

**Operational Guidelines for Pradhan MantriKrishiSinchaiYojana(PMKSY)**  
**HarKhetKoPani (HKKP) - Ground Water Irrigation**

**1. INTRODUCTION**

PMKSY having AIBP, CAD, SMI, RRR and Ground Water components was approved by Cabinet during July, 2015 for a period from 2015-16 to 2019-20. Operational guidelines for Ground Water component were issued by the Ministry of Water Resources, RD & GR vide OM no P-15011/24/2016-SPR/2037-2105 dated July 2016. However, keeping in view of various requirements to implement the same, guidelines have been revised.

**2. CREATION OF IRRIGATION POTENTIAL THROUGH GROUND WATER:**

Creation of irrigation potential through ground water depends upon yield potential of underlying aquifers. Hence, any new construction of ground waterwell should be based on the data/ knowledge available for the area with the Central/ State Agencies involved in ground water development and management. The important points to be considered while planning any ground water development are as below:

- (i). The scheme is not to be planned in areas classified as over-exploited, critical and semi critical areas. Further eligibility criteria has been laid down in subsequent paras.
- (ii). Some of the areas have not been classified. Scheme in such unclassified areas shall be considered on case to case basis depending upon various criterions laid down in the guidelines.
- (iii). Groundwater development will be carried out preferably through Dug wells, Dug Cum Bore wells in hard rock area tapping shallow aquifers and shallow/deep tube wells in alluvium areas tapping prolific aquifers. Bore wells are to be taken up in areas where hydro-geological setup and ground water aquifers justifies their suitability.
- (iv). Each well to be provided with electric/solar pumps for water lifting. Provision of 75% electric and 25% solar pumps may be considered for a cluster/proposal. The ratio of solar pumps may be relaxed in Tribal/LWE/infested/difficult areas. Further, wherever electric power is not available, the whole scheme may be permitted with Solar pumps. However, the final decision in this regard shall rest with MoWR, RD & GR.
- (v). Promotion and adoption of water use efficiency& conservation practices viz. drip/sprinkler, diversification to low water demand crops, promoting on-farm rainwater harvesting etc shall be encouraged by the State Govt/ Project Authorities.
- (vi). The State agencies involved in planning and execution of ground water schemes shall formulate the proposals in consultation with State Ground Water Department & CGWB duly considering nature of aquifer system in the area, spatio-temporal behaviour of water level, ground water resource availability, artificial recharge structures suitable for that area, sites for their construction etc.
- (vii). To minimize the failure of wells geophysical and hydro-geological investigations may be carried out for proper site selection.

### **3. ELIGIBILITY CRITERIA**

- (i). Ground Water irrigation facility through Dug wells, Dug cum Bore wells, Tube wells and Bore wells etc. can be funded for schemes in areas other than Over-Exploited(OE), Critical or Semi-Critical meeting the following criteria:
  - a. *Less than 60 per cent of the annual replenishable groundwater resources have been developed.*
  - b. *Average annual rainfall of 750 mm or more to have availability of enough water for recharge;*
  - c. *Shallow groundwater levels within range of 15m below ground level or less during pre-Monsoon period.*

Ground water development for irrigation can be planned in such a way that after implementation of the project, stage of Ground Water Development (SOD) in an area should not exceed 70% at any time.

However, as already mentioned Scheme in unclassified areas shall be considered on case to case basis depending upon various criterions laid down in the guidelines.

- (ii) The beneficiary under this scheme shall be small and marginal farmers only with priority to be given to SC/ST and Women farmers
- (iii) The scheme is applicable for individual farmer, group of farmers/ cooperatives, Govt. Scheme utilising Govt. Land etc.

