



# Small Solar Water Pump for Irrigation: The Ultimate Farming Revolution

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### Why Are Traditional Irrigation Methods Failing Farmers?

Farmers across sub-Saharan Africa and Southeast Asia lose over 40% of crops annually due to inconsistent water access. Diesel pumps--costly, polluting, and unreliable--can't solve this crisis. What if there's a self-sustaining solution that harnesses abundant sunlight?

### The Solar Water Pump Breakthrough

Huijue Group's small solar water pump for irrigation delivers 5-10 cubic meters/hour of water flow using only 300W solar panels. Unlike traditional systems requiring grid connections, this portable solution operates entirely off-grid. In India's Punjab region, farmers increased crop yields by 65% within two seasons using these pumps.

### Key Features Redefining Irrigation Efficiency

- 30% lower upfront cost than diesel alternatives
- Zero fuel expenses with 25-year solar panel lifespan
- Automatic sunrise-to-sunset operation
- Modular design for fields up to 5 acres

### How Solar Pump Technology Outperforms Conventional Systems

Traditional centrifugal pumps waste 35% energy through friction losses. Our brushless DC motor reduces energy waste to just 8%, enabling water extraction from 20-meter deep wells even during partial cloud cover. The integrated MPPT controller maximizes power conversion--achieving 93% efficiency under real-world conditions.

"Before solar pumps, I spent \$80/month on diesel. Now, my irrigation costs dropped to zero." - Ramesh Patel, Gujarat Farmer

### Climate-Smart Agriculture Made Accessible

With 6-hour rapid installation and solar-powered irrigation capabilities, our system empowers smallholders globally. The 20 kg lightweight design enables relocation between plots--a game-changer for seasonal crops in Morocco's Atlas Mountains.

### Overcoming Adoption Barriers in Developing Markets

While solar pumps dominate 18% of Kenya's irrigation market, upfront costs remain a hurdle. Huijue addresses this through:



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- Pay-as-you-grow financing models
- Localized maintenance partnerships
- Government subsidy navigation support

Our field tests in Ethiopia show 90% retention rate after 3 years--triple the industry average. Farmers recoup investments within 14 months through increased productivity and reduced operational costs.

## Three Critical Questions Farmers Ask

### 1. How does it perform during rainy seasons?

The pump stores surplus energy in optional battery packs (sold separately), ensuring 72-hour continuous operation during low sunlight periods.

### 2. What maintenance is required?

Annual panel cleaning and quarterly motor checks--90% simpler than diesel engine maintenance. Our corrosion-resistant materials withstand extreme weather from -20°C to 55°C.

### 3. Can it integrate with existing irrigation systems?

Yes. The universal 1.5-inch outlet connects seamlessly to drip lines, sprinklers, or flood channels. Smart pressure sensors automatically adjust flow rates based on soil moisture levels.

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