NOTE ON CENTRALLY SPONSORED SCHEME ON MICRO IRRIGATION UNDER PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY)

Background

The Government of India has been implementing Centrally Sponsored Scheme on Micro Irrigation with the objective to enhance water use efficiency in the agriculture sector by promoting appropriate technological interventions like drip & sprinkler irrigation technologies and encourage the farmers to use water saving and conservation technologies.

The Scheme was launched by the Department of Agriculture & Cooperation, Ministry of Agriculture in January, 2006 as Centrally Sponsored Scheme on Micro Irrigation (CSS). In June, 2010, it was up-scaled to National Mission on Micro Irrigation (NMMI), which continued till the year 2013-14.

From 1st April, 2014, NMMI was subsumed under National Mission on Sustainable Agriculture (NMSA) and implemented as "On Farm Water Management" (OFWM) during the financial year 2014-15.

From 1st April 2015, Micro Irrigation component of OFWM has been subsumed under Pradhan Mantri Krishi Sinchayee Yojana. It will be implemented as Centrally Sponsored Scheme on Micro Irrigation during the financial year 2015-16 as per the same pattern of assistance and cost norms as were prevailing under OFWM, until revised.

The funding pattern between Central Government and State Government share was initially fixed as 50:50% with the result that pattern of assistance has been re-framed as under:

Sl. No	Category of Districts/Areas	Category of Beneficiaries	Central Government Share	State Government Share	Beneficiary Share
1.	DPAP/DDP Areas and NE&H States	Small & Marginal Farmers	30% of CoI	30% of CoI	40% of CoI
		Other than Small & Marginal Farmers	22.50% of CoI	22.50% of CoI	55% of CoI
2.	Other than DPAP/DDP Areas and NE&H States	Small & Marginal Farmers	22.50% of CoI	22.50% of CoI	55% of CoI
		Other than Small and marginal Farmers	17.50% of CoI	17.50% of CoI	65% of CoI

Subsequently, the funding pattern between Central Govt. and State Govt. share has been revised in November, 2015 as under:-

(All States except North Eastern and Himalayan States)

(60:40)

S. No	Category/Districts	Category of Beneficiaries	Central Government Share	State Government Share	Beneficiary Share
1.	DPAP/DDP Areas	Small & Marginal Farmers	36% of COI	24% of COI	40% of COI
		Other than Small & Marginal Farmers	27% of COI	18% of COI	55% of COI
2.	Other than DPAP/DDP Areas	Small & Marginal Farmer	27% of COI	18% of COI	55% of COI
		Other than Small and marginal Farmers	21% of COI	14% of COI	65% of COI

(North Eastern and Himalayan States includes Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh, J&K and Uttarakhand)

(90:10)

Category/Districts	Category of Beneficiaries	Central Government Share	State Government Share	Beneficiary Share
NE&H States	Small & Marginal Farmers	54% of COI	6% of COI	40% of COI
	Other than Small & Marginal Farmers	40.5% of COI	4.5% of COI	55% of COI

DPAP: Drought Prone Area Program; DDP: Desert Development Program;

NE&H: North Eastern and Himalayan States

Cost of Installation (COI) will be the Cost as per Cost Norms as specified in operational guidelines.

Note:- Twenty five (25%) higher cost, over & above the normative cost for all the systems has been fixed for North Eastern & Himalayan states for the purpose of calculating financial assistance.

