

No. Agr. SC.H(H)6-38/2018 (Solar Pump)  
Directorate of Agriculture,  
Himachal Pradesh Shimla-5

From

Director of Agriculture  
Himachal Pradesh

To

- 1) All the Sub Divisional Soil Cons. Officers  
in H.P
- 2) The District Agriculture Officer ,  
Keylong, Distt. Lahaul & Spiti, H.P.
- 3) The Assistant Project Officer,  
Kaza, Distt. Lahaul & Spiti, H.P.
- 4) The Subject Matter Specialist,  
Bharmour & Pangi, Distt. Chamba, H.P.

17 SEP 2018

Dated: Shimla-5 the ,

**Subject:- Operational Guidelines for implementation of Saur Sinchayee Yojna during the year 2018-19.**

Memo,

Hon'ble Chief Minister, Himachal Pradesh has announced a new scheme i.e. **"Saur Sinchayee Yojna"** during the budget speech for 2018-19 with the objective to bring more areas under assured irrigation in the next five years by installing Solar Photovoltaic Water Pumps with a financial outlay of Rs. 200.00crore. Under this proposal, the solar pumps would be installed to lift the water for irrigation purposes along with necessary infrastructure by supplying, installation (erection), testing and commissioning of AC Solar Photovoltaic Water Pumping Systems ranging from 1HP to 10 HP and DC Solar Photovoltaic Water Pumping Systems varies from 1HP to 5HP both for individual or a group of farmers through empanelled firms.

It is informed that the Government has approved the Saur Sinchayee Yojna in the Cabinet meeting held on 9<sup>th</sup> August, 2018 and directed to take necessary action for its implementation before 15<sup>th</sup> September, 2018. Accordingly, the budget allocation of Rs. 25.00crore has been made to you vide letter no. Agr. H ( V ) ( C ) 1-6/2018-19 dated 29<sup>th</sup> August, 2018 for its implementation in the State during the year 2018-19.

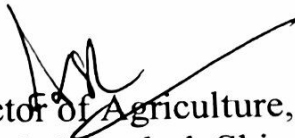
In view of exigency of work, the process for empanelment of new firms for installation of Solar Photovoltaic Water Pumping System shall be initiated shortly, however some firms were already empanelled for carrying out the work of Installation of Solar Photovoltaic Water Pumping Systems in the Minor Irrigation Schemes being executed under JICA and RKVY are hereby allowed to undertake the work of SPV Pumps in the State on the cost norms approved under SMAM programme which will also be applicable for implementation of Saur Sinchayee Yojna. The guidelines for executing the Minor Irrigation Schemes under RIDF such as Lift Irrigation Scheme for communities may be followed for setting up of Solar Photovoltaic Water Pumping System on community basis.

In this context, the copies of the Operational Guidelines duly approved by the Govt. are enclosed herewith for implementation of Saur Sinchayee Yojna. It is advised that sufficient copies of operational guidelines be prepared and circulated to all concerned site incharges. You are also advised to undertake immediate steps for the smooth implementation of the scheme as per guidelines. Any clarification regarding operational guidelines may be obtained from the Directorate and wide publicity of this scheme at district level may be made through print media, electronic media etc; so that more farmers may come forward to get benefit of this scheme as this is budget assurance scheme.

You are also directed to sanction/execute the activities approved under Saur Sinchayee Yojna during this financial year after completing all the codal formalities in view of

need and demand of farmers. The State Government has issued instructions to the departments to on-board all the beneficiary wise detail of all state funded individual schemes on State Govt DBT Portal and also ensure the submission of the report of benefit transferred under DBT on monthly basis to this directorate along with monthly & quarterly progress report on or before 5<sup>th</sup> day of every month positively.

17 SEP 2018

  
Director of Agriculture,  
Himachal Pradesh Shimla-5  
Dated: Shimla-5 the ,

Endst. No. As above-

Copy forwarded to the following for favour of information please :-

- 1) The Principal Secretary (Agriculture) to the Govt. of Himachal Pradesh, HP Secretariat , Shimla-2.
  - 2) The Additional Director of Agriculture, North Zone, Dharamshala, Distt. Kangra H.P.
  - 3) The Divisional Engineer (SC) Palampur, Mandi and Shimla in H.P.
  - 4) All the Deputy Directors of Agriculture, H.P.
  - 5) M/S Primus Energy Solution Pvt. Ltd. B3-436AB, Spaze 1 Tech Park, Sohna Road, Gurgaon, Haryana-122018.
- districts and start the implementation of Saur Sincayee yojna immediately in the State.

  
Director of Agriculture,  
Himachal Pradesh Shimla-5

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# **Operational Guidelines for Implementation of Saur Sinchayee Yojna**

## **1) Introduction**

Himachal Pradesh lying in the western Himalayas is one of the hill states in India. It has a geographical area of 55673 km<sup>2</sup>. The elevation varies from 300m to 6700m from the west to east providing a variety of climatic conditions and resulting in diverse vegetation. Agriculture is energy intensive and the demand for energy will still go higher in agriculture as it is becoming high-tech. Farmers in different parts of the State do not get enough and timely supply of electricity for critical operations like irrigation. Himachal Pradesh like all other hilly and mountainous states in India has its problems / constraints in relations to sustainable use of natural resources like water and soil via agriculture production. From the view point of agriculture production both soil & water are complementary / supplementary to each other and require careful planning and management at micro & macro levels. In Himachal Pradesh, Agriculture plays a vital role in the economy of State with 80% of the its people being directly or indirectly dependent on it. Agriculture has a unique development potential as the State is blessed with a wide variation of climatic conditions from sub-tropical to cold alpine. Irrigation is among the measures that can improve yields, reduce vulnerability to changing rainfall patterns, and enable multiple cropping practices. Although expanding, land area under irrigation ever the less represents a marginal share of total cultivated area, especially in the State, where only 20% of farmland is irrigated. Affordable, reliable and environment friendly sustainable energy is a vital input for delivering irrigation services.

To cope with the growing problem of food shortage due to steep increase in population and adverse unpredictable weather conditions, natural calamities, etc., multiple cropping and modernization of agricultural practices in agricultural sector is imperative in the Pradesh. For a sustained development of agriculture, availability of assured irrigation facility is undoubtedly the most important prerequisite. Thus, the importance of irrigation development bears special significance in the context of efforts towards the State's economic development. To address the issue of assured irrigation, the Government of Himachal Pradesh has decided to install Solar Water Pumps in the State in the next five years with RIDF assistance. There is abundant ground water and even surface flow in local streams / ravines in the State to cater to this large target.

## **2) Implementing Department**

The scheme will be executed by the Department of Agriculture through Soil & Water Conservation Wing, Government of Himachal Pradesh. The Department is already executing the schemes like Shallow Bore Wells, Shallow Wells, Water Storage tanks, Low & Medium lift irrigation schemes and providing Pumping machinery to farmer under various state plan & centrally sponsored schemes such as Rajiv Gandhi Micro-irrigation Scheme, Subsidy on Lift Irrigation Scheme and Bore wells, Dr. Y.S. Parmar Swarojghar Yojna and Pradhan Mantri Krishi Sinchayee Yojna. So far, It has installed 2700 STWs and 1375 low lift points (LLP) in the State during the last five years.

## **3) Types of Investments**

The 5850 solar powered water pumps have been proposed in the five year duration which will basically comprise three types of structures depending on the type of lifting mechanism – (i) Shallow Wells/ Tube wells constructed recently waiting for electric connection shall be energized with Solar PV Pumping System ; (ii) Shallow Well/ Shallow Tubewells to be



constructed during next four years duration to energize with Solar PV Pumping System ;; and (iii) Low & medium lifts constructed recently waiting for electric connection shall be energized with Solar PV Pumping System .

#### **4) Component & Specifications of the proposed models of SPV pump for irrigation (Standards/Quality):**

##### **4.1) PV Array**

The SPV water pumping system should be operated with a PV array capacity in the range of 200 Watts peak to 10000 Watts peak, measured under Standard Test Conditions (STC). Sufficient number of modules in series and parallel could be used to obtain the required PV array power output. The power output of individual PV modules used in the PV array, under STC, should be a minimum of 125 Watts peak, with adequate provision for measurement tolerances. Use of PV modules with higher power output is preferred.

