal:_____
Witnesses: (Name Address) 1. _____ 2. _____ Date: _____	Witnesses: (Name Address) 1. _____ 2. _____ Date: _____

Annexure-XXXIV

User manual for Mobile application

Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture and Farmers Welfare

Soil Health Card

SHC Mobile App User Guide

App Version 1.2.0.4

Farmer Registration and the Sample Collection Can be done in *Both Online & Offline* Mode

***

किसान पंजीकरण और नमूना संग्रह *ऑनलाइन और ऑफलाइन दोनों* मोड में किया जा सकता है

Updated on: 30/04/2024

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SHC Mobile App

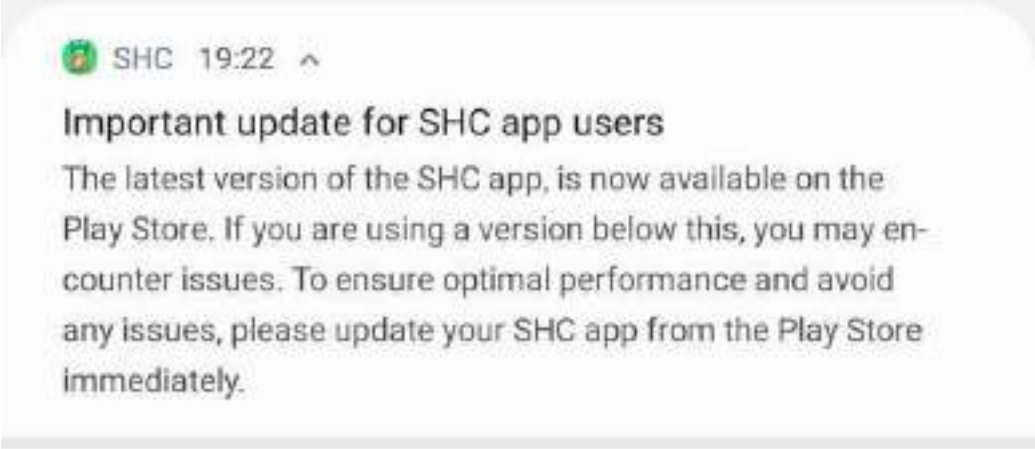
Instruction for version 1.2.0.4

- App will operate in both online or offline mode for farmer registration and sample collection. Online / Offline modes can be enabled simply by pressing the online slider button in the app home page below the sample collection dashboard.
- Users does not required internet connection to do the registration in offline mode
- In offline mode users have to sync the data to upload online and to view in track samples. Users are restricted to sync the data only between 5PM to 10AM
- QR code scanning has been disabled for offline mode
- Sample ID will be generated automatically and has to be pasted in the soil sample for testing purpose

How to Update

- Sync or export the existing offline records. Send the exported record file to the STL/District/customer service team for safety
- Update the app from Google Play Store: https://play.google.com/store/apps/details?id=com.kt_goi_shc&hl=en
- Import the offline records

NOTE: Update notification will pop up whenever the latest version is available in the playstore



App Install

Download and Install the Mobile app from the drive link given below:
https://play.google.com/store/apps/details?id=com.kt_goi_shc

Device Requirement

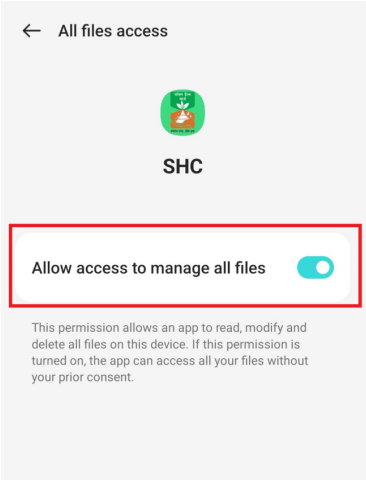
- Android 9.0 and above

App Permission

- Allow SHC to take pictures and record video
    - Select “While using the app” to accept
- Allow SHC to access this device’s location
    - Choose “Precise” and select “While using the app” to accept
- Allow SHC to make and manage phone calls
    - Select “Allow”
- Allow SHC to access photos, videos, music and audio on this device
    - Select “Allow”

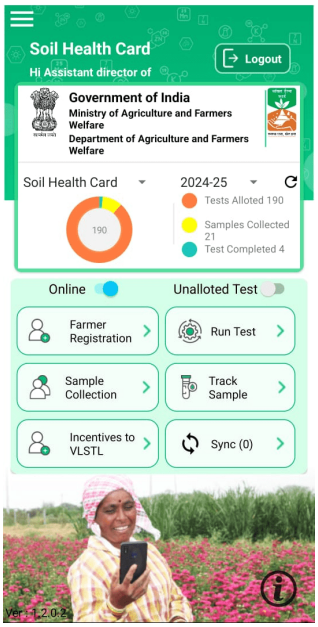
Kindly make sure all the above permissions are enabled as per procedure to avoid the interruption in the registration process

❖ You may need to enable “Allow access to manage all files” permission for all files access to store & view the offline records and press back button in the top to visit the main page



Login

- Open the SHC mobile application
- You will be navigated to login page with selection of “Soil Health Card” or “School Soil Health Card”, “User Type”, “username” and “Password”
- Choose the type in the radio button of your login
- Select User type as STL or Saathi from the dropdown menu
- Fill out all the credentials and make sure that by default the checkbox “By login, you accept to our Terms of use…” is marked or not, if not need mark the check box
- Click on “LOGIN” button



Dashboard

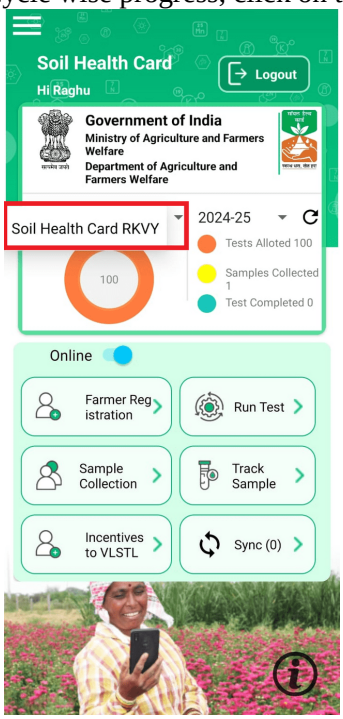
Now, the allotment count is fetched based on the scheme and cycle parameters.

Select Scheme:

To view the scheme wise progress, click on the scheme name and select the scheme name provided in the dropdown

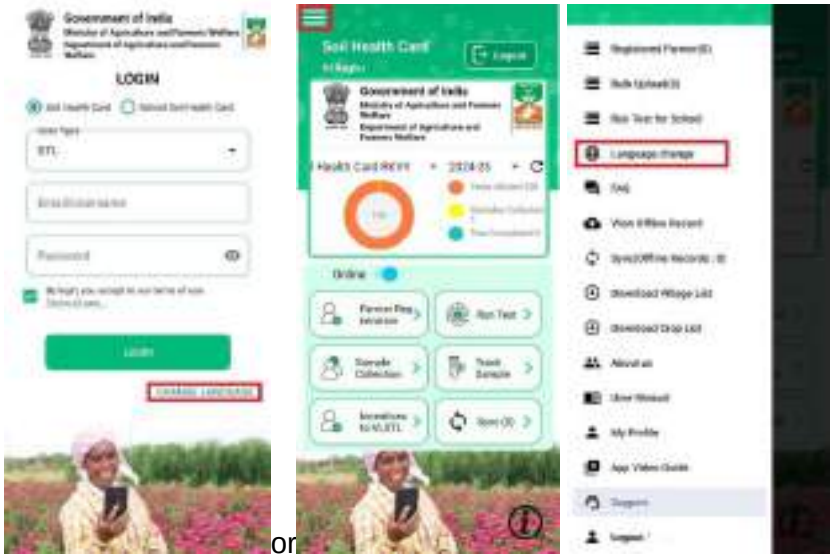
Select Cycle:

To view the Cycle wise progress, click on the year option and select the cycle provided in the dropdown



Change language

- You can change the language of your preference by clicking on the “CHANGE LANGUAGE” button from the triple bar icon in the top left corner.
- After this, you will be navigated to “Choose the language” page
- Here you will have a list of 11 languages and choose one language whichever you prefer. Click on the “OK” button.
- The App language can also be changed from the login page.

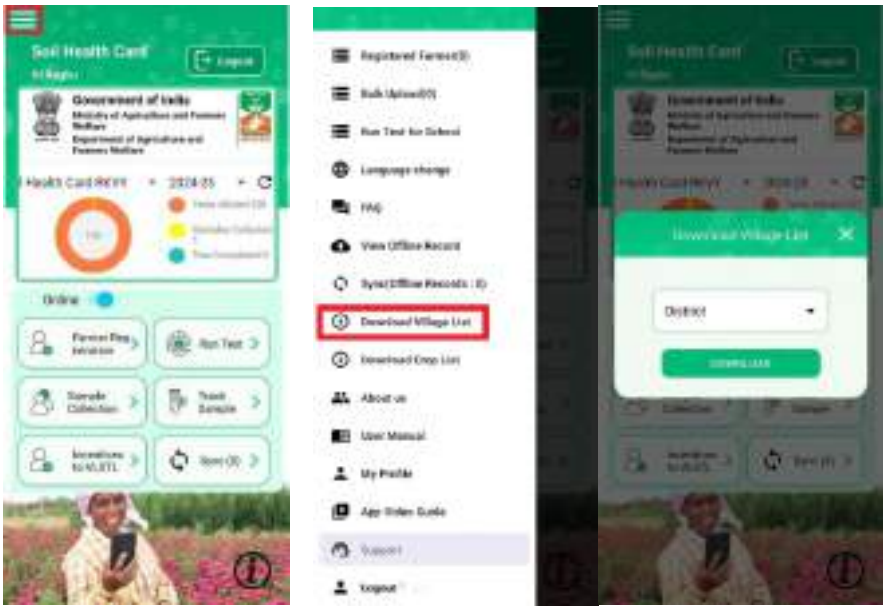


or

District selection

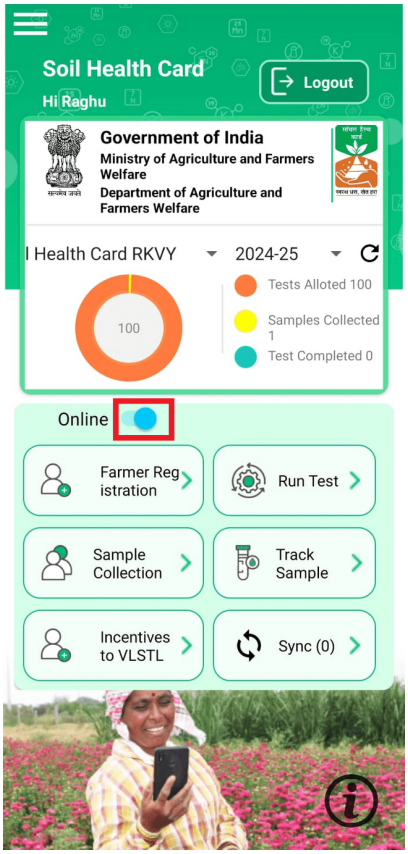
Users can register the samples from the other districts, by downloading the village list available in other districts. The procedure to download the village list is as follows:

- Click on the triple bar icon in the top left corner in the home page
- Select “Download Village List” option
- Select the district from the dropdown of where you are going to collect the samples and press “Download” to download the village list of the selected district
- If the user needs to select the village from other district, they can repeat the same process



Online and Offline Mode

- There is a toggle button provided in the home page to Register farmers and sample collection in Offline and Online mode



Unallotted Tests

Users have the option to collect soil samples without target allotment by activating the 'Unallotted Tests' feature on the home screen. Please note that these tests are not subsidized by the government, therefore testing fees must be collected directly from the farmer or landowner seeking a soil health card.
To enable unallotted tests:

1. Slide the 'Unallotted Tests' toggle to the ON position.
2. A popup will appear; press 'Yes' to confirm.
3. Once activated, users can collect samples without a target allotment.

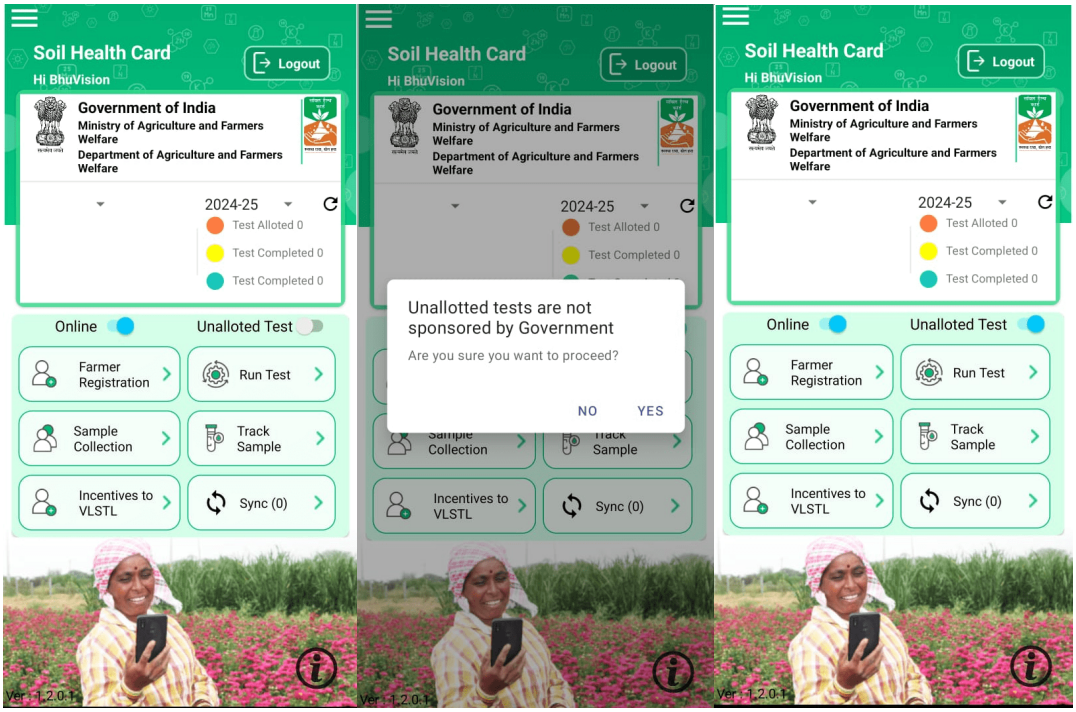


Fig. Enabling unallotted tests

Farmer Registration

(Refer Offline Farmer Registration : Page No.: 25)

User needs to add farmer details for whom the soil sample test is being conducted. The procedure to add the details of the farmers is as follows:

- Click on the “Farmer Registration” button in the home page
- Add the details of the farmer:
    - Name of the farmer
    - Preferred language of the farmer
    - Mobile number of the farmer

- Email(Optional)
- Address of the farmer: Select Block, Village, and fill Building number/ Door number etc. There is a Set default option for Block and village selection for collecting multiple samples in the same village.

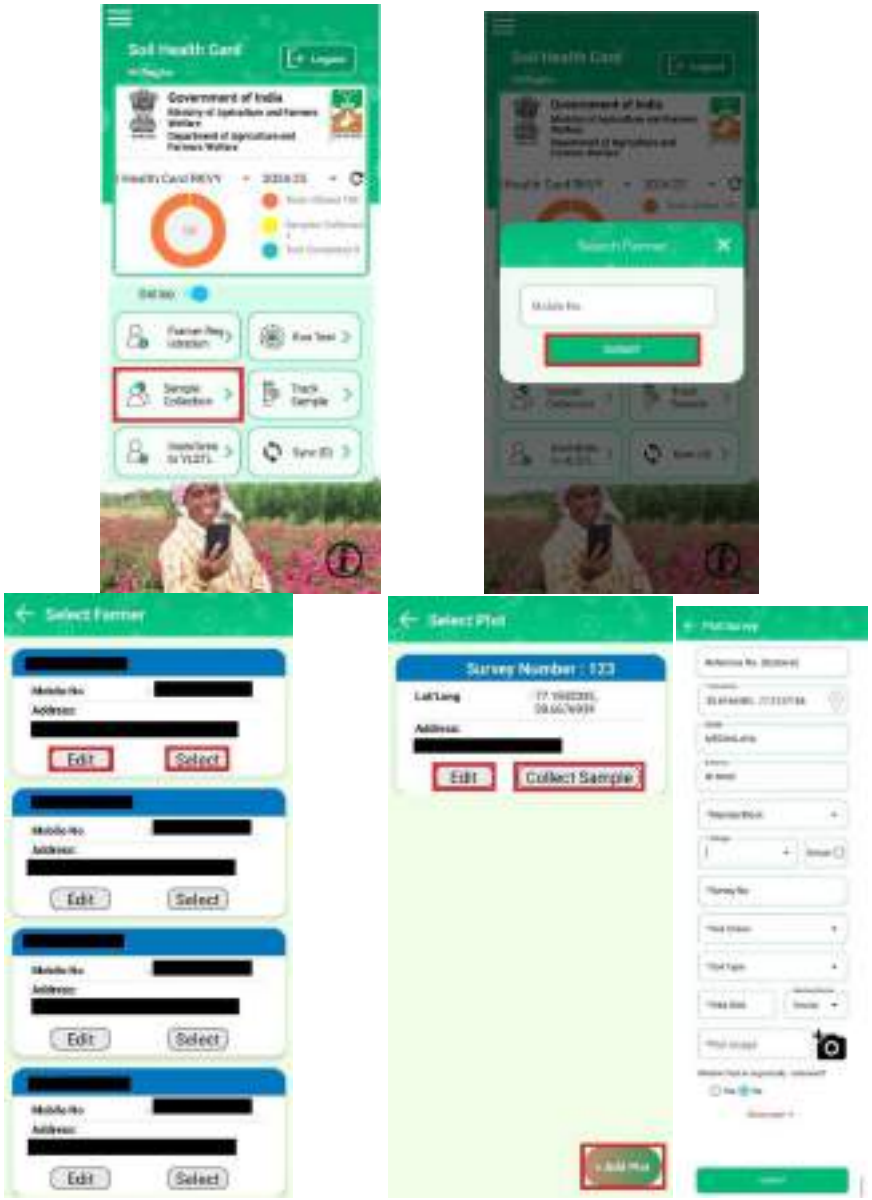
- Click on the “Submit” button. You will get a popup with “Farmer registered Successfully”

Plot Registration

(Refer Offline Sample collection : Page No.: 25)

Once the farmer details are available in the SHC database / Offline records,

- Click the **Sample Collection** button in the home page.
- Enter the Mobile Number of Registered Farmers
- To edit the farmer details click on Edit option
- To register a plot Click on Add Plot option
- If the Plot has been registered, Click on Collect sample



The user needs to add the plot that is associated with the farmer. This information is mandatory before running the tests. The following plot information are collected from a the farmer:

- Location of the plot: Geo location will be captured automatically (the field officer has to visit the field while registration). User can refresh the geo location by clicking the Map icon on the location field
- State: Based on the STL, it is auto fetched and cannot be changed
- District : Based on the STL, it is auto fetched and can be changed in the Download Village List Option
- Mandal/Block: Dropdown field
- Village: Dropdown field. (For multiple collections in the same village, Click on the Default button)
- Survey Number: The survey number of the plot being added is captured here
- Soil Color: Dropdown field (if one is unaware of this, select the option “unsure”)
- Soil Type: Dropdown field
- Area Size: The size of the plot that is being added (it can either be in acres or hectares)
- Plot Image: Need to take a picture of plot
- Whether field is organically cultivated: Yes or No
- If Certified: Yes/No
- After all the fields are filled, select “Submit” to register the sample

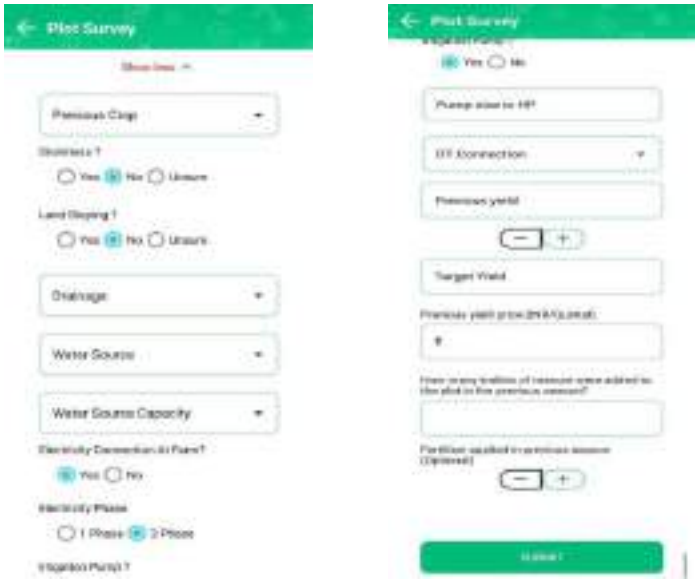
Note:

- GPS location permission is required to get the plot location
- Camera permission is required to scan the QR code and to take plot images
- If any of the app permission is turned off, user cannot register the soil sample

Optional Details:

- Click on “show more” option to add the optional details
- Previous Crop: Dropdown field (list will not be available as the sample has been registered in offline mode)
- Stoniness: A radio button. Can have the value of Yes/No. If the farmer/input operator is not sure of the same, please select “Unsure”
- Land Sloping: A radio button. Can have the value Yes/No. If the farmer/input operator is not sure of the same, please select “Unsure”
- Drainage: A dropdown field
- Water source: A dropdown field

- Water source capacity: This field appears only when the “Water Source” is NOT rainfed. It is a dropdown field
- Electricity connection at Farm: Yes/No
- Electricity Phase: This appears if the “Electricity Connection” value entered by the farmer/input operator is “Yes”
- Irrigation Pump: This appears if the “Electricity Connection” value entered by the farmer/input operator is “Yes”



- Pump Size in HP: This appears if the “Irrigation Pump” value entered by the farmer/input operator is “Yes”
- DT Connection: A dropdown field
- Previous Yield: Numeric field (Previous yield obtained)
- Target Yield: Numeric field (Target yield for the current season)
- Previous Yield Price: Numeric field (should be in INR/quintal)
- The amount of manure added: Numeric field
- Fertilizer that was applied in the previous season

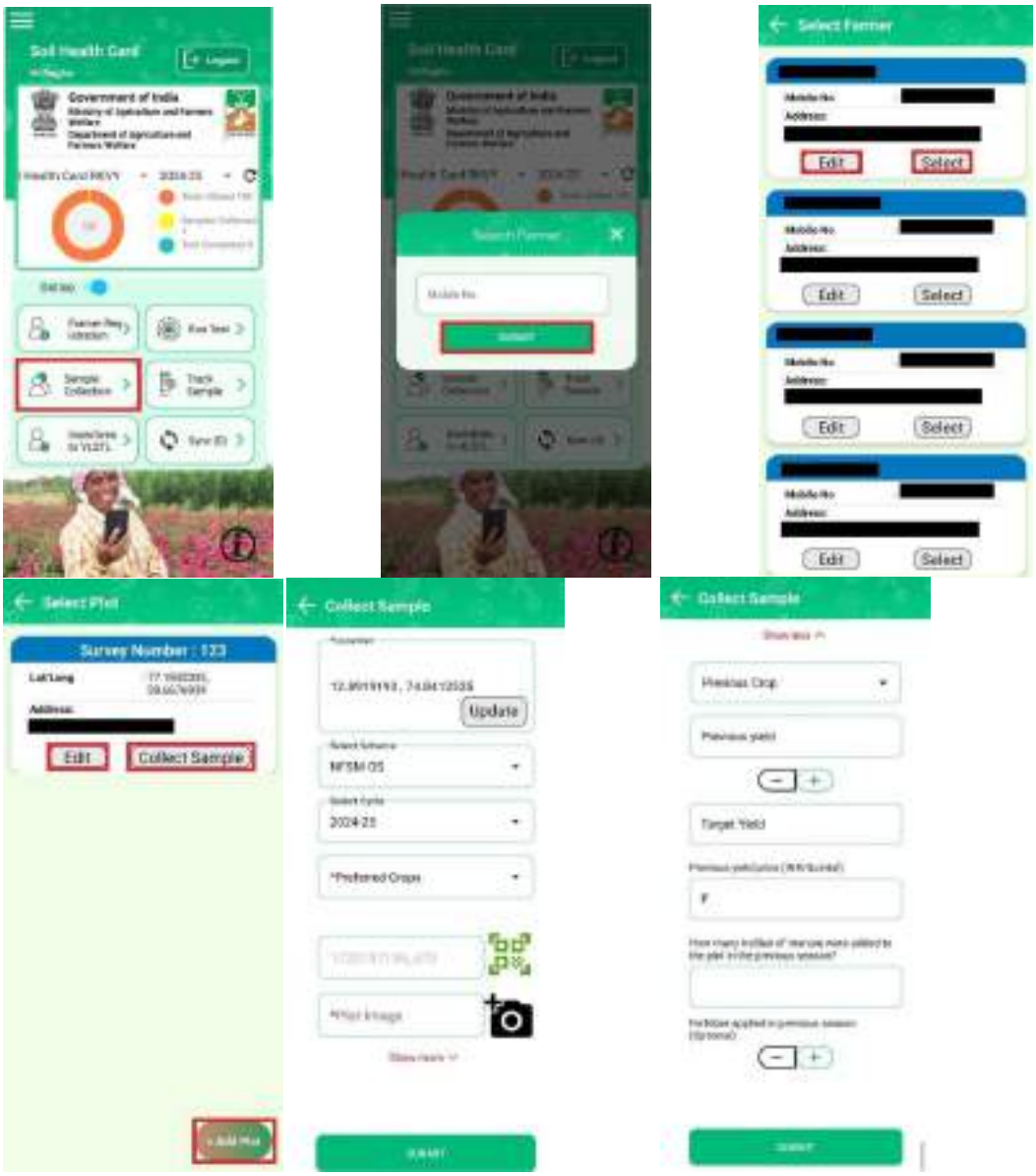
After filling the above details click on the “SUBMIT” button.

Sample Collection

(Refer Offline Sample collection : Page No.: 30)

Once the farmer details and plot details are available in the SHC database / Offline records,

- Click the **Sample Collection** button in the home page.
- Enter the Mobile Number of the Registered Farmers
- To edit the farmer details click on Edit option
- To register a plot Click on Add Plot
- If the Plot has been registered, Click on Collect sample



The user needs to add the sample details. This information is mandatory before running the tests. The following information is collected from the farmer:

- Location of the plot: Geolocation will be captured automatically (the field officer has to visit the field while registering). Users can refresh the geolocation by clicking the update button on the location field
- Select Scheme: Select the Scheme from the dropdown list accordingly.
- Select Cycle: Select the year under which the sample is to be collected
- Preferred Crops: Up to 6 Crops can be selected from the dropdown list. (If the same crops are to be selected for multiple samples, Click on the Default button)
- Click on the QR code symbol to scan the QR code
- After all the fields are filled, select “Submit” to register the sample

Note:

- ❖ GPS location permission is required to get the plot location
- ❖ Camera permission is required to scan the QR code
- ❖ If any of the app permission is turned off, user cannot register the soil sample

Optional Details:

- Click on “show more” option to add the optional details
- Previous Crop: Dropdown field (list will not be available as the sample has been registered in offline mode)

- Previous Yield: Numeric field (Previous yield obtained)
- Target Yield: Numeric field (Target yield for the current season)
- Previous Yield Price: Numeric field (should be in INR/quintal)
- The amount of manure added: Numeric field

After filling the above details click on the “SUBMIT” button.

Run Test

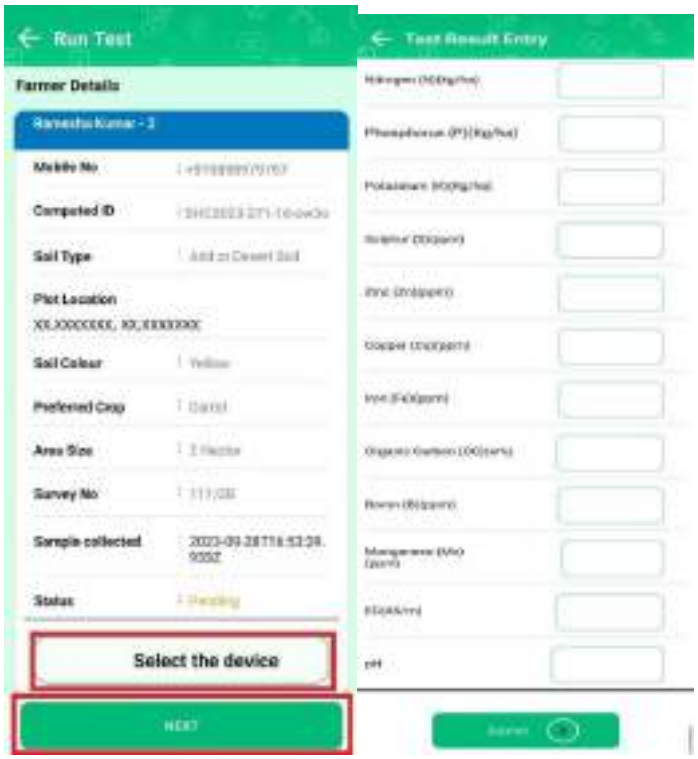
NOTE: The result entry for samples collected without QR code is to be done in the Soil health card portal using STL login.

