

**OFFICE OF THE DIRECTOR OF HORTICULTURE & SECRETARY
ODISHA HORTICULTURE DEVELOPMENT SOCIETY: ODISHA: BHUBANESWAR**

No.1S (H₁)-3/17/ 1 / 1674 /Hort., Dated 08.02.2019

To

The Dy. Director of Horticulture (All)
Asst. Director of Horticulture All (Independent Charges)

Sub : Communication of revised guidelines for implementation of the Centrally Sponsored Scheme of Micro Irrigation under 'Per Drop More Crop' of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) for the year 2018-19.

Ref.: This Directorate letter no. 1/11033 /Hort., dated 04.09.2017.

Sir,

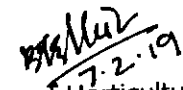
With reference to the subject cited above, this is to inform that certain changes have been incorporated in the operational guidelines of Per Drop More Crop (Micro Irrigation) component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) by the Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Govt. of India. Accordingly, the guidelines issued vide this Directorate letter under reference has been revised. The revised guidelines are communicated herewith for implementation of the Scheme in the State of Odisha.

The revised guidelines are applicable with immediate effect. It can also be accessed in the **website: www.odihort.nic.in**

This is for your information and necessary action.


Yours faithfully

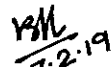
Encl. As above.


7.2.19
Director of Horticulture &
Secretary, OHDS

Memo No. 1 / 1675 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Collector & District Magistrate (All) for favour of information and necessary action with reference to this Directorate Memo No.1/11034/Hort., Dated 04.09.2017.

Memo No. 1 / 1676 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Registered System Manufacturers in Odisha (All) for information and necessary action with reference to this Directorate Memo No.1/11035/Hort., Dated 04.09.2017.


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Director of Horticulture &
Secretary, OHDS


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Director of Horticulture &
Secretary, OHDS

Memo No. 1/1677 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to Executive Director, NCPAH, New Delhi email: js@ncpahindia.com / naresh_modi@ncpahindia.com for information and necessary action with reference to this Directorate Memo No.1/11036/Hort., Dated 04.09.2017.

Memo No. 1/1678 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Additional Commissioner (RFS), Ministry of Agriculture & Farmers Welfare, Deptt. of Agriculture Cooperation & Farmers Welfare, Govt. of India, email: brath@nic.in for information and necessary action.

Memo No. 1/1679 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Under Secretary, Ministry of Agriculture & Farmers Welfare, Deptt. of Agriculture Cooperation & Farmers Welfare, Govt. of India, email: us.ofwm.mi@gmail.com for information and necessary action.

Memo No. 1/1680 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Director, ICAR-Indian Institute of Water Management, Rail Vihar, Chandrasekharapur, Bhubaneswar, Email ID: director.iwmm@icar.gov.in/ Director, Central Institute of Plastics Engineering & Technology, Bhubaneswar, Email ID: bhubaneswar@cipet.gov.in/Principal Investigator, Precision Farming Development Centre, OUAT, Bhubaneswar, Email ID: pfdc_bhubaneshwar@yahoo.co.in for information and necessary action.

Memo No. 1/1681 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines forwarded to the Director of Agriculture & Food Production, Odisha, Bhubaneswar /Director of Soil Conservation & Watershed Development, Odisha, Bhubaneswar/Commissioner-cum-Director, Watershed Development Mission, Odisha, Bhubaneswar for information and necessary action with reference to this Directorate Memo No.1/11040/Hort., Dated 04.09.2017.

Memo No. 1/1682 /Hort., Dated 08.02.2019
Copy along with the copy of the revised guidelines submitted to the Principal Secretary to Govt., Department of Agriculture & Farmers' Empowerment, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to this Directorate Memo No.1/11041/Hort., Dated 04.09.2017.

Director of Horticulture & Secretary, OHDS
7.2.19
Director of Horticulture & Secretary, OHDS

Copy to Sri Debasish Pattanaik, HEW for hoisting the revised guidelines in the Directorate website: www.odihort.nic.in

S-T
Pl. issue the
name as A.K. Das,
Sr. Asst.
AKD
08.02.79

Operational Guidelines
of
Per Drop More Crop (Micro Irrigation)
Component of PMKSY



2017

Government of Odisha
Department of Agriculture & Farmers Empowerment

Directorate of Horticulture
Bhubaneswar, Odisha

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Abbreviations	
AC&FW	Agriculture Cooperation & Farmers Welfare
AIBP	Accelerated Irrigation Benefit Programme
ATMA	Agriculture Technology Management Agency
BIS	Bureau of Indian Standards
CIPET	Central Institute of Plastics Engineering and Technology
CST	Central Sales Tax
DAC&FW	Department of Agriculture, Cooperation & Farmers Welfare
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
GoI	Government of India
HDPE	High Density Polyethylene
HP	Horse Power
HRD	Human Resource Development
ICAR	Indian Council of Agricultural Research
ICT	Information Communication Technology
IDWG	Inter Departmental Working Group
IMD	Indian Meteorological Department
IPPE	Intensive Participatory Planning Exercise
ISRO	Indian Space Research Organisation
IWMP	Integrated Watershed Management Programme
KVK	Krishi Vigyan Kendra
LST	Local Sales Tax
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
Mha	Million Hectare
MI	Micro Irrigation
MIS	Micro Irrigation System
MLALAD	Member of Legislative Assembly Local Area Development
MoA	Ministry of Agriculture
MoRD	Ministry of Rural Development
MoWR	Ministry of Water Resources
MPLAD	Member of Parliament Local Area Development
NABARD	National Bank for Agriculture & Rural Development
NABCONS	NABARD Consultancy Services
NCPAH	National Committee on Plasticulture Applications in Horticulture
NEC	National Executive Committee
NEH	North Eastern & Himalayan States

NGO	Non-Governmental Organisation
NRAA	National Rain-fed Area Authority
NRM	Natural Resource Management
NSC	National Steering Committee
PFDCs	Precision Farming Development Centres
PMKSY	Pradhan Mantri Krishi Sinchayee Yojana
PRI	Panchayati Raj Institutions
PVC	Poly Vinyl Chloride
RIDF	Rural Infrastructure Development Fund
RKVY	Rashtriya Krishi Vikas Yojana
SAC	Space Application Centre
SAGY	Sansad Adarsh Gram Yojana
SAU	State Agricultural University
SC	Schedule Caste
SCP	Special Component Plan
SIP	State Irrigation Plan
SLNA	State Level Nodal Agency
SLSC	State Level Sanctioning Committee
S&MF	Small & Marginal Farmers
ST	Schedule Tribe
TIN	Tax Identification Number
TSP	Tribal Sub – Plan
UC	Utilisation Certificate