Indigenously produced PV module (s) containing mono/ multi crystalline silicon solar cells should be used in the PV array for the SPV Water Pumping systems.

- Modules supplied with the SPV water pumping systems should have certificate as per IEC 61215 specifications or equivalent National or International/ Standards.
- Modules must qualify to IEC 61730 Part I and II for safety qualification testing.
- The efficiency of the PV modules should be minimum 14% and fill factor should be more than 70%.
- The terminal box on the module should have a provision for "Opening" for replacing the cable, if required.
- There should be a Plate fixed inside the module which will give:
  - a. Name of the Manufacturer or Distinctive Logo.
  - b. Model Number
  - c. Serial Number
  - d. Year of manufacture

##### **4.2) Motor Pump-Set**

The SPV water pumping systems may use any of the following types of motor pump sets:

- a. Surface mounted motor pump-set
- b. Submersible motor pump set
- c. Floating motor pump set
- d. Any other type of motor pump set after approval from Test Centers of the Ministry.

The "Motor Pump Set" should have a capacity in the range of 1hp to 10 hp and should have the following features:

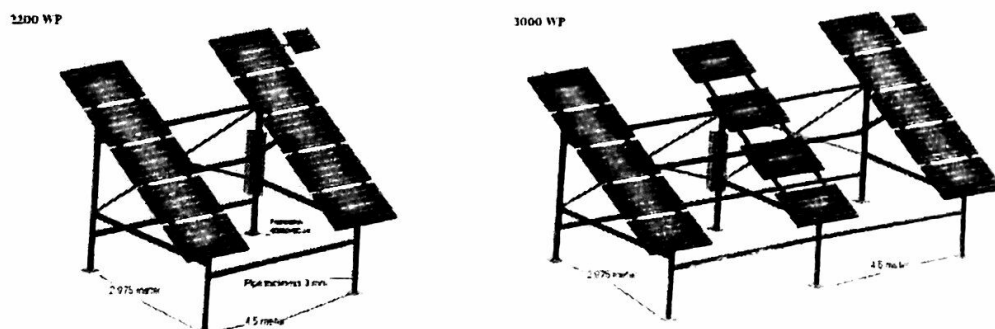
- The mono block DC/ AC centrifugal motor pump set with the impeller mounted directly on the motor shaft and with appropriate mechanical seals which ensures zero leakage.
- The motor of the capacity ranging from 1 hp to 10 hp should be AC, PMDC or BLDC type. The suction and delivery head will depend on the site specific condition of the field.
- Submersible pumps could also be used according to the dynamic head of the site at which the pump is to be used.
  - It is recommended that all parts of the pump and the motor of the submersible pumps should be made of stainless steel. The manufacturers of pumps should

self certify that, the pump and all external parts of motor used in submersible pump which are in contact with water, are of stainless steel. The pumps used for solar application should have a 5 years warranty so it is essential that the construction of the pump be made using parts which have a much higher durability and do not need replacement or corrode for at least 5 years.

- Provision for remote monitoring of the installed pumps must be made in the controllers or the inverters either through an integral arrangement or through an externally fitted arrangement. It should be possible to ascertain the daily water output, the power generated by the PV array, the UP TIME of the pump during the year, Number of days the pump was unused or under breakdown/repairs.
- The following details should be marked indelibly on the motor pump set
  - a) Name of the Manufacturer or Distinctive Logo.
  - b) Model Number.
  - c) Serial Number.
- The suction/ delivery pipe (GI/HDPE), electric cables, floating assembly, civil work and other fittings required to install the Motor Pump set.

#### 4.3) Mounting Structures and Tracking System.

The PV modules should be mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour. The support structure used in the pumping system should be hot dip galvanized iron with minimum 80 micron thickness. To enhance the performance of SPV water pumping systems, manual or passive or auto tracking system **must** be used. For manual tracking, arrangement for seasonal tilt angle adjustment and three times manual tracking in a day should be provided.



#### 4.4) Electronics and Protections

- Maximum Power Point Tracker (MPPT) should be included to optimally use the Solar panel and maximize the water discharge.
- Inverter could be used, if required, to operate an A.C. Pump. The inverter must have IP 54 protection or must be housed in a cabinet having at least IP54 protection.
- Controller for BLDC / SPCM motor driven pumps, if required be used. The controller must have IP 54 protection or must be housed in a cabinet having at least IP 54 protect.
- Adequate protections should be incorporated against dry operation of motor pump set, lightning, hails and storms.
- Full protection against open circuit, accidental short circuit and reverse polarity should be provided.

**4.5) On/Off Switch:** A good reliable switch suitable for DC / AC use / inbuilt mechanism in the controller is to be provided with the motor pump set. Sufficient length of cable should be provided for inter-connection between the PV array and the motor pump set.

#### 4.6) Junction Boxes (AC / DC)

- i. All junction/ combiner boxes if required to be used including the module junction box, string junction box, array junction box and main junction box should be equipped with appropriate functionality, safety (including fuses, grounding, etc.), string monitoring capabilities, and protection.
- ii. The terminals will be connected to copper bus-bar arrangement of proper sizes to be provided. The junction boxes will have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables. Suitable markings shall be provided on the bus-bars for easy identification and cable ferrules will be fitted at the cable termination points for identification.
- iii. It will also have suitable surge protection. The Junction Boxes shall have suitable arrangement for the followings:
  - Combine groups of modules into independent charging sub-arrays that will be wired into the controller.
  - Provide arrangement for disconnection for each of the groups. Provide a test point for each sub-group for quick fault location.
  - To provide group array isolation.
- iv. The current carrying rating of the Junction Boxes shall be suitable with adequate safety factor to inter connect the Solar PV array.
- v. The junction boxes shall be dust, vermin, and waterproof and made of thermoplastic/ metallic in compliance with IEC 62208, which should be sunlight/ UV resistive as well as fire retardant & must have minimum protection to IP 65(Outdoor)/ IP 21(indoor) and Protection Class II.
- vi. In addition, over voltage protection shall be provided between positive and negative conductor and earth ground such as Metal Oxide Variaster (MOV).
- vii. The bypass & reverse blocking diodes should work for temperature extremes and should have efficiency of 99.98%, confirmed by appropriate IEC standards.
- viii. Adequate capacity solar DC fuses & isolating miniature circuit breakers should be provided if required.

5) **Warranty:** The PV Modules must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. The whole system including submersible/ surface pumps shall be warranted for 5 years. Required Spares for trouble free operation during the Warrantee period should be provided along with the system.

6) **Operation and Maintenance Manual :** An Operation and Maintenance Manual, in English and the local language, should be provided with the Solar PV Pumping System. The Manual should have information about solar energy, photovoltaic, modules, DC/AC motor pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Name and address of the person or Centre to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set should also be provided to the beneficiary.

7) **Notes:** Wherever the "Water table" or the level of water in the reservoir or the water source from which the water is to be pumped, is within 5-7.5 metres depth, 'Surface

Motor Pump sets” should be preferred. The type of pump set used must match the total dynamic head requirement of the site (i.e. the location at which it is installed). Moreover, it should be appropriately tested and certified by the authorized test centres of the Ministry to meet the performance and water discharge norms specified in section II above. There should not be any compulsion to use only one or the other type of Motor-pump set. The beneficiary may select an appropriate Model (i. e. Capacity of PV Array and Type of Motor Pump Set) as per site requirement.

8) **Testing:** Following organisations will provide technical help and testing facilities. They will be strengthened with support from MNRE.

- a. National Institute of Solar Energy (NISE) Gurgaon
- b. EQDC, Ahmadabad
- c. CPRI, Bangalore
- d. International Horticulture Innovation & Training Centre, Jaipur

9) **Technical Specifications:**

**9.1) For D.C. Motor Pump Set with Brushes or Brushless D.C. (B.L.D.C. ):**

- (i) 100 litres of water per watt peak of PV array, from a Total Dynamic Head of 10 meters (Suction head, if applicable, minimum of 7 meters) and with the shut off head being at least 12 meters.
- (ii) 55 litres of water per watt peak of PV array, from a Total Dynamic Head of 20meters (Suction head, if applicable, up to a maximum of 7 meters) and with the shut off head being at least 25 meters.
- (iii) 35 litres of water per watt peak of PV array, from a Total Dynamic Head of 30meters and the shut off head being at least 45 meters.
- (iv) 21 litres of water per watt peak of PV array, from a Total Dynamic Head of 50meters and the shut off head being at least 70 meters.
- (v) 14 litres of water per watt peak of PV array, from a Total Dynamic Head of 70meters and the shut off head being at least 100 meters.