Introduction to PMKSY

The verbatim content of Hon'ble President of India's address to the joint Session of the Parliament of 16th Lok Sabha is reproduced below:-

*"**Each drop of water is precious**. My government is committed to giving high priority to water security. It will complete the long pending irrigation projects on priority and launch the '**Pradhan Mantri Krishi Sinchayee Yojana**' with the motto of '**Har Khet Ko Paani**'. There is a need for seriously considering all options including linking of rivers, where feasible; for ensuring optimal use of our water resources to prevent the recurrence of flood and drought. By harnessing rain water through '**Jal Sanchay**' and '**Jal Sinchan**', we will nurture*

*water conservation and ground water recharge. Micro irrigation will be popularized to ensure '**Per drop-More crop**' ".*

Need for Pradhan Mantri Krishi Sinchayee Yojana

Growth in agriculture sector on sustained basis is closely linked with judicious utilization of land and water resources for sustaining production and productivity of agricultural and horticulture crops. Presently, a number of departments/Ministries are involved in implementation of various programmes for addressing the issues relating to development of land and water resources. Out of about 142 million hectare of cultivable land in the country, only 65 million hectare (45%) is currently covered under irrigation. Substantial dependence on rainfall makes cultivation in remaining areas a high risk and less productive profession. Empirical evidences suggest that assured/protective irrigation/in-situ moisture conservation encourages farmers to invest more in farming technology and inputs leading to productivity enhancement and increased farm income. Task force on Micro Irrigation(MI) set up under the Chairmanship of Shri Chandra Babu Naidu (2004) has estimated that potential existed for covering an area of about 69.5 million hectare under improve systems of irrigation such as drip and sprinkler irrigation.

Accordingly, the **Pradhan Mantri Krishi Sinchayee Yojana** (PMKSY) was announced and the same is to be implemented during the ongoing XII Five Year Plan and beyond the XII year plan by amalgamating ongoing schemes viz. **Accelerated Irrigation Benefit Programme** (AIBP) and PMKSY (WR) of M/o Water Resources, River Development & Ganga Rejuvenation; **Integrated Watershed Management Programme** (IWMP) of D/o Land Resources under Ministry of Rural Development (MoRD) and the Minor Irrigation component of **On Farm Water Management** (OFWM) of National Mission on Sustainable Agriculture (NMSA), being implemented by Department of Agriculture & Cooperation under Ministry of Agriculture and Farmers Welfare.

The Pradhan Mantri Krishi Sinchai Yojana has been recommended with an indicative outlay of Rs. 50,000 crore over a period of five years from 2015-16 to 2019-20. As mentioned in the Union Budget 2015-16 the PMKSY will have four components: AIBP, Watershed Development, Har Khet ko Pani and Per Drop More Crop.

Sub-scheme wise outlay (Central Share) for PMKSY scheme for five years (2015-16 to 2019-20) is given below:

(Rs. in crore)

S. No	Year/ Min/Dept	2015-16	2016-17	2017-18	2018-19	2019-20	Total
1	DAC	1800	2340	3050	3960	5150	16300
2	DoLR	1500	1950	2540	3300	4300	13590
3	**M/o Water Resources, RD&GR**						
	a) AIBP	1000	1400	1980	2780	3900	11060
	b) PMKSY	1000	1300	1690	2200	2860	9050

Subtotal MoWR	2000	2700	3670	4980	6760	20110
Grand Total	5300	6990	9260	12240	16210	50000

To implement the program Rs. 5300 crore has been allocated in the budget of 2015-16.

The overarching vision of Pradhan Mantri Krishi Sinchai Yojana (PMKSY) is to ensure access to the means of irrigation to all agricultural farms in the country to produce 'per drop more crop', thus bringing much desired rural prosperity. The programme will focus at ensuring access to water to every agricultural farm (Har Khet Ko Pani) and increasing agricultural production and productivity through it. Under the programme, States will be allowed to have flexibility and autonomy in the process of planning and executing programmes for ensuring water to every farm by following a holistic approach by way of preparation of comprehensive District and State Irrigation Development Plans based on agro-climatic conditions and sources of availability of water. Besides, there will be equal emphasis on promoting extension activities related to on-farm water management and crop alignment for farmers and grass root level field functionaries.

