

GOVERNMENT OF ODISHA

DEPARTMENT OF AGRICULTURE & FARMERS' EMPOWERMENT
DIRECTORATE OF AGRICULTURE & FOOD PRODUCTION, ODISHA

KRUSHI BHAVAN, BHUBANESWAR

Letter No. DAFP-ENG-MISC-0002-2022 1758 /Dated 24-01-2023

To

The Managing Director, OAIC Ltd., Bhubaneswar /

The Superintending Engineer Agriculture (All) /

The Chief District Agriculture Officer (All) /

The Executive Engineer Agriculture (All)

Sub: Guidelines / Standard Operating Procedure for execution of Solar Micro Liver Lift projects under " Harnessing Non-Conventional Energy for farming activities" under Jananidhi-II.

Sir/Madam,

In inviting a reference to the letter on subject cited above, I am to enclose herewith the approved Guidelines / Standard Operating Procedure for execution of Solar Micro River Lift projects under "Harnessing non-conventional energy for farming activities" under Jananidhi-II for information and necessary action at your end.

Yours faithfully,

Encl: As above.

Chief Engineer (Agril.)

Memo No. 1759

/Agril. Dt. 24-01-2023

Copy submitted to the Special Secretary to Govt., Agriculture & Farmers' Empowerment Department, Odisha for kind information.

Chief Engineer (Agril.)



GUIDELINES/ STANDARD OPERATING PROCEDURE FOR
EXECUTION OF SOLAR MICRO RIVER LIFT PROJECTS UNDER "HARNESSING NON
CONVENTIONAL SOLAR ENERGY FOR FARMING ACTIVITIES" UNDER JALANIDHI-
II

1. Introduction:

Government of Odisha intends to introduce "Harnessing Non-conventional Solar Energy for Farming Activities"- a 5T programme for installation of cluster Solar Micro River Lift Irrigation Projects (MRLIPs) in the State Sector scheme 2161-Jalanidhi (RIDF) under component Jalanidhi-II. It is proposed to utilise the surface water resources on (small rivers /streams) through solar powered Micro River Lift Projects by tapping the surplus water flowing down to the sea. Moreover, presently check Dams / in stream storage structures are being constructed on small rivers/streams etc. to augment storage capacity of surface water. These micro-projects can be installed on the upstream side of these storage structures to utilize the water, so preserved. The proposed river lift projects shall be executed on cluster basis (@ 4 numbers in a cluster) with provision of a dedicated solar panel & Solar Photo Voltaic pump set. To increase the water use efficiency and for end-to-end solution, a portable Sprinkler irrigation system will also be provided to each project as per provision in PMKSY (Per drop more crop) guidelines.

Need for Solar MRLIPs

With the rapid depletion of fossil fuels, the alternative clean sources of energy are beginning to make a solid footing in the energy sector. In recent years, solar energy has emerged as one of the cleanest, environmentally friendly and reliable sources of energy. Energy being one of the main inputs of agriculture, especially for irrigation, is becoming a focus in the agricultural water management agenda. In this respect, Solar Powered Irrigation Systems can be adopted as the alternative to traditional electric or diesel-run pumps. These have proven to be a boon for several pilot and near-commercial scale projects in India for sustainable agricultural and rural development. They not only provide a reliable source of clean energy to the farmers to irrigate their land, but also reduce the operating cost and provide relief to the farmers from the financial burden of fluctuating fuel prices as well as from frequent power cuts in rural areas.

In the rural areas in India, agriculture is the main source of livelihood for the farmers. Since the opportunity cost of the land in such remote locations is minimal, and the connectivity to the electrical grid is very poor, the farmers are unable to have an on-demand power supply to irrigate their crops timely and hence the resultant agricultural activity in these areas is very low. Moreover, the costs of acquisition and maintenance of diesel engine-based pump sets are also not affordable at all levels. With SPIS in place, the farmers have a dependable source of electricity for irrigation and if coupled with a sustainable source of water supply, subsequently a sustained source of livelihood.

2. Objective:

- v. To provide irrigation facilities for at least 2 hectares of cultivable non-irrigated land through micro River Lift Project on individual owner ship basis. This will enable the farmer to save his Kharif crops and also grow additional crops during Rabi. The irrigation provision will make the farmer to fight drought and raise successfully paddy as well as other light & medium duty crops.
- vi. To augment Irrigation Potential of the State as well as crop productivity and farmer's income.



- vii. To harness non-conventional solar energy for irrigation of farm land.
- viii. To overcome low voltage and frequent power cut in rural areas.

3. Target

It is proposed for installation of 240 nos. of Solar Micro River Lift Projects during the financial year 2022-23. The projects are to be executed on pilot basis in three districts namely, Jajpur, Nuapada & Sundargarh (@ 20 clusters in each district) with 4 nos. of projects in a cluster. This will bring around 480 Ha of non-irrigated cultivable land under irrigation in both Khariff and/or Rabi season where farmers can grow up to 3 crops a year.