Salient Features of the Scheme

- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been launched with the motto of providing "Har Khet Ko Paani" and end-to-end solutions in irrigation supply chain, viz. water sources, distribution network and farm level applications. It comprises of four components, namely (i) Accelerated Irrigation Benefit Programme (AIBP), (ii) Har Khet Ko Paani, (iii) Watershed Development and (iv) Per Drop More Crop.
- PMKSY has a two-tier structure at the Central level with National Steering Committee (NSC) under the Chairmanship of Hon'ble Prime Minister and National Executive Committee (NEC) under the Chairmanship of Vice Chairman, Niti Aayog.
- PMKSY Mission Directorate has been established in Ministry of Water Resources, River Development and Ganga Rejuvenation for mission mode implementation of 99 major and medium irrigation projects. The Mission is also responsible for overall coordination and outcome focused monitoring of all components of PMKSY for achieving its target.
- At the state level, PMKSY has a three-tier structure with State Level Sanctioning Committee (SLSC) under the Chairmanship of Chief Secretary; Inter-departmental Working Group (IDWG) under the Chairmanship of Agriculture Production Commissioner (APC)/Development Commissioner; and District Level Implementation Committee (DLIC) under the Chairmanship of District Collector/Magistrate.
- District Irrigation Plans (DIP) is the cornerstone for planning and implementation of different components of PMKSY 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.
- The annual action plans is to be drawn from district irrigation plans/state irrigation plan focusing on cluster based approach and integrated development of different components in the irrigation chain.
- The scheme is to be implemented through the mechanism of Direct Benefit Transfer (DBT). Aadhar details of the beneficiary are required to access the benefit of the programme. Aadhar details need to be linked through a web based registration process.
- The scheme will be monitored through web-portal of PMKSY. Physical and Financial progress achieved during the preceding month is required to be uploaded by states on the web-portal of PMKSY by 5th of every month.
- More focus be given on promotion of micro irrigation for water intensive/guzzling crops to minimise water requirement.
- 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 which will be met by both Central Government and State Government in the ratio of 60:40 for all states except the North Eastern and Himalayan states. In the case of these states, ratio of sharing is 90:10. For the Union Territories, funding pattern is 100% grant by the Central Government. **In Odisha, 35% top up subsidy will be provided out of State Plan over and above the assistance mentioned above for all categories of farmers. Hence, assistance payable to the beneficiary under micro irrigation scheme will be 90% for small and marginal farmers and 80% for other farmers.**

- The subsidy payable to the beneficiary will be limited to an overall ceiling of 5 hectare per beneficiary.
- The subsidy payment will be limited to the unit costs specified in the scheme guidelines. 25% higher amounts have been taken into calculation of subsidy for the North Eastern and Himalayan states and 15% higher for states with low penetration of MI namely Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh and West Bengal.
- 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 approval of SLSC.
- Only BIS marked systems/components can be supplied under the scheme.
- The company will provide free after sales service 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.
- In case the company intends to supply imported components, it shall obtain prior approval from DAC&FW, MoA&FW, New Delhi subject to indigenization of manufacturing of the component within the country in a period of two years.
- Human resource development is an important component of the scheme and suitable provisions have been made in the guidelines for creating awareness, organizing training programmes, and exposure visits etc.

1. Introduction

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched on 1st July, 2015 with the objective to achieve convergence of investments in irrigation sector at field level. The scheme aims at providing end-to-end solutions in irrigation supply chain, viz. water sources, distribution network and farm level applications. PMKSY not only focuses on creating water sources for assured irrigation, but it is also creating protective irrigation by harnessing rain water at micro level through 'Jal Sanchay' and 'Jal Sinchan'. Micro irrigation is an integral component of the scheme to maximise water use efficiency at farm level. PMKSY adopts state level planning and projectised execution that allows states to draw up their own irrigation development based on District irrigation Plans and State Irrigation Plan.

2. Programme components of PMKSY

Components of the PMKSY are as under:

- 2.1. **Accelerated Irrigation Benefit Programme (AIBP)** - to focus on faster completion of ongoing Major and Medium Irrigation projects - being implemented by MOWR, RD&GR.
- 2.2. **PMKSY (Har Khet Ko Pani)** - to focus on source augmentation, distribution, ground water development, lift irrigation, diversion of water from water plenty to water scarce areas, supplementing rain water harvesting beyond IWMP & MGNREGA, repair, restoration, renovation of traditional water bodies etc. - being implemented by MoWR, RD&GR.
- 2.3. **PMKSY (Per Drop More Crop)** - to focus on micro level storage structures, efficient water conveyance & application, precision irrigation systems, topping up of input cost beyond MGNREGA permissible limits, secondary storage, water lifting devices, extension activities, coordination & management - being implemented by DAC&FW.
- 2.4. **PMKSY (Watershed Development)** - to focus on ridge area treatment, drainage line treatment, soil and moisture conservation, water harvesting structure, livelihood support activities and other watershed works being implemented by DoLR.

3. Programme Architecture

- 3.1. Per Drop More Crops (Micro Irrigation) will adopt the institutional set up and architecture of overall PMKSY framework as given in the Operational Guidelines of PMKSY. The broad institutional structure as per PMKSY Guideline are:
 - a) National Steering Committee (NSC) under the Chairmanship of Hon'ble Prime Minister with Union Ministers from concerned ministries and Vice chairman, NITI Aayog as members to provide general policy strategic directions for programme implementation and overall supervision addressing national priorities etc.
 - b) National Executive Committee (NEC) under the Chairmanship of Vice Chairman, Niti Aayog with Secretaries of concerned ministries/departments and Chief Secretaries of selected States as members to oversee programme implementation, allocation of resources, Inter-ministerial coordination, monitoring & performance assessment, addressing administrative issues etc.
 - c) PMKSY Mission Directorate has been established in Ministry of Water Resources, River Development and Ganga Rejuvenation for mission mode implementation of 99 major and medium irrigation projects. The Mission is also responsible for overall coordination and outcome focused monitoring of all components of PMKSY for achieving its target.

- d) State Level Sanctioning Committee (SLSC) under the Chairmanship of Chief Secretary of the State to sanction projects and activities as recommended by IDWG. The SLSC has been constituted vide G.O.No.19355/Ag. dtd.10.12.2015. The members of the Committee are as follows:

1	Chief Secretary	Chairman
2	APC/DC-cum-ACS	Vice-Chairman
3	Secretary, Finance	Member
4	Secretary, Planning and Coordination	Member
5	Secretary, Fishery and ARD	Member
6	Secretary, Forest and Environment	Member
7	Secretary, Panchayatiraj	Member
8	Secretary, Water Resources	Member
9	Secretary, Cooperation	Member
10	Secretary, Rural Development	Member
11	Director, Agriculture	Member
12	Director, Horticulture	Member
13	Director, Watershed Development Mission	Member
14	Director, Fisheries	Member
15	Director, Animal Husbandry & Vet Services	Member
16	Rep. of Deptt. of AC&FW, GoI	Member
17	Rep. of Deptt. Of Animal Husbandry, Dairying and Fisheries, GoI	Member
18	Rep of Planning Commission (NITI Ayog)	Member
19	Rep of Ministry of Water Resources, Deptt. of Land Resources, GoI	Member
20	Rep of Ministry of Rural Development, GoI	Member
21	Vice Chancellor, OUAT	Member
22	Secretary, Agriculture	Member-Secretary

- e. Inter Departmental Working Group (IDWG) under the Chairmanship of Agriculture Production Commissioner/ Development Commissioner with Secretaries of line departments as members. States, if they feel, may take the advice /input of MI manufacturers by inviting representative from manufacturers/ Micro Irrigation Industries as special invitee. The IDWG has been constituted vide G.O.No. 19345/Ag., dtd. 10.12.2015 with the following members:

1	APC/DC-cum-ACS	Chairman
2	Secretary, Agriculture	Member
3	Secretary, Science & Technology	Member
4	Secretary, Fishery and ARD	Member
5	Secretary, Forest and Environment	Member
6	Secretary, Panchayatiraj	Member
7	Secretary, Water Resources	Member
8	Secretary, Industries	Member
9	Secretary, Rural Development	Member
10	Secretary, Housing and Urban Development	Member
11	Director, Agriculture	Member
12	Director, Horticulture	Member
13	Director, Watershed Development Mission	Member
14	Director, Image	Member
15	Vice Chancellor, OUAT	Member
16	Addl. Secretary/Joint Secretary/ Deputy Secretary, Agriculture	Member-Secretary