### **4. MEASURES TO PREVENT OVER-EXPLOITATION AND FACILITATE RECHARGE TO GROUND WATER**

- (i). Farmers will be encouraged for undertaking activities through combination of rain water harvesting and ground water extraction.
- (ii). To the extent possible convergence with PMKSY-Watershed Component and MGNREGA will be made for supporting water harvesting and groundwater recharge interventions to ensure the long term ground water sustainability.
- (iii). States to be advised to ensure that suitable recharge measures are taken up under NRM component of MGNREGS or any other recharge scheme in the target area of the present scheme to provide sustainability to ground water. The type of recharge interventions / structures to be constructed will depend upon the local hydro-geomorphological condition of the area, rainfall pattern, geomorphic set up and shall be identified based on ground water conditions and other scientific studies and utilizing appropriate technology, including remote sensing studies. These activities wherever proposed and possible, may be executed with convergence of MGNREGA / other similar scheme with ground water harvesting/ conservation components.
- (iv). States are advised to utilize Micro-Irrigation Fund Corpus for adoption of micro irrigation facilities in area proposed to be covered under this scheme, to the extent possible.
- (v). Project Authorities/ State Government Department shall monitor ground water levels in the areas where project is implemented to ensure that the

ground water development level do not exceed 70% in any of the areas. Proper monitoring and review arrangements would be put in place by Project Authorities in this regard.

## **5. IMPLEMENTATION MECHANISM**

(i) State Government to identify potential areas where assured ground water irrigation under this scheme can be provided in consultation with CGWB and State Ground Water Department for ensuring aquifer potential, yields and sustainability.

(ii) Scheme is to be advertised at State/district/ block/Panchayat level and applications from beneficiaries shall be obtained at Panchayat/ Block level along with agreement document in case of more than one beneficiaries for one well. Formats for Individual/WUA are attached as Annexure I & II. State Governments may suitably amend these formats, in consultation with their Legal Department, as per the requirement.

(iii) The State govt shall prepare the feasibility report/DPR for Ground Water Irrigation including the cost estimates and technical details in consultation with CGWB (concerned Regional Director, CGWB). The implementing agency/line department shall take approval of State Level Technical Advisory Committee (TAC) in which the RD, CGWB shall be invited as member when such proposals are considered. Further, the proposal would be approved by State Level Sanctioning Committee (SLSC), already constituted for PMKSY ensuring that the areas proposed under the scheme are not already being irrigated through any other irrigation scheme and there is no duplicity in funding the scheme. Further, the RD, CGWB shall also be made member of SLSC.

(iv) The State Governments shall ensure that such projects/schemes should be part of DIP/SIP prepared under PMKSY.

(v) Approved proposals from SLSC will be submitted by the State Govt. to concerned Regional Director, CGWB in the prescribed format along with prescribed documents, who will forward the complete proposal with recommendations to MoWR, RD & GR.

(vi) In case of community wells participatory approach involving stakeholders shall be adopted by creating Water User Associations (WUA). The number of tube wells/water structures may be worked out based on the availability of ground water, hydraulic properties of aquifer, yield capacity and unit draft of wells etc.

(vii) The work under this project/ scheme shall be executed by the respective State Govt. For executing the work on ground necessary tendering etc shall be carried out by them as per laid down standard operating procedures/ tendering guidelines/ financial guidelines etc. as applicable in the respective States. States shall institute suitable mechanism to oversee the work right from procurement stage to final commissioning in the most efficient and transparent manner.

(viii) Implementation period shall be two years which can be extended with the approval of Secretary (WR,RD& GR) in case sufficient justification is provided by the State Govt.

## 6. COST COMPONENT

- (i). In the absence of any equivalent Central Scheme norms/rates, the Standard Schedule of Rates as prescribed by the respective State governments shall be used to prepare the cost of proposals. The funds shall be released for the following four components a) construction of ground water abstraction structure, b) cost of pump (Solar/ Electrical), c) water supply pipe of length upto 200m and d) investigation cost for site selection for well .
- (ii). Maximum cost norms for different type of wells in Alluvium and Hard Rock formation, pumps (Electric/ Solar), Investigation for site selection and distribution pipe etc has been worked out based on certain data received from certain States and are given below as per Table:1.

