

## AGENDA

### Day 1: Fundamentals of solar water pumping systems

Time	Topic	Details
9:00 - 9:30 AM	Introduction to SWP	Overview of SWP technology, key components (solar array, controller, pump), challenges, and types of pumps (submersible, surface).
9:30 -10:30 AM	Solar Energy Fundamentals	Understanding solar radiation (direct, diffuse, reflected), measurement tools (pyranometer, pyrliometer), and definitions (STC, NOCT).
10:30 -10:45 AM	Break	
10:45-12:00 PM	Solar Panels & Electrical Connections	Clarifying concepts like Watt-peak vs. Watts. Types of panels (poly, mono, thin film), electrical configurations (series, parallel), and panel losses (shading, soiling).
12:00 - 1:00 PM	Lunch Break	
1:00 - 2:00 PM	Controllers & System Performance	Role of MPPT controllers, comparison of MPPT vs. non-MPPT.
2:00 - 3:00 PM	Pumps	Types of pumps, comparisons, selection as per site conditions.

### Day 2: Design, implementation, and maintenance

Time	Topic	Details
9:00 -10:15 AM	PURE Platform	Use of PURE platform for identifying RE lift irrigation potential and generation Pre-feasibility Study Report
10:15 -10:45 AM	Project Design Process	Steps in an SWPS project: preliminary information, preliminary design, detail survey, and detail design. Includes needs assessment and GESI.
10:45 -11:00 AM	Break	
11:00 -12:00 PM	Theoretical Sizing & Technical Survey	Preliminary calculations for pump/panel size and a walkthrough of the detailed technical survey (DTS).
12:00 -1:00 PM	Lunch Break	
1:00 - 2:00 PM	System Layout & Component Specification	Calculating inter-row spacing, determining panel area, creating a single-line diagram (SLD), and selecting cables/protection devices (MCB, SPD).
2:00 - 3:00 PM	Installation & Commissioning	Best practices for site preparation, installing solar panels, grounding, and connecting all system components.
3:00 - 4:00 PM	Maintenance & Monitoring	Routine maintenance tips for panels and pumps, and the importance of a monitoring framework. Final Q&A.