- Option 1:Click on the “Run Test” button in the home page
    - Camera will open and scan the QR code which is uploaded during plot registration
    - After scanning the QR code, farmer details will be displayed correspond to the sample
    - Click on the Farmer name and Plot Details will be shown. Click on the plot details.
- Option 2: Click on Registered farmers option in the triple bar icon
    - Select the option “collected sample” for the respective farmer
    - Select the option “Run Test” to the respective sample
- Here we need to select the device (Click on the “Select the device” button)
- Device list will display and select the device
- Click on “NEXT” button
    - Static Lab: If you selected “Static lab” as a device, list of parameters will display and need to pass the value for all the parameters
    - Third-party app: If a third-party app is used to perform the test, the third-party app is launched to complete the test. The test results are automatically fetched to the SHC database after the completion of the test.
    - Click on the “SUBMIT” button

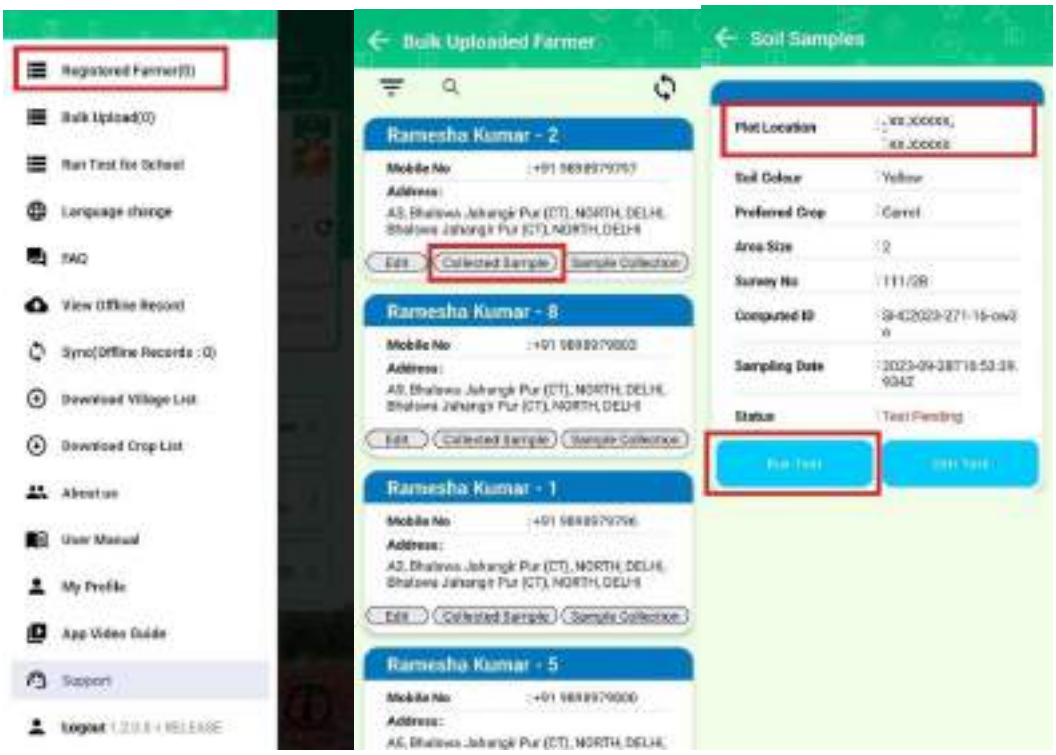
Note:

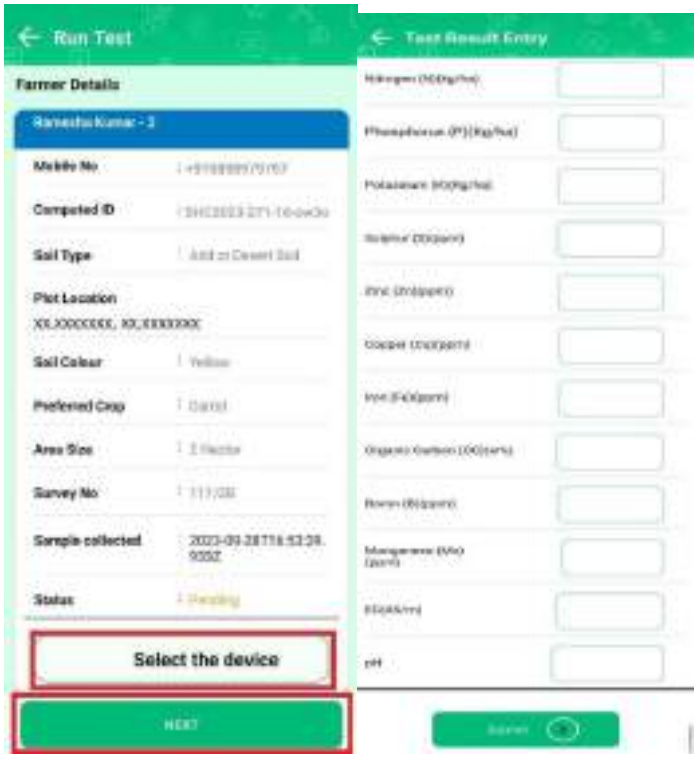
- ❖ Run Test option is enabled only to STL users. Saathi cannot run the test.

Run Test: Option 1



Run Test: Option 2

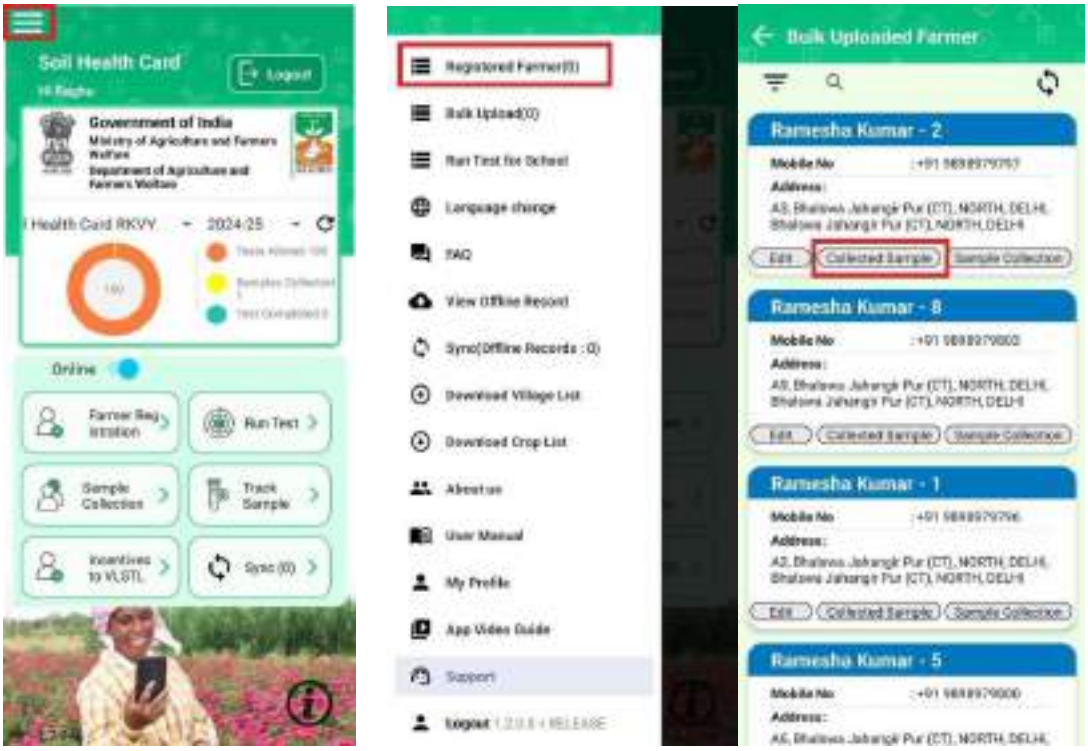

Registered Farmer(0)
Bulk Upload(0)
Run Test for School
Language change
FAQ
View Offline Report
Sync(Offline Records : 0)
Download Village List
Download Crop List
About us
User Manual
My Profile
App Video Guide
Support
Logout
Bulk Uploaded Farmer
Ramesha Kumar - 2
Mobile No
Address:
Edit
Collected Sample
Sample Collection
Ramesha Kumar - 8
Ramesha Kumar - 1
Ramesha Kumar - 5
Soil Samples
Plot Location
Soil Colour
Yellow
Preferred Crop
Carrot
Area Size
Survey No
Computed ID
Sampling Date
Status
Test Pending

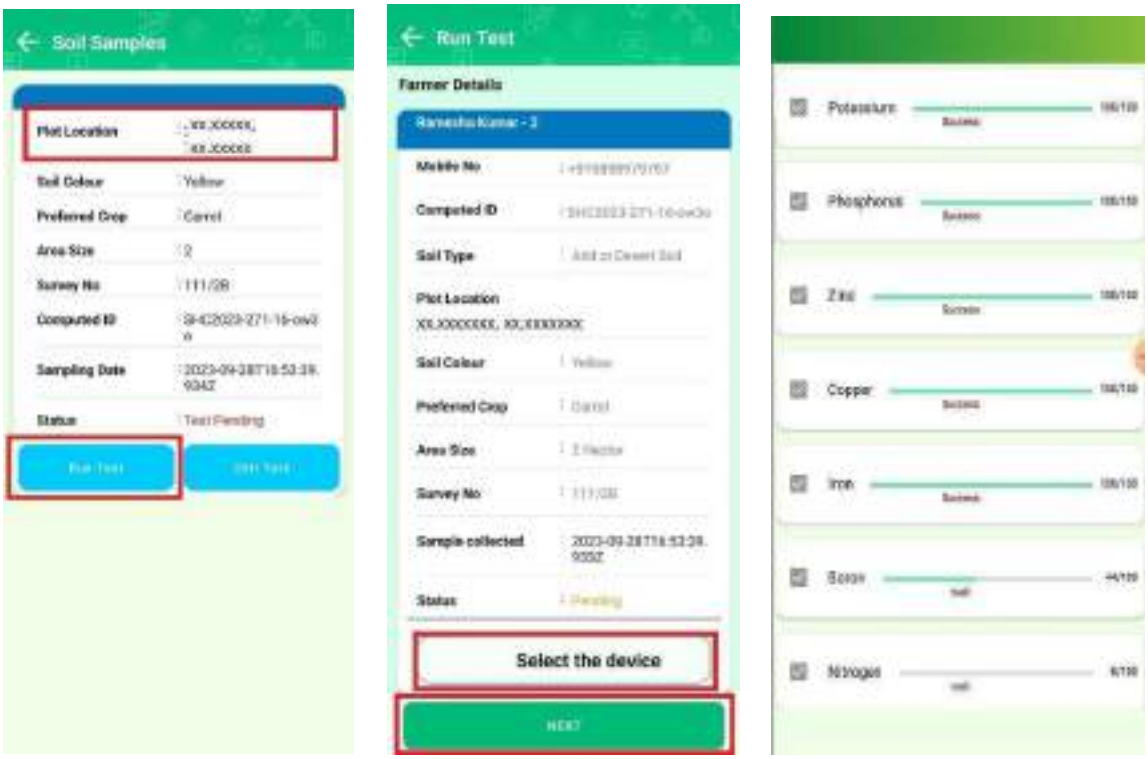

Run Test
Farmer Details
Ramesha Kumar - 3
Mobile No
Computed ID
Soil Type
Plot Location
Soil Colour
Yellow
Preferred Crop
Carrot
Area Size
Survey No
Sample collected
Status
Pending
Select the device
NEXT
Test Result Entry
pH

Run Test: Private Labs

For Private labs, the option to run the test is enabled so that the soil analysis is performed using third-party apps. To run the test follow these steps:

1. Navigate to the 'Registered Farmers' page and search for the desired farmer.
2. Click on the ‘Collected Sample’ button to view the soil samples collected for that farmer. The sample details will be displayed.
3. Click the ‘Run Test’ button to proceed.
4. The farmer's details will appear. From the dropdown menu, select the device you wish to use for the soil test, then click the ‘Next’ button.
5. A third-party application will launch. Click the ‘Accept’ button to continue.
6. Follow the guidelines provided by the device manufacturer to perform the soil analysis.
7. Once the soil analysis is completed successfully, the SHC (Soil Health Card) application will reopen displaying the test results.
8. Click the ‘Proceed’ button. After the test results are uploaded, users can view the Soil Health Card either from the ‘Registered Farmers’ page or the ‘Track Sample’ page.
9. If a test fails in the third-party application, users can simply repeat the procedure outlined to perform the tests again.





Third-party App

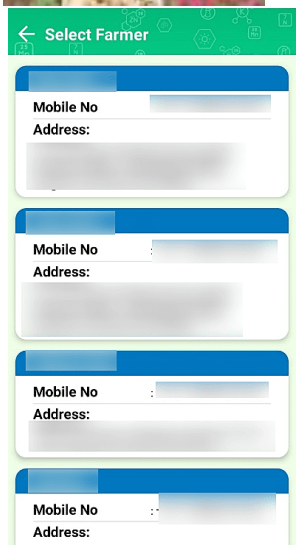
NOTE:

If the plot location and image are missing, users should utilize the edit option to update both the plot image and location.

Track Sample

Here you can check the status of your soil sample.

- Click on the “Track Sample” button in the home page
- Search farmer dialog box will display, here we need to enter the mobile number which was entered during the farmer registration, and click on “SUBMIT” button
- Farmers list which is associated with the entered mobile number will display, select the farmer and the respective plot to which you wish to check the status.
- User can edit the plot/sampe details using “Edit Test” option
- User can run the test without scanning the QR code using “Run Test” option in the track sample page



Offline Mode

In offline mode, users can do the farmer registration and collect Samples for offline registered Samples. SHC App will work in offline mode if the internet or network is not available. Users can use offline mode by selecting the online/offline toggle button.

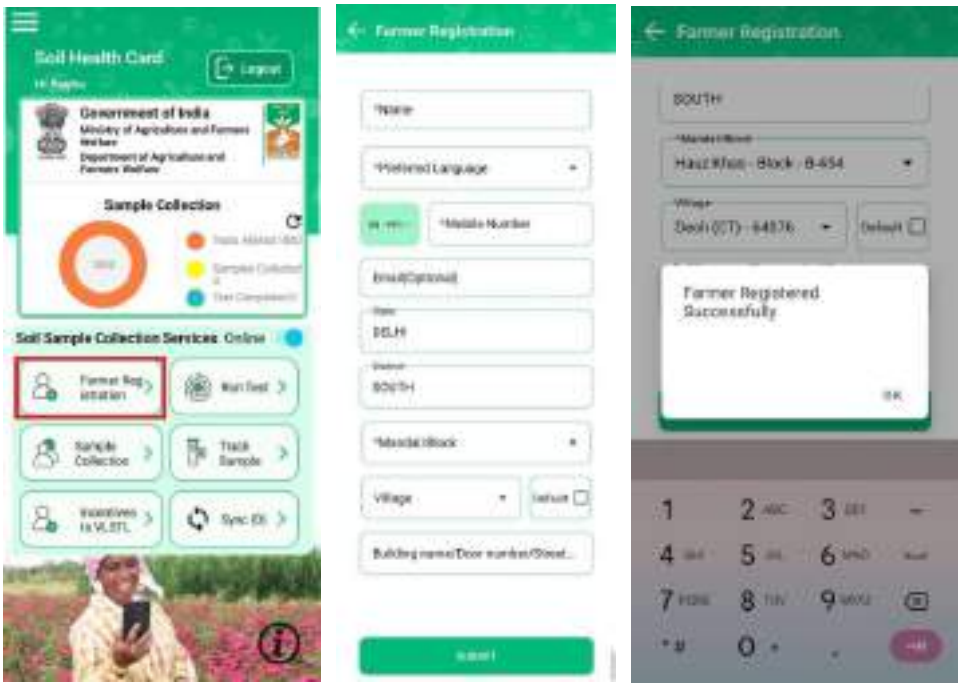
Note:

- ❖ Login has to be done while the internet is connected
- ❖ Village list for the registration should be downloaded while the internet is connected, if the sample is collected from different district

Farmer Registration

User needs to add farmer details for whom the soil sample test is being conducted. The procedure to add the details of the farmers is as follows:

- Click on the “Farmer Registration” button in the home page
- Add the details of the farmer:
    - Name of the farmer
    - Preferred language of the farmer
    - Mobile number of the farmer
    - Email(Optional)
    - Address of the farmer: Select Block, Village, and fill Building number/ Door number etc. There is a Set default option for Block and village selection for collecting multiple samples in the same village.
- Click on the “Submit” button. You will get a popup with “Farmer registered Successfully”



Plot Registration

Once the farmer details are available in the SHC database / Offline records,

- Click the **Sample Collection** button in the home page.
- Enter the Mobile Number of Registered Farmers
- To edit the farmer details click on Edit option
- To register a plot Click on Add Plot option
- If the Plot has been registered, Click on Collect sample

The user needs to add the plot that is associated with the farmer. This information is mandatory before running the tests. The following plot information are collected from a the farmer:

- Location of the plot: Geo location will be captured automatically (the field officer has to visit the field while registration). User can refresh the geo location by clicking the Map icon on the location field
- State: Based on the STL, it is auto fetched and cannot be changed
- District : Based on the STL, it is auto fetched and can be changed in the Download Village List Option
- Mandal/Block: Dropdown field
- Village: Dropdown field. (For multiple collections in the same village, Click on the Default button)
- Survey Number: The survey number of the plot being added is captured here
- Soil Color: Dropdown field (if one is unaware of this, select the option “unsure”)
- Soil Type: Dropdown field
- Area Size: The size of the plot that is being added (it can either be in acres or hectares)
- Plot Image: Need to take a picture of plot
- Whether field is organically cultivated: Yes or No
- If Certified: Yes/No
- After all the fields are filled, select “Submit” to register the sample

Note:

- ❖ GPS location permission is required to get the plot location
- ❖ Camera permission is required to scan the QR code and to take plot images
- ❖ If any of the app permission is turned off, user cannot register the soil sample

Optional Details:

- Click on “show more” option to add the optional details
- Previous Crop: Dropdown field (list will not be available as the sample has been registered in offline mode)
- Stoniness: A radio button. Can have the value of Yes/No. If the farmer/input operator is not sure of the same, please select “Unsure”
- Land Sloping: A radio button. Can have the value Yes/No. If the farmer/input operator is not sure of the same, please select “Unsure”
- Drainage: A dropdown field
- Water source: A dropdown field
- Water source capacity: This field appears only when the “Water Source” is NOT rainfed. It is a dropdown field
- Electricity connection at Farm: Yes/No
- Electricity Phase: This appears if the “Electricity Connection” value entered by the farmer/input operator is “Yes”
- Irrigation Pump: This appears if the “Electricity Connection” value entered by the farmer/input operator is “Yes”
- Pump Size in HP: This appears if the “Irrigation Pump” value entered by the farmer/input operator is “Yes”
- DT Connection: A dropdown field
- Previous Yield: Numeric field (Previous yield obtained)
- Target Yield: Numeric field (Target yield for the current season)
- Previous Yield Price: Numeric field (should be in INR/quintal)
- The amount of manure added: Numeric field
- Fertilizer that was applied in the previous season

After filling the above details click on the “SUBMIT” button.

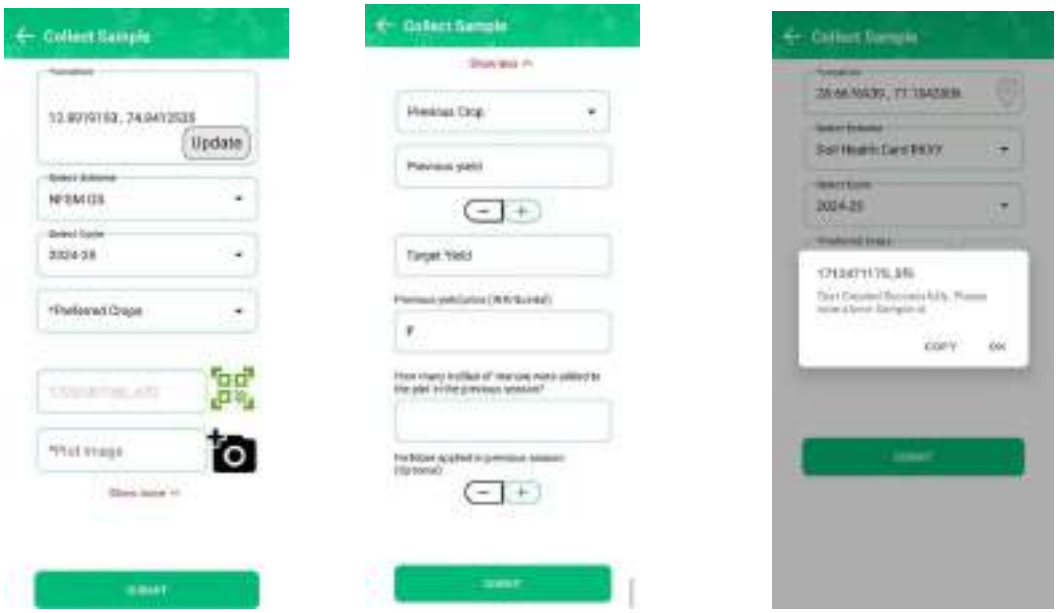
Plot Survey
Previous Crop
Drainage
Water Source
Water Source Capacity

Plot Survey
Pump size in HP
ST Connection
Previous yield
Target Yield

Sample Collection

Once the farmer details and plot details are available in the SHC database / Offline records,

- Click the **Sample Collection** button in the home page.
- Enter the Mobile Number of Registered Farmers
- To edit the farmer details click on Edit option
- To register a plot Click on Add Plot
- If the Plot has been registered, Click on Collect sample



The user needs to add the sample details. This information is mandatory before running the tests. The following information are collected from a the farmer:

- Location of the plot: Geo location will be captured automatically (the field officer has to visit the field while registration). User can refresh the geo location by clicking the Map icon on the location field
- **Select Scheme**: Select the Scheme from the dropdown list accordingly.
- **Select Cycle**: Select the year under which the sample is to be collected
- Preferred Crops: Upto 6 Crops can be selected from the dropdown list. (If the same crops are to be selected for multiple samples, Click on the Default button)
- QR code cannot be scanned in offline mode
- After all the fields are filled, select “Submit” to register the sample
- Pop up message with a sample ID will be displayed. Note down the sample ID and click on OK

Note:

- ❖ GPS location permission is required to get the plot location
- ❖ Camera permission is required to scan the QR code
- ❖ If any of the app permission is turned off, user cannot register the soil sample

Optional Details:

- Click on “show more” option to add the optional details

- Previous Crop: Dropdown field (list will not be available as the sample has been registered in offline mode)
- Previous Yield: Numeric field (Previous yield obtained)
- Target Yield: Numeric field (Target yield for the current season)
- Previous Yield Price: Numeric field (should be in INR/quintal)
- The amount of manure added: Numeric field

After filling the above details click on the “SUBMIT” button.

View Offline Record:

- Click on the triple bar icon in the top left corner in the home page
- Click on “View Offline Record”
- The list of offline registered farmers details is shown on the screen.

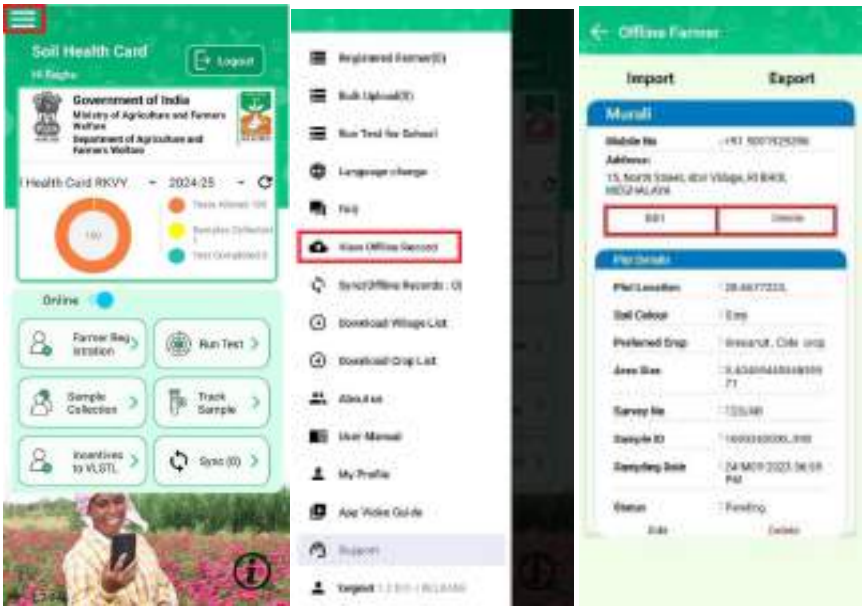
Note:

- After Import, the user will not be able to see the offline records, if the samples are collected 1.1.20.1 or earlier, due to addition of block feature from 1.1.21.0
- If the samples cannot be synced, it can be exported again and share it to our customer support team

Edit/Delete Details of Farmers Registered:

The details of the farmers collected in offline mode like name, Mobile number & Address can be edited. The offline farmers registered can also be deleted before Syncing to the server.

- Click on the triple bar icon in the top left corner in the home page
- Click on “View Offline Record”
- Click on the Edit button below the farmer details
- Edit the Farmer details and click Submit button
- Click the Delete button to delete the offline registered farmer details.

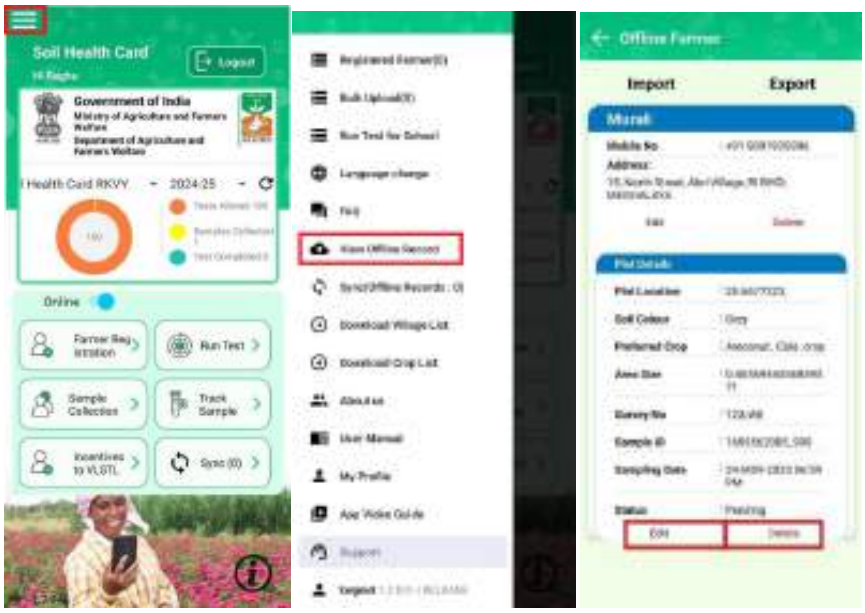


Edit/Delete Details of Sample collection:

The details of the samples collected in offline mode like Crop, Village, soil details & survey number

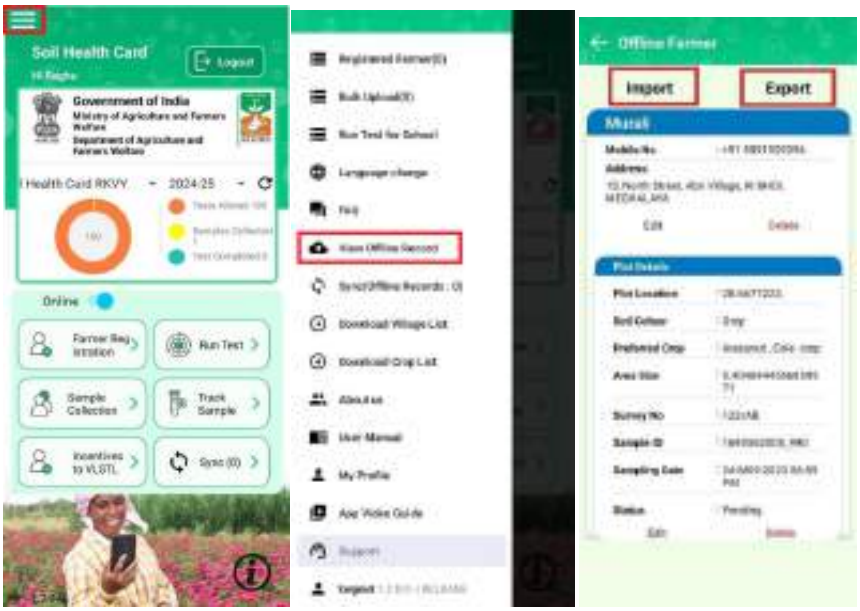
can be edited. The offline samples registered can also be deleted before Syncing to the server.

- Click on the triple bar icon in the top left corner in the home page
- Click on “View Offline Record”
- Click on the Edit button below the plot details
- Edit the sample details and click Submit button
- Click the Delete button to delete the offline samples registered

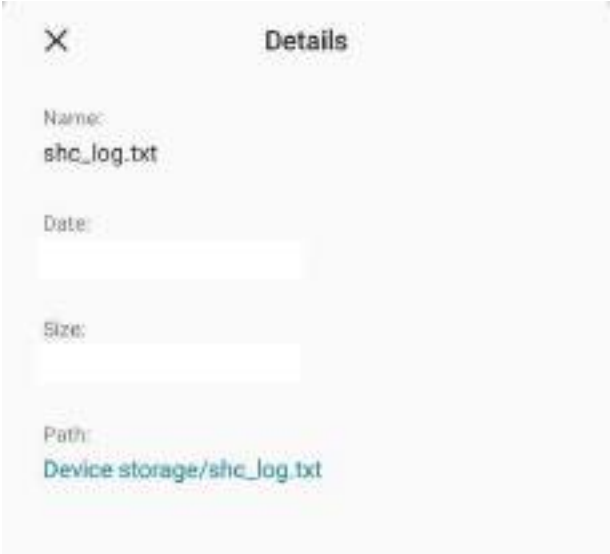


Import / Export the Offline Records:

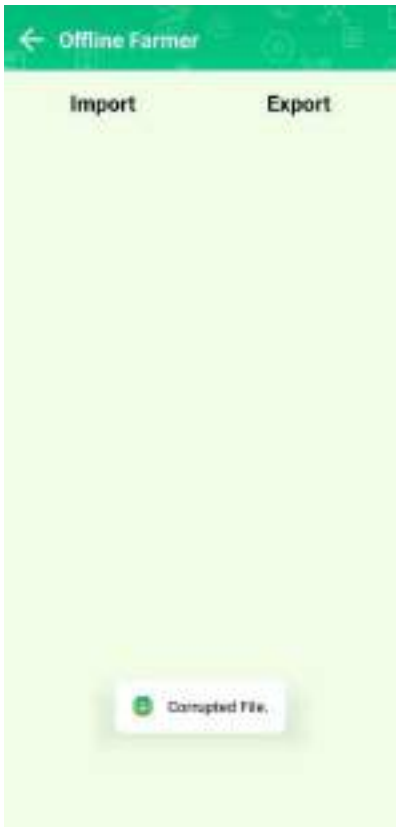
- Click on the triple bar icon in the top left corner in the home page
- Click on “View Offline Record”
- Click on “Export”



- Users can export the data collected in offline mode, if they face any issues during synchronization.
- Export can be done in different mediums (ex: e-mail, whatsapp, etc.)
- Export file will be in **txt** format
- After the export, If the file is not shared, find the json formatted file in below path in your mobile



- Click on “Import” to import the last exported file of the same Login. If the user logs in with a different ID the log file will not get imported, and “Corrupted file” message will be displayed.



Sync offline registered data to online:

- Users have to sync the data to upload online and to view in track samples. Users are restricted to sync the data only between 5PM to 10AM

- To Sync the data collected in offline mode to the SHC server, you need a stable internet connection. Turn on the internet.
- Click on the triple bar icon in the top left corner in the home page
- The number of records collected in offline mode is displayed in front of the Sync button. Press the Sync
- “Uploading Data” will be displayed.
- After a few seconds (depending on the number of farmers registered & samples collected in offline mode), “Sync successful” message is displayed.
- If “Error connecting server, please try again” is displayed on the screen. Click the Sync button again.

or

Sample Collection under Incentive to VLSTL:

- Once the farmer details are available in the SHC database / Offline records, click the **Incentive to VLSTL** button in the home page.
- Click on “Sample Collection under Incentive to VLSTL”
- Enter the mobile number and click “Submit” button to start registering the sample
- Separate dashboard is available for Incentive to VLSTL page

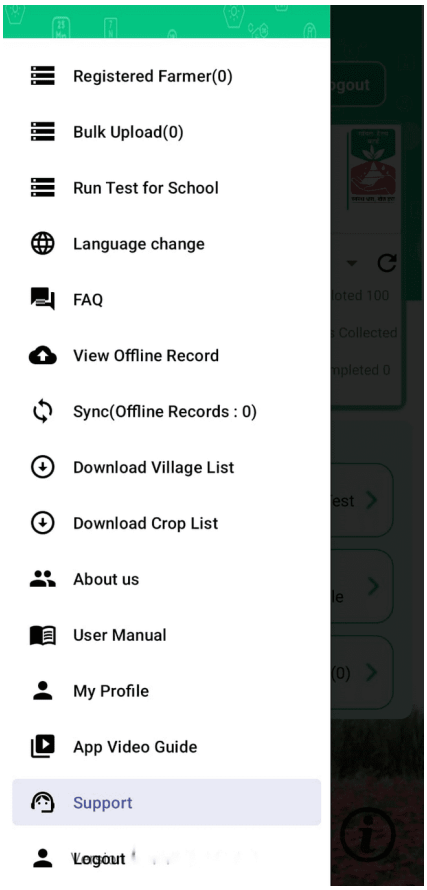
Note:

❖ Only Village Level STL user can access this page for the sample collection

- Follow the same procedure of sample collection to register the plot under Incentive to VLSTL

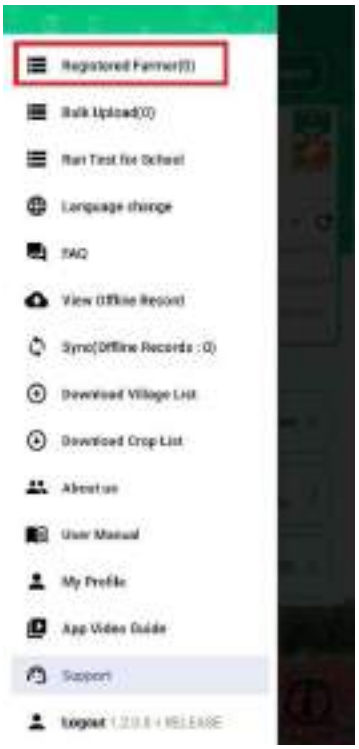
Triple Bar Icon Options

- Registered Farmers (0)
- Bulk Upload (0)
- Run Test for School
- Language Change
- FAQ
- View Offline Record
- Sync (Offline Records: 0)
- Download Village List
- Download Crop List
- About us
- User Manual
- My Profile
- App Video Guide
- Support
- Logout



Registered Farmer’s List:

- Users can view/Edit the online registered farmers under the STL/Saathi login
- Click on the triple bar icon in the top left corner in the home page



- Users can edit the online registered farmer’s details
  - Select “Edit” option under the farmer’s details
  - Modify the details and Submit to update the details
- Users can track the sample under this section of the particular farmer
- Users can also collect the soil sample under this section of the particular farmer
- Registered Farmer page can be sorted by
  - Date
  - Farmer Name
  - Village
  - Samples collected / Samples not collected
- Select the sort option and click “Apply filter”. If you want to clear the filter, click “Clear” button on the filter page
- Registered Farmer page can also be sorted by
  - Allotted/Unallotted
  - Scheme
  - Cycle
- Registered Farmer page can be filtered by
  - Farmer name

- Mobile number
- If the farmer's list is not updated, "Refresh" button is available to update the registered farmer's page

Bulk Upload:

- Users can access the bulk uploaded data of farmer registration and sample collection uploaded in the STL login under Bulk upload (2023-24) option in the admin panel
- STL users cannot Run the test of bulk uploaded data of 2023-24 until STL/saathi users update the plot geolocation and the plot image by visiting the field using the mobile application.