The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season, etc. Indicative performance specifications for the Shallow and Deep well SPV Water Pumping Systems are given in the Annexure I.

**9.2) For A.C. Induction Motor Pump set with a suitable Inverter:**

- (i) 90 litres of water per watt peak of PV array, from a Total Dynamic Head of 10meters (Suction head, if applicable, minimum of 7 meters) and with the shut off head being at least 12 meters.
- (ii) 50 litres of water per watt peak of PV array, from a Total Dynamic Head of 20meters (Suction head, if applicable, up to a maximum of 7 meters) and with the shut off head being at least 25 meters.
- (iii) 32 litres of water per watt peak of PV array, from a Total Dynamic Head of 30meters and the shut off head being at least 45 meters.
- (iv) 19 litres of water per watt peak of PV array, from a Total Dynamic Head of 50meters and the shut off head being at least 70 meters.
- (v) 13 litres of water per watt peak of PV array, from a Total Dynamic Head of 70meters and the shut off head being at least 100 meters.

**9.3) Minimal Technical Requirements/Standards for off-grid/Stand-Alone solar photovoltaic (PV) power plants/systems to be deployed under the National Solar Mission**

Item/component	Applicable IEC/equivalent BIS Standard	
	Standard description	Standard Number
PV Modules: Crystalline Silicon Terrestrial PV	Must conform to the latest edition of IEC/equivalent BIS Standards for module design qualification and type	IEC 61215/IS14286 IEC 61730 Part 1 & 2 (MNRE Approved / NISE Tested)
Power Conditioners /Inverters	Efficiency Measurements Environmental Testing	IEC 61683 ,IEC 60068
Charge controller /MPPT Units	Design Qualification Environmental Testing such as USPC & Others.	MNRE Approved IEC 61093 ,IEC 60068 /IEC 61683 and EN50530
Cables	General Test and Measuring Methods PVC insulated cables for working Voltages up to and including 1100 V- Do, UV resistant for outdoor	IEC 60189, IS 694 / IS 1554 IS/IEC 69947
Switches / Circuit Breakers / Connector	General Requirements Connectors-safety	IS/IEC 60947 part I,II,III
Junction Boxes / Enclosure	General Requirements	IP 65 (for outdoor)/IP 21 (for indoor) IEC 62208
SVP System Design	PV Stand-alone System design verification	IEC 62124
Installation Practices	Electrical installation of buildings Requirements for SPV power supply systems.	IEC 60364-7-712
AC /DC Motor pump set ( Surface / Submersible)	MNRE Approved Make like KSB/Kirloskar /Lubi or Equivalent	
Lightening Arrestor	Copper bowl type of 150mm dia with 5 spikes supported and connected to the mast of GI Radius of protection to be 3meter	
Concrete Work	As mentioned in the attached drawing in 1:2:4 ratio enclosed at <b>Annexure-XII.</b>	

**10) Eligibility and selection of beneficiary:-** Selection of beneficiary for establishment of solar PV pumping Systems shall be on first come, first serve basis and the Solar Photovoltaic pump will be installed through empanelled / shortlisted firms /service providers after the approval accorded by the competent authorities .

- All the farmers having assured water source (viz., Bore well, open well or other surface storage structure) suitable for erection of DC/AC Solar pump set, for irrigating the crops preferably through Micro irrigation system viz., Drip / Sprinklers will be eligible for availing financial assistance.



- b) The priority will be given to a group of farmers / Kisan Vikas Sanghs /Krishak Vikas Sangh / Registered Body of Farmers etc registered under Society Act-2006.
- c) All the individual/ group of farmers having are eligible for availing assistance in their own farm land who intends to install Solar Photovoltaic Water Pumping System along with micro irrigation system (sprinkler or drip).
- d) Preference would be given to farmers growing crops under rain fed conditions.
- e) Small and marginal farmers shall be given preference over medium and large farm holders.
- f) Persons with disabilities shall be given priority over others.
- g) Preference shall be given to the farmers whose livelihood is agriculture sector only.
- h) Neo-literate youths having their own farm land shall also be priority.
- i) Other farmers who are innovative and adopting practices like organic farming , Zero Budget Natural Farming etc.

**11) Pattern of Assistance:-**

- ✓ 90% financial assistance will be provided to the Individual Small & Marginal farmers having assured water source near the vicinity of their fields.
- ✓ 80% subsidy will be provided to the individual medium & large farmers having assured water source near the vicinity of their fields.
- ✓ Priority may be given to a group of minimum 5 or more farmers / Kisan Vikas Sanghs /Krishak Vikas Sangh registered under Society Act -2006 having assured water source for which 100% financial assistance shall be provided. Such scheme shall be implemented through convergence with Water Lifting Devices like AC/ DC Solar P V Pumping Systems sub component of Per Drop More Crop component of Pradhan Mantri Krishi Sinchayee Yojna wherein 50% expenditure will be borne from state plan scheme i.e. Saur Sinchayee Yojna and 50% expenditure shall be met out through convergence with Centrally Sponsored Scheme i.e. Pradhan Mantri Krishi Sinchayee Yojana.

**12) Financial Assistance :**

6.1) Pattern for financial assistance to individuals under this scheme shall be as per cost norms finalized by Govt. of India - **Sub Mission for Agricultural Mechanism (SMAM) for Installation of Solar Photovoltaic (SPV) Water Pumping Systems**

<b>Pump Capacity</b>	<b>Approved Cost Norms per HP as per SMAM Guidelines</b>	<b>Financial Assistance @ 90% for Small &amp; Marginal Farmers</b>	<b>Financial Assistance @ 80% for Medium &amp; Big Farmers</b>
Up to 2HP AC Pump	Rs. 110,880/- per HP	Rs. 99,792/- per HP	Rs. 88,704/- per HP
>2 to 5HP AC Pump	Rs. 95,040/- per HP	Rs. 85,536/- per HP	Rs.76,032/- per HP
>5 to 10HP AC Pump	Rs. 95,040/- per HP	Rs. 85,536/- per HP	Rs.76,032/- per HP
Up to 2HP DC Pump	Rs. 126,720/- per HP	Rs. 114,048/- per HP	Rs. 101,376/- per HP
>2 to 5HP DC Pump	Rs. 118,800/- per HP	Rs. 106,920/- per HP	Rs. 95,040/- per HP

The above approved rates are inclusive of total system cost and its installation , commissioning , transportation, insurance , five years AMC/CMC and applicable fees and taxes.

6.2) **Financial Assistance for Installation of Solar Photovoltaic (SPV) Water Pumping Systems on Community basis.** The pattern of subsidy distribution shall be based on guidelines of Supplementary Water Management Activities of Per Drop More Crop component of Pradhan Mantri Krishi Sinchayee Yojana.

<b>Pump Capacity</b>	<b>Cost Norms per HP as per SMAM Guidelines</b>	<b>Financial Assistance @100% for Communities</b>	<b>Financial Assistance @50% under Saur Sinchayee Yojna</b>	<b>50% Financial Assistance through Convergence with PMKSY</b>
Up to 2HP AC Pump	Rs. 110,880/- per HP	Rs. 110,880/- per HP	Rs. 55,440/- per HP	Rs. 55,440/- per HP
>2 to 5HP AC Pump	Rs. 95,040/- per HP	Rs. 95,040/- per HP	Rs. 47,520/- per HP	Rs. 47,520/- per HP
>5 to 10HP AC Pump	Rs. 95,040/- per HP	Rs. 95,040/- per HP	Rs. 47,520/- per HP	Rs. 47,520/- per HP
Up to 2HP DC Pump	Rs. 126,720/- per HP	Rs. 126,720/- per HP	Rs. 63,360/- per HP	Rs. 63,360/- per HP
>2 to 5HP DC Pump	Rs. 118,800/- per HP	Rs. 118,800/- per HP	Rs. 59,400/- per HP	Rs. 59,400/- per HP

The above approved rates are also inclusive of total system cost and its installation , commissioning , transportation, insurance , five years AMC/CMC and applicable fees and taxes.