- f. 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 PMKSY implementation and inter-departmental coordination. The DLIC has been constituted vide No.185 dtd. 29.01.2016 of the Director, Odisha Watershed Development Mission, Bhubaneswar with the following members:

1	Collector & District Magistrate	Chairperson
2	Project Director, DRDA	Member
3	District Forest Officer	Member
4	Dy. Director of Horticulture, Member	Member
5	Scientist, KVK, OUAT	Member
6	Executive Engineer, RWSS	Member
7	Executive Engineer, Rural Development	Member
8	Executive Engineer, Ground Water	Member
9	Executive Engineer, OLIC	Member
10	Executive Engineer, Minor Irrigation	Member
11	Executive Engineer, Water Resources	Member
12	Project Director/Executive Engineer, CADA	Member
13	Lead Bank Officer	Member
14	Progressive Farmer (2 nos.)	Member
15	Leading Non-Government Organization	Member
16	Dy. Director, Agriculture, ATMA	Member Secretary cum Convener
17	Dy. Director Soil Conservation cum Project Director Watershed	Member & Co- convener

4. Nodal Department

- 4.1 Since the final outcome of PMKSY is to ensure access to efficient delivery and application of water at every farm thereby enhancing agricultural production & productivity, State Agriculture Department may be the Nodal Department for implementation of PMKSY (Per Drop More Crop). However, State Govt. is free to identify the nodal department based on the established institutional set up and mandate of the department. All communication between Ministry of Agriculture (MoA) and State Government would be with and through the nodal department.
- 4.2 States are free to identify dedicated implementing agencies/departments for implementation of Per Drop More Crop (Micro Irrigation). If two departments are assigned for implementation, one department be designated as the nodal department. Directorate of Horticulture, Odisha is the Implementing Agency for the Scheme of Micro Irrigation in the State.
- 4.3 Executive Engineer (Agriculture), Directorate of Horticulture, Bhubaneswar will be the Nodal Officer who will supervise the implementation process of the scheme of Micro Irrigation in the State.

- 4.4 A Technical Support Group (TSG) with the following members will provide technical inputs for smooth implementation of the scheme:

i)	Director of Horticulture:	Chairman
ii)	Executive Engineer (Agril.), O/o DH(O):	Member
iii)	Representative from PFDC, OUAT:	Member
iv)	Representative from ICAR-IIWM:	Member
v)	Representative from CIPET:	Member
vi)	Representative from System Manufacturers:	Member
vii)	AAE, O/o DH(O):	Member-Convenor

5. District and State Irrigation Plans (DIPs& SIPs)

- 5.1. District Irrigation Plans (DIPs) are the cornerstone for planning and implementation of different components of PMKSY which will identify gaps in irrigation infrastructure after taking into consideration the District Agriculture Plans (DAPs) vis-a-vis irrigation infrastructure currently available and resources that would be added from ongoing schemes, both State and Central.
- 5.2. 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.
- 5.3. The annual action plans for **Per Drop More Crop (Micro Irrigation)** will be drawn from DIPs and implemented in conjunction with the water sources created under PMKSY in cluster mode for holistic development as far as possible.

6. Objectives of Per Drop More Crop (Micro Irrigation)

The main objectives of Per Drop More Crop (Micro Irrigation) are as under

- 6.1 Increase the area under micro irrigation technologies to enhance water use efficiency in the country.
- 6.2 Increase productivity of crops and income of farmers through precision water management.
- 6.3 Promote micro irrigation technologies in water intensive/consuming crops like sugarcane, banana, cotton etc and give adequate focus to extend coverage of field crops under micro irrigation technologies.
- 6.4 Make potential use of micro irrigation systems for promoting fertigation.
- 6.5 Promote micro irrigation technologies in water scarce, water stressed and critical ground water blocks/districts
- 6.6 Link tube-well / river-lift irrigation projects with micro irrigation technologies for best use of energy both for lifting and pressurised irrigation as far as possible.
- 6.7 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.

- 6.8 Promote, develop and disseminate micro irrigation technology for agriculture and horticulture development with modern scientific knowledge.
- 6.9 Create employment opportunities for skilled and unskilled persons, especially unemployed youth for installation and maintenance of micro irrigation systems.

7. Implementation Strategies

- 7.1. Water is becoming scarce commodity these days due to competitive demand and also due to the change in climatic behaviour, particularly the erratic nature of rainfall. 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" and "Per Drop More Crop" of PMKSY 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. Cluster approach may be adopted in irrigation chain development, to have effective integration of source, connectivity, distribution and application.
- 7.2. 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.
- 7.3. 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.
- 7.4. Facilities of micro irrigation is underutilised 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 given desired attention for promoting fertigation.
- 7.5. 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.
- 7.6. More focus and priority be given for promoting micro irrigation technologies in 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. Where ever feasible efforts be made to Link tube-well / river-lift irrigation projects with micro irrigation technologies for best use of energy both for lifting and pressurised irrigation.

- 7.7. 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 5 ha. 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 7 years.
- 7.8. In case of Cooperative/group farming, members of cooperative societies, self-help groups, incorporated companies, panchayatiraj institutions, NGOs, Trusts, growers' associations will be entitled to avail financial assistance through their respective bodies. In such cases, the individual beneficiary will receive financial assistance only through the respective organizations with in the overall ceiling of 5 ha per beneficiary.
- 7.9. 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 seven years from the date of approval of application by the MI implementing agency.
- 7.10. Raw material price of polymers & other costs varies a lot because of fluctuation in national/international prices. Accordingly, the Ministry of Agriculture, Government of India would consider revision of unit cost norms periodically if found necessary.
- 7.11. PFDCs, ICAR, CIPET, ATMA etc and other reputed NGOs 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.

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

- 8.1. 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, Goa, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu and Telangana. These states are considered to be category "A" States with comparatively better penetration of micro irrigation technologies.
- 8.2. 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.
- 8.3. Fertigation is important for getting the 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.
- 8.4. 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 0.4 ha to 5 ha is at Annexure-IV a to f, 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

Spacing	(Cost in Rs.)					
	0.4 ha	1 ha	2 ha	3 ha	4 ha	5 ha
12x12	15853	21643	34417	53437	66480	84653
10x10	16419	23047	37171	57647	72205	91806
9x9	16826	24035	39145	60610	76238	96852
8x8	17351	25332	41650	64500	81527	103459
6x6	19096	30534	51045	82472	100016	125498
5x5	20674	34664	59154	85484	108635	145964
4x4	21414	36562	64084	99965	130884	155778
3x3	23055	42034	72759	112065	140936	176457
2.5x2.5	31156	60065	109345	167011	234396	286297
2x2	36358	73138	141957	206232	286504	351667
1.5x1.5	41369	85603	163137	243633	336484	414002
2.5x0.6	30810	63145	116042	177345	246276	302318
1.8x0.6	37845	80599	152551	229637	312784	389511
1.2x0.6 (or lower spacing)	50388	112237	213400	323019	435788	545181

- 8.5. The unit cost of Drip Irrigation system varies with respect to plant spacing and location of the water source.
- 8.6. Assistance under the scheme is available for all types of drip irrigation systems such as on-line & in-line drip irrigation systems.
- 8.7. In case of crops with plant spacing other than those mentioned in Table-1a, the amount of assistance could be calculated on pro rata/average basis of the nearest plant spacing. Alternatively, assistance amount may be calculated as per the unit cost of the nearest spacing of plants.
- 8.8. 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.
- 8.9. 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 2 ha per beneficiary.
- 8.10. 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.