Procedure to upload the excel file by the STL user:

Step1: Download Sample file By clicking on Download Excel file
Step2: Fill the Sample File
Step3: Select Farmer's District, Sub district, Village and Crops(Upto 6 crops) and results.
Step4: Click on Upload File button and Upload the file
Step5: Click on Submit button
Step6: After upload is successful, use the export option in the 'Soil Health Cards' page and check if all the records are uploaded. If any records are missing in exported file, upload only missing records separately in the excel file

Procedure to download the bulk upload data in mobile app:

- Click on the triple bar icon in the top left corner in the home page
- Click on “Bulk Upload”
- Click on the Download button.
- Select the Block and Village and Download.
- To update the Plot details of the Farmers
- Click on “Collected Sample”
- Select “Edit Test” button
- By default location will be displayed as 0.0, 0.0
- Click on map button in the location field to refresh the geo location
- Verify all other fields uploaded using excel file such as mandal, preferred crops, survey no, soil color, soil type
- Take the plot image
- Note down the sample ID available in the QR code field
- Click “submit” to update the plot details
- Once the plot details has been updated, this farmer details and sample details will be enabled in the Registered farmer’s page for

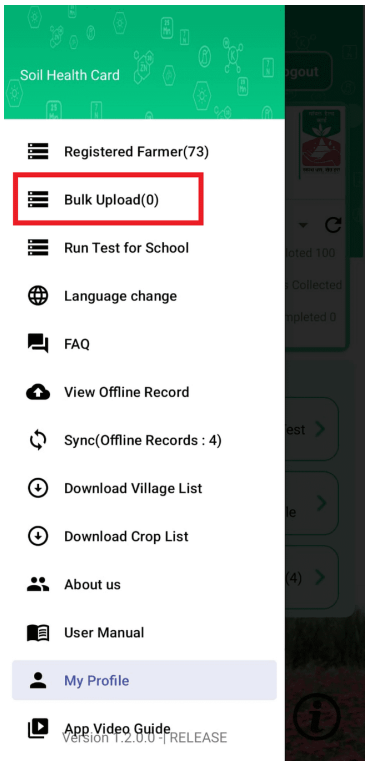
Procedure to update the plot location and image:

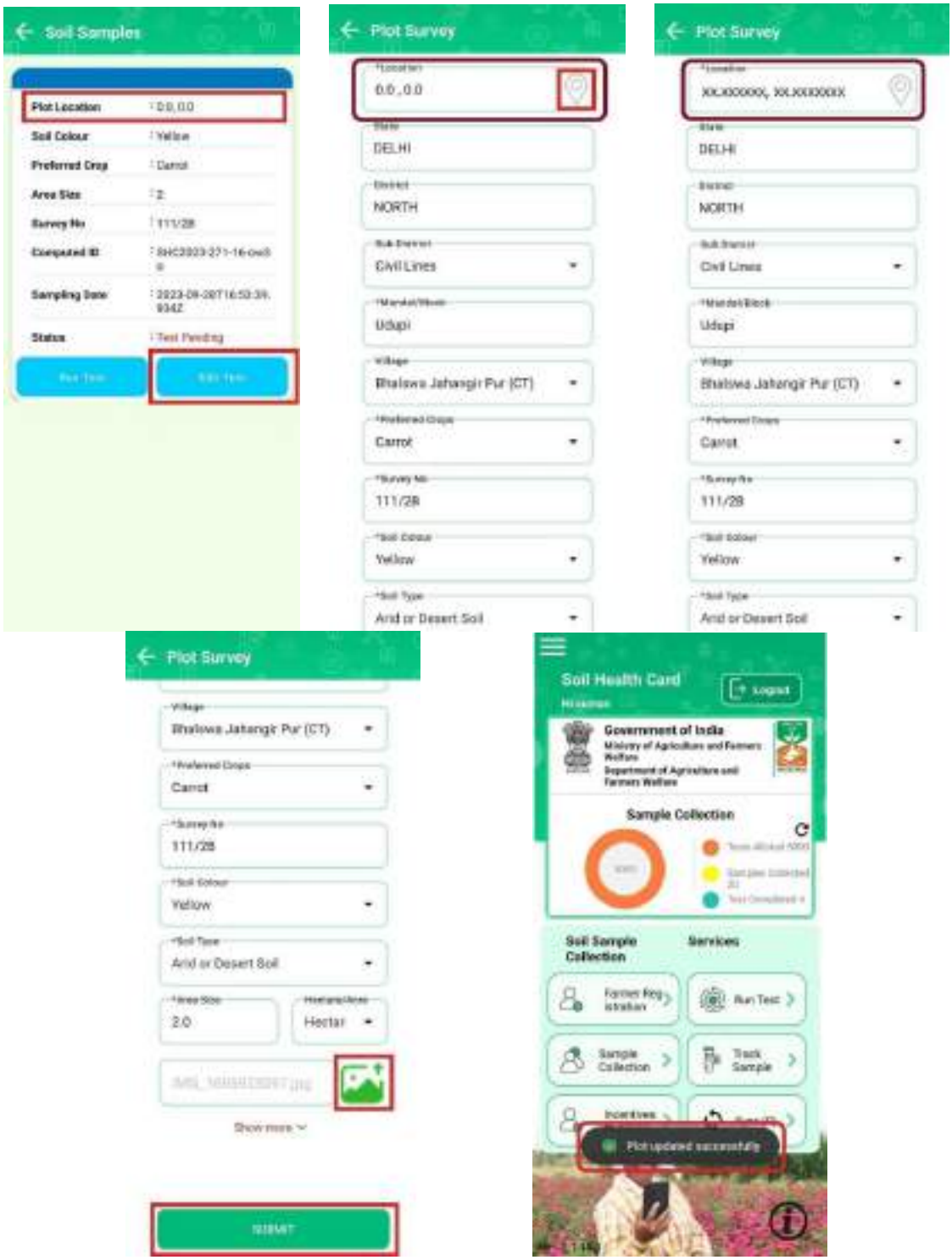
- Click on the triple bar icon in the top left corner in the home page
- Click on “Bulk Upload”
- Click on “Collected Sample”
- Select “Edit Test” button
- By default location will be displayed as 0.0, 0.0
- Click on map button in the location field to refresh the geo location
- Verify all other fields uploaded using excel file such as mandal, preferred crops, survey no, soil color, soil type
- Take the plot image
- Note down the sample ID available in the QR code field

- Click “submit” to update the plot details
- Once the plot details have been updated, this farmer details and sample details will be enabled for printing the Soil health card.

Note:

- ❖ User cannot Run the test in Bulk Upload option
- ❖ User cannot Run the test in Registered farmer page without updating the plot details in Bulk Upload



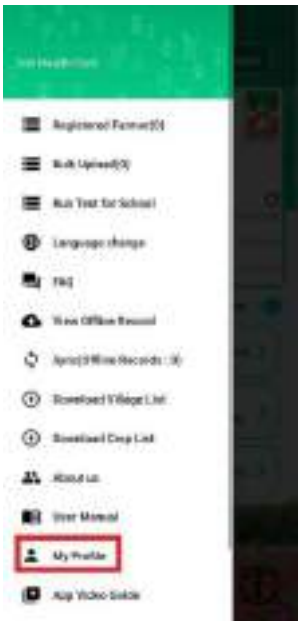

Soil Samples
Plot Location
Soil Colour
Yellow
Preferred Crop
Carrot
Area Size
Survey No
111/28
Sampling Date
Status
Test Pending
Plot Survey
0.0 , 0.0
DELHI
NORTH
Civil Lines
Udupi
Bhalswa Jahangir Pur (CT)
Carrot
111/28
Yellow
Arid or Desert Soil
Plot Survey
XX.XXXXXX, XX.XXXXXXX
DELHI
NORTH
Civil Lines
Udupi
Bhalswa Jahangir Pur (CT)
Carrot
111/28
Yellow
Arid or Desert Soil
Plot Survey
Bhalswa Jahangir Pur (CT)
Carrot
111/28
Yellow
Arid or Desert Soil
2.0
Hectar
Show more
SUBMIT
Soil Health Card
Logout
Government of India
Sample Collection
Soil Sample Collection
Services
Farmer Registration
Run Test
Sample Collection
Track Sample
Incentives
Plot updated successfully

Note:

Soil Samples
Plot Location
Soil Colour
Preferred Crop
Area Size
Survey No
Computed ID
Sampling Date
Status

My Profile:

- Users can view their profile details in My Profile option
- They can also check their sample collection status in each scheme and cycle

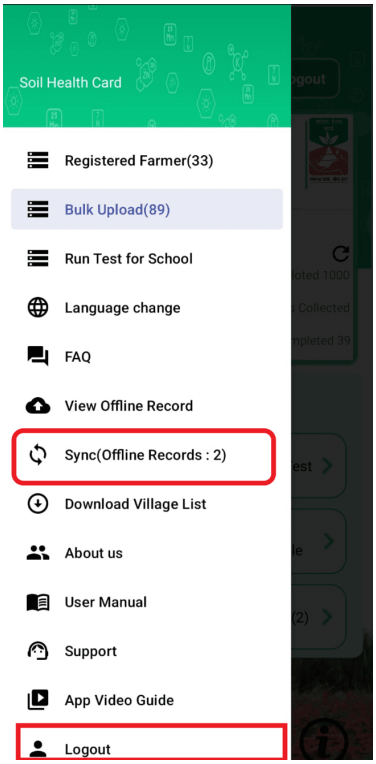


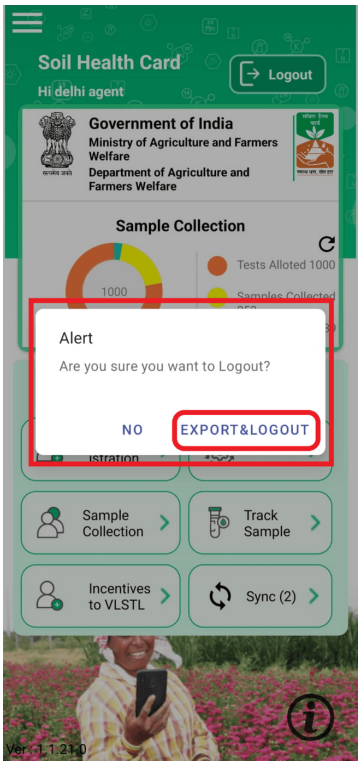
Instructions for offline registration:

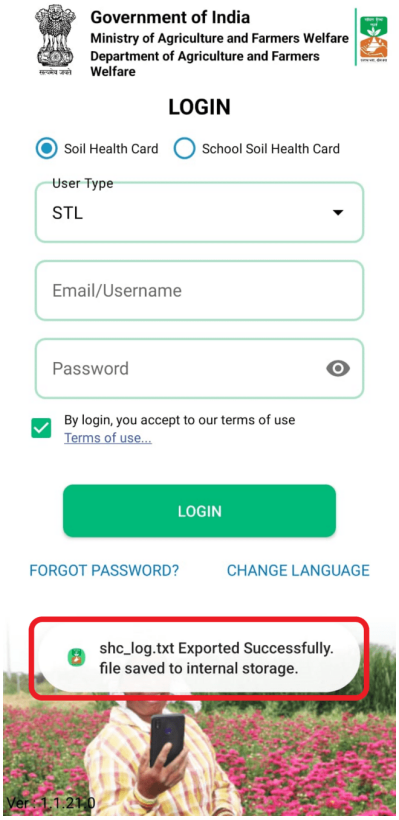
1. In offline mode, the data is stored in the phone's local memory. In case App data is cleared from settings by the user, the offline data will be lost if not synced. So users must Sync offline data or Export offline data before clearing App data.
2. Offline app data will be lost if the user logs out if data is not synced before logout. A message is displayed if the user tries to logout when offline data is still in the local memory.
3. Do not collect huge amounts of records offline like 100s of samples without syncing the data to the server. In case if the data is lost because of any of the reasons stated in 1, 2, 3, the offline data can not be recovered at any cost.
4. It is advised to use the offline mode to collect only 10-20 samples and whenever net connectivity is available, please Sync the data to the server. Understand the offline mode by collecting 5-10 samples by turning off the internet to understand how it works. Then Sync the data by connecting to the Internet. After Sync, check the sample collection status by using Track Sample.
5. App login will not work in offline mode. Users need to login to the app when connected to the internet only.
6. QR scan is disabled in offline mode. QR scan is not needed in offline mode. After submission, a Sample ID is displayed on the screen. This Sample ID must be noted and needed for the Run Test. Option to scan QR or entry of Sample ID in 'Run Test' will be given in the upcoming update.
7. Users can use offline mode by turning off the mobile data/internet in case of server congestions or slow response from server. Frequently sync the data in case more data is collected in offline mode.

Logout Option

- You can logout from the application by clicking on the “Logout” button available at the top right corner of the home page.
- You can also logout from the application by clicking on the triple bar icon in the top left corner of the home page
- In the menu option, select“Logout”
- In the confirmation dialogue box, select on “OK” *(please ignore the message: data present in local will be lost, sync before logout)*
- In the Alert dialogue box, select “ EXPORT & LOGOUT” option to export the offline records, if any available
- You will then be redirected back to the login page and you can either enter a new username/password or again log back in with the same credentials
- After logging in there will be a popup message asking to import the exported file. (if there was any exported file while logging out)
- If you want to import the files then click on IMPORT, If not then click on DON’T IMPORT.







Technical Support

If you have any queries related to the usage of the mobile application, please send us an email at: soilhealthcard.support@krishitantra.com

Alternatively, you can raise a ticket by visiting our support page at:

https://support.soilhealth.dac.gov.in/

****

Annexure-XXXV

Citizen Charter

File No. 10-3/2023-Fert Use (127715)
Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture & FW
(Fert Use Cell/ INM Division)

Krishi Bhawan, New Delhi-110001
Dated the 25th October, 2023

OFFICE MEMORANDUM

Subject: Citizen Charter for Soil Testing and Issue of Soil Health Card by States/ UTs under Soil Health & Fertility of RKVY-cafeteria scheme- reg-

The undersigned is directed to refer to the above subject and to enclose a copy the Citizen Charter for Soil Testing and issue of Soil Health Card under Soil Health & Fertility of RKVY-cafeteria scheme for necessary action.

(Chandra Shekhar Prasad)
Under Secretary to the Govt. of India

Encl: As above.

To

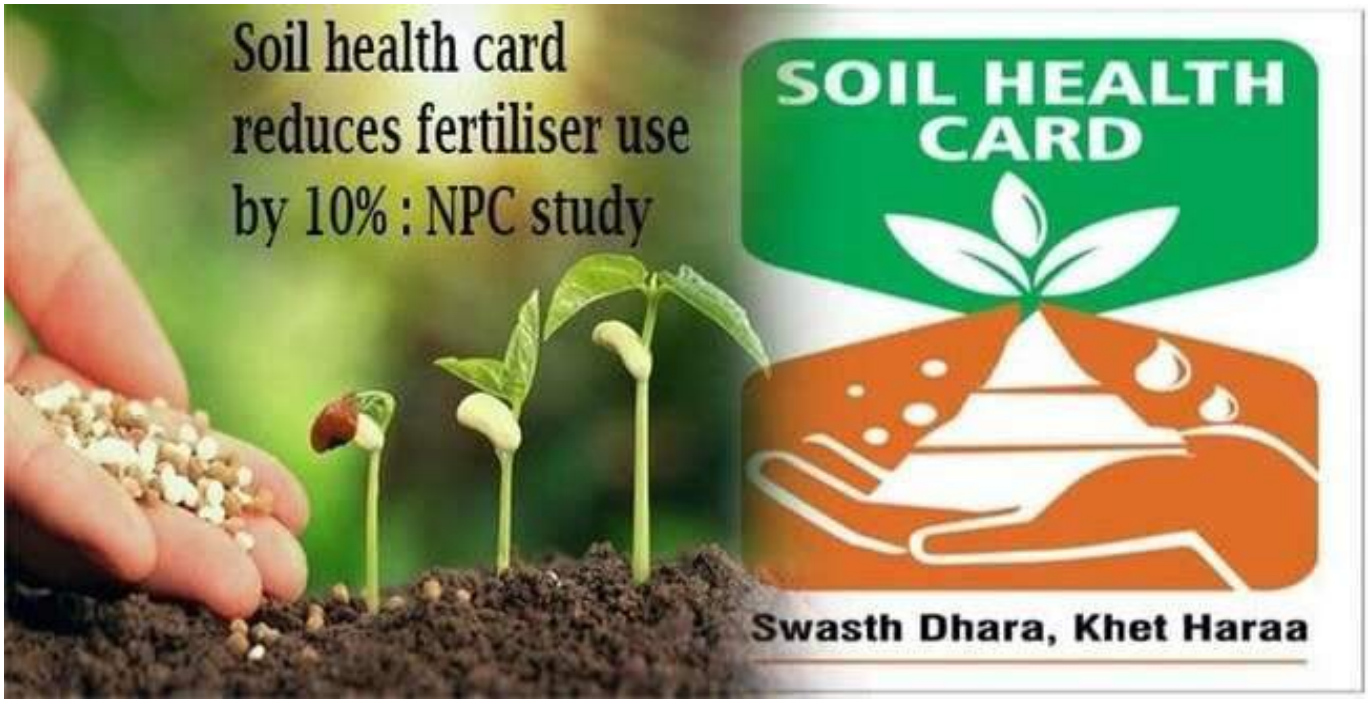
1. All Principal Secretary/ Secretary (Agriculture), State Governments/UTs
2. All Directors (Agriculture), State Governments/UTs
3. All Nodal Officers (Soil Health card Scheme), State Governments/UTs

Copy to:

i. PPS to JS (INM)
ii. Assistant Director General (Soil & Water Management), ICAR-Natural Resource Management Division, KAB-II, Pusa, New Delhi – 110 012
iii. M/s Klonec Automation Systems Private Limited, 402, 4th Floor, Ajanta Business Centre Bejai Kapikad Mangaluru-575004 Karnataka. Email: sandeep.kondaj@krishitantra.com with a request to upload on the Soil Health Card Portal.

CITIZEN CHARTER

(Soil Testing and Issue of Soil Health Card)



Soil sample collection, processing, analysis and issue of Soil Health Card to individual farmers with details of personal information, soil health parameters and recommendation within 25 days (30 days in case of Hilly & NE states) of soil sample collection. Creation of awareness among the farmers about the Soil Health Card parameters and the recommendations given at the time of issuing of Soil Health Card for soil and crop management.

FLOW CHART

1. Soil Sampling

25-30 representative samples of 1/2 kg (composite of 3 samples) per day (April-June) or (October-November) per soil survey group.

↓

2. Soil Sample Processing

Drying, removing impurity/mixing/lebelling, grinding and storing 100-150 samples/week

↓

3. Soil Sample Analysis

100 samples/week (20-25 samples per day) pH, EC, Organic C, Available N, P, K, S, Fe, Mn, Zn, Cu and B as per standard lab procedure

↓

4. Generation of Soil Health Card (SHC)

100 SHC in 2 days by data entry, preparation and printing

↓

5. Farmers awareness campaign on SHC

250 Farmers in One months (Through training programmes, mass awareness campaign and use of social media etc.

Soil Sample Analytical Protocol/ Method

S. No	Parameters	Test Method	Unit
1	pH (2% solution) at 25°C	Glass electrode pH meter	Number scale
2	Electrical Conductivity (2% Solution) at 25°C	EC Meter	dS/m
3	Organic Carbon (oven dried sample)	Volumetric Method (Walkley and Black,1934)	w%
4	Nitrogen as N	Kjeldahl Digestion Method	Kg/ha
5	Phosphate as P2O5	Bray's & Kurtz 1945 (For Acidic Soil)/ Olsen's 1954 Method (For Alkaline Soil)	Kg/ha
6	Potassium as K2O	Flame Photo Meter	Kg/ha
7	Sulphur as 'S'	Barium Sulphate Method by Calculation	ppm
8	Zinc as 'Zn' oven dried sample	Digestion Followed by AAS	ppm
9	Copper as 'Cu' oven dried sample	Digestion Followed by AAS	ppm
10	Iron as 'Fe' oven dried sample	Digestion Followed by AAS	ppm
11	Manganese as 'Mn' oven dried sample	Digestion Followed by AAS	ppm
12	Boron as 'B' oven dried sample	Digestion Followed by AAS	ppm

****

Annexure- XXXVI

Manual for Soil Health Card Portal

Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture and Farmers Welfare

Soil Health Card

Portal, Admin Panel User Guide

Version 1.1

Updated on: 01/04/2023

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About Admin Panel: 4
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Crop Details 18
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GFR - Macronutrients 21
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INTRODUCTION

"Soil Health Card (SHC)" Scheme is a Government of India's scheme promoted by the Department of Agriculture, Co-operation & Farmers Welfare under the Ministry of Agriculture & Farmers Welfare. It is being implemented through the Department of Agriculture of various States and Union Territory Governments.
A Soil Health Card gives the nutrient status of soil of Farmers land holdings, along with the fertilizers recommendations and soil amendments needed to maintain soil health in the long run.

Soil Health Card portal is a Web based Workflow Application to generate Soil Health Cards in a uniform format throughout the country. It provides provision for Soil Sample Registration, Test Results entry, Automatic calculations of the fertilizers recommendations based on General Fertilizers Recommendations provided by States and finally, generation of Soil Health Card in local languages.

Soil Health Card Application consists of five major modules:-

- User Registration and its approval by State Administrator
- Sample Registration
- Test Result Entry by Analyst
- Fertilizer Recommendation
- Soil Health Card Generation

This document gives detailed instructions regarding the operations of the Soil Health Card portal.

About SHC Portal

SHC Web portal is available at URL: https://soilhealth.dac.gov.in/. The soil health card portal provides all the information needed about the Soil Health Card Scheme. Following features are available in the SHC Portal:

- Soil Maps with state-wise nutrient details
- Scheme progress and progress of portal entry
- Login to Admin Panel
- Farmers corner to Track soil sample, print soil health card, fertilizer dosage for crop, and locate soil testing laboratory
- Technical documentations, Guidelines & Downloads
- Directories & E-learning
- Contact details

About Admin Panel:

The salient features of the SHC admin panel are:

- Create Authorities like state, district authorities
- Soil testing labs run by Village Level entrepreneurs (VLEs)
- Every level of authority is managed by users. Users are assigned with a list of permissions to manage their roles.
- Each authority gets assigned with a number of allotted tests to be completed before the expiry date. After the completion of the tests, the authority gets payment which are then paid to the low-level authorities and Soil Testing Labs (STLs)
- The Vendors and device manufacturer's empanelment for inclusion of their services related to Soil Health Card.
- The Village Level Entrepreneurs (VLEs) need to use the soil sample collection App to perform the soil tests under the SHC portal.

The following sections give detailed overview and operational guidelines of the admin panel.

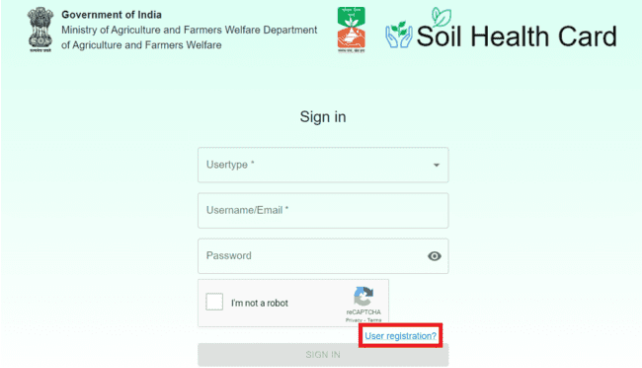
Admin Panel

Accessing SHC Admin Panel

To login, enter the URL: **https://soilhealth.dac.gov.in/** and click on **Login** button at the right-side top of the window, And select the Central, State, District, STLs option.

User Registration

For new user registration, the user has to click the User Registration option in the Login page. New users need to fill in the registration form and click on the Submit button. Once the Admin approves the request, The user will be able to operate the login.



User Login

In the login page, select your User Type, enter User Name and Password. Click on the I'm not a robot option and press **the Sign In button.**

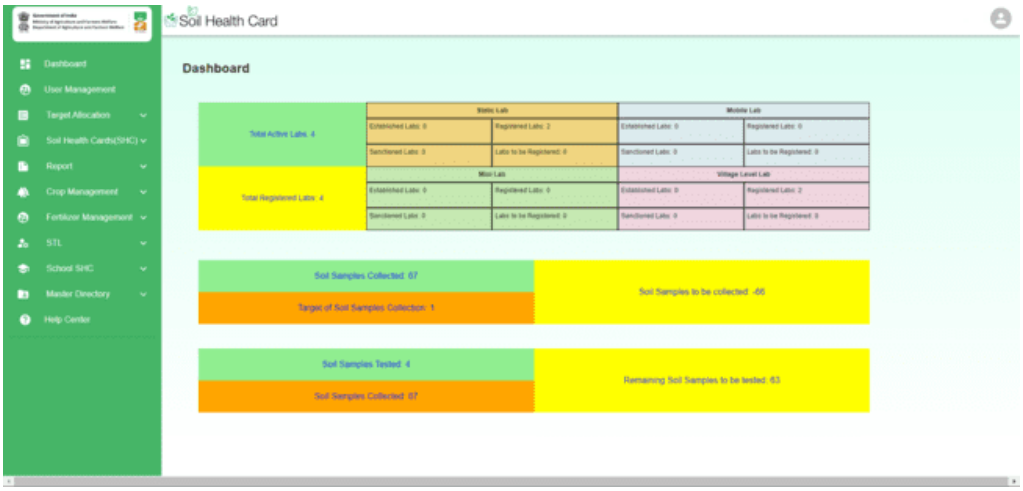
User Types

- Central User
- State User
- District User
- STL
- Supervisor

STATE USER

DASHBOARD

After successful login, you will see the dashboard.



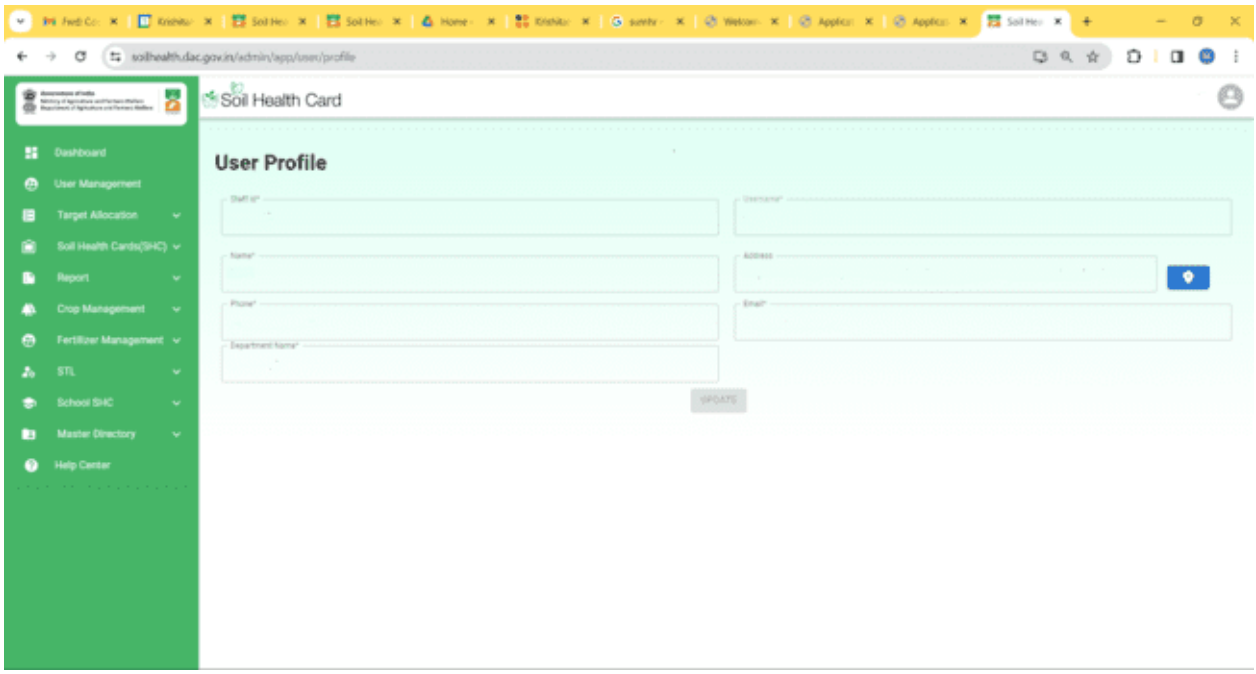
Dashboard lets us generate region-wise, year-wise statistics as:

- Number of STLs
- Number of Samples Collected
- Tests completed

EDIT USER PROFILE

Click Profile under Account to edit the user profile.

In The User Profile page, You can edit the Staff ID, Name, Address, Phone, E-mail, Department Name and Click on the Submit button.