### 13) **Procedure to avail project assistance:**

Farmers willing to establish Solar Photovoltaic Irrigation Pumping Systems with or without water source by availing project assistance shall submit an application with the concerned Sub Divisional Soil Conservation Officer i.e. Project Implementing Agency (PIA) on prescribed application form (**Annexure-I**) along with other prescribed formats enclosed at **Annexure-II,III & IV** . The Beneficiary shall have to submit Self Attested Undertaking on Non-Judicial Paper of Rs.50/- enclosed at **Annexure-V**. The prescribed application forms shall be available in all the offices of the Department at District, Soil Conservation Sub Division, Block level and Circle level. Farmers can submit their applications to the Agriculture Extension Officer of the area, Agriculture Development Officer of the Soil Conservation Circle, Junior Engineer of Soil Conservation Section, Subject Matter Specialist in the Block and SDSCO at Sub Division level. For the facilitation of farmers, Department has empanelled capable and experienced companies as service providers for planning, designing and installation of Solar Photovoltaic Irrigation Pumping Systems on farmers fields. **List of these service providers along with addresses and telephone numbers is given as per Annexure-IX.**

**14) Project Areas:** The project shall be implemented over a period of 5 years and in the entire state . The District wise and Component wise targets shall be fixed as per need / demand of farming community .

## 15) Role and Responsibility of Project Implementing Agency:

For execution of this project, Sub Divisional Soil Conservation Officer will be the Project Implementing agency. He will be assisted by a core team comprising of ADO, JE, AEO (Graduate/Post Graduates). He and his team shall be responsible for the following:

1. After the receipt of the application on prescribed form from the beneficiary, the same shall be entered in a register and a Sr. No. shall be assigned to that application and date of receipt of application shall be entered.
2. He and his team will visit the site to verify the feasibility as per demand within 10 days from the receipt of application and if found suitable and feasible, then farmers will be asked to submit revenue records ( Jamabandi & Tatima ) of command area to be covered under Solar Photovoltaic Pumping Systems and the report should include the verification of water source , if already available and if not , detailed estimate with location of source shall be prepared by the PIA. The verification report regarding water source should clearly indicate type of water source with quality and quantity of water.
3. After inspection of site, PIA will accord the Administrative Approval / Expenditure Sanction within 10 days from date of receipt of feasibility report in view of delegation of powers or refer the case to higher authority for similar necessary approval / sanctions.
4. PIA will issue authorization letter in favour of beneficiaries to get Solar Photovoltaic Water Pumping Systems installed through empanelled companies / agency of their choice and/ or for construction of water source /creation of water sources / water augmentation structures etc. as the case may be as per site requirement. Necessary format for issuance of authorization is given at **Annexure-VIII**.
5. PIA and his core team will exercise 100% test check during various stages of execution of the project components which inter alia will include the following.
  - After development of site for the installation of Solar Photovoltaic Water Pumping Systems and construction of water resource development structure.
  - After excavation of earth and at the time of laying of foundations.
  - At the time of dumping of Solar Photovoltaic Water Pumping Systems Components at the site.
  - On completion of Solar Photovoltaic Water Pumping Systems /water source as per details and technical specifications provided in the project.
  - After installation of Solar Photovoltaic Water Pumping Systems as per specifications provided in the guidelines . PIA shall obtain certificate regarding satisfactory functioning of the scheme from the beneficiary .
6. PIA and his core team will be responsible for the preparation of estimates as per site requirement for installation of Solar Photovoltaic Water Pumping Systems through empanelled companies responsible for planning and designing, so that systems are installed as per site specific situations. For according administrative approvals and financial sanctions, indicative cost estimates provided may be considered, but the evaluation / recording of measurements has to be as per actual work done within approved cost norms.

7. PIA will facilitate in signing of agreement between farmer and service provider. He and his team will help the willing farmers if any to secure loan and will also educate farmers to avail facility of Kisan Credit Card.
8. PIA and his core team shall be responsible to ensure that quality construction material has been used for the creation of durable assets by empanelled firms. The officer responsible to record measurement will certify that material used for the installation of Solar Photovoltaic Water Pumping Systems and for construction of related infrastructure is as per approved specifications. Certificate should be based on actual verification of BIS /IEC markings on the material used. Measurements are required to be recorded within 7 days from the date of completion of the project components.
9. Claims duly verified by the ADO / JE / Graduate AEO shall be cleared within 7 days by the PIA. The project assistance shall be worked out in accordance with the approved assistance as **per Annexure-X attached** and submit the bill of quantity **as per Annexure-XI** duly signed by Core Team for releasing of subsidy. The material like Solar Module and Water Pump-Submersible/ Surface Pumps installed should be approved Make & Brand by the Ministry of New & Renewable Energy, New Delhi. Other items such as pipes, GI/ HDPE Pipe and electrical fixtures / fittings should be conforming to ISI/ BIS /IEC specifications.
10. For any other additional / optional items if any required to be installed by the farmers for enhancing the performance or to make the system multi functional or otherwise required essentially over and above as approved, the cost of such addition shall have to be borne by the beneficiary in case overall cost is more than the approved unit cost norm.
11. Ensure convergence with existing schemes as there exists many central sponsored and state level schemes, the PIA will identify such schemes, inform the communities and promote convergence in so as to have a better spatial and demographic coverage and thereby maximize benefits from such intervention.
12. PIA will submit Project Completion Report (PCR) on the prescribed Performa to the Directorate through respective Divisional Engineer ( Soil Conservation ) immediately on completion/testing of the system.
13. PIA will submit progress report every month on the prescribed Performa to the Directorate regularly.
14. PIA will facilitate the signing of the agreement (**Annexure- VI**) and he or his representative will be one of the witnesses while agreement is signed between the farmer and the company.
15. PIA will also ensure that the farmers share in the shape of bank draft amounting to 10/ 20% of actual cost of Solar Photovoltaic Water Pumping Systems is released to the empanelled company at the time of dumping of material at site.
16. The completion time for the installation of Solar Photovoltaic Water Pumping Systems shall be maximum 90 days from the date of signing of agreement. If the company fails to install the systems within the stipulated period then the company is liable to refund the entire amount deposited with them as beneficiary share with 20% interest which shall be charged from the date of agreement. PIA is to ensure that the companies complete the job within stipulated period and in

case of repeated defaults, the PIA shall move the case to higher authority as per terms and conditions of the empanelment.

17. The PIA shall ensure that no solar water pumping system is sanctioned / installed with water source.
18. PIA will maintain beneficiaries – wise record on performa annexed at **Annexure-VII** and will put the same on departmental website.

**16) Responsibility of Empanelled Companies:**

1. The Authorised Engineer of empanelled companies shall be responsible to undertake detailed survey, planning, designing for installation of Solar Photovoltaic Pump as per topography and technical parameters in all the districts of the State. They will undertake above process after authorization/work orders are issued by the competent authority of the department in favour of the farmer under intimation to the concerned empanelled agency.
2. Renewal of empanelment of a company in future shall depend upon the performance evaluation, which shall be evaluated on the basis of its achievements made during implementation period.
3. Appropriate system to be designed based on the water requirement, slope, vertical head and length of the rising mains etc. as per prevailing site conditions.
4. Test / Trial run has to be conducted after successful completion of Solar Photovoltaic Water Pumping Systems installation to the entire satisfaction of the beneficiary and PIA as well.
5. Warranty certificate to be issued by the empanelled company to farmer for a period of 5 years.
6. To provide technical support to the farmer in operation & maintenance of Solar Photovoltaic Water Pumping system.
7. The empanelled company should provide details of contact persons with their address and mobile no. to rectify the faults etc and also ensure to make available the requisite spare in case requiring replacement after expiry of warranty period.
8. The empanelled company has to submit original invoice, completion and warranty certificate duly authenticated by the farmer within 7 days after installation for release of 90 / 80% final payment.
9. The empanelled Company is responsible for proper installations correctness of extent of the area, design, quantities of components supplied to the beneficiary.
10. The empanelled Company has to deploy sufficient staff as per the guidelines.
11. The empanelled agency should display the salient features of the scheme at the site of installation.
12. The companies will use Solar Modules & Solar Pumps –Submersible & Surface Pumps approved by Ministry of New & Renewable Energy, New Delhi and will apply the rates finalized for each component.
13. Each company shall have to open its outlets in each district at focal points so that farmers can get logistic support like after sale service etc. The companies are also required to keep samples of components duly approved by the MNRE, so that PIA's can verify the quality of material/ component used for the installation of Solar Pumping systems on the basis of counter samples.



