

GUIDELINES FOR IMPLEMENTATION OF PROJECT FOR MATCHING IRRIGATION WATER AVAILABILITY AND DEMAND FOR IMPROVED PRODUCTIVITY THROUGH EFFICIENT ON-FARM WATER MANAGEMENT

A complex set of factors including diminishing water sources, competitive land use and global warming is creating new challenges for the vast agrarian population in Punjab. The ever increasing mismatch between the demand and supply of energy in general and electricity in particular, is posing challenges to farmers. The scarcity of electricity coupled with the increasing unreliability of monsoon rains is forcing farmers to look at alternate fuels such as diesel for running irrigation pump sets. However, the costs of using diesel for powering irrigation pump sets are often beyond the means of small and marginal farmers. Consequently, the lack of water often leads to crop damage, thereby, reducing yields and income.

2. To address this situation to a extent, the Department has planned a Project for "Matching Irrigation Water Availability and Demand for Improved Productivity through Efficient On-farm Water Management". This Project aims for Conservation of Irrigation Water by constructing irrigation water storage tanks coupled with solar pumps and micro irrigation system so as to provide assured irrigation source to farmer and enable him to irrigate as per crop requirement without depending upon power availability. The major objectives of the Project are

- To provide energy security to the farmers for irrigating the crops with no recurring expenditure;
- To promote the use of Green Energy (non-conventional energy) in Agriculture sector;
- To improve the water use efficiency using Micro irrigation techniques;
- Assured irrigation facility to the farmer- no dependency on other sources;
- To improve the Agricultural Production and Productivity.

3. One of the major constraint in adoption of Micro irrigation system is unavailability of water either due to inadequacy of power or assured water source as these systems require watering of plants on daily basis. The Project endeavors to provide farmer a complete solution by providing on-farm water storage tanks, which will help farmers store water and utilize when it is required and Solar Photovoltaic Pumpsets, which will insulate farmers completely from power or energy inadequacies besides providing a clean source of interruptible power supply.

4. Assistance under the Project on each of the component these shall be provided to farmers as follows:

- a) **Micro Irrigation:** Drip and Sprinkler Irrigation Systems shall be provided under this component to individual farmers. Funds for subsidy shall be obtained from On Farm Water Management (OFWM) component of CSS National Mission on Sustainable Agriculture (NMSA) as per GoI Guidelines and State Govt Policy. In case of unavailability of funds from NMSA or State Govt scheme, funds can be obtained from under this project.
- b) **Solar Photovoltaic Pumpset System:** Under this component complete system of Solar Photovoltaic (SPV) panels with Pumpsets shall be provided to the farmer. Financial assistance under this component will be 75% subject to maximum for each capacity of system. This assistance shall be provided from the funds available under the project.
- c) **On-farm Water Storage Tanks*:** Under this component water storage tanks will be constructed for individual farmers. Funds for subsidy under this component may be obtained from CSS, National Horticulture Mission (NHM) as per GoI Guidelines. This is mostly applicable on canal based irrigation system.

*Assistance could also be provided to farmers having tubewell irrigation, where construction of on farm water storage tanks may not be necessary.

5. The estimates under the project may be prepared as per follows:

1. Assistance under the project shall be provided farmers from the date of issue of these guidelines.
2. Sample design sheet for determination of capacity of the system is enclosed for reference as Annexure-'A'
3. Drip and Sprinkler Irrigation Systems will be provided to the farmer by the companies registered by the Department under Micro Irrigation Scheme. The List of companies registered for supply and installation of Micro Irrigation Systems are enclosed as Annexure-'B'
4. Assistance on Drip and Sprinkler Irrigation system will be provided strictly on the basis of On Farm Water Management (OFWM) component of CSS National Mission on Sustainable Agriculture (NMSA) as per GoI Guidelines and State Govt Policy. Quantum of assistance to be provided on micro irrigation system,

circulated vide letter No. 18792-812/Planning, dated 11.12.2014 is enclosed as Annexure-'C'

5. On farm water storage tank design and specification should be in accordance with Govt of India Guidelines of National Horticulture Mission, which have earlier been followed in the Department for construction of tanks
6. Construction of On-farm Water Storage Tank is not mandatory for availing assistance under the project. Assistance under the project could be provided to farmer having tubewell connection as water storage tanks are generally required in canal command areas only.
7. Solar Photovoltaic Pumpset system design and capacity of should be in accordance with total water requirement of crop for area under micro irrigation, available head and solar radiation data at the project site.
8. Solar Panel Structure Design should be incorporated in the estimate.
9. The list of companies empanelled for supply and installation of Solar Photovoltaic Pumpset System and Amount of Assistance to be Provided for each capacity of system are enclosed as Annexure-'D' and 'E' respectively.
10. The technical specification for supply and installation of Solar Photovoltaic Pumpset system is enclosed as Annexure-'F'
11. The project is demand driven and the farmer has liberty to choose from any of registered or empanelled companies for Micro irrigation and Solar Photovoltaic Pumpsets Systems.
12. The farmer shall submit application for availing assistance under the project and deposit beneficiary share with the concerned DSCO, whilst DSCO will release complete payment of system directly to the company or dealer authorized by the company and Department
13. Estimate under the project has to be prepared for complete job i.e. estimate should have details of all the components of the project.
14. The Department shall prepare the estimates which have to be approved by competent authority. The invoices should also be signed by the respective company's authorized representative.
15. It should also be specified that whether the farmer already has an electric connection and preference under the scheme has to be given to farmers not having electricity connection.

16. The supply and commissioning of each project shall be completed within 90 days from the date of issuance of work order.
17. The Divisional Soil Conservation officer should ensure that all material/accessories supplied and installed under components of the project should necessarily be BIS marked
18. Minimum 25% of the total cost of project shall be released only on successful commissioning of project. 75% of the total cost of system can be released as running payment after receipt of material, part execution.
19. All the estimates under the project shall be submitted to head office for sanction and release of funds, irrespective of estimated cost.