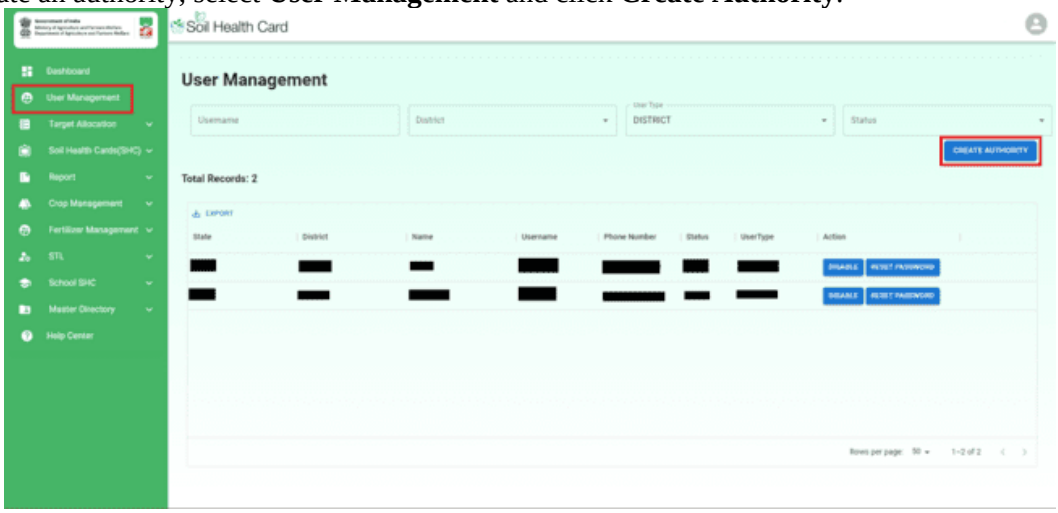


USER MANAGEMENT - CREATE AUTHORITY

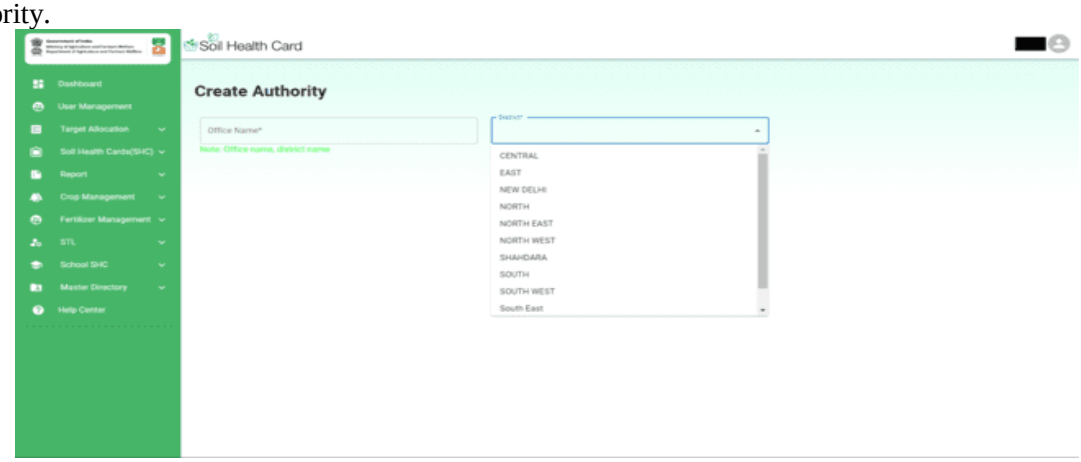
In the organization hierarchy, the lower levels like States, Districts are termed as Authority in the admin panel. The Central user can create State level Authorities. State users can create District level authorities. Each Authority needs to be named and assigned to a geological region. Central user can create State-level authorities. State-level users can create district-level authorities.

Create Authority

To create an authority, select **User Management** and click **Create Authority**.



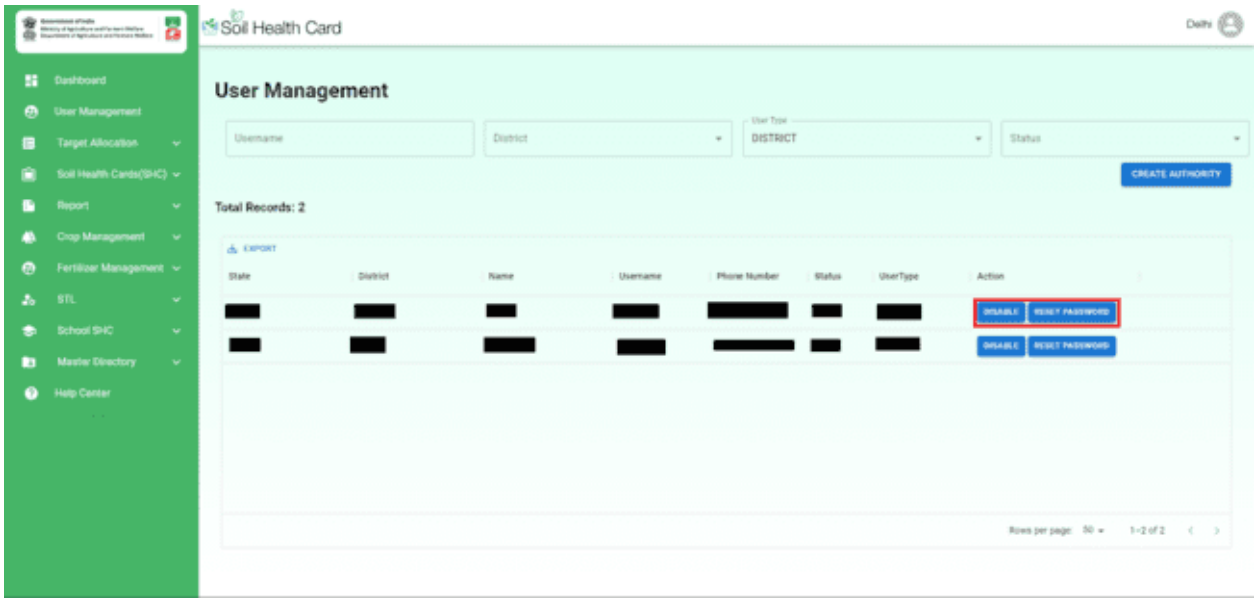
Enter the name of the authority and select a region from the list. Click the Submit button to create the authority.



The new authority created is listed with details such as name of the authority, region, number of users, number of STLs, number of farmers and status.

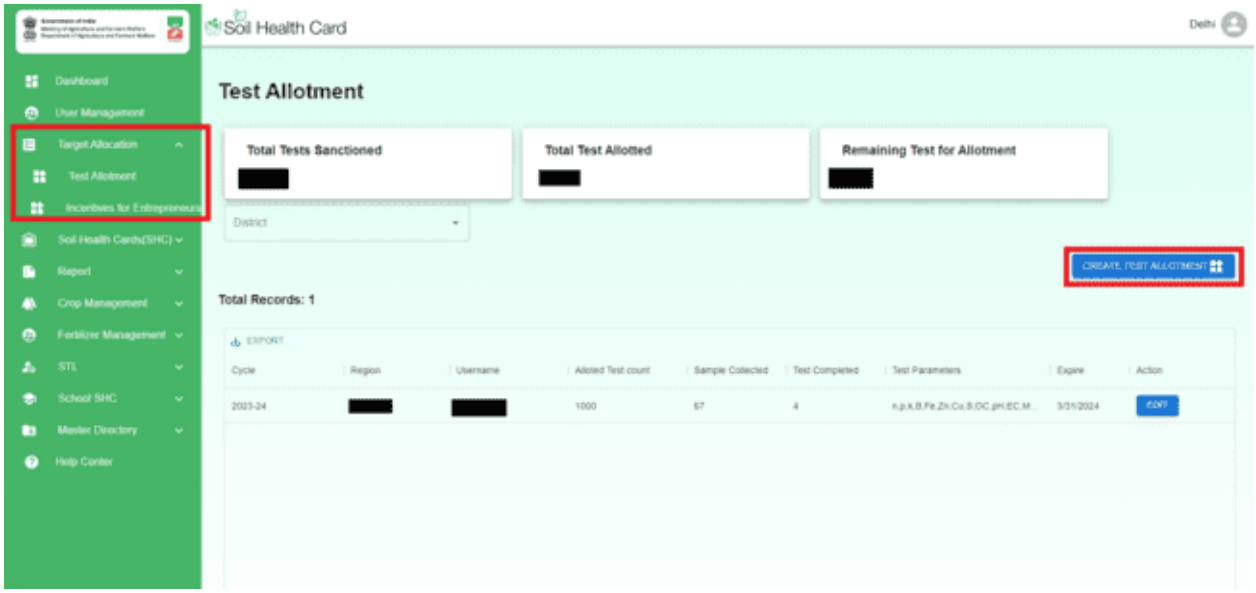
USER MANAGEMENT - APPROVAL & USERS LIST

Click on the **Disable** button to Disable the users and **Reset Password** button to change the password of the users.

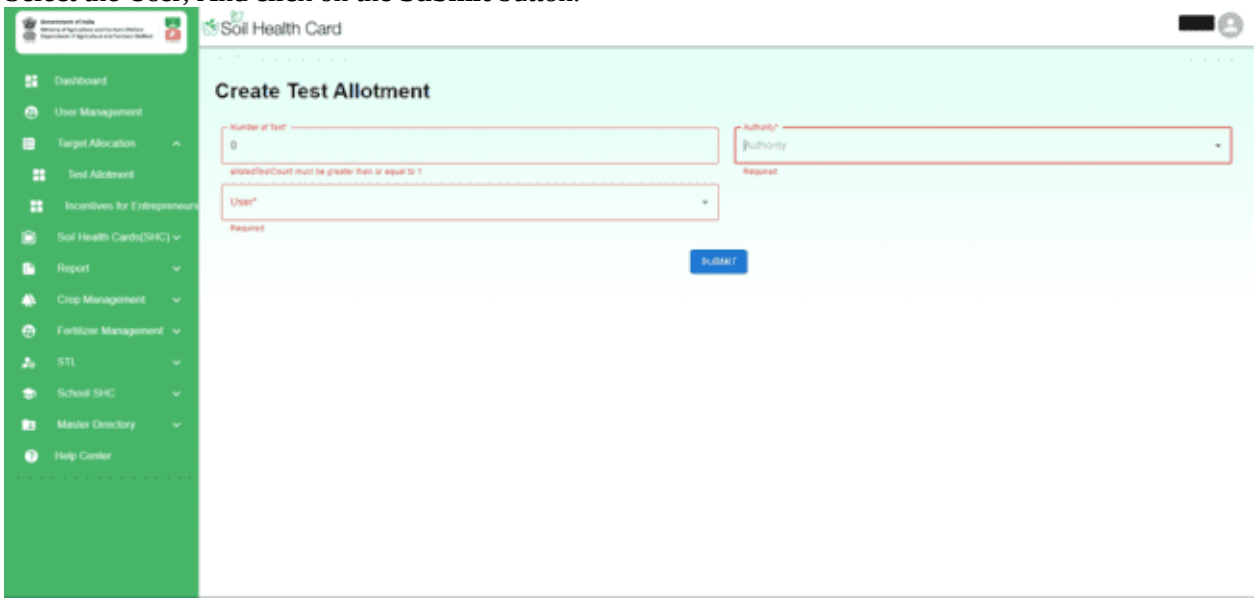


TARGET ALLOCATION

To create a test allotment, click **Test Allotment** under **Target Allocation.**
Click on **Create Test Allotment.**

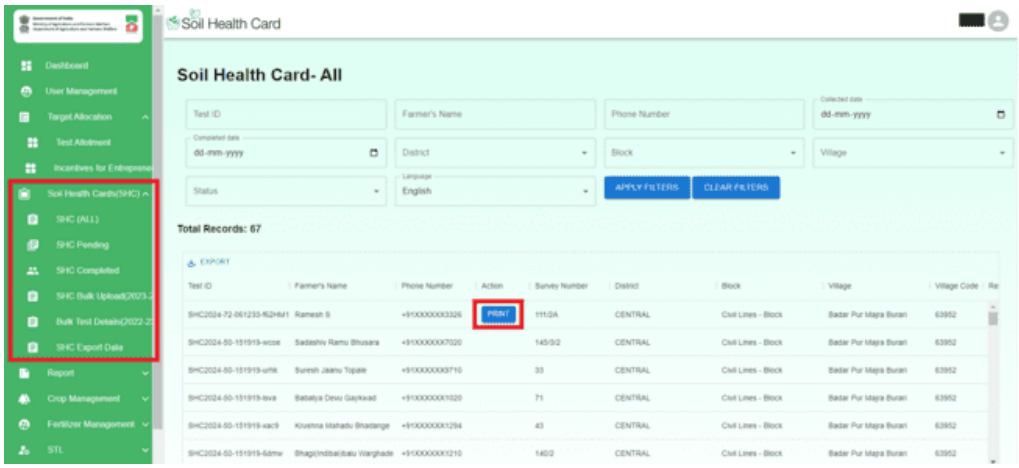


Enter the number of tests to be allotted, Select the Authority under which the User is to be allotted, Select the User, And click on the **Submit** button.



SOIL HEALTH CARDS

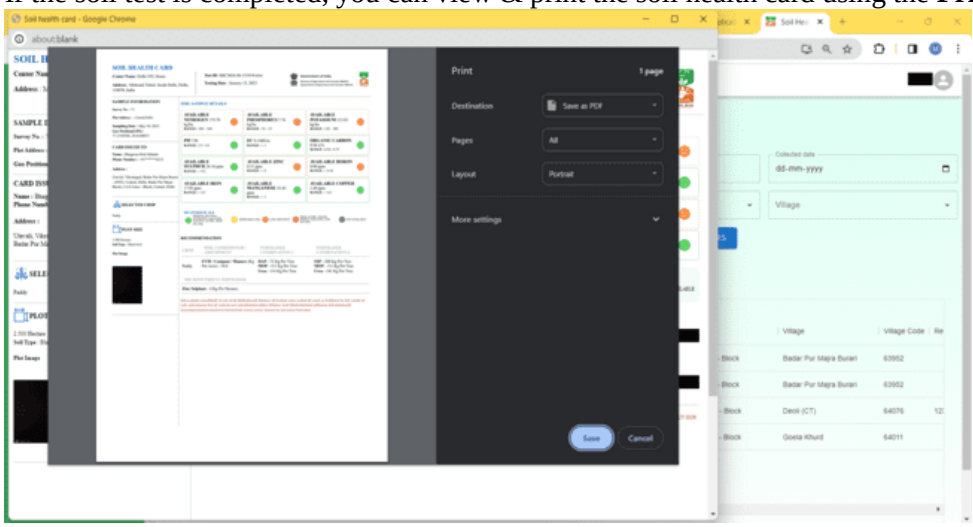
To view details of soil samples collected, Click on **SHC ALL** under **Soil Health Cards.**



List of options available under the section:

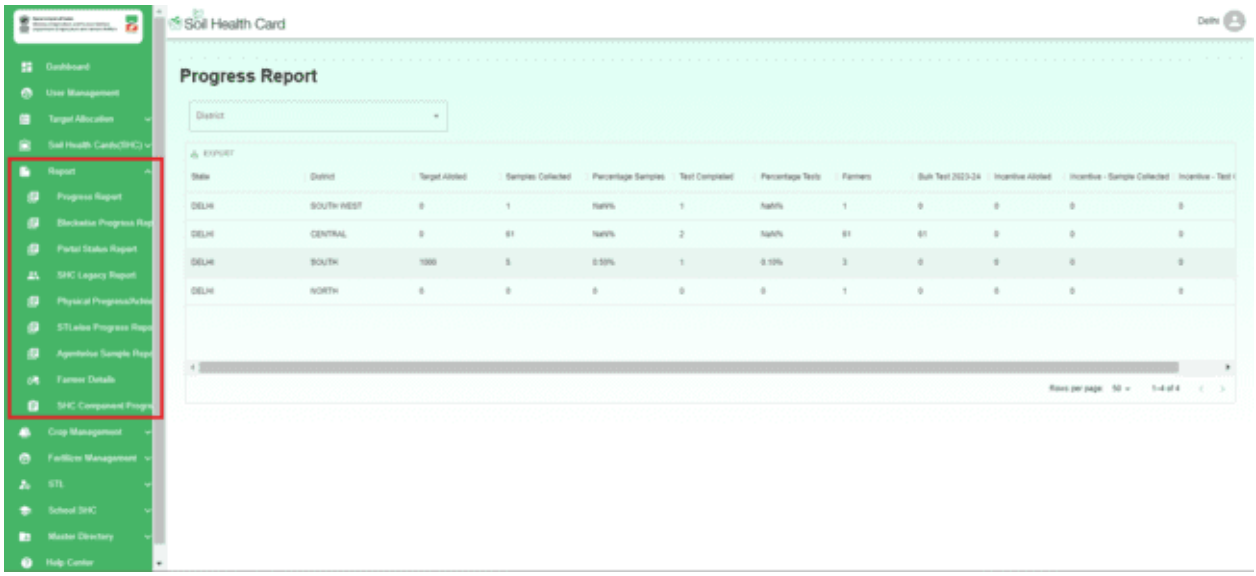
1. SHC (ALL)
2. SHC Pending
3. SHC Completed
4. SHC Bulk upload (2023-24)
5. Bulk Test details (2022-23)
6. SHC Export data

If the soil test is completed, you can view & print the soil health card using the **Print** button.



REPORTS

To generate reports click on the **Report** on the left-side menu. The list of reports is listed.



List of Reports that can be generated as below:

Progress Report (Statewise / Districtwise / Villagewise)

Blockwise progress report

Portal status report

SHC Legacy report (Legacy SHC)

Physical progress / Achievement

STL wise progress report

Agent wise samples report

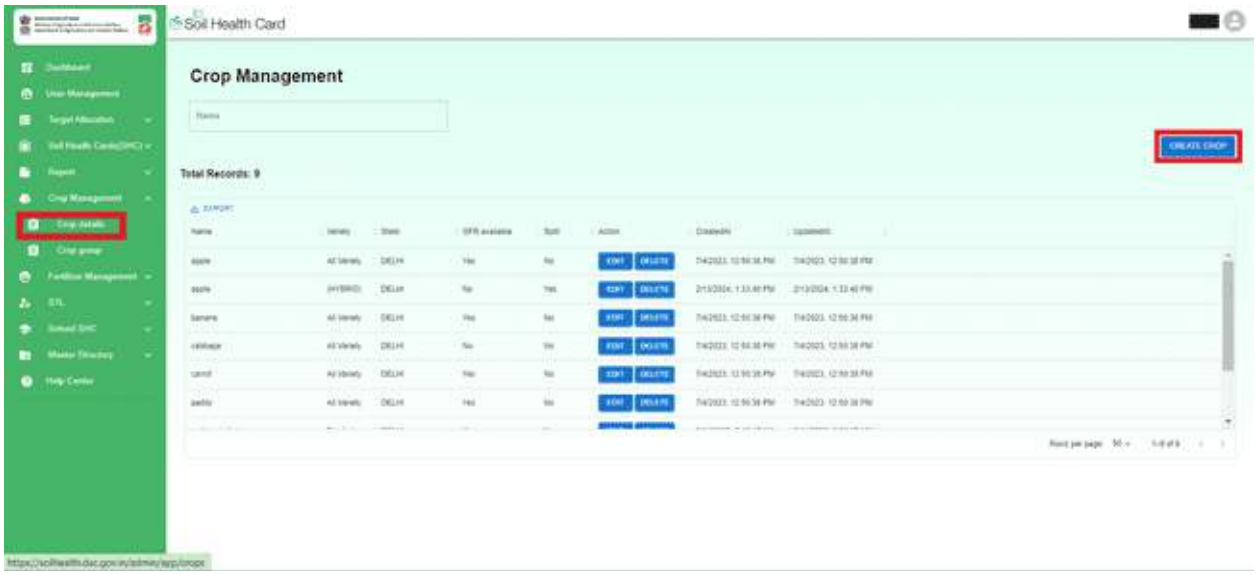
Farmer details

SHC component progress

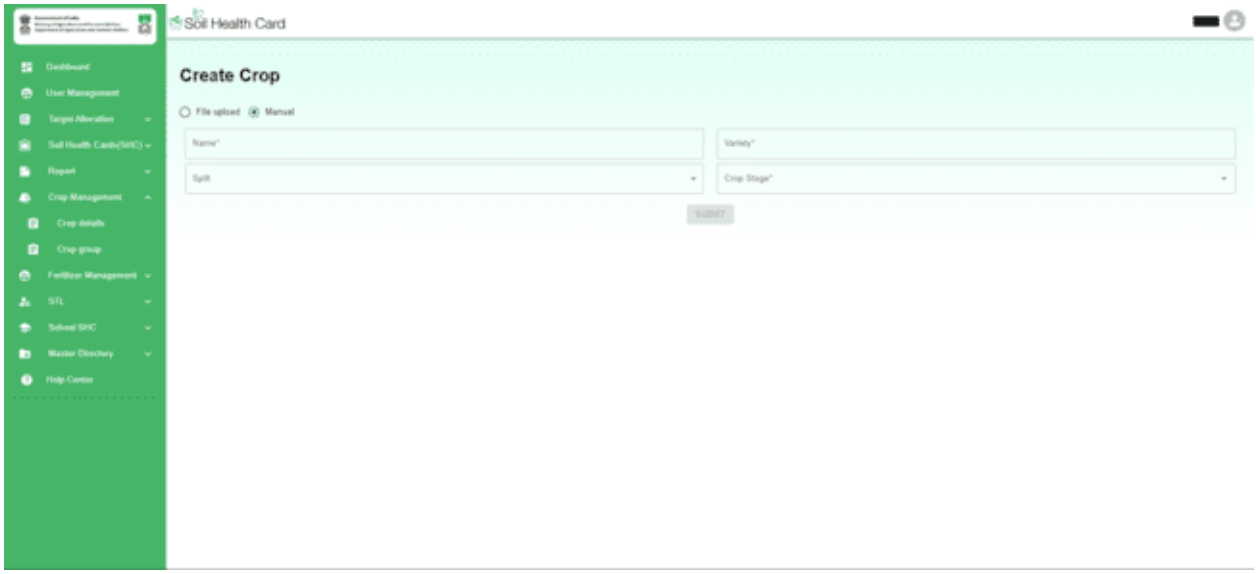
CROP MANAGEMENT

CROP DETAILS

Click on Crop Details under Crop Management. Click on the Create Crop option

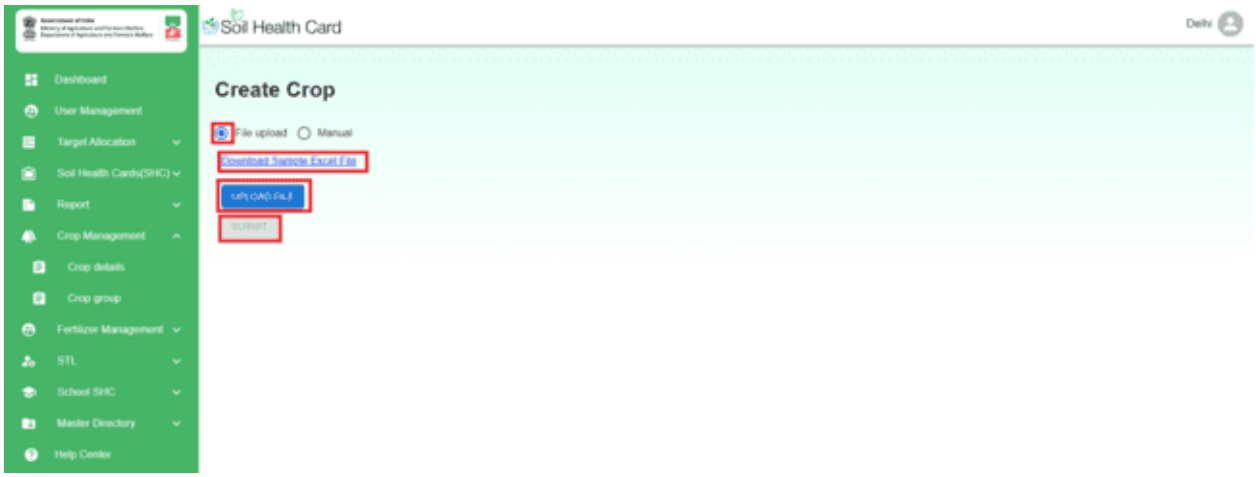


Select the Manual option and enter the crop details



- Enter Crop name
- Crop variety
- Select Split crop (Yes / No)
- Select Crop stage from the drop down

Click on the Submit button. The added crop will be displayed in the Crop details page



To Bulk upload the Crop details, select File upload Radio Button

Click on Download Sample Excel File

Open the Excel file and fill the crop details.

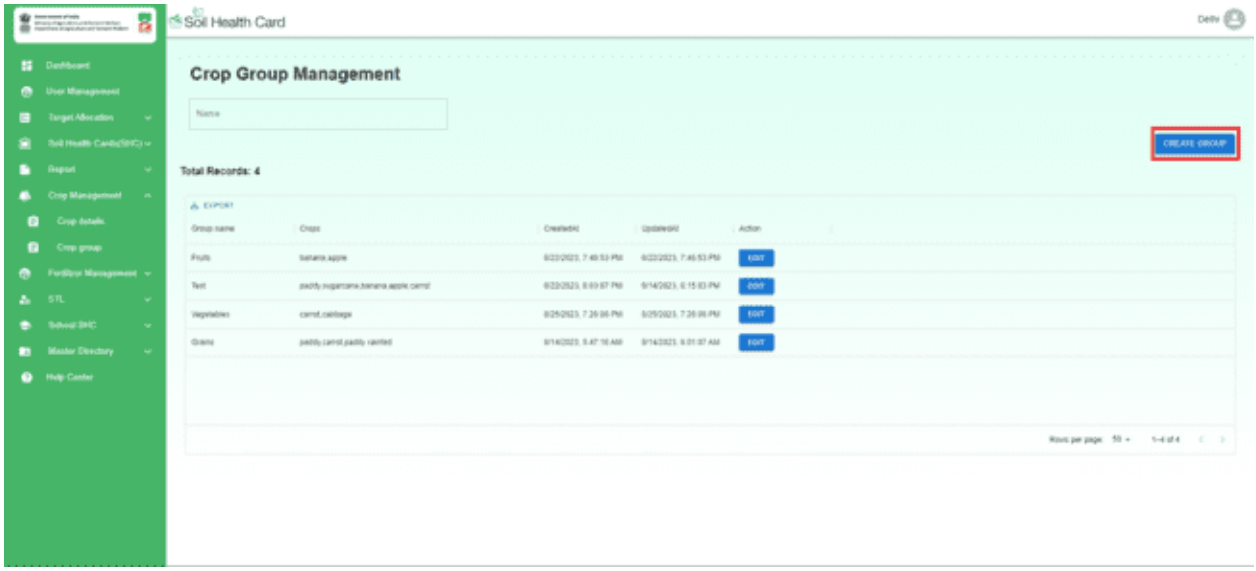
Save the excel file and click Upload File button and select the Excel file

Click the Submit Button. The added crop will be displayed in the Crop details page.

The crop details can be edited by clicking on the Edit option in the Crop Details page.

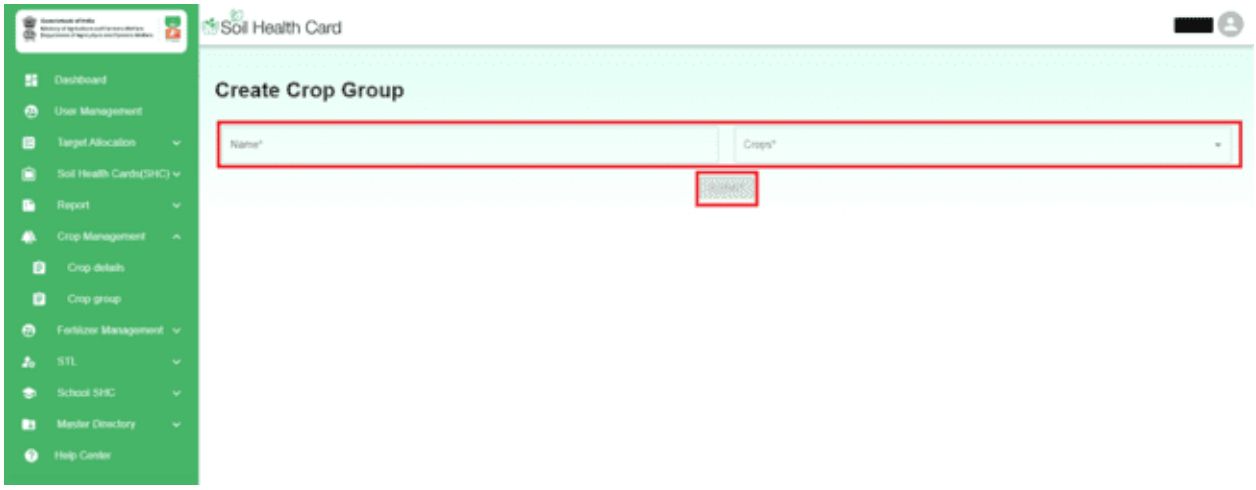
CROP GROUP

Click on the Crop Group under Crop Management section, Click Create group option



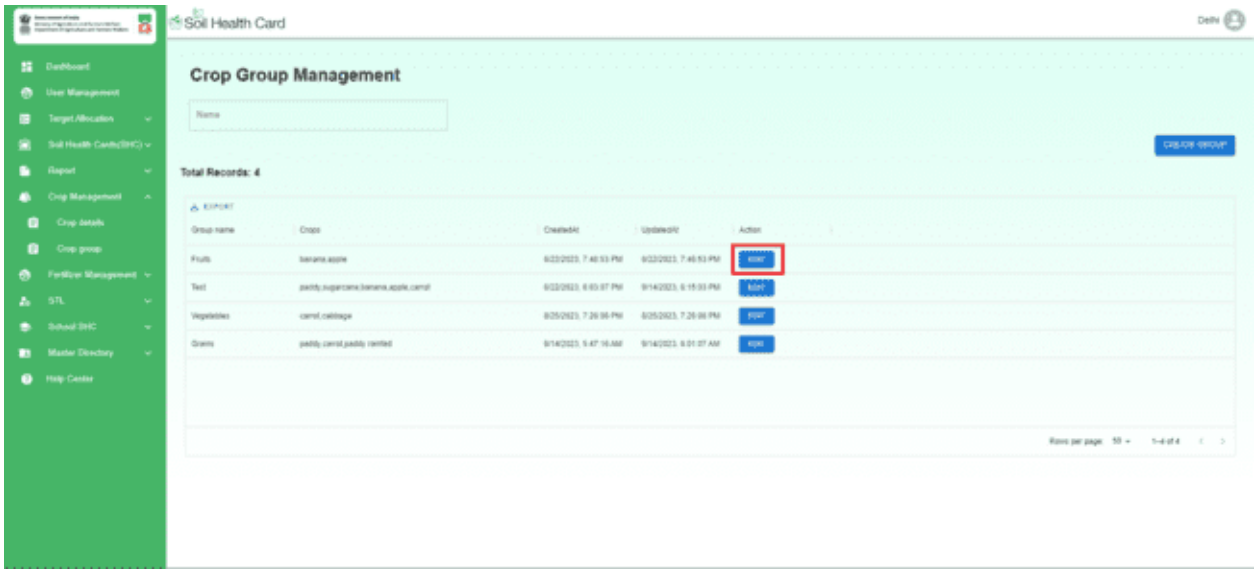
Enter the Crop group name and choose the crops from the dropdown which was created in the crop details section. Minimum 2 crops have to be selected to create the crop group

Click the Submit button.



The Crop groups and crop names are shown in the Crop Group page.