9. Drip Irrigation System in States with low penetration

9.1 Based on the prevailing coverage and acceptance by farmers, states namely Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh, West Bengal 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 to 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 - IV a to f.

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

(Cost in Rs.)

Spacing	0.4 ha	1 ha	2 ha	3 ha	4 ha	5 ha
12x12	18231	24889	39579	61453	76452	97351
10x10	18882	26504	42747	66294	83036	105577
9x9	19350	27640	45017	69702	87674	111380
8x8	19954	29132	47897	74175	93756	118978
6x6	21960	35114	58702	94843	115018	144323
5x5	23775	39864	68027	98307	124930	167859
4x4	24626	42046	73697	114960	150517	179145
3x3	26513	48339	83673	128875	162076	202926
2.5x2.5	35829	69075	125747	192063	269555	329242
2x2	41812	84109	163251	237167	329480	404417
1.5x1.5	47574	98443	187608	280178	386957	476102
2.5x0.6	35431	72617	133448	203947	283217	347666
1.8x0.6	43522	92689	175434	264083	359702	447938
1.2x0.6 (or lower spacing)	57946	129073	245410	371472	501156	626958

9.1 The assistance will be available for all types of drip irrigation systems - online and in-line drip irrigation systems.

9.2 In case of crops with plant spacing other than those mentioned in the Table above, the amount of assistance could be calculated on pro rata/average basis of the nearest plant spacing. Alternatively, assistance amount may be calculated as per the unit cost of the nearest spacing of plants.

9.3 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.

10. Drip Irrigation System for North Eastern and Himalayan States

10.1. 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:

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

10.2. 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 1b below (including 25%) for the indicative list of system components is at Annexure -IV g to I.

Table 3: Unit Cost for NEH States

(Cost in Rs.)

Spacing (mxm)	0.4	1	2	3	4	5
12x12	20279	27158	46000	73591	111441	144284
10x10	20976	28920	50458	78775	119138	153071
9x9	21480	30486	52905	82438	123475	159309
8x8	22133	31809	56041	87264	130037	165828
6x6	24310	40360	67434	139730	159652	200811
5x5	26295	45339	77616	142545	169569	225871
4x4	27076	47365	81486	160455	187524	236371
3x3	29214	58655	92858	176213	209935	263341
2.5x2.5	40981	77990	138683	226489	333612	414657
2x2	47085	94259	179140	275295	398722	494350
1.5x1.5	52700	108205	204438	317146	454682	564102
2.5x0.6	41079	91160	163016	225796	368375	454067
1.8x0.6	50193	113788	210371	293801	454622	567120
1.2x0.6 (or lower spacing)	66444	158489	289296	414684	614137	768984

11. Sprinkler Irrigation

11.1 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.

11.2 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 aluminium pipes as well. The sprinkler irrigation systems may be portable, mini sprinklers, micro sprinklers, semi-permanent sprinklers or 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.

11.3 Portable Sprinkler Irrigation System

11.3.1 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.

- 11.3.2 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-V on the basis of which subsidy will be calculated. The indicative cost for various area ranges and pipe sizes is given below in Table 4 below:

Table-4: Indicative Cost of Portable Sprinkler Irrigation System

(Cost in Rs.)			
Area	63 mm	75 mm	90 mm
Up to 1 ha	22473	25186	0
Up to 2 ha	32445	36078	0
Upto 3 ha	NA	NA	48697
Upto 4 ha	NA	NA	61415
Upto 5 ha	NA	NA	69428

Note: In case of low penetrating states 15% higher indicative cost has been taken for calculation of subsidy.

11.4 Micro Sprinklers

- 11.4.1 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.

- 11.4.2 An indicative list of system components required for installing a micro sprinkler system is at Annexure-VI. The indicative cost of Micro Sprinkler irrigation system at different lateral spacing & area is given in Table 5 below:

(Cost in Rs.)		
Area (ha)/ spacing (mxm)	5x5	3x3
0.4	34055	39833
1	67772	77304
2	119118	139309
3	171701	198913
4	231854	274672
5	293103	334644

Note: In case of low penetrating states, 15% higher indicative cost respectively has been taken for calculation of subsidy.

11.5 Mini Sprinklers

- 11.5.1 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 VII. 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)	10x10	8x8
0.4	47567	49476
1	97994	108132
2	184015	195636
3	279429	302865
4	359665	395615
5	440591	489158

—————Note: In case of low penetrating states 15% higher indicative cost has been taken for calculation of subsidy.

11.6 Semi-Permanent Sprinkler Irrigation System

11.6.1 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.

11.6.2 The indicative number of components required for various area ranges of semi-permanent sprinkler irrigation systems is enclosed at Annexure VIII. The estimated unit cost for various area ranges is given below in Table 7

Table 7: Indicative Cost of Semi-Permanent Sprinkler System

Area (ha)/ spacing (mxm)	Cost in Rs.
0.4	25941
1	42098
2	80275
3	108351
4	138451
5	167961

Note: In case of low penetrating states 15% higher indicative cost has been taken for calculation of subsidy.

11.7 Large Volume Sprinkler Irrigation System (Rain gun)

11.7.1 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 from 24 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 IX.

11.7.2 Pivot Irrigation system is used for a much larger area & are not suitable for the beneficiaries targeted under PMKSY. However, if some beneficiary is interested, may avail financial assistance as per unit cost norms of rain-gun system.

11.7.3 The estimated unit cost for various area ranges is given below in Table 8.

Table: 8 Indicative Cost of Large Volume Sprinklers (Rain-gun)

Area / Pipe (mm)	(Cost in Rs)		
	63 mm	75 mm	90 mm
1	32983	39690	NA
2	NA	50354	NA
3	NA	NA	65341
4	NA	NA	75734
5	NA	NA	83170

Note: In case of low penetrating states 15% higher indicative cost has been taken for calculation of subsidy.

12 Optional Components

- 12.1 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:
- 12.2 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.
- 12.3 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.
- 12.4 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.
- 12.5 The detailed guideline for water quality & filters selection is provided at Annexure X & XI respectively. The indicative cost of optional components such as sand filters, hydro cyclone filters and fertilizer tanks is annexed at Annexure XII.

13 Key Administrative requirements

- 13.1 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. The unit cost for subsidy purpose would be exclusive of any taxes & fiscal levies. However, it is to be ensured that all compulsory system components are provided to the farmer. The BOQ given in the table is indicative and may vary case to case.
- 13.2 An individual eligible to receive the benefits under the scheme is required to furnish proof of possession of Adhaar Number or undergo Adhaar registration. If one individual is eligible but do not possess the Adhaar number she/he can get enrolled visiting the Adhaar enrolment centre. State Government/Union Territories Administration is required to offer Adhaar registration facilities to the beneficiaries who are not enrolled and in case no Adhaar enrolment centre is available in certain blocks/ taluka/ tahshil, 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 Adhaar is assigned to individual, she/he can avail the benefit of the scheme on production of the following documents Adhaar enrolment ID slip/ Copy of request for Adhaar enrolment and Voter Identity Card/ PAN/ Passport/ Ration Card /Employee Govt. ID/Passbook of bank or post office/MGNREGS card/ Kissan photo passbook/ Driving Licence/ any other document as specified by State/UT.
- 13.3 Adhaar 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 Aadhar and it would be the responsibility of implementing agency to ensure that Aadhar enrolment of such beneficiaries is carried out on priority. The notification issued in this respect is given at Annexure-XIII
- 13.4 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% and 8% 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.
- 13.5 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.

