

# Solar Powered Integrated Micro Irrigation Project in Cold Desert



## Leh, Ladakh

Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) has High Mountain Arid Agriculture Research Institute in Leh for conducting research on agriculture. This institute is situated more than 14760 feet above sea level. It was challenging to irrigate research farms as there is electricity distribution infrastructure and source of water is river flowing in valley. Jain Irrigation Systems Ltd. had provided the solar powered micro irrigation systems to research farms.

## Requirement

- 1) Lifting water from river and irrigate research farms
- 2) Avoid cost of development & maintenance of distribution grid and monthly electricity bill

## Technical specifications

Sr.	Particular	Value
1	Pump capacity	2 nos. of 11 kW (15 hp) and 7.5 kW (10 hp) each
2	Discharge	240 - 375 m <sup>3</sup> / day
3	Head	40-75 m
4	Pump type	Submersible pump
5	Motor Type	AC motor
6	Solar Array capacity	13.5 kWp per pump set
7	Solar module mounting structure	Automatic single axis solar trackers
8	Energy saved = Energy Generated (units / year)	78,840

## Features

- Stand alone system completely works on solar
- 25 years of solar module life
- Easy to operate and maintain
- No pollution

## Benefits

- Large scale farming made feasible
- Solar powered micro irrigation results in optimum utilisation of solar and water resources
- Enabled scientist to do agriculture experiment and demo farm on temprature crop
- Dust to dawn working of pump
- Highly reliable and robust
- Maximum system Up time
- Saved cost if laying electricity distribution network

**Farming at world's highest peak in Himalayas (far away from main land) was unimaginable and not economical as availability of water & power / diesel was a big challenge. A novel approach of Jain Integrated solution : solar pumping + micro irrigation made large scale farming feasible in cold desert.**

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Civil Works



Floating Submersible Pump in Indus River



Jain Solar Single Axis Trackers



Jain Filter Station



Jain Solar Powered Integrated Micro Irrigation Scheme of Leh