HDFC BANK PARIVARTAN
A step towards sustainable progress

Case Study

Solar Powered Irrigation System

Project Code: P0857 | Location: HRDP Project Villages

Introduction

Irrigation is a critical agricultural practice that supports plant growth, improves crop quality, reduces soil erosion, and ensures food security. In the HRDP project villages, the absence of proper irrigation systems previously led to crop failures, reduced yield, and economic instability. Farmers were heavily reliant on unpredictable monsoon rains, which either caused water scarcity or destructive flooding. To address these challenges, Suvidha, with the support of HDFC Bank Parivartan, successfully implemented solar-powered irrigation systems in the region.

Project Objective

Provide sustainable and eco-friendly irrigation solutions using solar energy.

- Improve crop yield and reduce dependency on monsoon rainfall.
- Empower farmers with reliable irrigation infrastructure and boost agricultural productivity.
- Promote climate-resilient and renewable-energy-based farming practices.

Project Intervention

Key Features of the Solar Powered Irrigation System:

- **Number of Solar Irrigation Units Installed: 2- Water Storage Facility: Integrated water tanks.**
- **Area Covered: 165 Acres of farmlan**
- **Technology Used:**
  Solar-powered water pumps (5 HP)
  Underground boreholes for
  water extraction Distribution via pipes and canals to fields

Community Impact

Before Implementation:	After Implementation
• Farmers relied on rain-fed agriculture with inconsistent water availability. • Low agricultural output due to delayed or insufficient irrigation. • High risk of crop loss due to either drought or floods.	• Reliable access to irrigation water across 165 acres of farmland. • Farmers can irrigate crops on time, leading to higher yields and better quality. • Reduction in crop failure and improved food security in the region. • Increased employment and income generation opportunities for rural communities.

Sustainability and Future Scope

- **Solar energy ensures zero operational costs and environmental sustainability.**
- **Community ownership and training for maintenance and operation.**
- **Potential to replicate and scale the model across other villages.**

Conclusion

The solar-powered irrigation systems implemented in the HRDP project villages have revolutionized farming practices by ensuring reliable, eco-friendly, and cost-effective water supply. The initiative has not only enhanced crop productivity but also improved the livelihoods of local farmers. With strong community engagement and technological innovation, the project sets a benchmark for sustainable rural development.