**Table : 1**

### **Maximum Cost Norms for GW structures and their ancillaries**

Sl.No.	Structure Type	Formation	Cost (Rs in Lakh)
1	Tube Well ( dia 155 mm, depth up to 90)	Soft Rock	3.00
2	Dug Well (Large Dia up to 6 m depth 20 m )	Hard Rock	6.50
3	Dug-Cum Bore Well(Large Dia up to 6 m depth 40 m )	Hard Rock	7.00
4	Bore Well ( dia 155 mm, depth up to 100)	Hard Rock	3.00
5	Electrical Pump with Lt panels etc up to 5 HP		0.75
6	PV Solar Pumps with LT panels etc (3 to 5 HP) As per benchmark cost of MNRE		0.77/ HP (Pan India except NE regions)
6	Solar Pumps (3 to 5 HP) As per benchmark cost of MNRE		0.85/ HP (NE regions)
7	Hydro geological and geophysical Investigation for site selection		28,000/-
8	Distribution Pipe (Canvas Hose Pipe ) 200 m		20,000/-

- (iii) The cost of structures having different specifications shall be suitably calculated on *pro-rata basis*.
- (iv) Costs of proposal exceeding the above mentioned cost norms (refer Table: 1) shall be absorbed by the respective State Govt from their own budgetary provisions/State share.
- (v) The assets would be created on either Government land or on the land of beneficiary/ farmer after obtaining the agreement of beneficiary/ farmer for sharing the asset with WUA. **Cost of land shall not be funded under the scheme.**The assets created through this programme shall be handed over

to the beneficiary/ farmer/ Water User Associations / PRIs/State Govt who will further periodically maintain the assets through their own resources.

## **7. FUNDING MECHANISM**

- (i). Funding pattern shall be made in the ratio of 90:10 (C:S) in case of NE/Hilly areas and 60:40 (C:S) in case of other areas.
- (ii). The States need to make suitable provisions for executing the scheme in their Annual Plan proposal of each financial year. They also need to ensure necessary budgetary provisions for the same.
- (iii). Administrative cost to be considered in cost estimates for establishing Water Users Associations, distribution and receiving the applications, publicity of the scheme, operational expenses at the Block, District and State level, overheads/contingency and miscellaneous expenses will be as per the prevailing rates with overall capping of 1% of the cost of Project/ Scheme.
- (iv). First instalment during every year amounting to 60% of the Government of India's share (CA) as per budget provided by State shall be released on receipt of proposal from the State Govt duly approved by SLSC (PMKSY) subject to fulfilment of provisions of these guidelines. Further, first instalment during the year shall be released upon receipt of utilisation certificate for 90% of CA released during previous year (s) along with matching State share.
- (v). Release of the second instalment in a year amounting to 40% of eligible CA for the year would be considered on receipt of the following:
  - a. Utilization certificate for at least 50 percent of the funds released as first instalment during the current year along with matching State share.
  - b. Performance report in terms of physical and financial achievements as well as outcomes, in specified format.
- (vi) State share and Centre share releases would be considered on cumulative basis while calculating eligibility for release of CA.
- (vii) State shall submit the audit statement of expenditure every year.
- (viii) The State shall submit completion/closure report as the case may be on completion/foreclosure (in case of reasons beyond control) along with UC for the entire CA released for the Scheme/Project. Further, State shall get the evaluation of scheme on completion and submit report to MoWR, RD & GR.
- (ix) MOU shall be signed by the State Govt. With the MoWR, RD & GR for implementation of schemes as per prescribed format.
- (x) In case the State Govt. fails to comply with the agreed date for completion as per MoU and do not get extension for want of justification, then the grant component released will be treated as loan and recovered as per usual terms of recovery of the Central Loan.