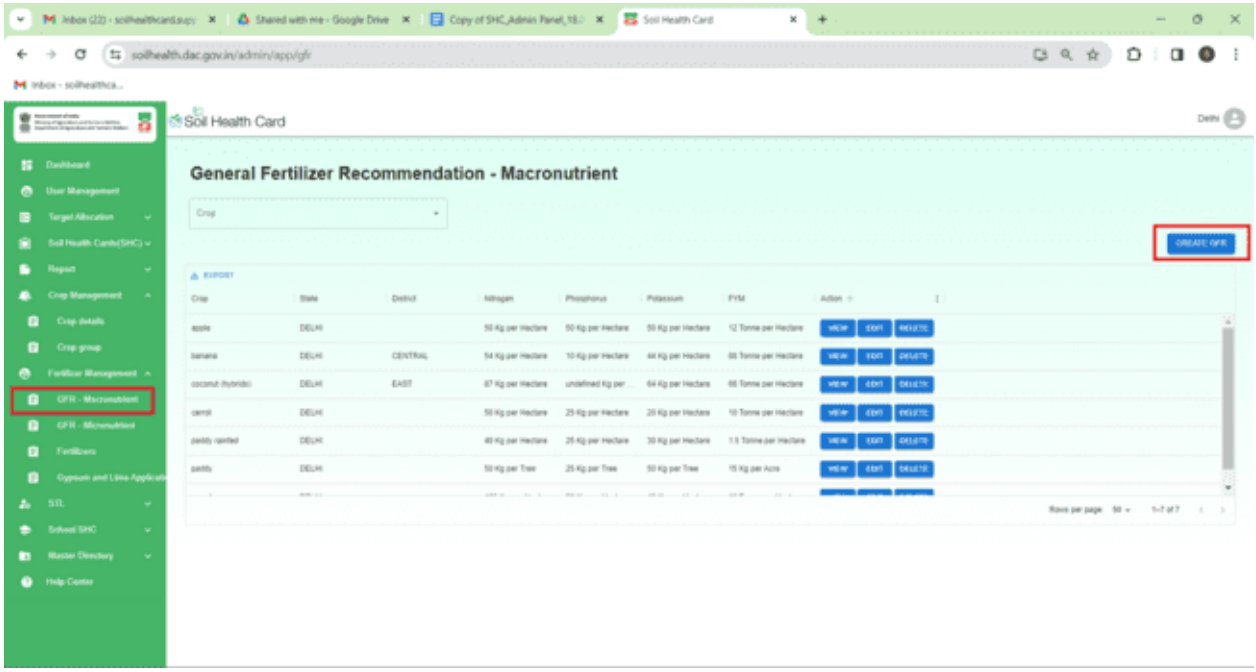
You can edit the crop group by clicking on the Edit button



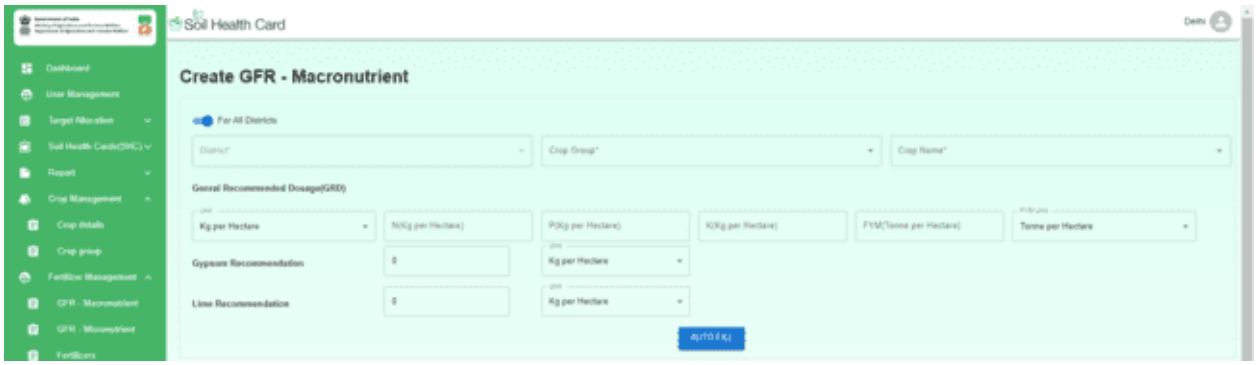
Click submit to update the crop group

GFR - MACRO NUTRIENTS

Click on GFR - Macronutrient option under Fertilizer Management option, and Click on Create GFR option.



User can create the GFR for a particular district or for the entire state by choosing the toggle switch (For all districts)



Choose the crop group from the dropdown, which was created in the crop management / crop group

select the crop from the dropdown which lies under the selected crop group

Select the unit for the GRD (General Recommended Dosage) which will be entered by the user

Kg per Hectare

Kg per Acre

Kg per Tree

Kg per Plant

Grams per Plant

Kg per Pit

Grams per Pit

Grams per Tree

GRD unit cannot be changed once submitted

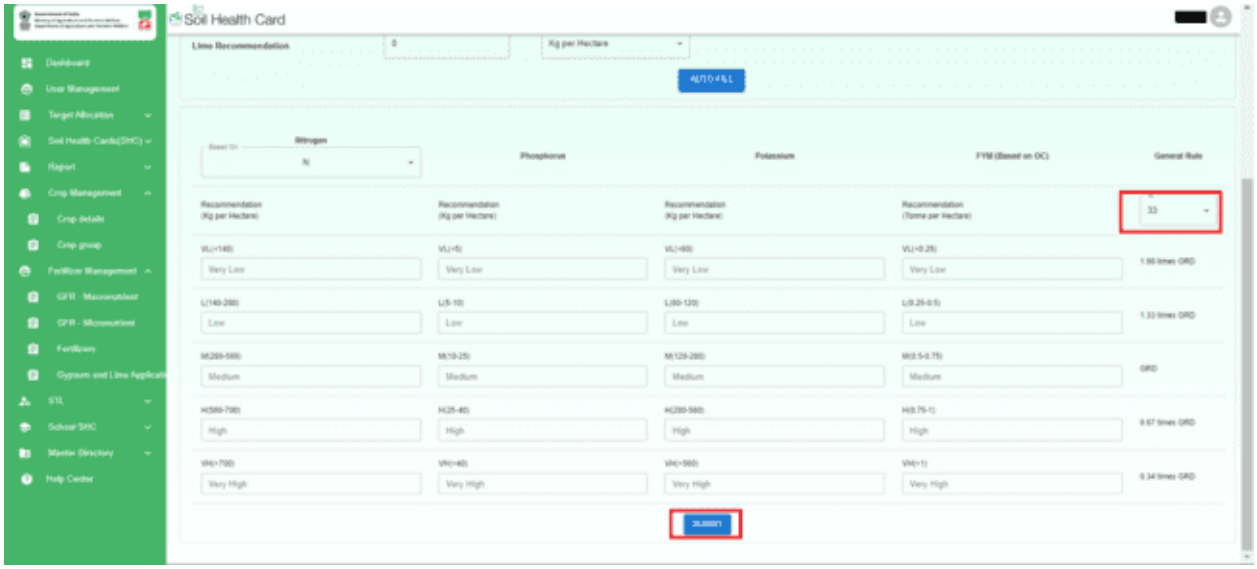
Choose the Nitrogen fertilizer recommendation based on

Nitrogen

Organic Carbon

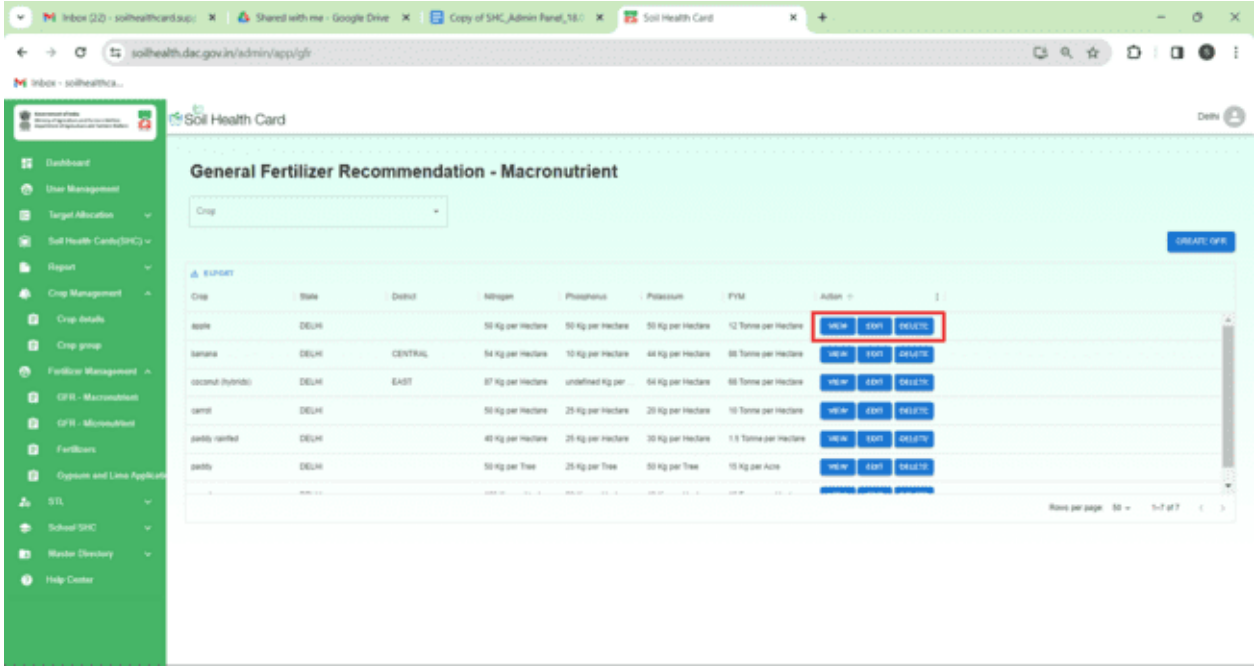
Enter the GRD value for the N, P, K, FYM

Select AutoFill option to calculate the range in below table



Click on the Submit button to register the GFR - Macronutrients

Registered GFR will be displayed in the GFR page



Click on Edit to modify the GFR - Macronutrients

Follow the same procedure to update the GFR - Macronutrients.

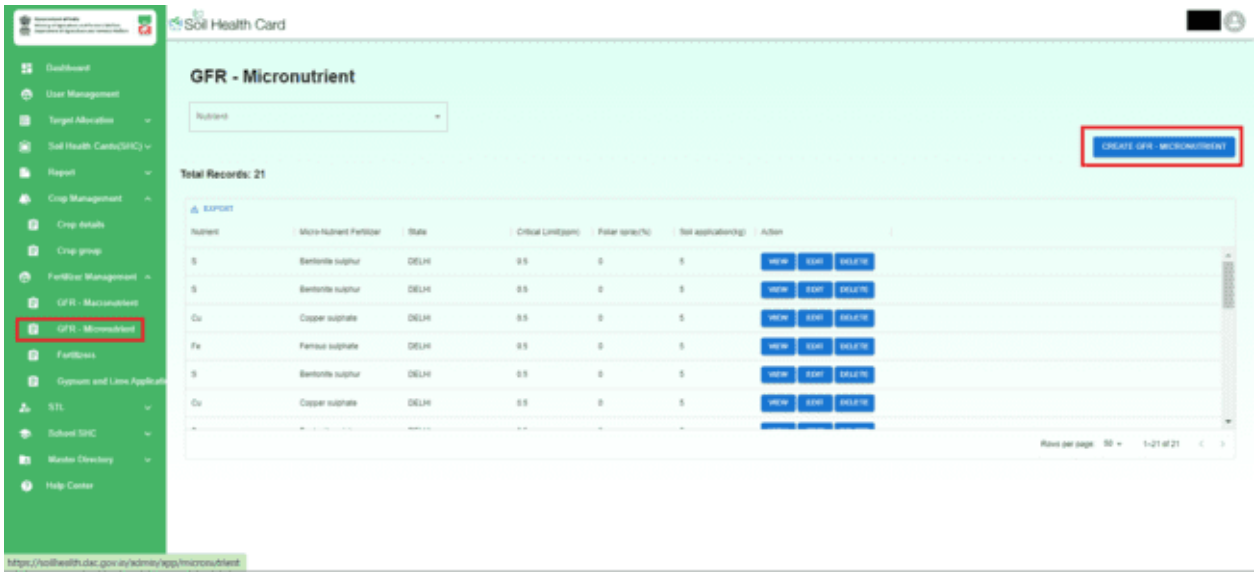
GRD unit cannot be edited

Update the GRD values and select AutoFill to modify in the below table

Click submit to update the GFR - Macronutrients

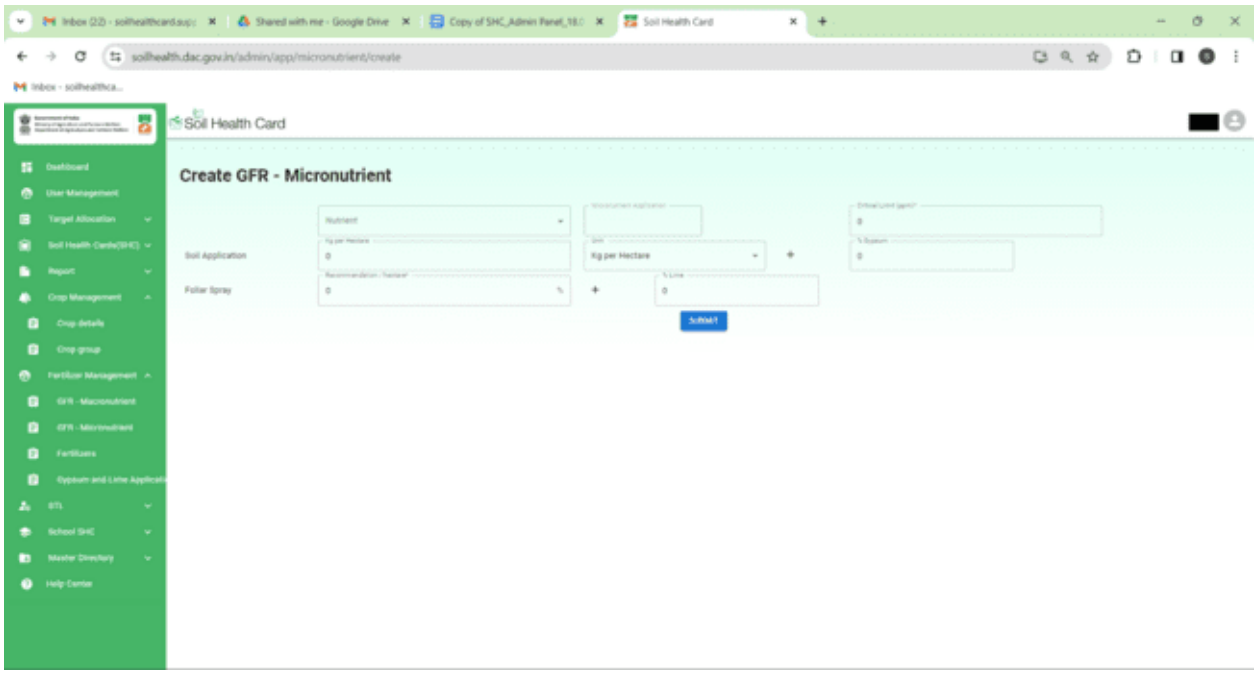
GFR - MICRO NUTRIENTS

Click on the GFR - Micronutrient Fertilizer option under Fertilizer Management option Click on the Create GFR - Micronutrient option



Select the Micronutrient from the drop down menu

Verify the Micronutrient fertilizer name displays in the Micronutrient Application box



Enter the Critical Limit value for the micronutrient (in ppm)

Enter the recommendation value for the micronutrient

Soil Application (kg/ha)

Gypsum (%)

Foliar spray (%)

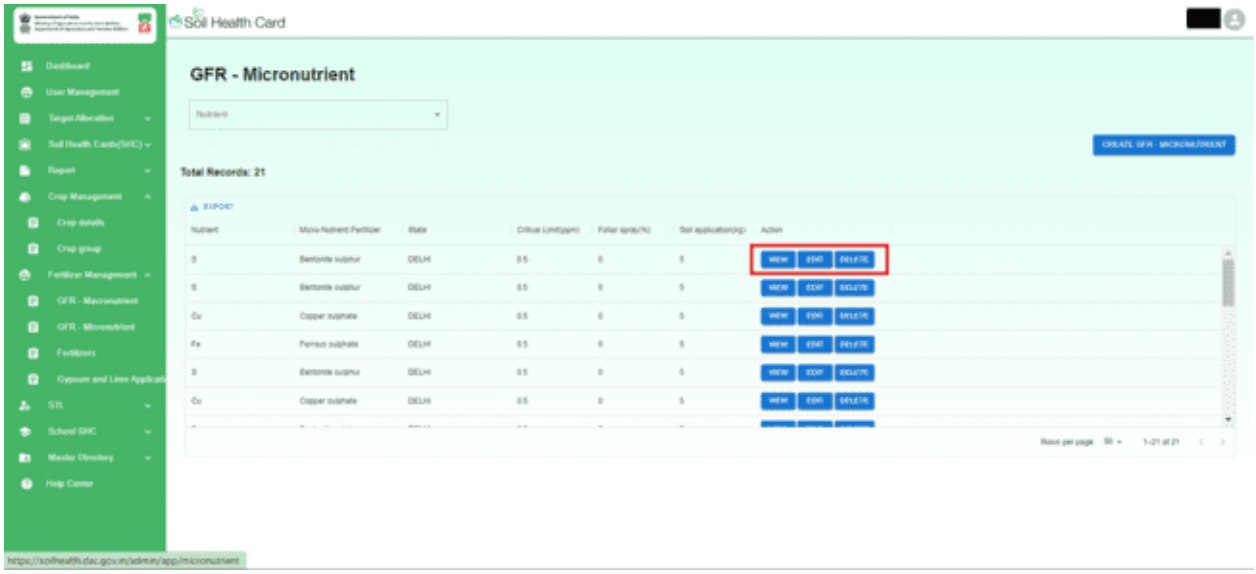
Lime (%)

Soil Application or/and Foliar Spray value is mandatory to get the micronutrients recommendation (It should not be zero)

If Gypsum or/and Lime % values are not available , you can enter as zero (0)

Click Submit to add the Micronutrient GFR

List of added micronutrients display in the GFR - Micronutrient page



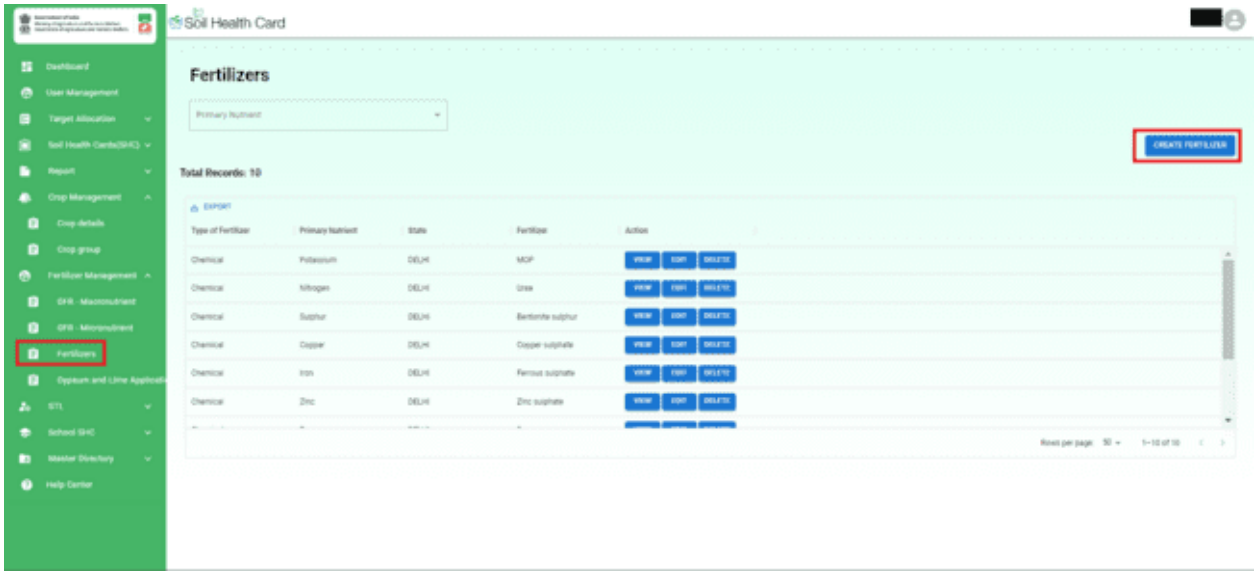
User can view the added micronutrients by clicking View option

User can edit the details of the GFR using Edit option

Click submit button to update the fertilizer

FERTILIZERS

Click on the Fertilizers option under the Fertilizer Management option. Click on the Create Fertilizer option



Select the fertilizer type from the drop down (Chemical)

Select the primary nutrient of the fertilizer from the drop down

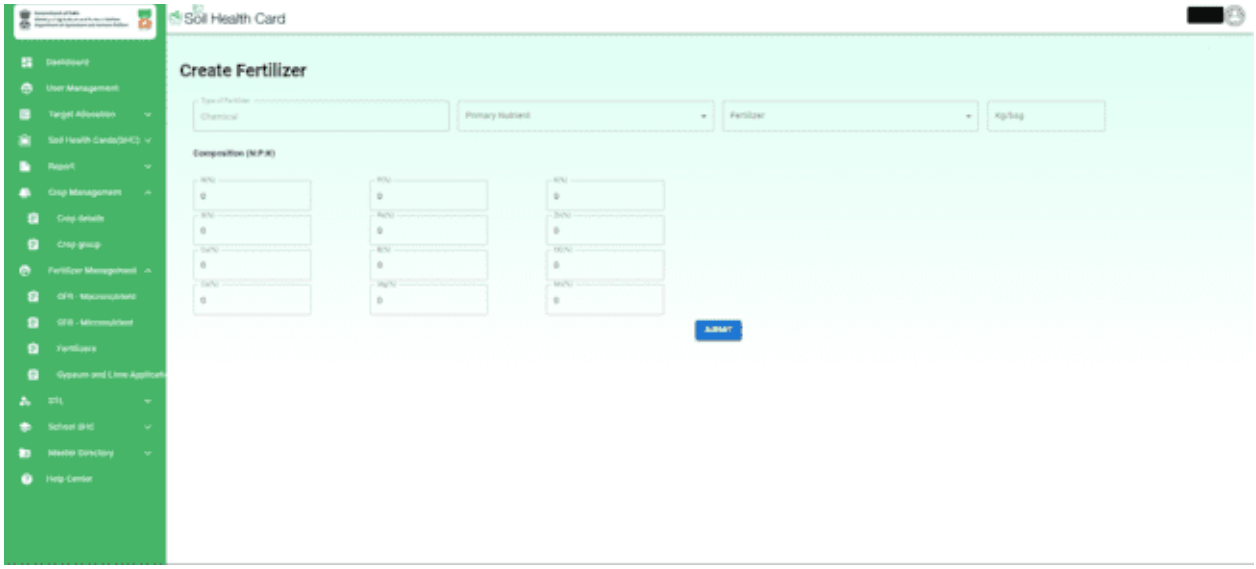
Select the fertilizer from the drop down. If the fertilizer name is not available, kindly contact the support team to add the fertilizer name to the list (Only name will be added, Composition will not be added by the support team)

Enter the bag capacity of the fertilizer in kgs/bags

Enter the compositions for all the parameters of the respective fertilizer

Click Submit to save the fertilizer

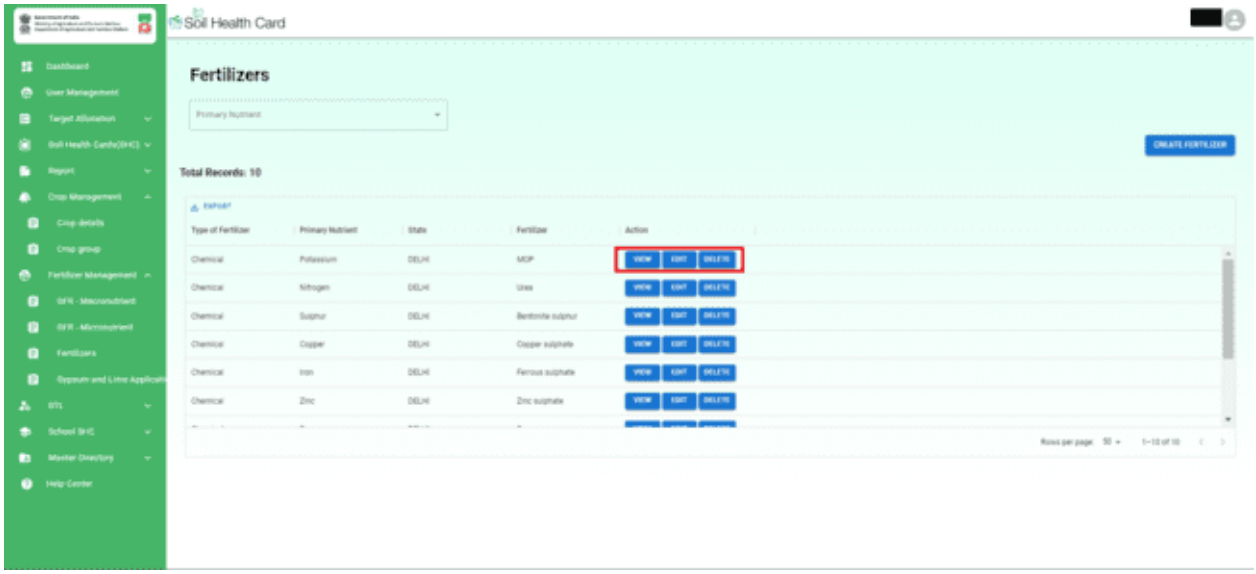
Registered Fertilizers will be displayed in the Fertilizer page



User can view the entered composition and the details using view option

User can edit the composition and other details using Edit option

After modification, click submit to update the fertilizer details.



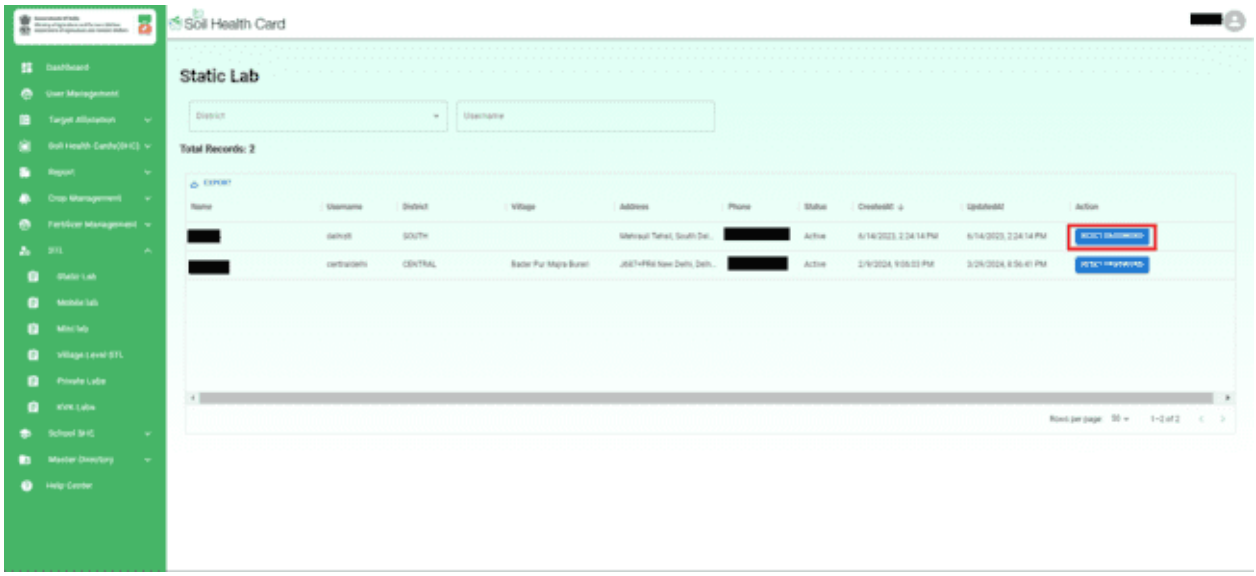
Click on Edit option to add crops or remove the crops

STL

Registered Soil Testing Laboratories in the state are listed under STL section
List of STLs as below

1. Static labs
2. Mobile labs
3. Mini labs
4. Village level STL
5. Private labs
6. KVK labs

State users can do the reset password for the STLs using the reset password option.



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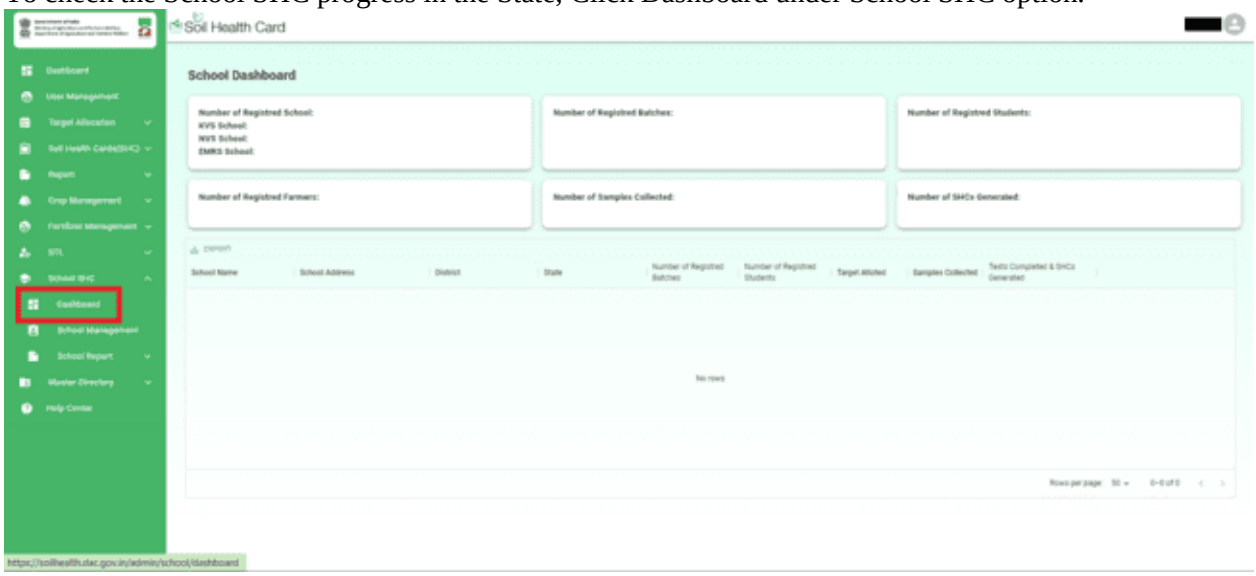
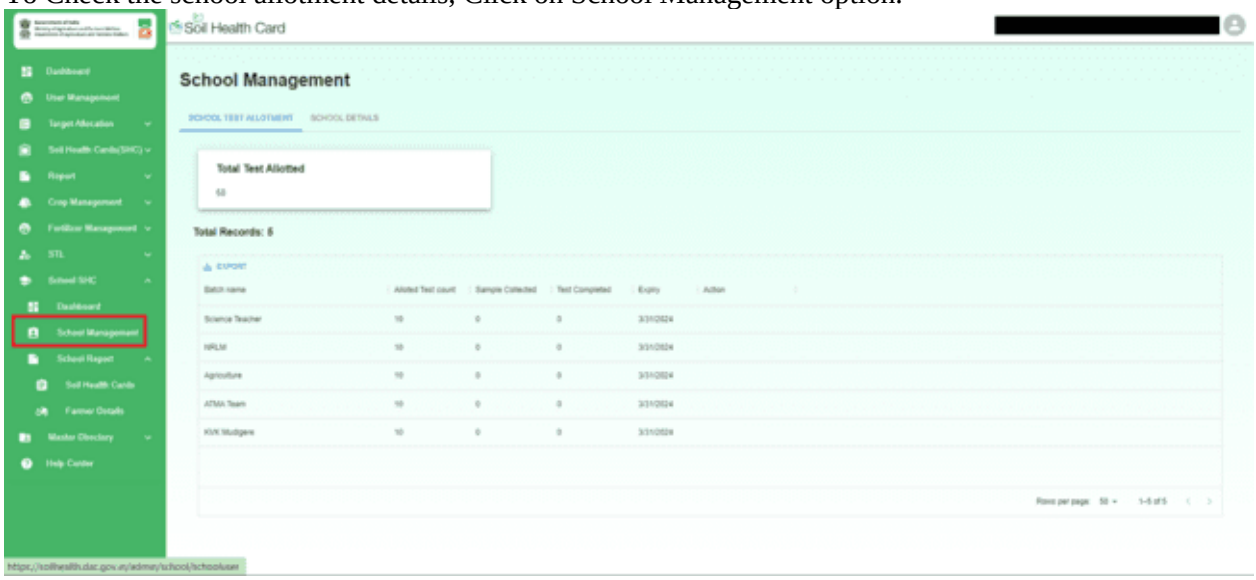
School SHC

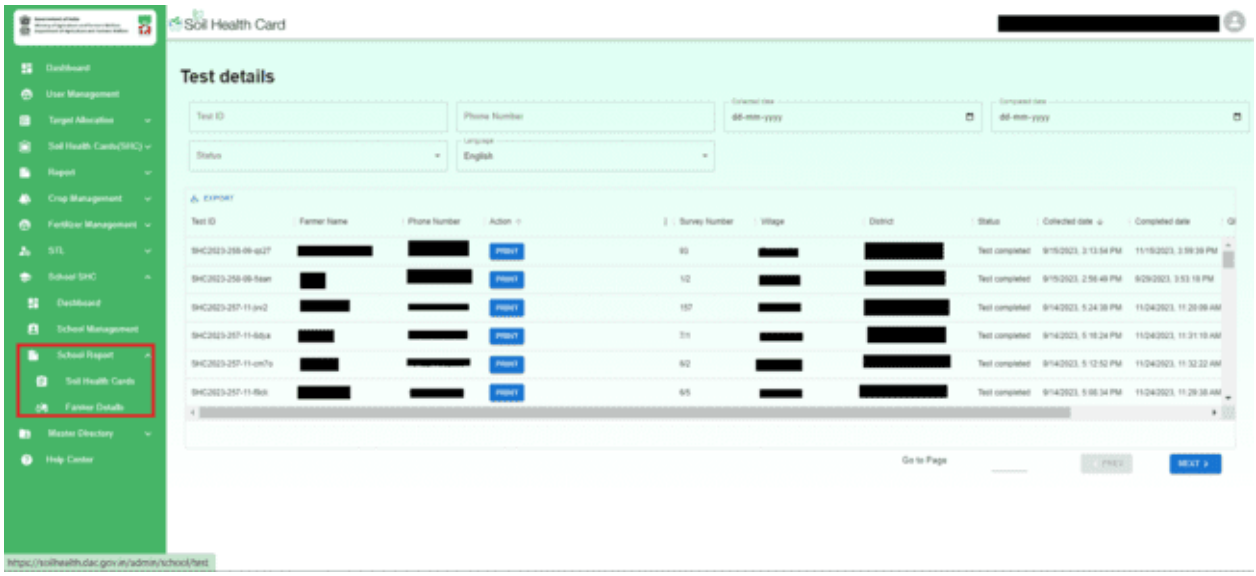
To check the School SHC progress in the State, Click Dashboard under School SHC option.