Salient Features of the Scheme:

- v. Each Micro River Lift Project will be having at least 2 hectare of ayacut and shall be installed on cluster approach with minimum 4 projects in a cluster. The unit cost of each project along with Sprinkler distribution system will be Rs.4,25,000/- (Rupees four lakh twenty five thousand) only on an average including dedicated solar panels, pumping units, riser main and Micro Irrigation system (Portable sprinkler). The cost of Micro Irrigation system (Portable Sprinkler) as per provision made in PMKSY guidelines (per drop more crop component) has been included for end-to-end solution. The beneficiary can also opt for drip irrigation within the provisioned cost of Sprinkler system and the extra cost, if any will be borne by him.
- v. Beneficiary contribution for each project under the scheme will be Rs.20,000/- (Rs.10,000/- for SC/ST belonging to BPL category) which will be deposited, one time, by the beneficiary in the designated bank Account of OAIC Ltd. after successful feasibility study. Beneficiary contribution amounting to Rs.10,000/- only for SC & ST belonging to BPL category will be provided from Govt. in SC & ST Department and the balance amount of Rs.10,000/- will be borne by the beneficiary.
- vi. After successful installation and commissioning, the project shall be handed over to the beneficiary for operation and maintenance by him.
- vii. Any farmer owning minimum 0.5 acre of non-irrigated cultivable land with the proposed water delivery point within 500 m (maximum) distance from the source will be eligible to apply under this scheme. However, the aforesaid area should be within 2 hectares (minimum) of compact area of neighbouring land holders with whom the surplus water of the project shall be shared. The beneficiary will apply online in the portal <https://oaicodisha.nic.in> wherein his plot under irrigation will be verified from Bhulekh as a proof of his ownership at the time of application. He should also indicate the details of land of other beneficiaries, if any, coming within the ayacut who will share the water from the Project. At the time of application, the beneficiary shall undertake that he will facilitate the land coming in the alignment of pipe line from the source to the proposed ayacut, on mutual agreement with the land holders. No compensation, what so ever, shall be given for availing the land in the alignment of the pipe line.
- viii. The Project area shall be identified basing on availability of water in the streams/rivers to meet the requirement of the project. Cluster approach will be adopted in order to make the project cost effective and viable. Once the site gets positive feasibility report, the beneficiaries coming under a cluster of projects will deposit Rs.20,000/- each as one time beneficiary contribution.

- ix. The construction of Head works & Distribution System, solar power line shall be executed by engaging OREDA empanelled private agencies/vendors through open tenders. The Micro irrigation system shall be executed by the shortlisted Service Providers (Manufacturers) registered with Directorate of Horticulture.
- x. Proposed ayacut area for irrigation of the project should be within 100 m to 500 m from the source. The ayacut to be covered under irrigation depends upon the quantum of water available at source. Only patta land will be considered for ayacut area.
- xi. Centrifugal Pump of 5 HP provided in the project shall commensurate with the discharge of the water subject to minimum of 10 lps for irrigating of 2 Ha.
- xii. After completion of the project, the project will be handed over to beneficiary or SHG for operation and maintenance of the project. The beneficiaries will share the water according to their crop pattern. The beneficiaries or SHG shall bear all expenses towards repair and maintenance from their own resource.

Selection criteria:-

- For awareness of farmers, wide publication will be made through advertisement for inviting applications within a specified time frame in prominent daily local Newspapers/hoarding boards/electronic media etc.
 - Interested farmers will apply online for registration in the portal <https://oaicodisha.nic.in> wherein his plot under irrigation will be verified from Bhulekh as a proof of his ownership at the time of application.
- The selection of beneficiaries will be made on-line on first come first serve basis. Any eligible farmer can apply online in <https://odishaagro.nic.in> by his/her farmer ID. District wise targets under different categories (General/SCP/TASP) are uploaded in the District Manager page of portal by the Head Office of OAIC Ltd. The farmers go on applying till the target is exhausted in the District under the particular category. The concerned JE visits the site for verification of land & source of water. If found ok, the farmers are clubbed and the project is declared as feasible by JE and entered in NIC portal.
- The DM, OAIC will prepare the Detail Project Reports (DPRs) for feasible projects and submit to Head office of OAIC for further action for approval. The DPR of feasible projects will be technically sanctioned by the competent authority of OAIC and submitted to Govt. in Agriculture & Farmers' Empowerment Department, Odisha through Director of Agriculture & Food Production, Odisha.

Implementation & Maintenance:

- v. The projects are to be implemented by Odisha Agro Industries Corporation (OAIC) Ltd. under RIDF- NABARD assistance.
- vi. Applications received online at OAIC Ltd. shall maintain database where in the serial number (priority list) of the applications shall be maintained in accordance with the time and date of application.
- vii. Thereafter a feasibility survey will be conducted by JE, OAIC and the result shall be reported to DM, OAIC who will prepare Detail Project Report (DPR).
- viii. Periodic maintenance & compressive maintenance of solar panels, pump set, controller for 5 years performance warranty should be provided by OAIC through concerned vendor. Warranty for sprinkler accessories will be provided for six months.