## **8. ESSENTIAL ASSURANCES TO BE GIVEN BY STATE GOVERNMENT**

Following assurances are required to be submitted by the State Government:

- (i). To provide adequate power supply infrastructure for the wells proposed with electric pumps for ensuring last mile connectivity of irrigation facilities to the farmers. The cost of electric grid, power line, transformers etc. are not included in the proposed scheme and will be borne by State Government from their own resources/ mechanism.
- (ii). Possibility of convergence and linkages will be explored in the districts with various schemes of Govt. Of India such as MGNREGS, PMKSY (including micro irrigation component, PDMCof Ministry of Agriculture and Farmers Welfare) etc. and schemes of State Govt.
- (iii). To follow MNRE guidelines for specifications of solar pumps and explore the possibility for convergence with National Solar Mission or any other solar pumps scheme of the State, if any.
- (iv). The distance between two wells (schemes) will be minimum 100 m to prevent any possibility of well interference.
- (v). The project report includes working action plan with accountability for optimal utilization of the infrastructure. The provision for support services and spares are indicated along-with source of maintenance expenditure.
- (vi). Water User Associations are created under MOA for schemes wherein beneficiaries are more than one farmer for one ground water well.
- (vii). Measures have been taken to create requisite conjunctive Infrastructure prior to construction of wells sanctioned under the scheme.
- (viii). State Govt shall submit a MoU/ Agreement between participating farmers for collective use of asset created under this scheme and for payment of electricity bill on equal sharing basis in case of proposals for creation of assets for group of farmers/ WUA.
- (ix). The assets created shall be taken over after completion of works and shall be maintained by individual farmers/group of farmers/WUA/State Govt/PRI on their own arrangements/funds.

## **9. MONITORING MECHANISM**

- (i). State would make appropriate arrangements to review the monitoring of projects/ schemeimplementation and submit the quarterly progress reports to Regional directorate of CGWB, MoWR, RD & GR.
- (ii). Officers of Regional Directorates of CGWB shall monitor the project at least two times a year.
- (iii). MoWR, RD & GR may also get the third party monitoring of schemes/ projects as may be felt necessary. Ministry may utilise upto 1.5% of CA component for third party monitoring, evaluation, IEC activities etc.
- (iv). States shall provide necessary assistance to CGWB officials/ third party in carrying out such monitoring visits and also provide requisite information to them.



**DRAFT**

**Joint Agreement from beneficiaries (WUA) under PMKSY-HKKP (Ground Water Component) scheme of Government of India**

**Joint Agreement between farmers of Water User association (WUA) and Govt of State (Line department)**

1. We following farmers hereby agree to form a Water User Association (WUA) for availing the irrigation facilities created by Govt of ....under PMKSY.
  - a. Name ----- Father's name-..... R/O  
Village.....P.O.....Block.....Thana.....District.....State .....
  - b. Name ----- Father's name-..... R/O  
Village.....P.O.....Block.....Thana.....District.....State .....
  - c.
  - d.
  - e.
2. We hereby certify that one of the member of WUA i.e. Name ----- Father's name-..... R/O Village.....P.O.....Block.....Thana.....District.....State .....
3. We have applied to State Govt of .... for creation of dugwell/borewell/dug-cum-borewel/tubewell (DW/BW/DCB/TW) in above mentioned land for irrigation purposes under PMKSY-HKKP-Ground Water component. We hereby agree that the member (of WUA) as mentioned at para 2 above shall provide the land for creation of above structures free of cost for a period of 15 years, which may be extended in case the structure is in serviceable condition at the same terms and conditions as mentioned in this agreement.
4. We are aware that State Govt at their discretion may use the water extracted from the above structures for the irrigation of farm lands of other farmers also in future. We shall not at any point of time interfere with the decision of State Govt and their decision in this connection shall be final and binding on us.
5. The responsibility of security of the ground water extraction structure (TW/DW/BW/DCB) and pump etc. shall be the responsibility of ours and the assets created will be used only for agriculture purposes. We also hereby undertake not to involve ourselves in any kind of sale of groundwater extracted from the structure built on above land.
6. The facts given above are true to best of our knowledge.
7. We are aware that we shall be held responsible for violation of any clause of this agreement and misrepresentation of facts/providing of false information etc and shall be liable for any legal action as per the law.

First Party

Signature & Name/address of  
all members of WUA

Second Party

Authorised Representative of line deptt,

Govt of State