To Check the school allotment details, Click on School Management option.

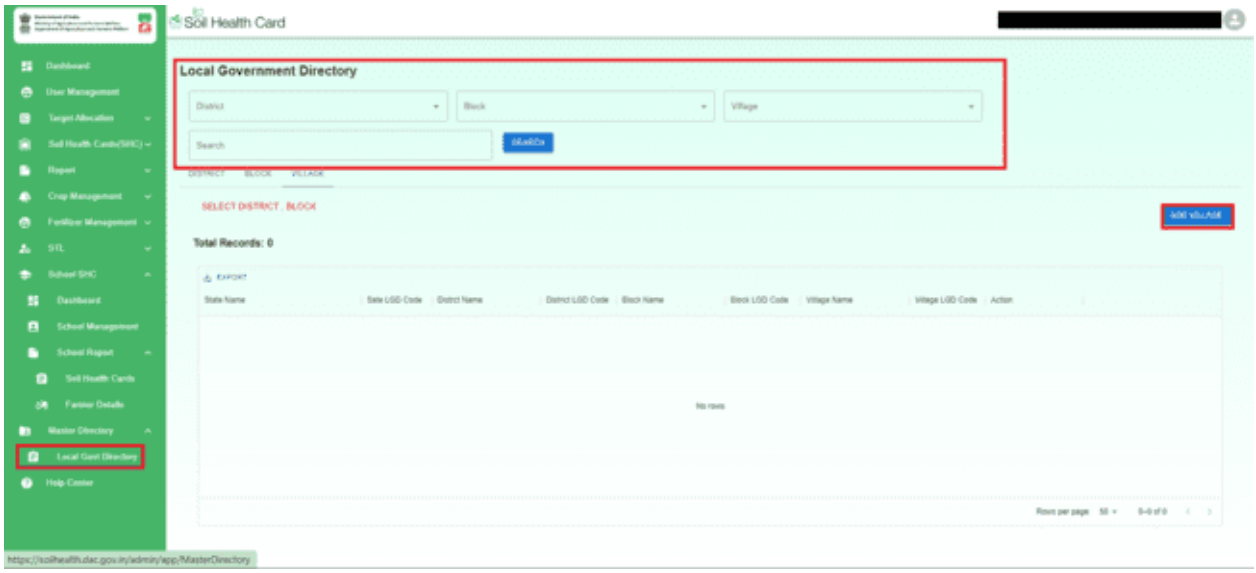


To check the School Soil Health Cards, Click on Soil Health Cards under, School Reports. You can print the soil health cards


Soil Health Card
Test details
Test ID
Phone Number
dd-mm-yyyy
dd-mm-yyyy
Status
Language
English
EXPORT
Test ID
Farmer Name
Phone Number
Action
Survey Number
Village
District
Status
Collected date
Completed date
PRINT
Test completed
Go to Page
PREV
NEXT
Dashboard
User Management
Target Allocation
Soil Health Cards(SHC)
Report
Crop Management
Fertilizer Management
STL
School SHC
Dashboard
School Management
School Report
Soil Health Cards
Farmer Details
Master Directory
Help Center
https://soilhealth.dac.gov.in/admin/school/test

MASTER DIRECTORY

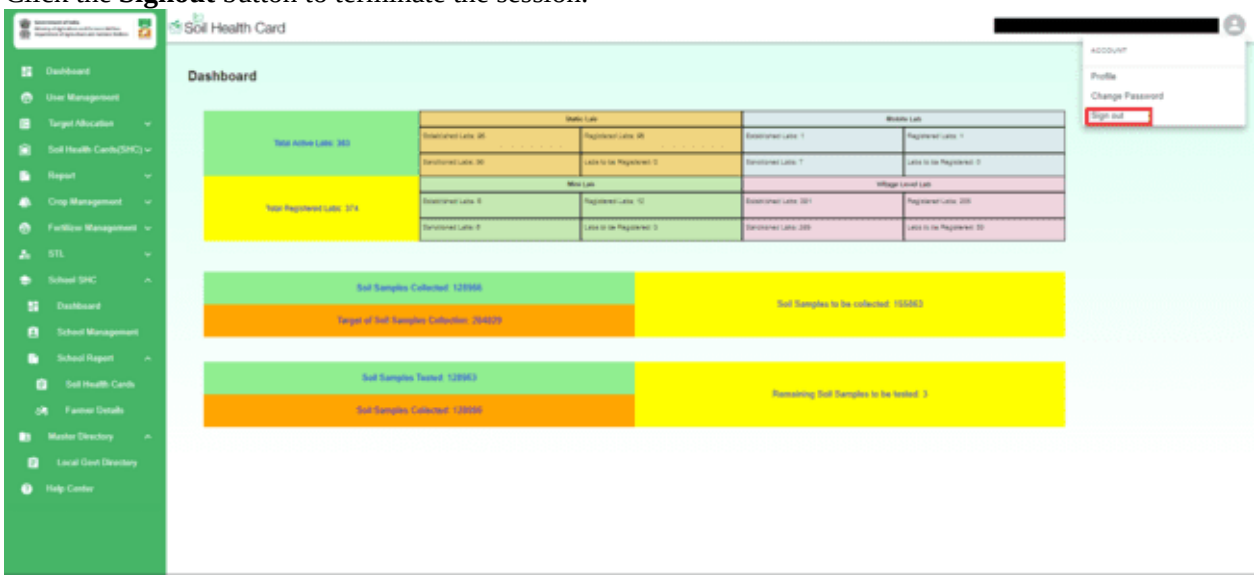
To manage the District Blocks and villages, Click on Local Government Directory under Master Directory.
To add villages, Click on Add Village. To search for District, Block or village, enter the desired details and click on the Search button.



Once searched user can edit or view the details.

LOGOUT

Click the **Signout** button to terminate the session.



DISTRICT USER

DASHBOARD

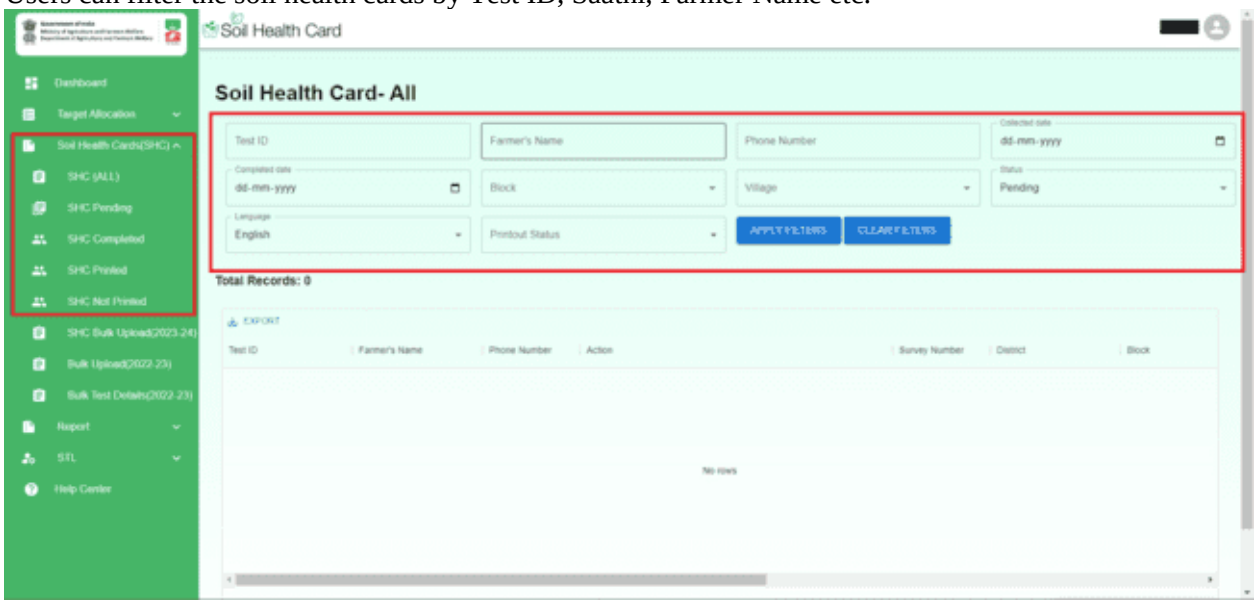
After successful login, you will see the dashboard.

Dashboard lets us view the overall details such as:

- Number of Labs Registered
- Target Allotted
- Number of Samples Collected
- Tests completed

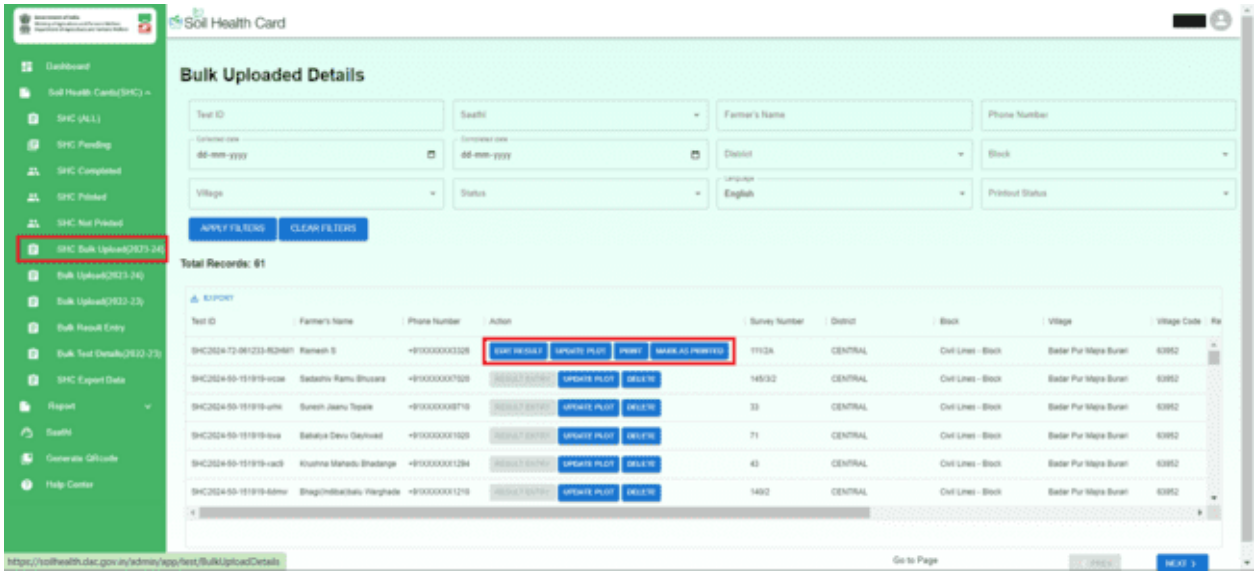
SOIL HEALTH CARDS

To view details of soil samples collected, Click on **SHC ALL** under **Soil Health Cards.**
Users can filter the soil health cards by Test ID, Saathi, Farmer Name etc.



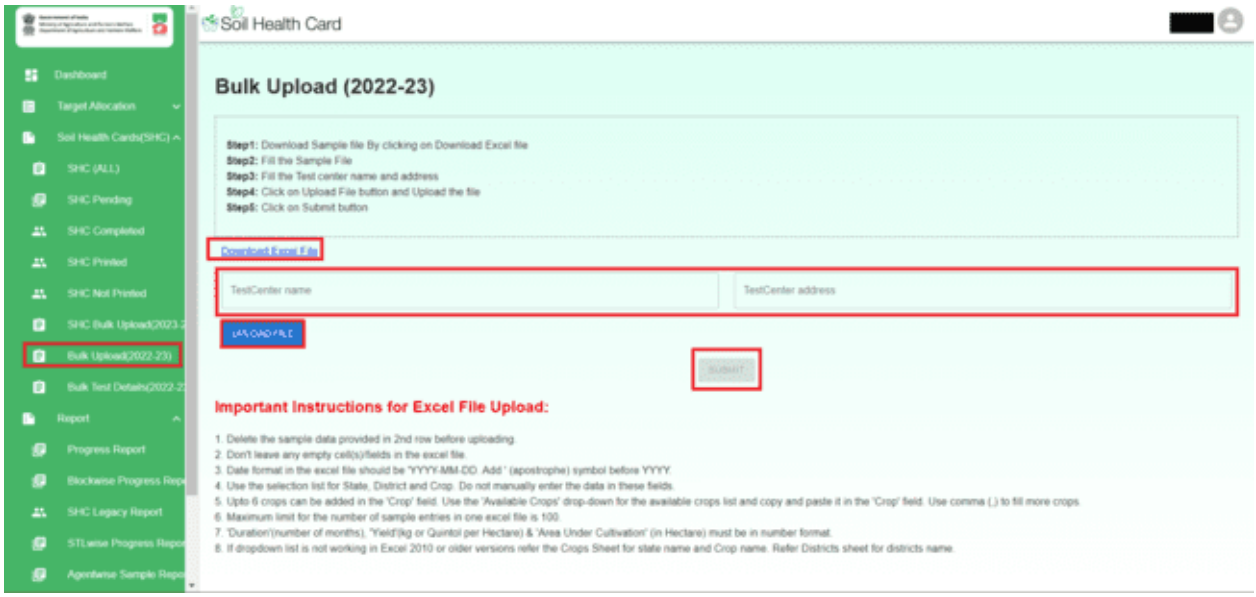
SHC BULK UPLOAD 2023-24

The uploaded samples of Bulk upload 2023-24 are displayed in this option.
Once the Saathi users verify the location, the cards can be printed, Plot can be updated and results can be edited.



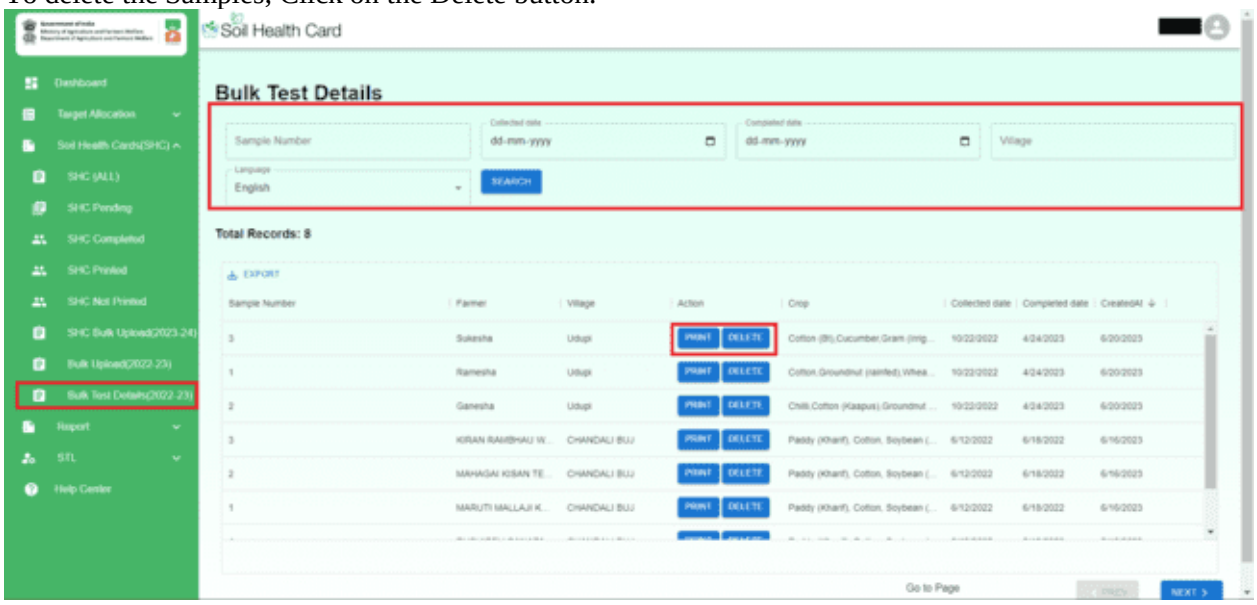
Bulk Upload (2022-23)

To upload the samples collected in the year 2022- 23 Click on Bulk Upload (2022-23) under Soil Health Cards SHC option.
Download the Sample file By clicking on the Download Excel file option
Fill the Sample details in the Excel file and save the file
To upload the file Fill the Test center name and address, Click on the Upload File button and Upload the Excel file
Click on the Submit button


Soil Health Card
Dashboard
Target Allocation
Soil Health Cards(SHC)
SHC (ALL)
SHC Pending
SHC Completed
SHC Printed
SHC Not Printed
Bulk Upload(2022-23)
Report
Progress Report
SHC Legacy Report
Bulk Upload (2022-23)
Step1: Download Sample file By clicking on Download Excel file
Step2: Fill the Sample File
Step3: Fill the Test center name and address
Step4: Click on Upload File button and Upload the file
Step5: Click on Submit button
Download Excel File
TestCenter name
TestCenter address
Important Instructions for Excel File Upload:
1. Delete the sample data provided in 2nd row before uploading.
2. Don't leave any empty cell(s)/fields in the excel file.
3. Date format in the excel file should be 'YYYY-MM-DD. Add ' (apostrophe) symbol before 'YYYY.
4. Use the selection list for State, District and Crop. Do not manually enter the data in these fields.
5. Upto 6 crops can be added in the 'Crop' field. Use the 'Available Crops' drop-down for the available crops list and copy and paste it in the 'Crop' field. Use comma (,) to fill more crops.
6. Maximum limit for the number of sample entries in one excel file is 100.
7. 'Duration'(number of months), 'Yield'(kg or Quintol per Hectare) & 'Area Under Cultivation' (in Hectare) must be in number format.
8. If dropdown list is not working in Excel 2010 or older versions refer the Crops Sheet for state name and Crop name. Refer Districts sheet for districts name.

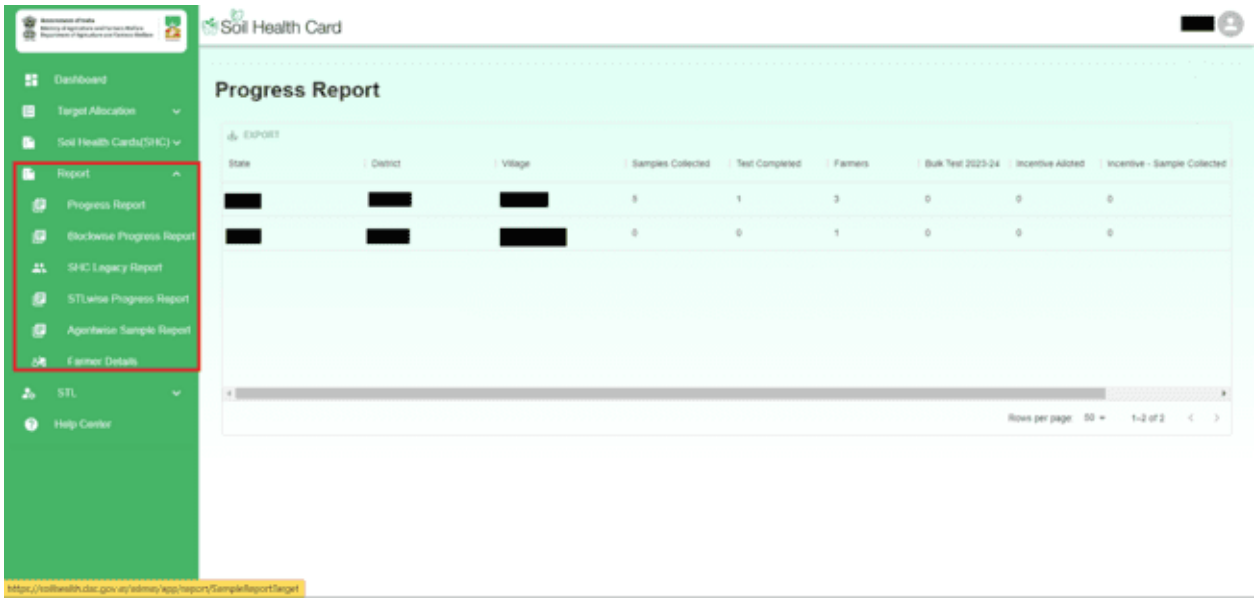
BULK TEST DETAILS (2022-23)

To view the samples uploaded in 2022-23, Click on Bulk Test details (2022-23),
Users can find the required sample using the Sample Number, Collected Date, Completed Date and Village.
To download the soil health cards for the samples, Click on the Print option,
To delete the Samples, Click on the Delete button.



REPORTS

To generate reports click on the **Report** on the left-side menu. The list of reports is listed.



List of Reports that can be generated as below:

Progress Report (Villagewise)

Blockwise progress report

SHC Legacy report (Legacy SHC)

STL wise progress report

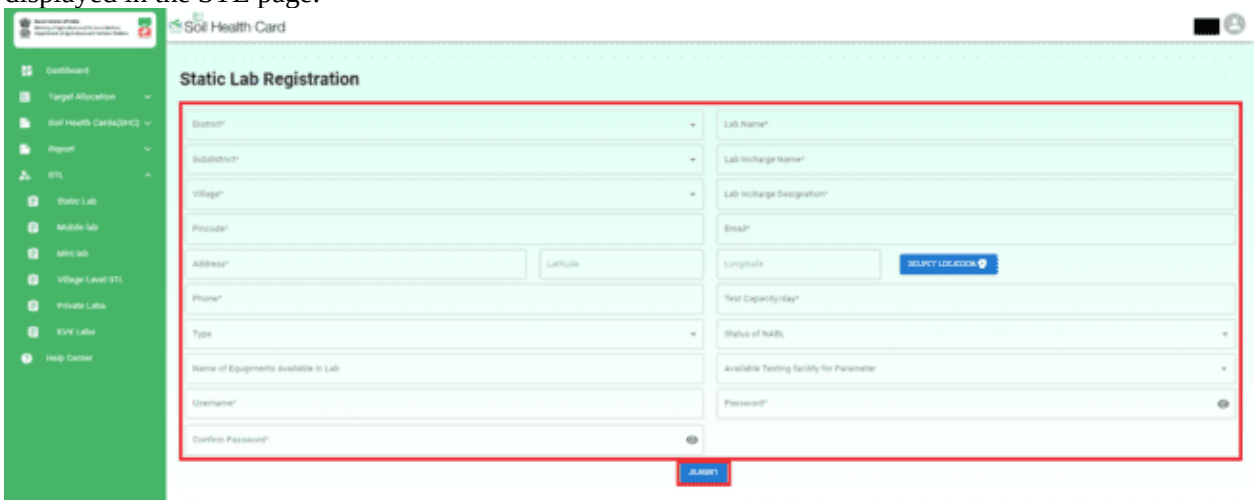
Agent wise samples report

Farmer details

STL

To view the laboratory details of the district Click on the STL option.
The Types of laboratories are:
Static Lab
Mobile Lab
Mini Lab
Village Level STL
Private Labs
KVK Labs
To register a new lab click on the Register STL button.

Fill out all the fields in the Registration form such as:
District, Sub District, Village, Pincode, Address, Latitude & Longitude, Lab Name, Lab Incharge Name, Lab Incharge Designation etc. and click on the Submit Button. The newly created STLwill be displayed in the STL page.

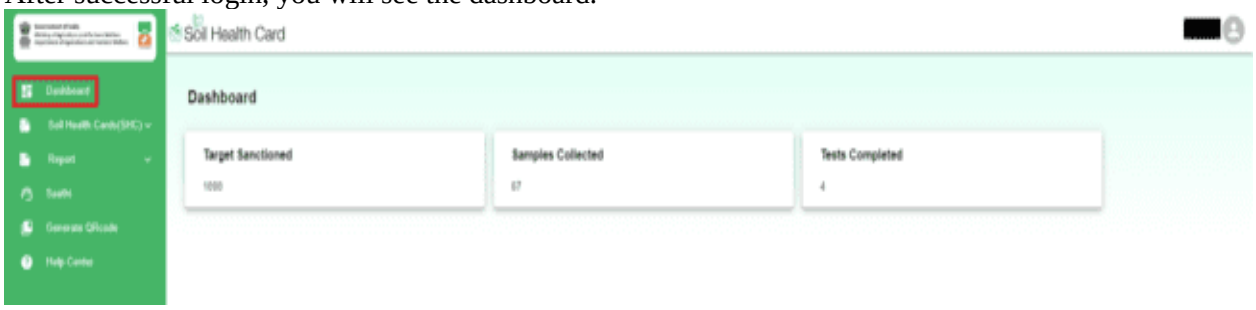


Details of the labs can be edited by clicking on the Edit button, Make the necessary changes and click on the Submit button.
Labs can be Enabled or Disabled by clicking on the Enable/Disable button
To reset the password, Click on the Reset Password button

STL USER

DASHBOARD

After successful login, you will see the dashboard.

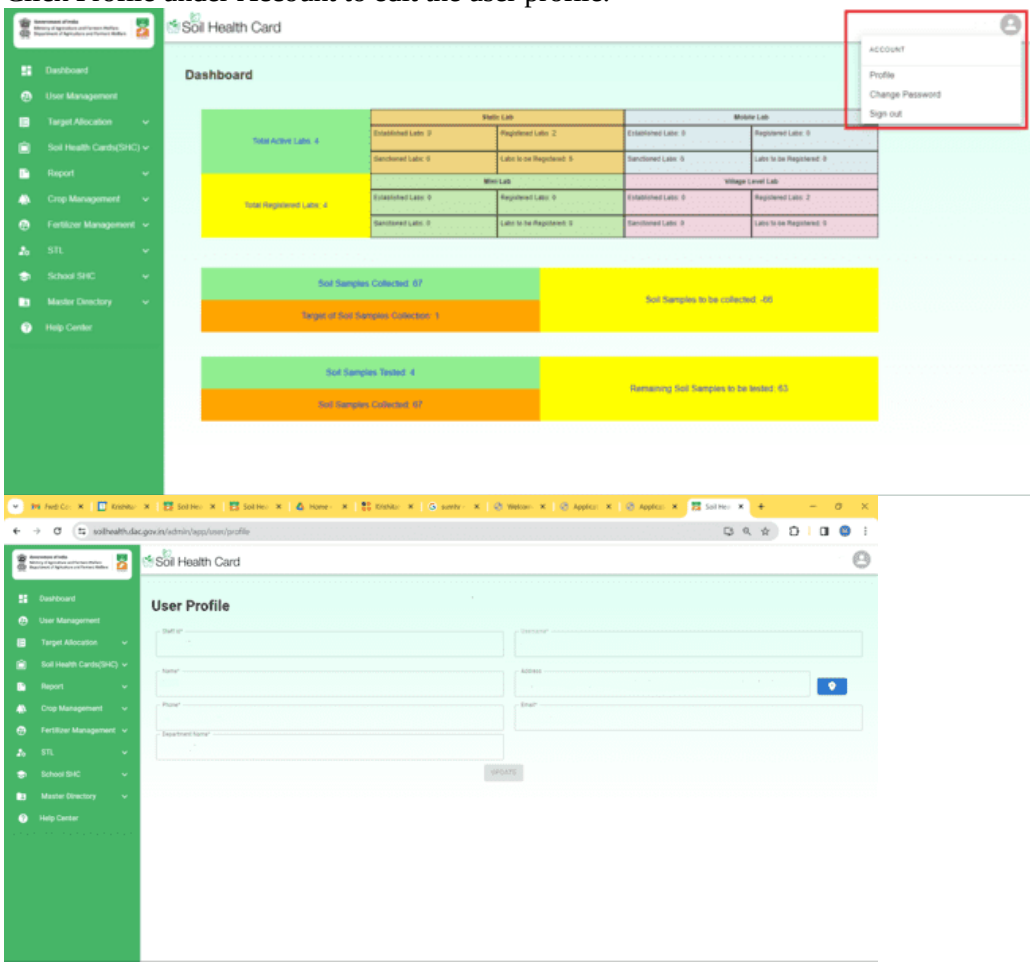


Dashboard lets us view the overall details such as:

- Target Allotted
- Number of Samples Collected
- Tests completed

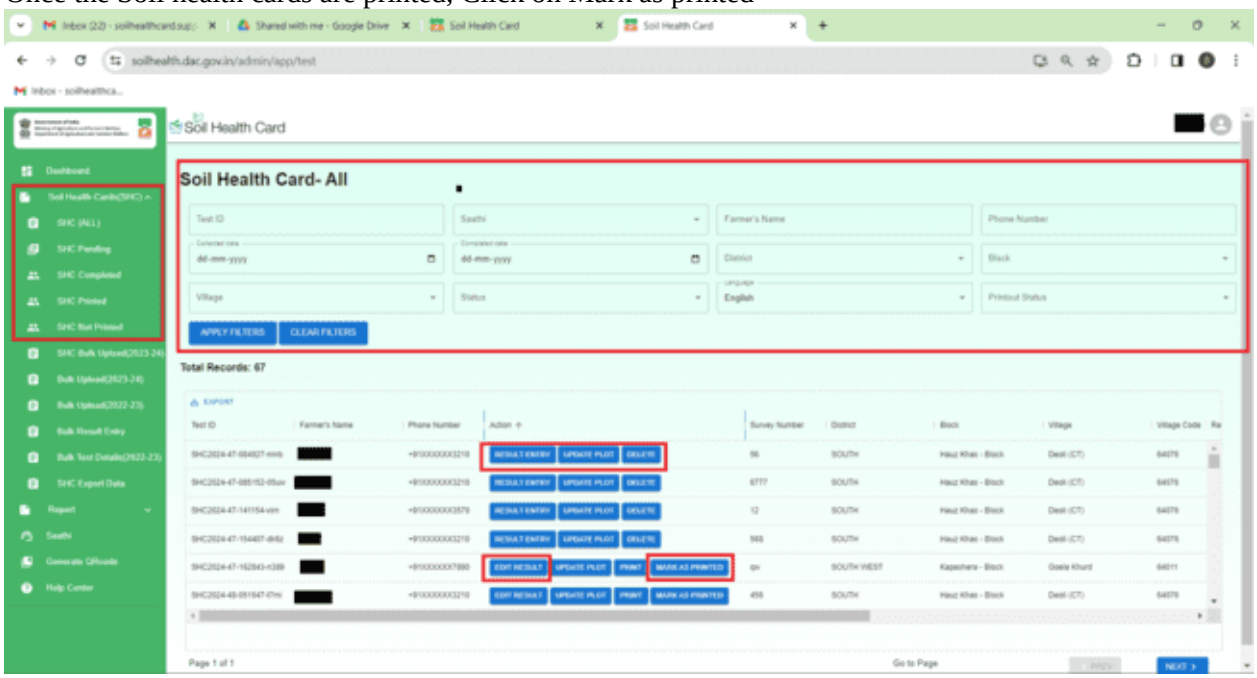
EDIT USER PROFILE

Click Profile under Account to edit the user profile.