13.6 Pre-installation activities

- The Implementing Agency need to widely publicise 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 manufacturer out of the approved list of registered manufacturers

13.7 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

13.8 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 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.

13.9 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, CST/LST/TIN 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.
- The subsidy amount will be paid 50% to the System Manufacturer & 50% to the farmer on completion of the work through DBT or 100% to the System Manufacturer as per authorization of beneficiary/farmer.

- 13.10 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.

14 Registration of Manufacturing Companies

- 14.1 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.
- 14.2 The companies willing to participate in the scheme should be manufacturing below mentioned components and own BIS in their name:
- 14.3 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.
- 14.4 In the case of portable sprinkler irrigation system the company should manufacture either coupled HDPE pipes or sprinklers and should possess respective BIS.
- 14.5 In the case of other sprinkler irrigation systems viz. mini, micro, semi-permanent sprinkler systems the company should manufacture either of HDPE/PVC/PE pipes/nozzles and should possess respective BIS.
- 14.6 In the case of large volume sprinkler irrigation system (rain gun sprinklers) the company should manufacture HDPE pipes and nozzle and should possess respective BIS.
- 14.7 The company must provide guarantee of quality assurance of other components which are not manufactured by them in various technologies covered under the scheme.
- 14.8 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.

- 14.9 The registration under the scheme should be open throughout the year to enable maximum flexibility and open participation. The Company will have to pay Rs.50,000.00 as registration fee during new registration/ renewal of registration. Besides, each company has to submit a Bank Guarantee for Rs.2,50,000.00 for the registration period. The company has to sign an agreement with the Director of Horticulture, Odisha as a part of registration as per the authorization of the Government vide No. (CS) 31/92- 35096/Ag., dated : 16.10.92 and (CS) 31/92- 35091/Ag., dated : 16.10.92.
- 14.10 The company will supply only BIS marked material. The list of relevant BIS components is given at Annexure XIV
- 14.11 In case the company intends to supply imported components, it should obtain prior approval of DAC&FW subject to indigenize the manufacturing of 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 DAC&FW for consideration.
- 14.12 The material should be supplied directly by the manufacturer or their authorized distributors/dealers. In all cases, the manufacturer should authenticate the invoices.
- 14.13 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.

15 After sales services & campaigns

- 15.1 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.
- 15.2 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 should 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.
- 15.3 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.

- 15.4 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.
- 15.5 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.
- 15.6 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.
- 15.7 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.
- 15.8 The campaigns by companies should cover all beneficiaries under warranty period & could be as under:

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

16 Violations & Penalties

- 16.1 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.
- 16.2 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.

- 16.3 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:
- First time in a year, a warning letter may be issued to the manufacturer instructing to rectify the shortcoming immediately.
 - 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.
 - Third time in same year, a penalty of 25% of invoice value may be charged.
 - 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.
- 16.4 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.
- 16.5 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.

17 Quality Control

- 17.1 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.
- 17.2 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.
- 17.3 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.
- 17.4 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.

- 17.5 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.

- 17.6 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	20 meters for laterals. 50 meters for emitting pipe.
2	Thickness	
3	Pressure Test	
4	Dimensions	
HDPE Pipes IS: 4984 & IS: 14151 (Pt.2)		
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	

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

- 17.8 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.

- 17.9 A Joint Inspection Team comprising of representatives from Directorate of Horticulture/PFDC (OUAT)/KVK/IWM/CIPET will draw samples, take up concurrent inspection/evaluation of micro irrigation installations.

18 **Human Resource Development and Media**

- 18.1 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.

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 per participant	100% of air/rail travel and course fee cost to be funded under Mission Management

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

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

- 18.3 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 and expenses for the same will be met from the administrative expenses earmarked under PMKSY.

19 **Pattern of Assistance & funding pattern**

- 19.1 The total financial assistance available to the beneficiary under the Micro Irrigation scheme from both Central and State Governments would be **90%** for small & marginal farmers (Gol share:33% + Matching State Share: 22% + State Top up subsidy from State Plan: 35%) & **80%** for other farmers (Gol share:27% + Matching State Share: 18% + State Top up subsidy from State Plan: 35%). The unit cost would be limited to the Indicative costs mentioned in the guidelines for various technologies and areas as given at Annexure Nos. IV to IX.
- 19.2 Funding of financial assistance - under the Per Drop More Crop (Micro Irrigation) component of PMKSY the subsidy amount payable to the beneficiary will be shared in the ratio of 60:40 between the Central & State Governments for all states. In Odisha, top up subsidy of 35% for all categories of farmers will be provided over and above the assistance of 45% or 55% as the case may be out of State Plan.

20. **Progress reporting, monitoring and evaluation**

- 20.1 Government of India has been emphasising on the use of modern tools for online reporting and sharing of information. Accordingly, a web-based portal and information management system has been developed and operationalised for different components of PMKSY. The objective of this web-portal is to have effective monitoring of the progress under different components of PMKSY and sharing of information and documents. Therefore, the states must use this website for reporting the physical & financial progress under different components of PMKSY including micro irrigation scheme and get information/documents like fund release orders, circular letters etc. and other useful information through the web-portal.

The web-portal links are as under:-

<http://pmksy.gov.in>Components>PerDropMoreCropMI>ProgressMonitoring>

<http://aps.DAC&FW.gov.in/MI/Login.aspx>

- 20.2 The physical & financial progress must be uploaded on web-portal on monthly basis by 5th of every month for the preceding month. It may be noted that annual data of the preceding year will be free-zed by 30th June and thereafter no changes could be made. It may also be ensured that "each micro irrigation installation will be given a unique digital code and the same will appear on the web portal of PMKSY". The physical/ financial progress report is to be submitted by 5th of next month as per the format at Annexure-IIIa and IIIb. Biometric registration of beneficiary & geo tagging should be made compulsory.
- 20.3 National Committee on Plasticulture Application in Horticulture (NCPAH) will be involved in monitoring and reviewing the progress of scheme at the National level. NCPAH secretariat will provide necessary logistic support to the ministry for this purpose and maintain statistical data base/information on various aspects of the Micro Irrigation.

- 20.4 DAC&FW will evolve suitable mechanism for concurrent evaluation of implementation of PMKSY (Per Drop More Crop). DAC&FW may also engage suitable agency for conducting state specific/pan-India/ implementation monitoring and/or mid-term/end-term evaluation of the scheme. NRAA will be involved in the process of mid-term/end-term evaluation of the programme. An Impact Evaluation Study on Micro Irrigation at the National level will also be undertaken through an independent Agency with involvement of NCPAH once in every three years of implementation to assess the impact of the scheme in increasing water use efficiency, productivity, enhancement of farmers' income, technology adoption and other parameters. Twenty five percent (25%) of the projects sanctioned by the State shall have to be compulsorily taken up for third party monitoring and evaluation by the implementing states.
- 20.5 Action plan for monitoring and evaluation will be decided by SLSC at the beginning of every year based on project cost, importance of the project and other parameters, preferably covering all sectors. The State Government will be free to choose any reputed agencies for conducting the monitoring and evaluation work in their states. Requisite fees/cost towards monitoring & evaluation will be met by the state government from 5% allocation retained by them for administrative expenses. The performance of the states will be reflected in the Outcome Budget document of the respective Ministry/Department.
- 20.6 Third Party Monitoring and Evaluation for Quality of Materials will be taken up by CIPET, Bhubaneswar and evaluation of Performance will be taken up by ICAR-IWM, Bhubaneswar.
- 21. Release of Funds**
- 21.1 Funds to the tune of 60% of annual allocation to the state under different components of PMKSY will be released as first instalment to the State upon receipt of proposal in the prescribed format along with specified documents including annual action plan approved by state level sanctioning committee (SLSC) along with minutes of SLSC meeting approving the annual action plan of the state. Suggestive formats for annual action plan are enclosed at Annexure-II. The concerned implementing ministry/department at the Centre will be responsible to ensure receipt of utilisation certificate and corresponding physical and financial progress report while releasing the funds for the specific component. The utilisation certificate is to be submitted by the respective implementing department/agency in the state.
- 21.2 Release of the second and final instalment would be considered on receipt of the following:
- More than 90% Utilisation Certificates (UCs) for the funds released up to previous financial year;
 - Utilisation Certificates (UCs) of at least 50% of funds released in first instalment during current year;
 - Performance report in terms of physical and financial achievements as well as outcomes, within the stipulated time frame in specified format.