14. The companies shall provide user manual in Hindi or English to the farmers free of cost. The manual should contain all details regarding after sale service centres and contact person with telephone number and details with regard to operation and maintenance of Solar Pumping systems.
15. The empanelled companies shall enter to an agreement with the farmers on the prescribed format (**Annexure-VI**). The company will not charge more than 10 / 20% of the total project cost as farmer share. The project assistance shall be released to the companies on the recommendations of the farmer after testing of Solar Photovoltaic Water Pumping System installed to the entire satisfaction of the farmer and PIA.
16. The cost norms approved for different type of Solar Pump Capacities are inclusive of all taxes and carriage of material up to site. These rates will be applicable uniformly throughout the state.
17. The companies are expected to provide full facilitation to the farmers i.e. the designing of Solar Photovoltaic Water Pumping systems should be based on correct survey of the site and it should contain the design of pumping machinery, rising main and the on farm delivery system.
18. The installed solar photovoltaic water pumping system can be inspected and evaluated by the officers of the Agriculture Department and any other designated officer of the state Govt. or by authorized third party as the case may be.
19. The choice of service provider/ company for the installation of Solar Photovoltaic Water Pumping systems shall be on willingness of the farmers.
20. The completion period of the empanelled company has been kept 90 days from the date of agreement. In case the company fails to complete the installation within 90 days, then company will be liable to refund the entire 10 / 20 % beneficiary share with 20% interest, which will be charged from the date of agreement. In case of such repeated defaults, appropriate action against company shall be initiated which will include de-empanelment, blacklisting and forfeiture of bank guarantee as the case may be.
21. During the implementation of project, the department may impose additional condition as per need and circumstances to enhance the performance in the larger interest of the farming community.

**17) Responsibility of Beneficiaries / farmers:**

- 1) The Beneficiary has to apply for installation of Solar Photovoltaic Pumping Systems on the prescribed application form. Necessary documents required for sanction are to be provided to the PIA. The particulars provided in the application form should be correct and genuine.
- 2) The beneficiary shall have to deposit the farmer share @ 10 & 20% with concerned Sub Divisional Soil Conservation Officer, in the shape of Bank Draft payable to empanelled companies.
- 3) The Beneficiary has to provide assured water source such as shallow bore well / shallow well / Low & medium lift irrigation / water storage tank of required capacity keeping in view the crop water requirement for installation of the SPV

- Water pumping systems to the empanelled Company within 7 days after the approval and space for erection of Solar Panels.
- 4) Beneficiary has to coordinate with the empanelled Company at the time of Survey / installation.
  - 5) Beneficiary has to verify the quantities of components received in the field with the delivery challan.
  - 6) Beneficiary to check that the material received is free from any defect and damages.
  - 7) Cooperate with empanelled Company for testing / trial run and provide the faults if any to the empanelled agency in consultation with PLA.
  - 8) The Beneficiary has to maintain and operate the system as per the suggestions given by the empanelled company in view of operation manual.
  - 9) Beneficiary has to attend the training programmes / service campaigns conducted by the Department and empanelled Company as & when conducted.
  - 10) Beneficiary should ensure that the Solar Pumping system is handled with proper care for its sustainability.

## **12.) Monitoring and Evaluation**

One of the key factors for successful implementation on any project is effective monitoring. In this regard, two Monitoring Committees have been proposed - one at the District level headed by the Deputy Director of Agriculture of the concerned District and another at the State level / Zonal Level headed by the Addl. Director / Joint Director of Agriculture / Divisional Engineer (Soil Conservation ) of respective zones. The District Level Committee will monitor the project on a monthly basis and the State Level Committee on a quarterly basis.

## **13.) Expected Outcomes:-**

- 1) Water access to un-electrified/ remote locations.
- 2) Judicious use of irrigation water through micro irrigation, and integration with Renewable Energy Sources.
- 3) Solar pump is additional award for farmers adopting Hi-Tech cultivation and WHS with micro-irrigation systems.
- 4) To optimize and effective use of Solar Power Pumping Systems by simultaneously running the power operated post harvesting agriculture machines using multi purpose controller.
- 5) Wide replication will bring costs down within the reach of farmers, with gradual withdrawal of subsidy.
- 6) Protection of crop/property, Increase in Production.
- 7) No electric connection is required, no electric bill.
- 8) Additional income to farmers by using net metering connected with Electrical grid .

उप मण्डलीय भू-संरक्षण अधिकारी / जिला कृषि अधिकारी /  
सहायक परियोजना अधिकारी / विशयवाद विशेषज्ञ,

लामार्थी का  
पासपोर्ट  
आकार का  
फोटो

.....जिला.....हि0 प्र0 ।

**विषय :** सौर सिंचाई योजना के अन्तर्गत 1/2/3/5/7.5/10 HP (सरफेस/सबमर्सिबल) क्षमता का एस पी वी सौर ऊर्जा आधारित जल उठाऊ-पम्प संयंत्र स्थापना के लिए अनुदान हेतु प्रार्थना पत्र।

श्रीमान जी,

मैं.....सपुत्र/सपुत्री/पत्नी श्री.....  
.....गांव.....डाकघर.....ग्राम पंचायत.....  
.....ब्लाक.....तहसील..... जिला.....हिमाचल प्रदेश का स्थाई निवासी  
हूँ। मेरी किसान पास बुक के अनुसार.....मलकीयत भूमि है जिसमें से .....  
भूमि फसलों के अन्तर्गत है। मैं उपरोक्त योजना के अन्तर्गत उपलब्ध वित्तीय सहायता द्वारा.....  
..... HP (सरफेस/सबमर्सिबल) क्षमता का एस पी वी सौर ऊर्जा आधारित  
(मेन्यूअल/ऑटो ट्रेकर माउन्टिंग ढाचे की पद्धति का) जल उठाऊ-पम्प संयंत्र स्थापित करवाना चाहता हूँ।  
मेरे पास ..... जल-स्रोत उपलब्ध है/नहीं है। उक्त योजना के अन्तर्गत सहायता स्वीकृत  
करने के लिए बतौर किसान मेरा विवरण निम्नलिखित है :-

क	प्रार्थी का विवरण	
	प्रार्थी की श्रेणी {लघु/सिमान्त/वृहद किसान}	
	प्रार्थी का वर्ग {अनुसूचित जाति/अनुसूचित जनजाति/सामान्य}	
	प्रार्थी गरीबी रेखा के नीचे/ऊपर से सम्बन्ध रखता है { बी.पी.एल./ ए.पी.एल. }	
	आधार कार्ड नं०	
ख	बैंक खाता विवरण	
	किसान का नाम { बैंक रिकार्ड के अनुसार }	
	खाता संख्या	
	बैंक का नाम तथा बैंक शाखा का पता	
	आई0एफ0एस0सी0 कोड सहित	
ग	भूमि सम्बन्धी विवरण	
	कुल भूमि; किसान पास बुक के अनुसार	
	फसलों के अन्तर्गत क्षेत्र	
	{क} सिंचित क्षेत्र	
	{ख} असिंचित क्षेत्र	
घ.	{ग} अन्य घासनी इत्यादि	
	उपलब्ध पानी का स्रोत जिस पर उपरोक्त योजना प्रस्तावित है का पूर्ण विवरण सहित ब्यौरा	