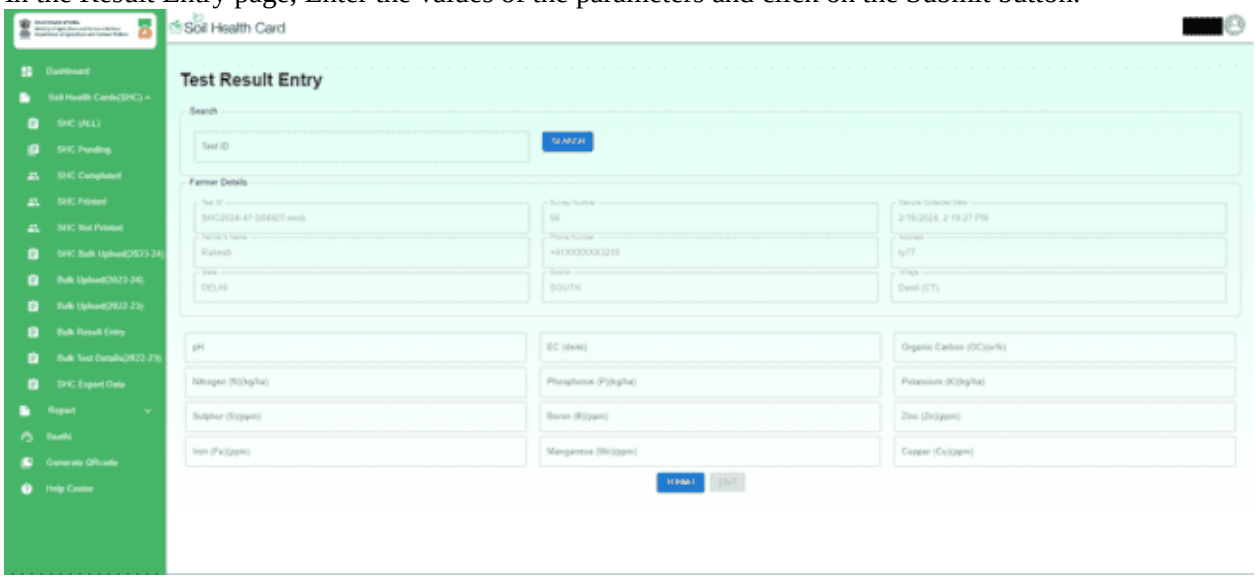


SOIL HEALTH CARDS

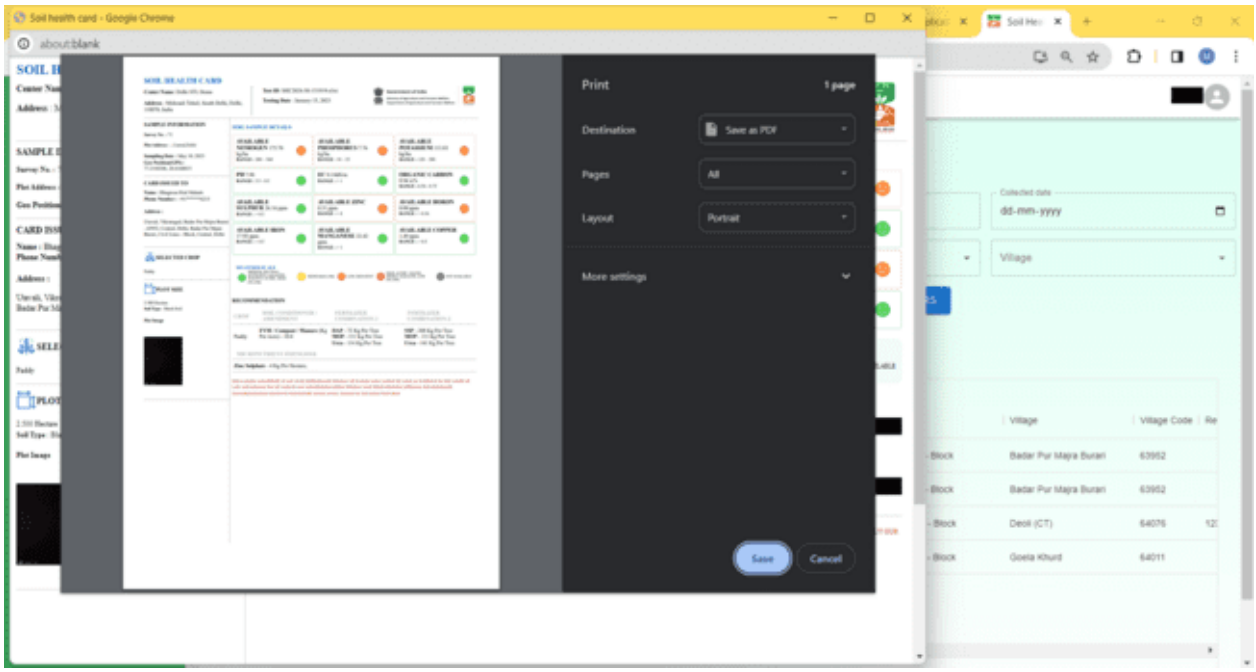
To view details of soil samples collected, Click on **SHC ALL** under **Soil Health Cards.**
Users can filter the soil health cards by Test ID, Saathi, Farmer Name etc.
To enter the results of collected samples click on Result Entry
Te edit the results, Click on Edit Result
To edit the Plot details, Click on Update Plot option,
To delete the samples click on the Delete option. Samples can only be deleted prior to the Result Entry
Once the Soil health cards are printed, Click on Mark as printed



In the Result Entry page, Enter the values of the parameters and click on the Submit button.



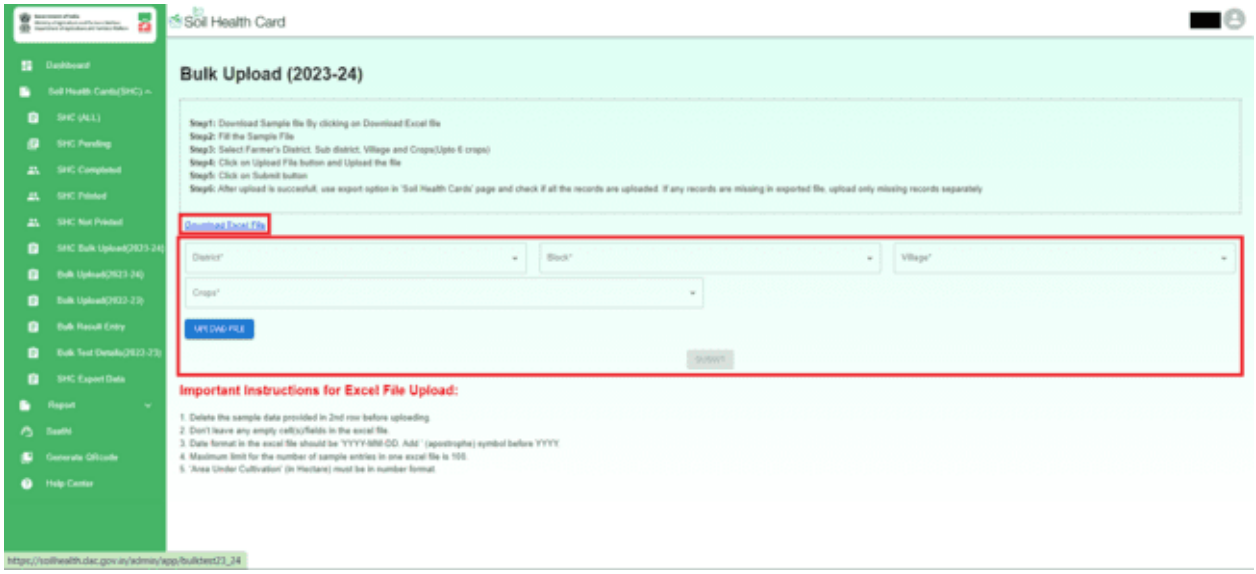
If the soil test is completed, you can view & print the soil health card using the **Print** button.


Soil health card - Google Chrome
about:blank
Print
1 page
Destination
Save as PDF
Pages
All
Layout
Portrait
More settings
Save
Cancel
dd-mm-yyyy
Village
Village
Village Code
Badar Pur Majra Burari
63952
Badar Pur Majra Burari
63952
Deoli (CT)
64076
Goela Khurd
64011

BULK UPLOAD 2023-2024

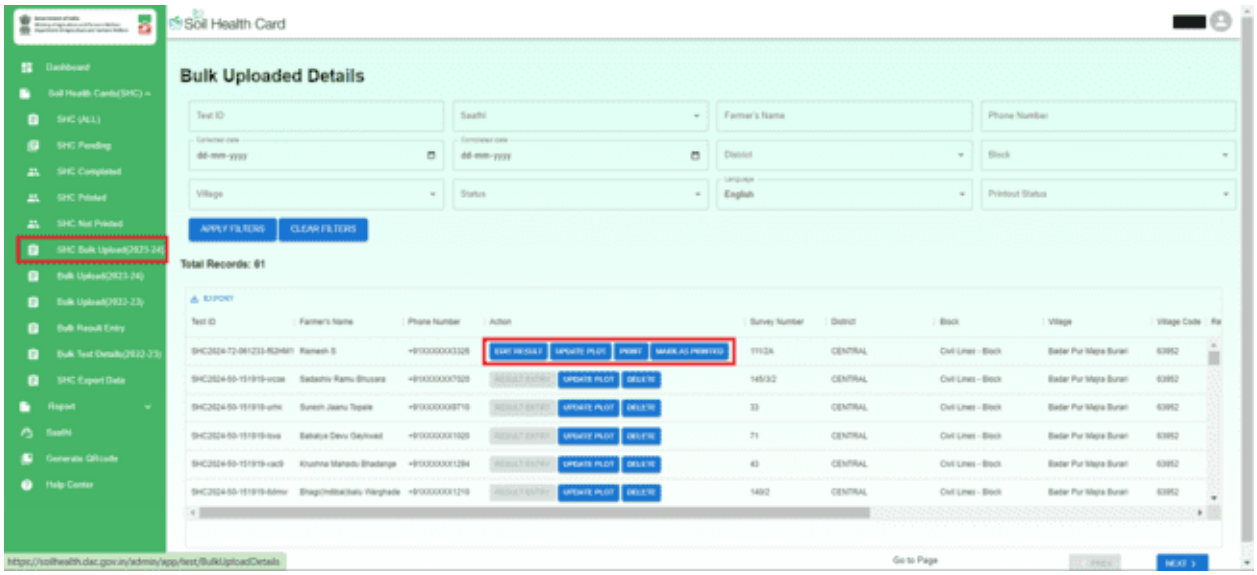
Bulk upload 2023-24 option is provided to upload samples that were collected offline.

- Download the excel file and input all the farmer and sample details
- Enter the District, Block, Village and the preferred crops and upload the file.
- Click on the Submit button.



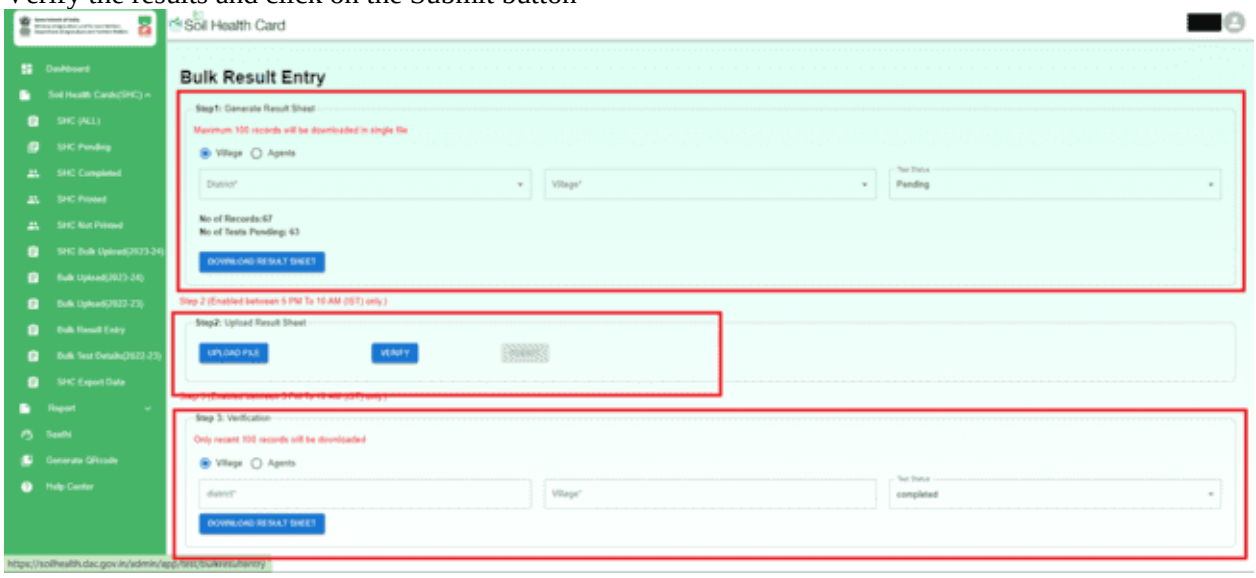
SHC BULK UPLOAD 2023-24

The uploaded samples of Bulk upload 2023-24 are displayed in this option.
Once the Saathi users verify the location, the cards can be printed, Plot can be updated and results can be edited.



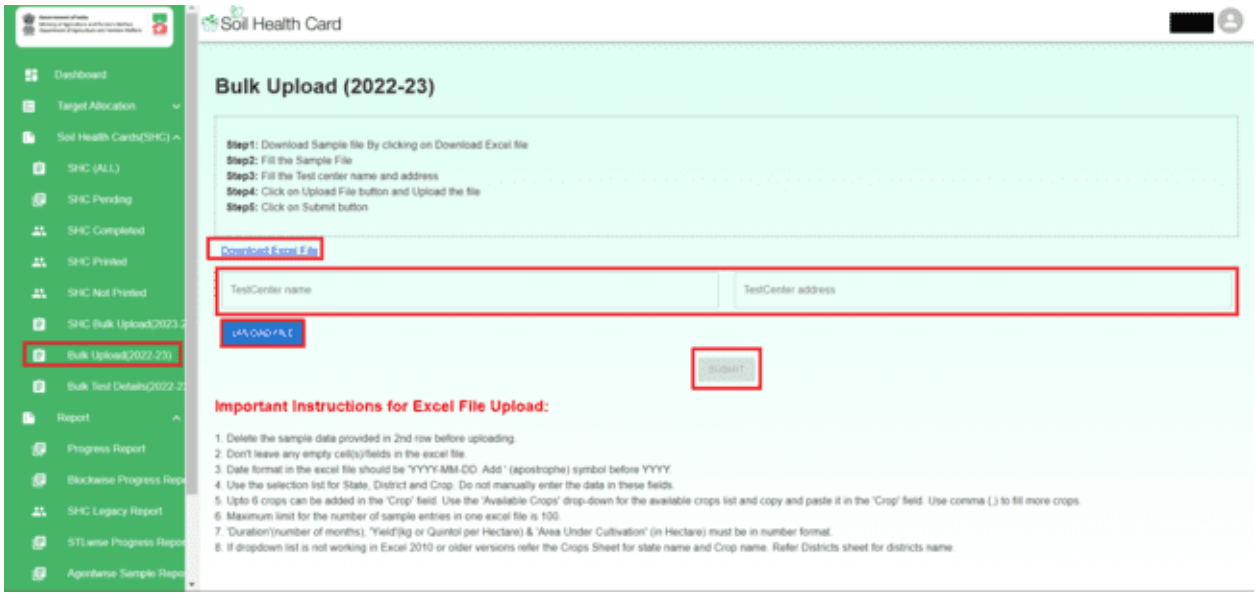
BULK RESULT ENTRY

To enter the results of Samples in Bulk, Click on Bulk Result Entry.
Download by result sheet by village or saathi and click on Download Result Sheet
Once the results have been entered in the excel file select the village or saathi option and upload the file.
Verify the results and click on the Submit button



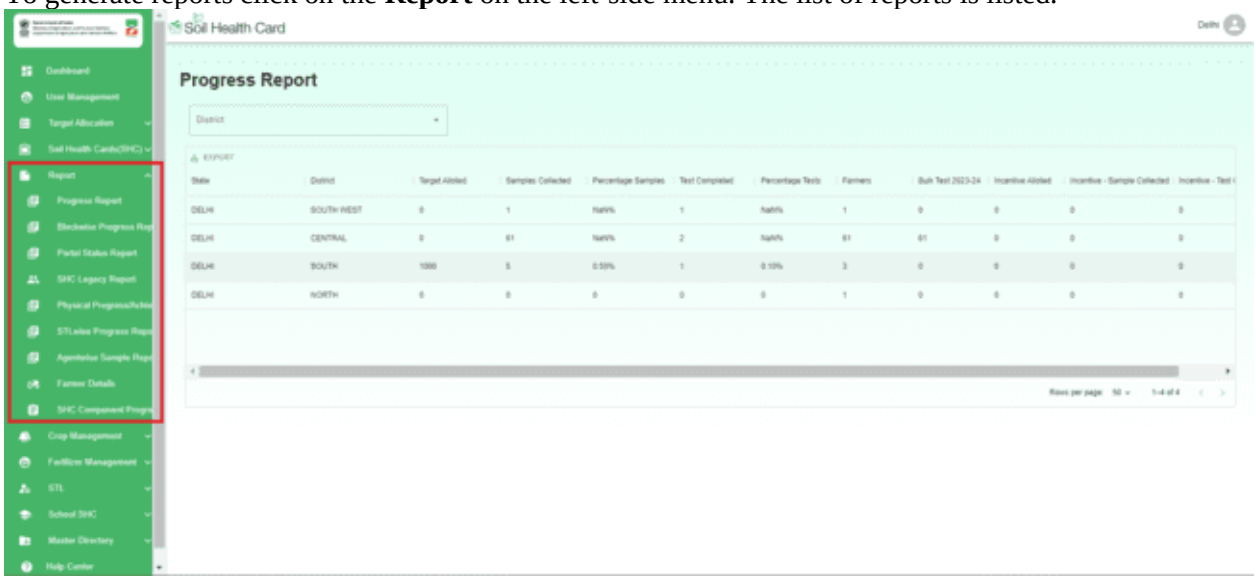
Bulk Upload (2022-23)

To upload the samples collected in the year 2022- 23 Click on Bulk Upload (2022-23) under Soil Health Cards SHC option.
Download the Sample file By clicking on the Download Excel file option
Fill the Sample details in the Excel file and save the file
To upload the file Fill the Test center name and address, Click on the Upload File button and Upload the Excel file
Click on the Submit button



REPORT GENERATION

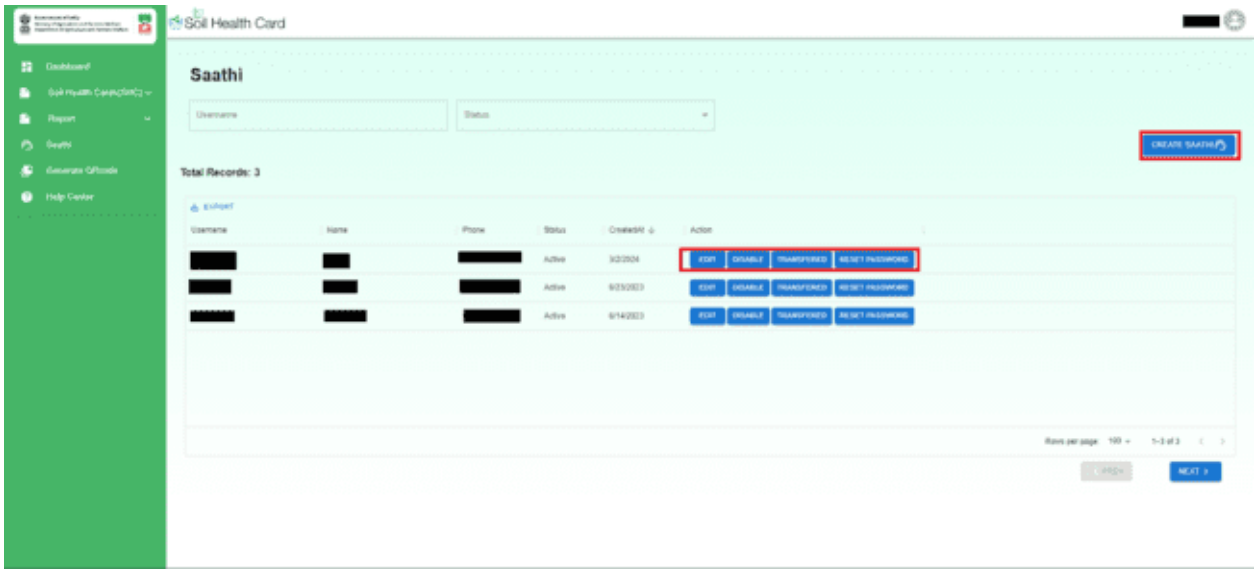
To generate reports click on the **Report** on the left-side menu. The list of reports is listed.



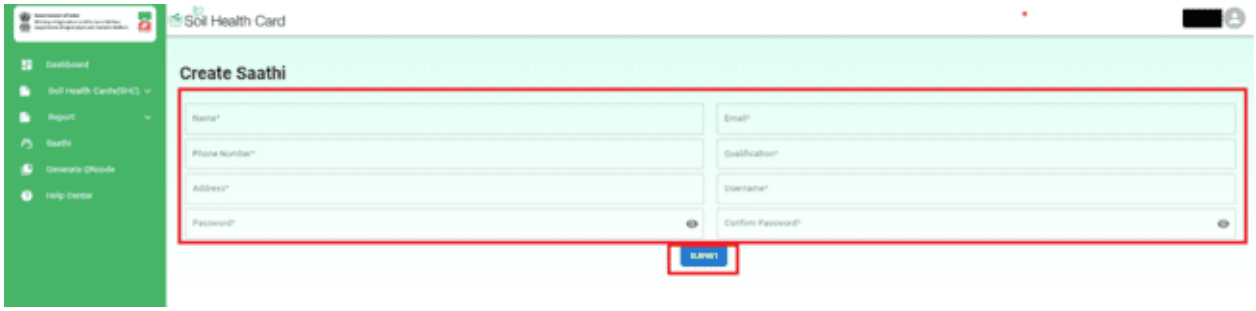
Click on the type of report you want to generate.

SAATHI

To create a Saathi user, Click on the Saathi option, and click on Create Saathi.
To edit the saathi details, click on the Edit option
To disable the saathis user, Click on the Disable option
To transfer the saathi user, Click on the Transfer button
To reset password of the saathi, Click on the Reset password option

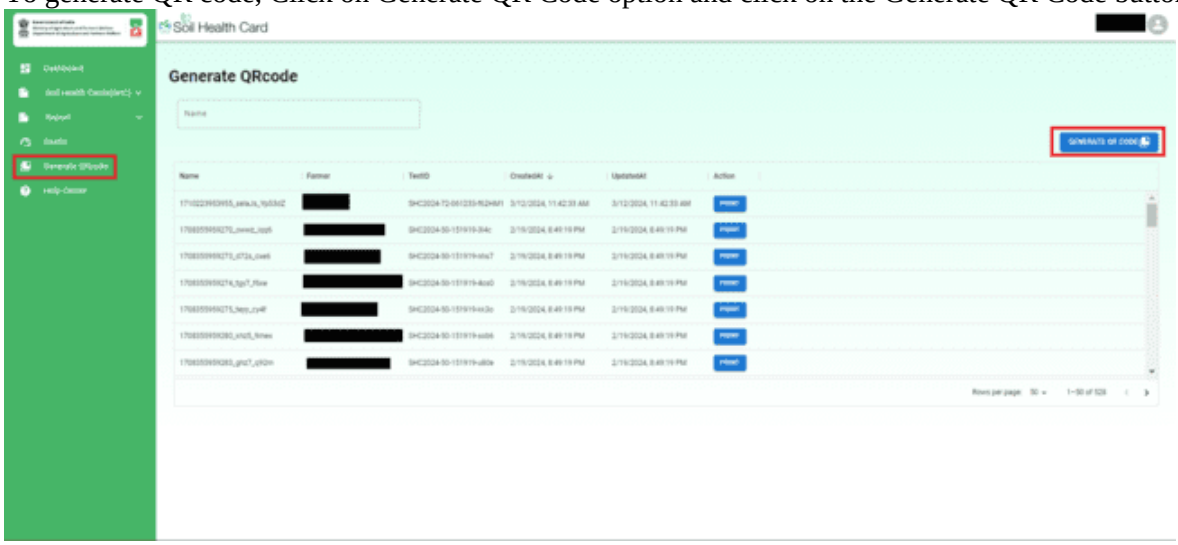


In the Create saathi page, Enter the Saathi details and click on the Submit button

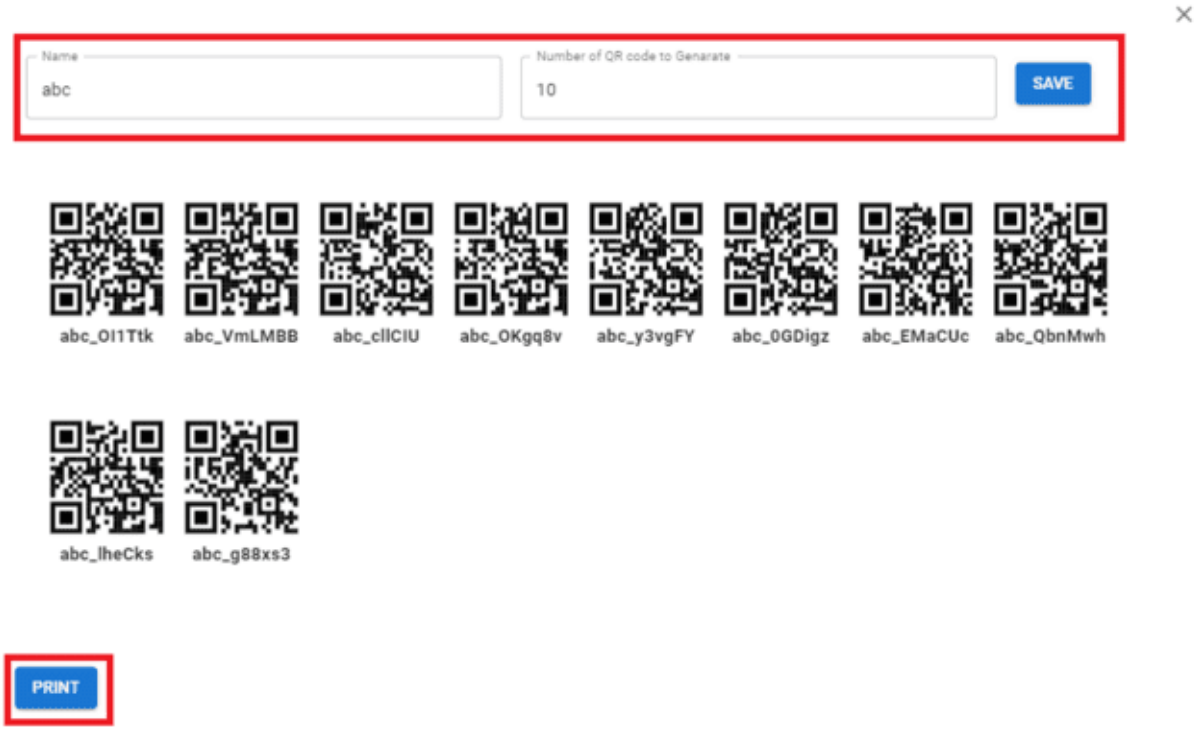


GENERATE QR CODE

To generate QR code, Click on Generate QR Code option and click on the Generate QR Code button.

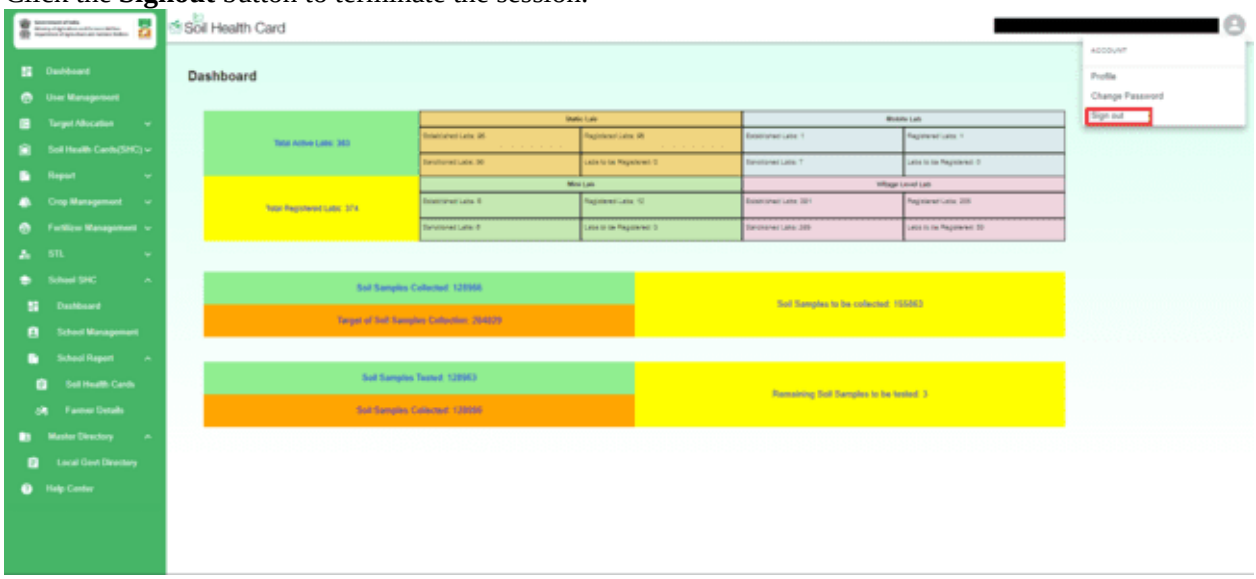


Enter the desired name and number and click on save. Once the QR code is generated, Click on Print button.



LOGOUT

Click the **Signout** button to terminate the session.



Annexure-XXXVII

Guidelines for setting up of Village Level Soil Testing Labs

File No. 14-33/2022-Fert. Use
Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture & Farmers Welfare
(Fertilizer Use Cell / INM Division)

KrishiBhawan, New Delhi
Dated the 22nd June, 2023

To

All States Principal Secretaries Agriculture
/Director of Agriculture/Nodal Officers of Soil Health Card,
States Government/UTs

Subject: Implementation of Soil Health Card Scheme under "Soil Health & Fertility" of Rashtriya Krishi Vikas Yojana (RKVY) from the year 2023-24 -Reg.