- 21.3 If a State fails to submit proposal for release of funds with specified documents within reasonable period of time, the balance funds may be re-allocated to better performing States.

22. Administrative Expenses and Contingencies

- 22.1 Administrative expenses may be met on pro-rata basis from the programme not exceeding 5 percent at each level to strengthen coordination, scientific planning and technical support for effective implementation of different components of PMKSY including micro irrigation at the field level. Administrative expenditure for functioning of coordinating agency/Institutions responsible for implementing the components of PMKSY, engagement of contractual staff for monitoring and operating the MI System, payments to consultants, outsourcing of specific activities, recurring expenses of various kinds, procurement of android driven smart phones/tablets for uploading of App for geo tagging in Bhuvan Platform, staff costs etc. are admissible. However, no permanent employment can be created, nor vehicles can be purchased. States may supplement any administrative expenditure in excess of the 5% limit, from their own resources.
- 22.2 Govt. of India may retain 1.5% of the PMKSY provision for IEC activities and another 1.5% of the scheme allocation for administrative, monitoring, evaluation and any contingencies that may arise during the implementation of the scheme by each participating departments. DAC&FW may set up a technical support group by assigning dedicated officers and staff from its existing strength and engaging consultants, experts etc. DAC&FW may outsource some technical assignments to specific agencies including studies, training programmes relating to PMKSY activities and conduct activities such as workshops, conferences, awareness campaign, publicity, documentation etc.

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

S.N	Parameter	Toilet flushing	Fire Protection	Vehicle Exterior washing	Non-contact impoundments	Landscaping, Horticulture & Agriculture			
						Horticulture, Golf course	Crops		
							Non edible crops	Crops which are eaten	
						Raw	Cooked		
1	Turbidity (NTU)	<2	<2	<2	<2	AA	<2	AA	
2	SS	nil	Nil	nil	nil	30	nil	30	
3	TDS	2100							
4	pH	6.5 to 8.3							
5	Temperature °C	Ambient							
6	Oil & Grease	10	nil	nil	nil	10	nil	nil	
7	Minimum Residual Chlorine	1	1	1	0.5	0	nil	nil	
8	Total Kjeldahl Nitrogen as N	10	10	10	10	10	10	10	
9	BOD	10	10	10	10	10	10	20	
10	COD	AA	AA	AA	AA	AA	AA	30	
11	Dissolved Phosphorous as P	1	1	1	1	2	2	5	
12	Nitrate Nitrogen as N	10	10	10	5	10	10	10	
13	Faecal Colliform In 100 ml	nil	Nil	nil	nil	nil	nil	230	
14	Helminthic Eggs/ litre	AA	AA	AA	AA	AA	<1	<1	
15	Colour	Colourless	Colourless	Colourless	Colourless	Colourless	AA	Colourless	
16	Odour	Aseptic which means not septic and no foul odour							

All units in mg/l unless specified; AA-as arising when other parameters are satisfied;

A tolerance of plus 5% is allowable when yearly average values are considered.

Format for Micro-irrigation Action Plan in synchronisation with the Clusters Identified for Other Interventions

Format for Micro-Irrigation Action Plan																				
Sr.No.	District	No. of Clusters	Drip Irrigation						Sprinkler Irrigation						Total				Other Costs (administrative/ Contingency)	Grand 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	16=4+7+10+13	17=5+8+11+14	18=6+9+12+15	19	20=18+19	
			Note: Major Crop wise details of both field & horticultural crops may be mentioned																	
Total AAP																				
Central Allocation																				
State Share																				
Deficit/ Convergence/ farmers Share																				

[illegible]

Experiment 1: More Crop (Micro Irrigation) component of PMKSY

Period of the report:

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Annexure-V

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; 3.2 kg/cm ² IS: 14151 Part II 63 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 Riser Pipe 3/4" diameter x 75 cm long	No	3	5	9	NA	NA	NA
4	Sprinkler Assembly	No	3	5	9	NA	NA	NA
5	Quick coupled HDPE Bend with Coupler 90° (63/50 mm) ;	No	1	1	1	NA	NA	NA
6	Quick coupled HDPE Pump Connecting Nipple 63 mm;	No	1	1	1	NA	NA	NA
7	Quick coupled HDPE End Plug (63 mm) ;	No	1	2	2	NA	NA	NA
8	Quick coupled HDPE Tee with Coupler (63mm) ;	No	1	1	1	NA	NA	NA
Using 75 mm coupler								
SN	Components/ Area (Ha)	Unit	0.4	1	2	3	4	5
1	HDPE Pipes with Quick coupled (Pipe of Class I; 2.5 kg/cm ² IS: 14151 Part II, 75 mm 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 Riser Pipe 3/4" diameter x 75 cm long	No	NA	5	9	NA	NA	NA
4	Sprinkler Nozzles (1.7 to 2.8 kg/cm ²) ,IS 12232 Part I Brass	No	NA	5	9	NA	NA	NA
5	Quick coupled HDPE Bend with Coupler 90° (75 mm) ;	No	NA	1	1	NA	NA	NA
6	Quick coupled HDPE Pump Connecting Nipple , 75 mm;	No	NA	1	1	NA	NA	NA
7	Quick coupled HDPE End Plug (75 mm) ;	No	NA	2	2	NA	NA	NA
8	Quick coupled HDPE Tee with Coupler (75 mm);	No	NA	1	1	NA	NA	NA
Using 90 mm coupler								
SN	Components/ Area (Ha)	Unit	0.4	1	2	3	4	5
1	HDPE Pipes with Quick coupled (Pipe of Class I; 2.5 kg/cm ² IS: 14151 Part II, 90 mm 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 Riser Pipe 3/4" diameter x 75 cm long	No	NA	NA	NA	11	14	16
4	Sprinkler Nozzles (1.7 to 2.8 kg/cm ²) ,IS 12232 Part I Brass	No	NA	NA	NA	11	14	16
5	Quick coupled HDPE Bend with Coupler 90° (90 mm) ;	No	NA	NA	NA	2	2	4
6	Quick coupled HDPE Pump Connecting Nipple, 90 mm;	No	NA	NA	NA	1	1	1
7	Quick coupled HDPE End Plug (90 mm) ;	No	NA	NA	NA	2	2	2
8	Quick coupled HDPE Tee with Coupler (90 mm);	No	NA	NA	NA	1	1	2

Annexure-VI

Indicative Bill of Quantities (BoQ) for Micro Sprinkler Irrigation System

[illegible]

Annexure-VII

Indicative Bill of Quantities (BoQ) for Mini Sprinkler Irrigation System

[illegible]