	पानी का स्रोत उपलब्ध न होने की स्थिति में जल स्रोत विकसित करने के लिए विभाग की अन्य योजना के अन्तर्गत प्रार्थी के आवेदन पत्र/स्वीकृति इत्यादि का योजना के नाम सहित विवरण :-	
ड.	असिंचित क्षेत्र जहां उपरोक्त योजना प्रस्तावित है; है0/ बीघा	
	[क] इस क्षेत्र में वर्तमान में लगाई जा रही फसलों का ब्यौरा ।	
	फसल का नाम	
	क्षेत्रफल	
	[ख] सिंचाई के बाद लगाई जाने वाली फसलों का ब्यौरा	
	फसल का नाम	
	क्षेत्रफल	
च.	योजना के अन्तर्गत सौर ऊर्जा जल उठाऊ पम्प संयंत्र स्थापना हेतु (सोलर सरफेस/सम्बरसिबल पम्प का विवरण हॉर्सपावर सहित) वित्तीय सहायता के बारे में विवरण :- 1. लिफ्ट हेतु कुल हैड.....मी. 2. राईजिंग मैन की कुल लम्बाई.....मी. 3. हॉर्सपावर .....HP	

1. मैं सत्यापित करता हूँ कि इस सौर ऊर्जा आधारित पम्प संयंत्र का कृषि सिंचाई एवं उच्च तकनिक फॉर्म मशीनीकरण कार्यों हेतु उपयोग करूंगा तथा आगामी 10 वर्षों तक उक्त संयंत्र का किसी अन्य को बिक्री या हस्तांतरण इत्यादि नहीं करूंगा।
2. मैं आपकी संस्था के माध्यम से आपूर्तिकर्ता एवं विभाग के साथ स्थापित त्रि-पार्टी अनुबंध की शर्तों का पालन करूंगा। संयंत्र स्थापना हेतु आवश्यक जल स्रोत जैसे बोरवेल/संग्रहण ढांचे की व्यवस्था मेरी स्वयं की लागत पर उपलब्ध कराई जायेगी।

उपर दी गई सूचना पूर्ण रूप से ठीक है तथा मैं योजना में दिए गए दिशा- निर्देशों के अनुसार कार्य करने के लिए तैयार हूँ। अतः आपसे अनुरोध करता हूँ कि मुझे उपरोक्त दर्शायी गई मदों हेतु वित्तीय सहायता की स्वीकृति प्रदान की जाये।

भवदीय

किसान के हस्ताक्षर.....

पूरा पता.....

टेलीफोन/मोबाईल न0.....

निम्नलिखित संलग्न प्रतियां :-

- 1 भू0 अभिलेख की मूल प्रति
- 2 राशन कार्ड की स्वयं सत्यापित प्रति
- 3 आधार कार्ड की स्वयं सत्यापित प्रति
- 4 कुल भूमि प्रमाण पत्र
- 5 विद्युत विभाग द्वारा जारी प्रमाण-पत्र।
- 6 कृषक शपथ पत्र (50रु. का नॉन ज्यूडिशियल स्टाम्प)

कृषि सिंचाई एवं उच्च तकनीक फॉर्म मशीनिकरण हेतु सौर ऊर्जा आधारित जल उठाऊ-पम्प संयंत्र स्थापना के लिए सम्बन्धित कृषक द्वारा शपथ-पत्र :-

1. मुझे उच्च तकनीक कृषि एवं फॉर्म मशीनिकरण की जानकारी है तथा मैं इसे अपनाने के लिए इच्छुक हूँ।
2. मेरे पास भू-स्वामित्व है।
3. मेरे पास सिंचाई की स्थाई सुविधा है। सोलर पम्प हेतु वांछित जल स्रोत की व्यवस्था मेरे पास है।
4. मैं विभागिय दिशा-निर्देशानुसार/ मापदण्डानुसार सूचीबद्ध आपूर्तिकर्ता से सोलर पम्प स्थापित करवाने के लिए इच्छुक/प्रतिबद्ध हूँ।
5. मैं सौर ऊर्जा जल उठाऊ-पम्प संयंत्र स्थापना की प्रशासनिक स्वीकृति से पूर्व विभाग के निर्देशानुसार अपनी कृषक हिस्सा राशि (मु0 \_\_\_\_\_ रु0) जमा कराने के लिए सहमत/प्रतिबद्ध हूँ।
6. मैं सौर ऊर्जा आधारित पम्प संयंत्र को कृषि/बागवानी कार्य हेतु उपयोग में लाऊंगा एवं इसकी सुरक्षा, संरक्षा एवं सामान्य रखरखाव की सारी जिम्मेवारी मेरी होगी।

कृषक के हस्ताक्षर

कृषक का नाम :.....

पता : ग्राम :.....

पंचायत समिति :.....

तहसील :.....

जिला :.....

दूरभाष सम्पर्क(कोड सहित: मो0.....



## कृषक हिस्सा राशि

हिमाचल प्रदेश कृषि विभाग की सौर सिंचाई योजना के अन्तर्गत 1/2/3/5/  
7.5/10 HP एस0 पी0 वी0 सोलर पम्पिंग प्रणाली स्थापित करवाने के लिए वांछित कृषक  
हिस्सा राशि मु0.....रु0 मेरे द्वारा DD No..... के माध्यम से  
सूचिवद्ध/पंजीकृत कम्पनी.....के पक्ष में भू0 संरक्षण  
उप मण्डल .....के कार्यालय में जमा करवाने के लिए सहमत हूं।

हस्ताक्षर

कृषक का नाम व पता

आवेदन पात्रता सत्यापन/प्रमाण पत्र

प्रमाणित किया जाता है कि कृषक श्री.....पुत्र/पत्नि श्री.....  
निवासी .....के खसरा नं०.....में सिंचाई  
स्रोत.....स्थापित/उपलब्ध है तथा कृषक .....है० भू-क्षेत्र का  
मालिक है जिसमें.....है० क्षेत्र में ड्रिप/मिनी स्प्रिंकलर/स्प्रिंकलर सिंचाई  
से सब्जियों/फूल/फलोद्यान/कृषि फसल ली जा रही है या.....वर्ग मीटर  
क्षेत्र में ग्रीन हाऊस में सब्जियों/फूलों की खेती की जा रही है एवं कृषक के पास कृषि विद्युत  
कनेक्शन है/नहीं है व कृषक का खेत जहां पर वह सौर ऊर्जा पम्प संयंत्र स्थापित करवाना  
चाहता है, वह ग्रिड(पावर हाउस) से 300 मीटर से अधिक की दूरी पर है।

कृषक सौर ऊर्जा आधारित पम्प संयंत्र स्थापित करने के लिए पात्र/अपात्र है।

सम्बन्धित कोर टीम के पदनाम सहित हस्ताक्षर :-

1. ....
2. ....
3. ....
4. ....
5. ....

**Self undertaking from the Farmer / Beneficiary  
to be given on Non-Judicial Paper  
( After receiving the sanction from PIA ).**

I /we \_\_\_\_\_  
 S/o Sh. \_\_\_\_\_ R/o Vill. \_\_\_\_\_ P.O. \_\_\_\_\_  
 Tehsil \_\_\_\_\_ Gram Panchayat \_\_\_\_\_  
 Distt. \_\_\_\_\_ Himachal Pradesh hereby undertake the  
 following:

1. I/We shall use this SPV Pump for irrigation purposes and shall not sell or transfer this unit to any other purpose before ten years. In case, any misuse/ transfer of water source is found, I/We'll reimburse the subsidy amount to the department.
2. I/We shall also abide by the terms and conditions of Department of Agriculture under this scheme. The necessary bore well shall be arranged by me/us at my/our own cost as per site requirement.
3. I/We also authorize Sub Divisional Soil Conservation Officer ----- to release the Central and State share of subsidy directly to the Supplier Company of Solar Pump Set.
4. I/ We will utilize and maintain the infrastructure created through project assistance for a period of minimum of ten years.
5. I/ We will use the infrastructure for raising vegetable and other suitable crops.
6. I/We have not availed any assistance from any other govt. institution for the creation of same infrastructure.
7. That the contents of my application submitted to the Agriculture Department for sanction of project assistance are correct and no part of it is wrong and nothing has been concealed there from.
8. I/We will part with my share (10/20%) for the installation of infrastructure.
9. I/We will make arrangement for electricity and water etc. at the site.

I further undertake that in the event of departure from the above i.e. Sr. No. 1 to 9, I shall be eligible to refund the whole or part of the project assistance as the case may be to the project sanctioning authority PIA (SDSCO) \_\_\_\_\_ H.P.