Sir,

I am directed to refer to this Department's letter of even no. dated 27.02.2023 and to say that in suppression of all the existing guidelines/instructions, following modifications in the scheme have been made: -

i. The guidelines for setting of VLSTLs have been revised and enclosed herewith for necessary action.
ii. All VLSTLs will be registered on the portal
iii. Tests to VLEs may be allocated as per number of test specified in the enclosed guidelines.
iv. State will ensure 100% user registration for State user, District user and all the Soil Testing Labs (STLs) Users and their Agents for the soil sample collection by 30.06.2023.
v. Proper protocol to be followed for Annual Maintenance of labs by state owned agencies / or by ICAR/KVKs.
vi. Timely validation of reagents, standard solutions, consumables items etc used in soil testing labs may be ensured.

This issue with the approval of competent authority.

(Chandra Shekhar Prasad)
Under Secretary to the Govt. of India

Copy to:

1. PPS to Secretary (A&FW)
2. PPS to Add. Secretary (INM)

3. PPS to JS (INM)
4. DS (INM)
5. Fertilizer Use Cell
6. Mr. Sandeep Kondaji CEO, Klonec Automation Systems Pvt. Ltd.,E-mail ID:sandeep.kondaji@krishitantra.com.

Guidelines for establishment of Village Level Soil Testing Lab under Soil Health and Fertility Scheme of RKVY from year 2023-24 onwards

1. Introduction:

Soil Health Card helps in evaluating the nutrient content and fertility of soil. It provides information based on various nutrients. This data is crucial for delivering the appropriate fertilizer recommendation. Soil management is needed for soil fertility and crop productivity. By analysing soil health by these cards, farmers can understand the specific nutrient deficiency or imbalance in their soil. This allows them to make informed decision about the type and quality of fertilizer required. Therefore with the use of soil health card, the inputs provided can lead to higher yield, better quality crops and increased profitability farmers thus doubling their income. Because of soil health card sustainable agriculture practices are done preventing environmental degradation. Soil Health Card plays crucial role in formulating efficient agriculture policy and programme. The data collected from soil health card is utilized to assess overall soil health status across the region identifying trend and development target intervention. This help in designing policy related to soil management, agriculture extension services and research and development in agriculture.

The Soil Health Cards (SHCs) scheme introduced in the year 2014-15 to assist State Governments to issue soil health cards to all farmers in the country. Soil health card provides information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility. This scheme has been merged as Soil Health & Fertility of Rashtriya Krishi Vikas Yojana (RKVY) from the year 2022-23.

The main objective of the scheme is to assist states in promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients in conjunction with organic manures & bio-fertilizers for improving soil health and its productivity. This scheme has sub-components like, setting up/ strengthening of Soil Testing, Fertilizers/ Bio-fertilizers & Organic fertilizers Quality Control Labs, promoting Micro-nutrients, and testing soil samples to issue Soil Health Cards. 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).Soil Health Card provides information to farmers on soil nutrient status of their soil and recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility.

To popularize the soil test analysis in a campaign mode and to create awareness among the farmers about the soil health for judicious use of chemical fertilizers, organic manure, the component of 'Setting up of Village Level STLs' is being implemented under the scheme. The aims of Soil Health & Fertility scheme is to promote judicious

use of fertilizers as well as crop specific sustainable soil health management by using ICT enabled management system. Village level labs can also be set up by SHGs under The Rural Awareness Works Experience (RAWE) programme, Krishi Sakhis, students of Govt. schools, Agriculture graduates from SAUs, PACS etc.

The decentralization of laboratories at village level facilitates farmers to find the laboratories very near to his dwelling. Target for setting of 7500 labs has been kept for the three years i.e. 2023-26 in the country. As it will be operated by local youth; it will not only help in employment generation but also to ensure behavioral changes of frames for adopting SHC recommendations.

2. Objectives:

(i) Accessible and Affordable Soil Testing:

The primary objective of village-level soil testing labs is to provide easy access to soil testing facilities for farmers at the grassroots level. By establishing labs within the village or nearby areas, farmers can conveniently get their soil samples tested without the need to travel long distances or incur additional expenses.

(ii) Timely and Accurate Soil Analysis:

The labs aim to provide farmers with timely and accurate soil analysis results. By analyzing the soil samples using standardized techniques and equipment, these labs ensure that farmers receive reliable information about their soil's health status. This allows farmers to make informed decisions regarding fertilizer application and soil management practices.

(iii) Customized Soil Nutrient Recommendations:

Village-level soil testing labs help generate personalized soil nutrient recommendations based on the analysis results. By considering the specific nutrient requirements of different crops and the nutrient levels in the soil, these labs provide farmers with tailored recommendations for fertilizer application, thus promoting efficient nutrient management practices.

(iv) Soil Health Awareness and Education:

These labs serve as educational platforms to increase farmers' awareness about soil health and the importance of soil testing. Lab technicians can interact with farmers, explain the soil test reports, and provide guidance on appropriate soil management practices. This helps in disseminating knowledge and empowering farmers to make informed decisions for sustainable agricultural practices.

(v) Cost-effective Soil Management:

Village-level soil testing labs enable farmers to optimize their fertilizer use and minimize input costs. By accurately determining the nutrient content of the soil, farmers can avoid over- or under-application of fertilizers, thus preventing nutrient imbalances and reducing unnecessary expenses. This leads to cost-effective soil management and improved economic returns for farmers.

(vi) Soil Health Monitoring and Long-term Planning:

Soil testing labs also contribute to long-term soil health monitoring and planning. By regularly testing soil samples over time, farmers can track changes in soil health parameters and take proactive measures to prevent soil degradation. This promotes sustainable land management practices and helps in maintaining soil fertility for future generations.

(vii) Data Collection for Agricultural Research:

Village-level soil testing labs contribute to the collection of valuable soil data at the local level. This data can be utilized by agricultural research institutions, universities, and government agencies for conducting studies, formulating policies, and developing region-specific agricultural interventions. It aids in the generation of scientific knowledge and evidence-based decision-making in agriculture.

(viii) Employment generation for rural youth:

As village level soil testing labs are to be set up by local youth. This will increase employment in rural areas.

(ix) Strengthening of Soil Testing Laboratories in the country:

It will increase the number of soil testing laboratories in the country and ultimately it will help to increase the testing capacity of soil samples. Therefore, it will reduce load on static labs and will help farmers to get tested their Soil at door steps.

3. Strategy:

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

(i) Identification of individual entrepreneur i.e. rural youth and community based entrepreneurs i.e. Self Help Groups, PACs, Schools, Agriculture Universities etc for setting up of Village Level Soil Testing Labs

(ii) Organizing training of VLSTLs on soil sampling, testing, generation of soil health card by manufacturers and state government.

(iii) VLSTLs will further educate farmers about fertilizer recommendation and crop recommendation.

4. Scheme Structure

The State Level Executive Committee (SLEC) on the recommendation of District Level Executive Level Committee (DLEC) will approve the empanelment of VLSTLs.

4.1 State Level Executive Committee (SLEC):

The SLEC of RKVY will also be the SLEC for SH&F. It will oversee the implementation of scheme components of the respective states through regular meetings with the nodal and other line Departments.

4.2 District Level Executive Committee

District Level Executive committee (DLEC) will be responsible for carrying forward the objectives of the scheme for project formulation, implementation and monitoring. The District Level Executive Committee (DLEC) will comprise of the following.

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

4.3 DLEC will be responsible for carrying forward the objectives of the scheme for project evaluation, implementation and monitoring. The office of Deputy Director (Agri) / Distt. Agriculture Officer shall be the district nodal agency with following functions.

(I) Identification of individual beneficiary i.e. village level young entrepreneur and community based beneficiaries i.e. PACS, SHGs, School, Agriculture University etc in transparent and time bound manner.

(II) Identification of the premises for establishment of VLSTL which will include the owned or rented space by private entrepreneurs or school labs, SAUs labs, SHGs office, PACS office etc.

(III) Geo-tagging of above such premises will also be ensured through the revamped SHC portal and mobile application. .

(IV) Verification of proof of procured Lab equipment / inputs.

(V) The DLEC will submit proposal to SLEC and SLEC shall ensure selection of beneficiary and approve it within 30 days from the date of receipt of the application(s).

(VI) Training to the beneficiary Entrepreneur will be organized by VLSTL supplier. Govt. soil testing laboratories /KVKs/SAUs etc will provide training on sampling, registration, testing and generating soil health through mobile application.

(VII) The jurisdiction preferably one SHC entrepreneur/ SHG in one Gram Panchayat/Gram Sabha of the village level soil testing project will be decided by DLEC.

(VIII) In case of Cluster of Villages, DLEC will decide the area of Jurisdiction of Village Level Entrepreneur.

(IX) One percent of the samples tested by the beneficiary will be validated by checking of the same sample by three different labs including static labs by state agencies / ICAR-KVKs/any third party.

(X) Testing capacity of each VLSTL is approximately 3000 soil samples in a year. Accordingly, each VLSTL may be assigned soil testing of 300 soil samples @Rs 300/per soil sample for which cost will be borne under the scheme. In addition to that, for the next 500 soil samples, VLE will be given incentive @ Rs.20 per soil sample only from scheme. After that for soil testing will be undertaken by VLE as per the rate decided by the respective State Government.

5. BENEFICIARY:

(i) The beneficiary/village level entrepreneur should be a youth whose age should not be below 18 years and should not be more than 27 years. SHGs, FPOs, PACs can also be enrolled as VLSTL. Eligibility of enrollment of these groups will be decided by DLEC.

(ii) The beneficiary entrepreneur must be 10th pass with science and knowledge of computer.

(iii) The applicant entrepreneur shall submit the application along with requisite qualification certificate, PAN Card, Aadhar Card to the office of Deputy Director/District Agriculture Officer.

(iv) The applicant/entrepreneur group should have their own premises/ rented building with lease agreement for atleast four years

6. Financial Assistance &Timelines:

(i) Under the scheme one time financial assistance of Rs. 1.50 lakh will be given for establishment of Village Level Soil Testing Lab (VLSTL)

(ii) SLEC will finalize the entrepreneur's proposals, received from the District Level Executive Committee (DLEC). The entire procedure will take maximum one-month time.

(iii) State Government will release financial assistance to entrepreneurs within a week after approval of the application.

(iv) Entrepreneurs after receiving fund will submit receipts of procurement of lab equipments, consumables etc. will to DLEC within 15 days.

7. Timelines for sampling and testing: -

i. Sampling and registration on portal: 0-1 days

ii. Analysis of soil samples : 2-4 days

iii. Reporting of analytical data by Mobile App and generation of SHC : 4-5 days

8. Role of Panchayati Raj Institutions (PRIs), SHGs, PACS, SAUs, Govt. Schools, and KVKs/ICAR:-

Gram Panchayats/SHGs, Krishi Sakhi under NRLM / RAWE, PACS, SAUs, KVKs/ ICAR Government Schools etc can play vital role in agricultural developments. The State Government will ensure active participation of these institutions in the implementation of Soil Health Management. PRIs can organize capacity-building programs for farmers to enhance their understanding of soil testing and its implications. They can arrange training sessions in collaboration with agricultural experts and extension officers to familiarize farmers with the process of soil sampling, interpretation of soil test reports, and adoption of recommended soil management practices.

9. Monitoring of activities:

District Agriculture Officer in close coordination of KVKs will be responsible for monitoring of the projects and soil sampling, testing and generating SHC as per timelines mentioned in Para 7 above.

10. Impact Assessment, Periodic Evaluation and Reporting

(i) The Soil Health Card Scheme will be implemented through active involvement and coordination of State Governments, local implementing agencies, beneficiary entrepreneurs and farmers. A periodic review of performance and outcome will be ensured by the office of District Agriculture Officer.

(ii) Centre/State Government/ICAR will evaluate performance of the this component of the scheme by frequent field visits.

11. Expected outcome:

The establishment of village-level soil testing labs is expected to result in

(i) Enhanced soil health awareness,
(ii) Informed decision-making,
(iii) Customized nutrient recommendations,
(iv) Sustainable soil management,
(v) Cost-effective fertilizer use,
(vi) Improved crop yields and quality,
(vii) Environmental sustainability, and
(viii) Knowledge generation.

These outcomes collectively contribute to sustainable agricultural practices, increased productivity, and the well-being of farmers and rural communities.

12. Training of Beneficiary Entrepreneur:

The training programme will be organized by State Government and Manufacturer for beneficiary entrepreneur. Training will include how to collect sample using mobile application, sampling Methodology, how to run the test in village level soil testing labs, maintenance of soil testing machine, how to use the consumables, and finally how to generate the soil health card using test results through mobile application on SHC portal. Entrepreneurs will also be trained for awareness generation of farmers about fertilizer use and crop recommendation based on soil health card.

13. Financial Structure of project of Village Level Soil Testing Lab.

Sr.No.	Item	Cost (Rs.in Lakh)
1.	Soil Testing Machinery with reagents & sample shaker machine and AMC for one year	1.00
2.	Distilled Water, pH Meter, Conductivity meter, Electronic balance, Glass-ware, filter- papers and other need based lab consumables.	0.50
	Total	1.50

14. Sample collection and testing Charges applicable:
Sample collection, Testing and generation of Soil Health Card to farmers- @ the rate of Rs. 300/- per sample which will involve;-

Sl. No.	Item	Cost (in Rs.)
1	Soil Sample Collection	Rs.40
2.	Consumable used for testing	Rs. 150
3.	Awareness of farmers	Rs. 110
	Total	Rs.300

15. Payment of testing Charges:

Payment to VLSTLs will be made through DBT mode.

Annexure-XXXVIII

Admissible items including illustrative list of equipment for setting up of Static Soil Testing Laboratory with annual analyzing capacity of 10,000 samples per annum (For analyzing NPK, secondary nutrients & micronutrients in soil and water)

S.No	Item	Quantity
1	Inductively Coupled Plasma Spectrophotometer(ICP)	1
2	Conductivity Meter	2
3	pH Meter	2
4	Shaking Apparatus	2
5	Electronic Balance	1
6	Analytical Balance/Top Loading Balance	2
7	Drying Oven	1
8	Computer with appropriate Software	1
9	Table Top Centrifuge	1
10	GPS System with Mobile Phone	1
11	Miscellaneous equipments such as Distillation unit, Sieving system, Auto-titrators, bar code Scanner & Printer etc.	-

Annexure-XXXIX

Admissible items including illustrative list of equipment for setting up of Mobile Soil Testing Laboratory with annual analyzing capacity of 5,000 samples per annum (For analyzing NPK, secondary nutrients & micronutrients in soil and water)

S.No	Item	Quantity
1	Atomic Absorption Spectrophotometer (AAS) for MSTL	1
2	Spectrophotometer	1
3	Flame Photometer	1
4	Conductivity Meter	2
5	pH Meter	2
6	Shaking Apparatus	2
7	Electronic Balance	1
8	Analytical Balance/Top Loading Balance	2
9	Drying Oven	1
10	Computer with appropriate Software	1
11	Table Top Centrifuge	1
12	GPS System with Mobile Phone	1
13	Portable Gen set of 7.5 KVA silent type	1
14	Portable Kit	2
15	Customized Vehicle	1
16	Miscellaneous equipment's such as Distillation unit, Sieving system, Auto-titrators, Bar code Scanner & Printer etc.	-

Note:

Atomic Absorption Spectrophotometer (AAS) for MSTL, Spectrophotometer, Flame Photometer, Conductivity Meter, pH Meter, Shaking Apparatus, Electronic Balance, Analytical Balance/Top Loading Balance, Drying Oven, Computer with appropriate Software, Table Top Centrifuge, GPS System with Mobile Phone, Portable Gen set of 7.5 KVA silent type, Portable Kit, Customized Vehicle, Miscellaneous equipments such as Distillation unit, Sieving system, Auto-titrators, Bar code Scanner & Printer etc

Annexure-XL

List of admissible items and equipment for Strengthening of Static/ Mobile Soil Testing Laboratory

S. No.	Items	Quantity
1	Inductively coupled Plasma Spectrophotometer/ Atomic Spectrophotometer(ICP/AAS)	1
2	Conductivity Meter	1
3	pH Meter	1
4	Shaking Apparatus	1
5	Electronic Balance	1
6	Analytical Balance/Top Loading balance	1
7	Drying Oven	1
8	Computer with appropriate Software	1
9	Table Top Centrifuge	1
10	GPS System with Mobile Phone	1
11	Portable Gen set of 7.5 KVA silent type	1
12	Miscellaneous equipments such as Distillation unit, Sieving System, Auto-titrators, bar code Scanner & Printer, etc	-

Annexure-XLI

Illustrative list of Equipments for setting up of new State Fertilizer Testing Labs

S.No.	Items	No.
1	Inductively Coupled Plasma Spectrophotometer/ Atomic Spectrophotometer (ICP/AAS)	1
2	Auto N-Analyzer	1
3	Spectrophotometer	1
4	Water Bath-cum-Shaker	1
5	Muffle Furnace + Oven	1
6	pH Meter	2
7	Vacuum Pump	2
8	Electronic Balance	2
9	Analytical Balance	1
10	Digestion/Distillation Set	2
11	Karl Fisher Apparatus	2
12	Deionizer	1
13	Computer with appropriate Software	1
14	Lab. Articles	1
15	Misc. equipment’s such as Auto-titrators etc.	-

Annexure-XLII

Illustrative list of Equipments for Strengthening of existing State Fertilizer Quality Control Laboratory

S.No.	Items	No.
1	Inductively Coupled Plasma Spectrophotometer/ Atomic Spectrophotometer(ICP/AAS)	1
2	Auto N-Analyzer	1
3	Spectrophotometer	1
4	Water Bath-cum-Shaker	1
5	Muffle Furnace + Oven	1
6	pH Meter	1
7	Vacuum Pump	1
8	Electronic Balance	1
9	Analytical Balance	1
10	Digestion/Distillation set	1
11	Karl Fisher Apparatus	1
12	Deionizer	1
13	Computer with appropriate Software	1
14	Lab. Articles	1
15	Miscellaneous equipment's such as auto-titrators, bar code Scanner & Printer, etc	-

Annexure-XLIII

List of Equipments and Plant and Machinery for Setting up New Bio-fertilizer and Organic Fertilizer (organic manures) Quality Control Laboratory for Capacity of 1000 samples/ year (Essential equipments, for strain maintenance and quality control glass ware, plastic ware etc.

(Rs. in lakh)

S. No.	Item	Quantity required(No)	Rate	Amount
1.	Vertical Autoclave 600x350mm	2	0.8	1.600
2.	Hot Air Oven	2	0.6	1.200
3.	Refrigerator 300 lit	1	0.3	0.300
4.	BOD In cub at or 290 lit	2	1.2	2.400
5.	Laminar air flow work station, working table Size 3'x2'	2	1.5	3.000
6.	Rotary shaker (capable of holding 25 no., flasks of 100- 500 ml capacity)	2	1.25	2.500
7.	Binocular research micro scope with phase contrast attachment (MOST IMPORTANT) having turret condenser and matching phase objectives of 10x,40x and 100x magnification, 10x wide field eye pieces and telescopic centering eyepiece.	1	2.20	2.200
8.	pH Meter (Micro Processor based) and conductivity meter	1 each	0.3	0.600
9.	Small oil free air compressor	2	0.5	1.000
10.	Air conditioners1.5 ton split type	4	0.3	1.200
11.	Miscellaneous equipments and tools such as colony counter, balances, micro liter pipettes/ Deionizer etc	-	LS	4.000
12.	Glass ware and plastic ware aids		LS	2.500
13.	Centrifuge15,000 rpm	1	1.50	1.50
14.	ICP	1	30	30.00
15.	Auto N-Analyzer	1	10.00	10.00
16.	Moisture analyzer	1	2.0	2.0
17.	Chemicals etc.	LS	-	2.50
18.	Assistance for hired manpower on contract	LS		10.00
19.	Computer with appropriate software	1	1.50	1.500
20.	Contingencies	LS	-	5.000
	Total			85.00

Note: For strengthening of existing BOQCL assistance shall be limited to Rs.45.00lakh. Any of the equipment's mentioned above shall be the admissible items for strengthening.

Annexure-XLIV

Rain-fed Area Development (RAD) Cost Norms

Sl. No.	Item	Practices	Proposed Cost Norms
1.	Integrated Farming System	Crops (Millets Crops / Oilseed/ Pulses/Vegetables/fodder) + Trees (Horticulture/Agro Forestry)+Livestock {Milch cows/Buffaloes/small ruminants (10animals (Sheep or Goat or Pigs)/ 50 birds (Duck/ Poultry) }	Rs.30,000/-(thirty thousand) will be provided to each farming family for taking up Integrated Farming System as given at S.No.1and at least two activities given at S.No.2 to 5 shall be included depending on the need of farm house hold, resource available and convergence mechanism identified. The assistance of Rs. 30,000/-shall be uniform for all farmers irrespective of the size of their landholding.
2.	Fishery(Fingerlings)Units	Fisheries in ponds or Rice field	
3.	Apiculture(Bee Keeping)	One unit per farm under plantation/Millets/ Crops.	
4.	Silage making for increased availability of green fodder round the year	Construction of Silo Pit either below ground or above ground with provision of Chaff Cutter and Weighing Balance	
5.	Vermicompost Units/organic input Production unit, green manuring	Construction of Vermicompost units, organic input production units and green manuring.	
6	Capacity Building	Monitoring and capacity building of the beneficiaries through Community Resource Persons (CRPs) under SRLM, Self Help Groups, Champion Farmers under NF program etc.	Rs. 10,000/- per cluster.
7	Formulation of projects for Voluntary Carbon Market by Govt. Agencies/Organisations	Project based	100% assistance to Government agencies/ organizations.
8	Admin Cost	As per RKVY norms	

Note:

(RAD should be complimented by schemes such as WDC-PMKSY, MGNREGA, NFNSM, other components of RKVY, National Mission on Edible Oil-Oilseeds (NMEO-OS), Mission for Integrated Development of Horticulture (MIDH), National Mission on Natural Farming, Sub Mission on Agricultural Extension(SMAE) etc. through convergence.)

Annexure-XLV

Format for Annual Action Plan (AAP)of RAD

The AAP format shall be prepared as given below:

Details of Cluster/Village–

S. No	Name of Cluster-	Total Area under Cluster	Proposed Area under RAD In Cluster	Nos. of Beneficiaries

Implementing Agency:

Total Area proposed for development:

Total Nos. of Cluster: Total Nos .of beneficiaries:

Farming System	Area proposed (ha.)/ Nos.	Number of Beneficiaries	Estimated total Cost (CS+SS)	Assistance Sought from RAD
Integrated Farming System (ha)				
Fishery (fingerlings) Units				
Apiculture Unit				
Silage Unit				
Vermicompost Units/Organic input production unit, Green Manuring				
Capacity Building				
Admin Cost				
Grand Total				

Annexure-XLVI

Rainfed Area Development (RAD) Progress Reporting Format

Sl.	Activity	Unit (ha/ nos)	Physical		Financial				
			Approved Target	Achievement	Total cost	Achievement			Incurred Cost per unit(Rs.)
						Central Share	State Share	Total	
1	Integrated Farming System (ha)								
2	Fishery(Fingerlings) Units								
3	Apiculture Unit								
4	Silage Unit								
5	Vermicompost Units/ Organic input production unit, Green Manuring								
6	Capacity Building								
7	Admin Cost								
	Total								

Annexure-XLVI-A

Progress reporting format for TSP and SCSP component under RAD

A. Physical achievement

Cluster/District	Physical Target						Physical Achievement					
	SC		ST		General		SC		ST		General	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

B. Financial Target

Cluster/District	Financial Target						Financial Achievement					
	SC		ST		General		SC		ST		General	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

C. Average enhancement of farmer's income:

D. Average enhancement in cropping intensity:

Functions of National/State/District Project Management Team (PMT)

- PMT, at all levels, will provide technical backstopping and also help in monitoring of the scheme implementation. The responsibilities of PMTs/ experts at national/state/ district levels are as follows:

  - Design understanding of Sustainable Agriculture Systems including eco system services at Farm level and cluster level.
  - Design understanding of Farmer Producer Organization (FPOs) and Producer Companies (PCs) for value addition and marketing of surplus produce at different cluster levels (GP, Block and District).
  - Design of training Modules of SAS and Farmer producer Organisations (FPOs) &PCs.
  - Coordination for Convergence of resources at national, state, district and GP level.
  - Take up concurrent evaluation based on case studies in identified areas.
  - Performance Matrix development for monitoring.
  - Administration and Coordination of PKVY at respective levels.
  - Undertake publicity/information campaign to create awareness about the scheme activity including organizing workshops/conferences/symposium etc.

Essential qualifications for Support Agency

- Legally registered body under relevant act for last 3 years supported with their annual reports.
- Financially sound supported through last 3 years balance sheets
- At least 3 years of experience in management of organic adoption and certification programmes (Third party or PGS) or organic farming conversion projects through experienced manpower in organic farming.
- Proven track record in facilitating market linkages to their developed organic groups/ clusters.
- Have strong in-house technical team competent in organic farm management, value addition, certification and marketing
- Have experience in FPO/FPC formation and providing handholding to such organizations in their business management.
- Competence in market facilitation and past record in handholding farmer groups in successful marketing shall be the key requirement for selection of service providers.

Roles and Responsibilities of Support Agency

- Deployment of manpower as Lead Resource Persons (LRPs) for effective implementation of programme.
- One LRP shall be deployed for minimum of 100 farmers (means one LRP for 5 groups having 100 ha area.
- Group/ cluster formation through mobilization of interested farmers
- Collection of basic data such as Aadhar card/ PAN card/ Voter ID card, land details and bank account No (for DBT), last 3 years farm history.
- Helps in registration of local groups and ensure generation of user ID and password for data uploading on PGS-India website
- Facilitate local group in data uploading and management on PGS website/ state ICT network (farmers details, 3 years farm history sheets, group summary sheets etc.), if local group do not have access to computer.
- Ensure access of portal data to public to build trust and credibility in the system
- Capacity building of LPs on implementation requirements and ensure implementation of all activities through LRPs
- Trainings to farmers on organic farming activities, as sit in annual plan of action preparation, packing, marketing, logo preparation, transportation etc.
- Helping farmers in developing suitable organic packages and guiding them on regular basis for optimum productivity
- Helping farmers in adopting suitable on farm strategies for nutrient and pest management
- Capacity building of farmers through trainings, group meetings and exposure visits on
- Capacity building of farmers on PGS group operations, documentation, peer appraisals and certification decision
- Capacity building of farmers on PGS standards implementation.
- Capacity building of groups and clusters in institutional development/ FPO/FPC making and their professional management
- Translate and print PGS paper work in local languages
- Submission of monthly, quarterly, half yearly and annual reports
- Facilitating market linkages-Introducing local marketing initiatives to ensure that PGS certified produce finds market as premium produce in local and city markets
- Helping states in brand building activities and projecting states potential in national and international trade fairs with in the country.

Eligible Criteria for Regional Councils

- The organisation/agency should have experts in technical, marketing, training fields
- Should have support of atleast 10 local groups (total 50 farmers). List of farmers to be uploaded as per prescribed format
- Organization should be financially sound supported by legal status (3 years audit report required
- Must not have been black listed from any organization (self declaration required).
- Proof/certificate of adequate experiences (05 years) of PGS-India/any other certification (TPS) in organic farming
- Situated in the area of functioning (proposed to operate PGS-India programme) with permanent office and working personnel's
- If proposed for operation in any other places other than its HQ, then address of branch offices will be required
- Must have adequate infrastructure for online activity (like computer, printer, internet facility etc.)

Roles and Responsibilities of Regional Councils as Agencies endorsing PGS Certification Process

- State Government can select any Regional Council from the list of duly authorized RCs available on PGS website. Preference may be given to RCs located in the nearby areas for cost effectiveness
- One RC shall be given not less than 1000 ha and not more than 3000 ha area in one state (1-3cluster) for certification activities.
- Physical verification of groups at least once a year, including participation in some peer appraisals by group for peer appraiser's competence assessment
- Periodic checking of data being uploaded-Checking of local group summary work sheets for organic certification; whether complete in all respects and are maintained by groups
- Appraisal of summary sheets and communication of compliances/ non-compliances
- Endorsement, returning for review or denial of certification decision
- Activate and issue Certification UID to each Local group in case of endorsement
- Print and distribute annual organic certificates to individual farmer members
- Coordinating RCOF, NCOF, state Government authorities for sample collection for residue analysis and sending to authorized testing laboratories
- Communication of test results
- Time to time reporting to NCOF and State Government authorities

Roles and Responsibilities of Lead Resource Persons (LRPs)

- LRPs can be chosen from the local group of farmers
- LPs shall be the main field functionary and shall be responsible for farmer registration, documentation of the group members, uploading data in coordination with RC and handholding group members for PGS standards implementation in field, PGS documentation, group meetings and helping group members in Peer-appraisals.
- Supervising PGS standards implementation, nutrient and pest management protocols, inputs production, purchase and use
- Participate in peer appraisals as external member, help farmers in peer appraisal report preparation, summary sheet development and yields assessment
- Coordinate with RCs for physical verification and timely data submission.
- Submission of time to time reports to cluster coordinator
- Providing hard data to cluster coordinator for uploading

Methodology for providing certification assistance to individual farmers/small farmer groups and large contiguous area under traditional/default organic farming

1. **Methodologies for individual and small group farmers will be as follows:**

   a) States will identify the willing farmers/ groups and encourage them to register themselves for certification with concerned Regional Council accredited certification body under NPOP and farmers/ groups can approach the state authorities for enrolment or can enroll directly with intimation to state.
   b) Enrolled farmers/groups will have to register themselves on the Jaivik Kheti portal, once they are ready with scope certificate having IC-1 status.
   c) States can access the details of such farmers/ groups from Jaivik Kheti portal from time to time and send verified list to the PKVY national Project Monitoring Unit. Funds will be reimbursed directly to the Regional Councils and Certification Bodies on receipt of verified list from the state. Regional Councils and certification bodies can also assist the states for getting their farmers/ groups verified by the state.
   d) States will ensure adequate publicity and awareness to attract more and more farmers and small groups.
   e) Based upon state-wise registration and verification, funds will be provided as reimbursement directly to the RCs or certification bodies within the limit prescribed under component 14 B (3&4).
   f) In case if a farmer is having land less than 1.00 ha then his cost will be calculated on prorate basis.

2. **Certification of traditional/ default organic areas**

   a) Declaration of the defined area as chemical input usage and GMO free (at least no such input use history in last 5 years) by state Government and/or local administration. Ban on use of all agro-chemicals within the identified geographical territory
   b) Adoption of organic farming policy and practices by all the farmers in the region and its corroboration by village councils or Gram Panchayats
   c) One-time documentation of all cultivated land and farmers and making of village wise clusters/ groups. Registration of village as one unit with total area and number of farmers
   d) State may constitute an experts committee comprising of members from MoA & FW, APEDA, NCOF and states to evaluate the organic status of the area and recommend for declaration of the defined area as organic. The committee will also give recommendations on the need for reduction or elimination of conversion period
   e) Subsequent annual inspection will be taken up by the RCs as per PGS-India peer appraisal. There will be single Peer appraisal of the village and uploading of village data on PGS-India website.
   f) Once the entire area villages are certified the entire area can be declared as organic
   g) For ensuring marketing there will be need for capturing of estimated yield, commodity-wise, village-wise and farmer-wise on PGS portal.
   h) Financial assistance will be provided to the Gram Panchayats or States (for hiring the resource agencies/ persons) for capacity building and certification facilitation @ Rs. 900/- per hal year for three years, as per the provisions at component 14 B (3&4).