Annexure-VIII

Indicative Bill of Quantities (BoQ) for Semi Permanent Sprinkler Irrigation System

SN	Particulars/ ha area	0.4	1	2	3	4	5
1	PVC Pipe 90 mm, class-II, 4 kg/cm ²	0	0	0	0	0	173
2	PVC Pipe 75 mm, class-II, 4 kg/cm ²	0	0	110	135	156	0
3	PVC Pipe 63 mm, class-II, 4 kg/cm ²	96	154	273	340	395	440
4	PVC Pipe 25 mm Class-V, 10 Kg/cm ²	350	950	1904	0	0	0
5	32 mm LLDPE plain laterals, 2.5 kg/cm ² - Class II	0	0	0	3006	4000	5014
6	Control Valve 63 mm	1	1	2	2	2	2
7	By-pass Assembly - 2.5" x 2"	1	1	1	1	1	1
8	Control Valve 25 mm	12	20	42	51	80	88
9	Sprinkler Assembly	12	12	12	12	12	12
10	Screen filter 20/25 m ³ /hr	1	1	1	1	1	1
11	Fitting & Accessories @5%	5%	5%	5%	5%	5%	5%

Annexure-IX

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; 4 kg/cm ² IS:14151 Part II 63 mm diameter & 6m long)	30	NA	NA	NA	NA
2	Raingun Sprinkler 1.25" female threaded connection	1	NA	NA	NA	NA
3	Tripod Stand with adapter to feeder line 1.25"x1.5 m	1	NA	NA	NA	NA
4	Quick coupled HDPE Bend with Coupler 900 (63/50 mm) ;	1	NA	NA	NA	NA
5	Quick coupled HDPE Pump Connecting Nipple 63 mm;	1	NA	NA	NA	NA
6	Quick coupled HDPE End Plug (63 mm) ;	1	NA	NA	NA	NA
7	Quick coupled HDPE Tee with Coupler (63mm) ;	1	NA	NA	NA	NA
8	Screen filter 20/25 m ³ /hr	1	NA	NA	NA	NA
9	By-pass Assembly - 2"x1.5"	1	NA	NA	NA	NA
Using 75 mm coupler						
SN	Components/ Area (ha)	1	2	3	4	5
1	HDPE Pipes with Quick coupled (Pipe of Class 3; 4 kg/cm ² IS:14151 Part II, 75 mm diameter & 6m long)	30	42	NA	NA	NA
2	Raingun Sprinkler 1.25" female threaded connection	1	1	NA	NA	NA
3	Tripod Stand with adapter to feeder line 1.25"x1.5 m	1	1	NA	NA	NA
4	Quick coupled HDPE Bend with Coupler 900 (75 mm) ;	1	1	NA	NA	NA
5	Quick coupled HDPE Pump Connecting Nipple , 75 mm;	1	1	NA	NA	NA
6	Quick coupled HDPE End Plug (75 mm) ;	1	1	NA	NA	NA
7	Quick coupled HDPE Tee with Coupler (75 mm);	1	1	NA	NA	NA
8	Screen filter 20/25 m ³ /hr	1	1	NA	NA	NA
9	By-pass Assembly - 2"x1.5"	1	1	NA	NA	NA
Using 90 mm coupler						
SN	Components/ Area (ha)	1	2	3	4	5
1	HDPE Pipes with Quick coupled (Pipe of Class 3; 4 kg/cm ² IS: 14151 Part II, 90 mm diameter & 6m long)	NA	NA	45	52	60
2	Raingun Sprinkler 1.5" female threaded connection	NA	NA	1	1	1
3	Tripod Stand with adapter to feeder line 1.5"x1.5 m	NA	NA	1	1	1
4	Quick coupled HDPE Bend with Coupler 900 (90 mm);	NA	NA	1	1	1
5	Quick coupled HDPE Pump Connecting Nipple, 90 mm;	NA	NA	1	1	1
6	Quick coupled HDPE End Plug (90 mm) ;	NA	NA	1	1	1
7	Quick coupled HDPE Tee with Coupler (90 mm);	NA	NA	1	1	1
8	Screen filter 30 m ³ / hr	NA	NA	0	1	1
9	Screen filter 20/25 m ³ /hr	NA	NA	1	0	0
10	By-pass Assembly - 2"x1.5"	NA	NA	1	0	0
11	By-pass Assembly - 2.5"x2"	NA	NA	0	1	1

Annexure X**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 XI

Guidelines for Selection of Filter

Water Quality	Type of Filter	Remarks
Good without any physical and biological impurities.	Screen	Screen filters 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- XII

Indicative Price of Optional Components

SN	Optional Component	Appr. Price (Rs)
1	Sand Filter with back wash assembly IS 14606	
a	10 m ³ /hr x 1.5	9775
b	20 m ³ /hr x 2	13225
c	25 m ³ /hr x 2	16100
d	30 m ³ /hr x 2.5	18400
2	Hydro cyclone Filter IS 14743	
a	20 m ³ /hr x 2	4025
b	25 m ³ /hr x 2	4600
c	30 m ³ /hr x 2.5	6325
3	Fertilizer Tank with Assembly IS 14483 - Part III	
a	30 litres	3220
b	60 litres	5750

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भारत का राजपत्र

The Gazette of India

असधारण

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PART II—Section 3—Sub-section (ii)

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(कृषि, वृक्षारोपण एवं किसान कल्याण विभाग)

अधिसूचना

नई दिल्ली, 17 मार्च, 2017

का.अ. 893(अ).—मेबाओं या फायदों या सहायिकियों के परिधान के लिए एक परचान दस्तावेज के रूप में आधार का उपयोग सरकारी परिधान प्रक्रियाओं का सरलीकरण करता है, मान्यता और दर्शाता है और फायदाप्राप्ति को सुविधापूर्वक और निर्बाध रीति में उनकी हकदारियों को भीष्ट प्राप्त करने में सफल बनाता है और आधार बिन्नी व्यक्ति की परचान को मान्य करने के लिए बहुत 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) अनुमानित वित्त पोषण पद्धति के अनुसार राज्य सरकार अथवा मंच राज्य क्षेत्र प्रशासन के अधीन नोडल विभागों (जिसे इसमें इसके पश्चात विभाग कहा गया है) को अनुदान सहायता प्रदान करके केंद्रीय प्रायोजित स्कीम के रूप में प्रधानमंत्री कृषि सिंचाई स्कीम (पीएमकेएसवाई) (जिसे इसमें इसके पश्चात स्कीम कहा गया है) के 'प्रति बूंद अधिक कमल चटक' का कार्यान्वयन कर रहा है।

और जबकि स्कीम के अधीन ही या यही अनुदान सहायता राज्य नोडल अधिकरणों अथवा रजिस्ट्रीकृत अथवा पैनलीकृत कंपनियों (जिसे इसमें इसके पश्चात कार्यान्वयन अधिकरण कहा गया है) के माध्यम से किसानों (जिसे इसमें इसके पश्चात लाभार्थी कहा गया है) को सहायता प्राप्त मुख्य 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 मंचित निधि में उपगत पूर्ण अथवा आंशिक आवर्ती कार्य अवरोधित है।

अतः अब, केंद्रीय सरकार आधार (वित्तीय और अन्य सहायिकियों, प्रमुखिदाओं और मेबाओं का लक्षित परिधान) अधिनियम, 2016 (2016 का 18) (जिसे इसमें इसके पश्चात अधिनियम कहा गया है) की धारा 7 के उपखंडों के अनुसरण में निम्नलिखित अधिसूचना करती है, अर्थात्:-