Deponent.

**Verification:**

I the above named deponent do hereby solemnly admit and verify that the above given contents are true and correct and no part of it is false and nothing has been concealed there from.

Verified \_\_\_\_\_ on this \_\_\_\_\_ day of

\_\_\_\_\_ 2018.

Deponent.

**AGREEMENT BETWEEN FARMER AND ELIGIBLE FIRM / COMPANY (SERVICE PROVIDER) FOR THE SURVEY, PLANNING DESIGNING AND INSTALLATION OF SOLAR PHOTOVOLTAIC WATER PUMPING SYSTEMS UNDER SAUR SINCHAYEE YOJNA**

(On judicial paper to be attested by 1<sup>st</sup> class Magistrate/ Notary)

This agreement made this \_\_\_\_\_ day of \_\_\_\_\_ between Shri/Smt. \_\_\_\_\_ R/O \_\_\_\_\_ (herein after called the farmer or the first party) and Shri \_\_\_\_\_ S/O Sh. \_\_\_\_\_ R/O \_\_\_\_\_ ( hereinafter called the service provider or 2<sup>nd</sup> party . He can be a proprietor of the firm/ company or authorized representative duly authorized by the firm /company to sign and enter into an agreement).It is hereby agreed between the parties as follows:

The parties, hereby agreed to undertake the following:

- (1) The farmer will provide land for installation of Solar Pumping Systems and shall provide water source for installation and operationalization of Solar Photovoltaic Water Pumping Systems for irrigating the crops to be grown in that piece of land. The land will be cleared of bushes etc and made fit for installation of Solar Photovoltaic Water Pumping Systems by the first party.
- (2) The farmer will accept cost estimates, design of Solar Photovoltaic Water Pumping Systems and will fix suitable time schedule for the installation/construction of infrastructure.
- (3) The second party approved by the Govt. will arrange specified construction material and will execute the work to the best satisfaction of first party within 90days from the date of signing of the agreement.
- (4) The first party will select the model and design of Solar Photovoltaic Water Pumping Systems and will provide cheque / draft to the selected company equal to 10/20% of the construction cost as beneficiary share at the time of signing this agreement.
- (5) The service provider/ company will provide the material up to road head point Kucha or Pucca and any head load will be borne by the beneficiary.
- (6) Before execution, the farmer will inspect the material and ask SDSCO of the sub-division i.e. PIA to inspect and verify the specifications of construction material.
- (7) The service provider will execute the construction work of Solar Photovoltaic Water Pumping Systems to the satisfaction of the farmer/PIA.
- (8) In case of default/deviation from the agreed terms and conditions, the parties concerned will be liable for the following:
  - a. Loss accrued to the first party by way of non installation of irrigation system within 90 days, second party will be liable to refund the entire

amount with 20% interest from the date of deposit of this amount. In case there is any construction defect or non specified construction material is used, then second party would remove the defect and replace the material at his own cost.

- b. First party shall have to sign an agreement with the service provider of his choice within 15 days from the receipt of sanction from DNO/PIA.
- c. The execution of civil works will be decided mutually by both the parties.

In witness whereof the said \_\_\_\_\_ and \_\_\_\_\_ have hereto respectively signed this agreement on the day year first hereinabove written in the presence of the following witnesses.

Signature

**Witness**

1. \_\_\_\_\_ (PIA or his representative)

Farmer (First party)

2. \_\_\_\_\_ (Local person)

Company (Service Provider)



## Annexure-VII

**Performa for maintaining beneficiary wise record under Saur Sinchayee Yojna (A Separate page in register is to be allocated for each farmer / beneficiary on financial year basis)**

Sr. No.	Particulars of Farmer / Beneficiary	
1.	Name of the farmer with complete address and telephone number.	
2.	Category of Farmer	
3.	Date of Receipt of Application	
4.	Date of field verification	
5.	Date of Administrative Approval	
6.	Date of issue of authorization letter	
7.	Date of Receipt of Bills	
8.	Date of Disbursement	
9.	Date of submission of P.C.R.	
10.	Name of the Company executing the component.	
11.	<b>Solar Photovoltaic Water Pumping System</b> specify (HP, Head, Discharge)	Area :- Total Cost: Financial Assistance 80/90%:
12.	<b>Water Source Augmentation if constructed under any of the Departmental Scheme / Self/ Other Agency or under process with Department</b>	
i)	Small lifts specify (HP, Head, Discharge)	Name of Scheme:- Total Cost :- Assistance:-
ii)	Medium lifts / Pumping units specify (HP, Head, Discharge)	Name of Scheme:- Total Cost :- Assistance:-
iii)	Shallow Well specify (diameter & depth )	Name of Scheme:- Total Cost :- Assistance:-
iv)	Shallow Bore Well specify (diameter & depth )	Name of Scheme:- Total Cost :- Assistance:-
v)	Water Harvesting Structures	Name of Scheme:- Total Cost :- Assistance:-
	<b>Total:-</b>	
13.	Total assistance to the beneficiary (11+12)	
14.	Any other detail	

## Saur Sinchayee Yojna Authorization Letter

To

Shri \_\_\_\_\_  
S/O Shri \_\_\_\_\_  
Resident of village \_\_\_\_\_  
P.O. \_\_\_\_\_ Tehsil \_\_\_\_\_  
Distt. \_\_\_\_\_ H.P. \_\_\_\_\_

Subject: Authorization for installation of Solar Photovoltaic Water Pumping System under Saur Sinchayee Yojna .

Sir,

Please refer to your application dated \_\_\_\_\_ and recommendation of Core Committee received vide letter No. \_\_\_\_\_ dated \_\_\_\_\_.

You are hereby authorized to undertake the work of Solar Photovoltaic Water Pumping System having capacity of Pump \_\_\_\_\_ HP for providing irrigation facility to an area \_\_\_\_\_ Ha. with an estimated cost of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only through Company / Service Provider M/S \_\_\_\_\_ empanelled for this purpose vide letter No. \_\_\_\_\_ dated; \_\_\_\_\_ as per specification given in the guidelines issued by the Govt. vide letter No. \_\_\_\_\_ dated \_\_\_\_\_ as per estimated cost prepared by Empanelled Firm and submitted by PIA after spot inspection.

**The above authorization is subject to the following terms and conditions:-**

1. Eligibility of assistance for components as above would be 80% & 90% of the total cost on actual evaluation based on measurement done by the PIA or his authorized representative at site.
2. For any deviation from the given / approved specification with regard to material and design etc., you will be held responsible for the same in case, you have to forfeit assistance available under the Scheme.
3. Before undertaking installation work, you have to submit an affidavit on the prescribed form at Annexure-V.
5. Before assigning work to the empanelled company/service provider of your choice, you will sign an agreement with the company /service provider and will comply with the agreed terms and conditions.
6. You will have to provide well levelled land for installation of Solar Photovoltaic Water Pumping Systems including all accessories at your own cost.
7. You will have to carry the material at your own cost from motorable pucca /kuchha road head to the actual site.
8. You will have to deposit 10 / 20% of the beneficiary share as the case may be of individual Small & Marginal Farmers / Medium & Big Farmers with concerned Block Sub Divisional Soil Conservation Officer in the shape of bank draft prepared in

favour of service provider at the time of signing of agreement for onward transfer to the service provider.

9. You will have to make arrangement for electricity and water at the site.
10. You will have to make payment to the companies for optional and additional items, if any desired by you.
11. You have to sign agreement with empanelled service provider of your choice within 15 days and to start installation work within 30 days, failing which the authorization letter issued shall stand cancelled.