Objectives of PMSKY

The main objectives of the scheme are as follows:

a) Achieve convergence of investments in irrigation at the field level (preparation of district level irrigation plan and, if required, sub district level water use plans).
b) Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (***Har Khet ko pani***),
c) Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent,
d) Enhance the adoption of precision-irrigation and other water saving technologies (**Per drop More crop**).
e) Enhance recharge of aquifers and introduce sustainable water conservation practices
f) Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and other NRM activities.
g) Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
h) Explore the feasibility of reusing treated municipal waste water for peri-urban agriculture, and
i) Attract greater private investments in precision irrigation.

Structure

National Steering Committee of PMKSY under the Chairmanship of Hon'ble Prime Minister will provide policy direction to programme framework. The National Executive Committee under the Chairmanship of Vice Chairman, NITI Ayog will oversee the overall implementation of the scheme at National Level. It will also provide strategic directions for implementing the scheme and also decide inter-state allocation of funds.

State Level Sanctioning Committee (SLSC), already constituted under RKVY and chaired by the Chief Secretary of the State, will be strengthened by including representatives from department of Land Resources, Department of Water Resources/Irrigation and Department of Rural Development. It will be vested with the authority to sanction specific projects included in District Irrigation Plans.

It is important to promote efficient methods of irrigation so that water resources created is used judiciously. With diversification of crops, increase in area under horticulture crops, cereal crops, apart from crops like sugarcane, cotton, maize etc., there is need for accelerated development of precision irrigation in the country.

EFC has recommended that one time subsidy support may be given to the farmers for installing precision irrigation system and the prevailing pattern of subsidy under OFWM component of NMSA may be suitably modified, wherever necessary.

The Budget Allocation of funds under PMKSY for programmes of DAC during 2015-16 is Rs.1800.00 crore. The proposed breakup of the same is as given below:-

(Rs. in crore)

a)	Micro Irrigation	Rs. 1000.00
b)	Treatment of Dark Zone Area	Rs. 410.00
c)	Preparation of District Irrigation Plan	Rs. 30.00
d)	ATMA (District level extension/Services)	Rs. 100.00
e)	ICT including focused publicity and awareness Campaign through multimedia plus (SMS Services Rs. 25.00 crore)	Rs. 85.00
f)	Material Component for watershed & NREGA	Rs. 175.00

Treatment of Dark-Zone areas across the country

Rs. 410.00 crore is to be utilized for recharging of ground level water in dark zone area, especially for Deep water aquifer recharge. Accordingly, this allocation of Rs. 410.00 crore will be allocated to the States having dark zone areas for tackling water scarcity and drinking water problems and the distribution could be based on number of dark zones blocks existing in States.

These dark-Zones blocks may be treated at par with DPAP and DDP areas for tackling water scarcity both for Agriculture and Drinking water.

As per Report (July, 2014) of Central Ground Water Board (CGWD) under the M/O Water Resources, River Development and Ganga Rejuvenation the country (out of the total number of assessed 6607 blocks) has 1071 blocks (16%) categorized as over exploited, 217 blocks (3%) as critical, 697 blocks (10.5%) as semi critical and 92 blocks (1%) as saline blocks as per recent assessment of Dynamic Ground Water Resources of India (as on 31st March, 2011). Ground water is catering to 75% rural and 50% of urban domestic water supply, besides meeting up to 60% irrigation demand. The ground water resources are of two types i.e. (a) **Dynamic:** the resource in the unconfined aquifer between pre-and post-monsoon water levels (b) **Static**: below the zone seasonal fluctuation of water level. **Dynamic resource- is used for irrigation and drinking supply**.

The methods for rain water harvesting in Rural area consist of the following:-

(i) Gully Plug (ii) Contour Bund (iii) Gabion Structure (iv) Percolation Tank (v) Check Dam Cement Plug Nala Bung (vi) Recharge Shaft and Dug Well recharge.

Some of the non-conventional techniques for the treatment of Deep water aquifer include the following:-

(i) Fracture seal cementation (ii) Jacket wall
(iii) Bore blast technique (iv) Stream blasting
(v) Hydro-fracturing (vi) Artificial recharge of open walls and bore well