1. (1) स्वीम के अधीन फायदा प्राप्त करने के पात्र व्यक्ति में अपेक्षा की जाती है कि वह आधार संख्या रखने का प्रयत्न प्रस्तुत करे अथवा आधार अधिग्रहण करवाए।

(2) इस स्वीम के अधीन फायदे प्राप्त करने के इच्छुक व्यक्ति, जिसके पास आधार संख्या नहीं है अथवा जिसने आधार के लिए नामांकन नहीं करवाया है, परंतु वह इस स्वीम 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 अधिष्ठापन करने का इच्छुक हो 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 अधिकारों राज्यो अथवा संघ राज्य क्षेत्रों में स्वीम के कार्यान्वयन का भारमाध्यक संबंधित विभाग, जो किसी व्यक्ति में आधार प्रस्तुत करने की अपेक्षा करता है, में अपेक्षा की जाती है कि वह उन फायदाप्राप्तियों को आधार नामांकन सुविधा प्रदान करे जिन्होंने आधार के लिए अभी तक नामांकित नहीं किया है और यदि संभव हो अथवा तात्कालिक अथवा तत्कालीन में कोई भी आधार नामांकन केंद्र स्थित नहीं है तो राज्यों अथवा संघ राज्य क्षेत्रों में स्वीम के कार्यान्वयन में संबंधित भारमाध्यक विभाग कार्यान्वयन अधिकरण के माध्यम से अपेक्षित है कि वह भारतीय विशिष्ट पहचान प्राधिकरण के वर्तमान रजिस्ट्रार के सहयोग में अथवा स्वयं भारतीय विशिष्ट पहचान प्राधिकरण रजिस्ट्रार बनकर सुविधाजनक स्थान पर आधार नामांकन सुविधाएं प्रदान करे।

परन्तु यह कि इस व्यक्ति को आधार समनुवर्धित किए जाने के समय तक तब तक स्वीम के अधीन फायदा निम्नलिखित पहचान दस्तावेज प्रस्तुत करने के अधीन रहने हूए ऐसे व्यक्तियों को प्रदान किया जाएगा, अर्थातः-

(ब) (i) आधार नामांकन पत्ती, यदि द्वितीयकारी ने आधार के लिए नामांकन दिया है,

अथवा

(ii) द्वितीयकारी द्वारा पैरा-2 के उप पैरा (ख) में यथा विनिर्दिष्ट आधार नामांकन के लिए किए गए अनुरोध की प्रति, और

(ख) (i) मनदाता पहचान पत्र; अथवा (ii) स्टाई 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) वोटर अधिनियम, 1968 (1988 का 59) के अंतर्गत अनुज्ञापन प्राधिकारी द्वारा जारी चालन अनुमति; अथवा (x) सरकारी बैटर रैट पर किसी राजपत्रित अधिकारी अथवा तहसीलदार द्वारा जारी ऐसे सदस्य की फोटो वाला 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 में परामर्शित अधिकारी द्वारा उपयुक्त दस्तावेज की जांच की जाएगी।

2 इस स्वीम के अधीन द्वितीयकारियों को सुविधाजनक व बाधामुक्त फायदे प्रदान करने के लिए अधिकारों राज्य सरकार अथवा संघ राज्य क्षेत्र प्रशासन में स्वीम के कार्यान्वयन का भारमाध्यक संबंधित विभाग सभी आवश्यक व्यवस्थाएं, जिनमें निम्नलिखित भी हैं, करेगे अर्थातः-

(क) इस स्वीम के अधीन आधार की आवश्यकता के बारे में द्वितीयकारियों को जागरूक बनाने के लिए कार्यान्वयन अधिकारों के माध्यम से वीडियो व्यक्ति मूचना के माध्यम से व्यापक प्रचार किया जाए और यदि आवश्यक न नामांकन नहीं

करवाया है जो उन्हें 31.12.2017 तक अपने क्षेत्रों में उपलब्ध निकटतम नामांकन केंद्रों पर तालांकन 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।

(क) यदि निम्न आगमन जैसे व्यक्ति अथवा तहसील अथवा तालुका में नामांकन केंद्रों की अनुपलब्धता के कारण उन स्थिति के अधीन हिताधिकारी आधार के लिए नामांकन करवा पाने में समर्थ नहीं हैं, कार्यान्वयन अधिकारियों के माध्यम से राज्य सरकार या संघ राज्य क्षेत्र प्रशासन में सूची के कार्यान्वयन के भारवाहक संबंधित विभाग से सुविधाजनक अवस्थानों पर आधार नामांकन सुविधाएं सृजित करना अपेक्षित है और इस उद्देश्य के लिए कार्यान्वयन अधिकारियों अथवा वेब-पोर्टल के माध्यम से संबंधित अधिकारियों को अपना नाम, पता व मोबाइल नंबर और पैरा 1 के उप पैरा (3) के परमूख में एकाधिकारिण्ड अथवा वेब आधार नामांकन के लिए एडिडिकरण करवाने का हिताधिकारियों से अनुरोध किया जाये।

3. यह अधिनियम अथवा, मेघालय और जम्मू-कश्मीर को छोड़कर सभी राज्यों और संघ राज्य क्षेत्रों में राजपत्र में इसके प्रकाशन की तारीख से प्रभावी होगी।

[फा. म. 19-58/2016-आरण्यम-III]

आर. बी. मिश्रा, 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 Kisan Sanchayee 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 Expanded 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 enrolment 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 provision 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. 19-50/2016-RPS-III]

R. B. SINHA, R. Secy

Annexure XIV

List of BIS Standards

SN	Component Description	BIS
1	Polyethylene pipes for Irrigation- Laterals with amendment number 5	IS 12786: 1989 (reaffirmed 2009)
2	Irrigation Equipment-Emitters- Specification	IS 13487: 1992 (reaffirmed 2009)
3	Irrigation Equipment-Emitting pipes system- Specification (first revision)	IS 13488: 2008 (reaffirmed 2014)
4	Irrigation Equipment-Strainer type filters Specification (first revision)	IS 12785: 1994 (reaffirmed 2011)
5	Irrigation equipment rotating sprinkler Part I. Design and Operational requirements (1st revision)	IS 12232 (Part I) -1996 (reaffirmed 2011)
6	Irrigation equipment rotating sprinkler Part 2, Test method for uniformity of distribution (1st revision)	S 12232 (Part 2) -1995 (reaffirmed 2011)
7	Fertilizer and Chemicals Injection system Part I Venturi Injector	IS 14483 (Part 1) 1997 (reaffirmed 2009)
8	Irrigation Equipment-Media Filters- Specification	IS 14606: 1998 (reaffirmed 2009)
9	Irrigation Equipment-Hydro cyclone filter-Specification	IS 14743: 1999 (reaffirmed 2009)
10	Unplasticized PVC pipes for portable water supplies- Specification (third revision)	IS 4985 - 2000
11	Irrigation equipment- Sprinkler pipes -Specifications Part II Quick coupled Polyethylene pipes & fittings (second revision)	IS 14151 (part II) 2008 (reaffirmed 2014)
12	High Density Polyethylene Pipes for water supply- Specification (fourth revision)	IS 4984 : 1995 (reaffirmed 2002)
13	Fertilizer & Chemical Injector System- Parting 3 Fertilizer Tank	IS:14483 Part 3 - 2016

Source: Online catalogue of Bureau of Indian Standards

LAYOUT DESIGN OF DRIP & SPRINKLER IRRIGATION SYSTEMS