Project Implementation Agency cum-  
Sub Divisional Soil Conservation Officer,  
-----Distt.-----H.P

Copy forwarded to:-

1. The Site Incharge , Soil Conservation Section \_\_\_\_\_Block\_\_\_\_\_Distt.  
\_\_\_\_\_H.P.
2. The company /Service Provider selected by the farmer for surveying, designing, supplying , installation and commissioning of Solar Photovoltaic Water Pumping System in the farmers fields under Saur Sinchayee Yojna in H.P

Project Implementation Agency cum-  
Sub Divisional Soil Conservation Officer,  
-----Distt.-----H.P

**LIST OF EMPANELLED COMPANIES**

<b>Sr. No.</b>	<b>Name of Firm</b>	<b>Contact Person &amp; Mobile No.</b>	<b>E-Mail</b>
1.	M/S Kisan Solar,A-2, Atulya Bhawan next to CERC, S.G. Highway, Thaltej, Ahemdabad, Gujrat-380054.	Sh. Nimesh Sheth ( 091160-45616)	<a href="mailto:nseth@kisansolar.com">nseth@kisansolar.com</a> & <a href="mailto:tagsolar@gmail.com">tagsolar@gmail.com</a>
2.	M/S Primus Energy Solutions Pvt. Ltd., Plot No. 1-Vijay Vihar, Behind IBM Star Mall, NH-8,Sector -30, Gurgaon-122018, Haryana	Sh. Lalit Ballani (93123-25659)	<a href="mailto:ballani.lal@gmail.com">ballani.lal@gmail.com</a>
3.	M/S Captain Polyplast Ltd.UL-25, Royal Complex, Bhutkhana Chowk, Dhebar Road, Rajkot-360002 (Gujarat) India	Purshotam Tarapda ( 099090-35387)	<a href="mailto:solar@captainpolyplast.in">solar@captainpolyplast.in</a>
4.	M/S Shakti Pumps (India) Ltd. Plot No. 401, 402 & 403, Industrial Area, Sector -3, Pithampur- 454774, Distt. Dhar (M.P.)	Vivek Dadheech ( 091160-05253)	<a href="mailto:vivek.dadheech@shaktipumps.com">vivek.dadheech@shaktipumps.com</a>
5.	M/S Jain Irrigation Systems Ltd. Jain Plastic Park, N.H. No. 6, P.O. Box 72, Jalgaon-425001.	Anil Kumar Dubey (94181-71333)	<a href="mailto:dubey.anilkumar@jains.com">dubey.anilkumar@jains.com</a>
6.	M/S Alpex Exports Pvt. Ltd. B-79, Shivalik Enclave, Near Malviya Nagar, New Delhi-110017.	Nikhilesh Sharma ( 081309-91801)	<a href="mailto:info@alpexonline.com">info@alpexonline.com</a>
7.	M/S Claro Energy Ltd. 91, DSIDC Sheds, 2 <sup>nd</sup> Floor , Okhla Industrial Area , Phase 2 , Scheme 1 New Delhi	Manav Mishra ( 099569-90909)	<a href="mailto:info@claroenergy.in">info@claroenergy.in</a>

### Pattern of Financial Assistance for Installation of Solar Pumps of different HP

Activities	Type of Solar Pump & Capacity	Approved Cost Norms under SMAM (Rs.)	Small & Marginal Farmers		Medium & Big Farmers		For a group of Farmers		
			Total Fin. Asstt. @ 90% under Saur Sinchayee Yojna (Rs. )	Beneficiary Share @ 10% (Rs. )	Approved Fin. Asstt. under Saur Sinchayee Yojna (Rs. )	Beneficiary Share @ 10% (Rs. )	Fin. Asstt. @ 50% under Saur Sinchayee Yojna (Rs. )	Fin. Asstt. 50% through Convergence with Pardhan Mantri Krishi Sinchayee Yojna (Rs. )	Total Financial Assistance (Rs. )
Solar Pump Sets of Different Capacities	1HP AC Pump	110880	99792	11088	88704	22176	55440	55440	110880
	2 HP AC Pump	221760	199584	22176	177408	44352	110880	110880	221760
	3HP AC Pump	285120	256608	28512	228096	57024	142560	142560	285120
	4HP AC Pump	380160	342144	38016	304128	76032	190080	190080	380160
	5HP AC Pump	475200	427680	47520	380160	95040	237600	237600	475200
	7.5HP AC Pump	712800	641520	71280	570240	142560	356400	356400	712800
	10 HP AC Pump	950400	855360	95040	760320	190080	475200	475200	950400
	1HP DC Pump	126720	114048	12672	101376	25344	63360	63360	126720
	2 HP DC Pump	253440	228096	25344	202752	50688	126720	126720	253440
	3HP DC Pump	356400	320760	35640	285120	71280	178200	178200	356400
	4HP DC Pump	475200	427680	47520	380160	95040	237600	237600	475200
	5HP DC Pump	594000	534600	59400	475200	118800	297000	297000	594000



# Final Bill of Quantity for Calculation of Subsidy

Annexure-XI

- 1) Name of Beneficiary:-
- 2) Category of Beneficiary: -
- 3) Vill:-
- 4) Area irrigated:-
- 5) Capacity of Pump :-

P.O.

Tehsil:-

Distt.:-

Ha.  
HP

Sr. No.	Particular of Items	Quantity	Unit	Rate	Amount(Rs.)
1.	Solar PV Module 200wp-325wp, 60/72 cell Poly Crystalline Cells-MNRE-Approved Make/ NISE tested Brand		Each		
2.	Mounting Structure -Galvanised Iron Structure Hot Dip Galvanized with minimum 80 Micron thickness withstanding high wind velocity up to 150 km ph. Single / Double Axis, Seasonal Tilt Angle & manual Tracking throughout the day.		Each		
3.	DC Motor Pump Set with suitable controller (Surface / Submersible Pump)		HP		
4.	Motor Pump Set-415AC Pump (Surface / Submersible Pump) including all accessories		HP		
5.	Solar Controller-415V		Each		
6.	PCC for Grouting of posts 1:3:6		Cum		
7.	Core Cable (Polycab / Finolex)- 4 Sq. mm Single Core		Meter		
8.	Flat Cable ( L&T)- 4 Sq. mm 3 Core		Meter		
9.	MC 4 Connector		Set		
10.	Delivery Pipe (GI/HDPE) : VIRGIN - 40mm / 50mm / 63mm /75mm/100mm		Rmt.		
11.	GI Nipple with Flange : 40mm / 50mm / 63mm/75mm		Nos.		
12.	Rubber Seal in between Flange		Set		
13.	U Clamp(Chimta) + Nut Bolt		Set		
14.	PCN 1.6"x1.6" / 2"x2" / 2.6"x2.6"		No.		
15.	Copper Rod or Copper Plate 2mtr or 12"x12"x2 mm		Each		
16.	Earthing Wire-5mm/ 8Guage		Rmt.		
17.	Chemical (Back Fill)-10Kg.		Kg		
18.	PVC Conduit Pipe-20mm		mtr.		
19.	Rubberized Flexible Pipe Drip Style-20mm		mtr.		
20.	PVC Elbow-20mm		Each		
21.	MRF Tape-Rubberized & Waterproof		Each		
22.	Electrical Insulation Tape		Each		

23.	Teflon / Soot		Each		
24.	Nylon Rope -18mm dia.		Meter		
	<b>G.Total :</b>				

Total Cost as per actual assessment :-

Rs.

Subsidy @ 90/80% payable to Service Provider :-

Rs.

Beneficiary Share @ 10/20% as per actual assessment :-

Rs.

Certified that the measurements are recorded as per actual work done at site and materials used in the Saur Sinchayee Yojna are in accordance with the approved specifications and as per the actual requirement / need of the site.

Signature of Core Team

**Saur Sinchayee Yojna**  
**Certificate from farmer**

(For release of 90/80% amount)

This is to certify that the M/s \_\_\_\_\_ Solar Pump Company has fulfilled the following requirements.

1. Service Provider has installed Solar Photovoltaic Water Pumping system to the best of my satisfaction and handed over the same along with Maintenance Manual.
2. I have been trained by the Empanelled Company for the operation and maintenance of the system.
3. All components used during installation of Solar Photovoltaic Water Pumping Systems are as per technical specifications and my satisfaction.
4. Received copy of final invoice tallied with the material installed in the field as per the update design.
5. Trial run was done by the company empanelled for Solar Photovoltaic Water Pumping Systems and is working satisfactory.

Date:

Signature of the farmers

Name

**Witness:**

Signature of authorized representative of  
Solar Fencing Company

Name:

# SINGLE POLE ANGLE ADJUSTABLE MOUNTING STRUCTURE OF SINGLE PORTRAIT

