

Solving Irrigation for the Developing World!

Decentralized solutions for smart energy and water use
in the agri-food chain

Inadequate Irrigation is a major cause of Agrarian Distress



Lower Yields

30%

Loss of a Crop

1

Low Quality Produce

30%

Potential Loss of Output to the farmer is ^{Lower Prices} severe

Cost of Diesel is causing Under-Irrigation & Skipping of Irrigation Cycles

Irrigation is dependent on costly diesel fuel to pump underground water

Diesel based Irrigation has become untenable due to high and rising diesel prices

30%

Of India's crops irrigated by diesel pumps

10 Million

Diesel Pumps

Consume 3 Billion Liters of Diesel Yearly

\$2.2
per hour



Current Cost of Irrigation

We are Decarbonising Agriculture thru Innovating Irrigation in India

Replacing Diesel by Solar



Solar Irrigation As a
Service via mobile
trolley



Irrigation focused Solar
Mini Grids



Solar Irrigation Pumps
via Govt. Subsidy
programs

VIDEO: <https://www.youtube.com/watch?v=oJflugfH2c8>

Solar Irrigation-as-a-Service via Mobile Trolley

Technology & Business Model Innovation



PAYG Solar Irrigation Service

Sales Model: On-demand Irrigation;
Pay-as-you-go (Direct to Farmer),
Lease/Rental (Direct to NGO, B2B)



Engineering: Solar power + IoT
Electronics fitted on Battery
operated Elec. Vehicle (EV)



Technology Platform: Easy
booking, payment and use

Vision is to create an 'Uber'-like platform for farmers to schedule, book, and pay for irrigation services

Claro's Business Model Address Key Challenges to Adoption

Cost to farmer

Opex: Around 50% lower in operating cost than diesel
\$1/hr for Solar vs \$2.2 for Diesel

Capex: No upfront cost (no purchase necessary)

Convenience to farmer

Solar Pump to your field: Solar power + IoT Electronics fitted on Battery operated Elec. Vehicle (EV)

Pay-as-you-Go Technology Platform: Easy booking, payment and use (beta)

Fast Capital Recovery Demand > Supply

Increase Command Area: Expanding service to more farmers

Intelligent Irrigation Forecast: Building actionable forward looking Farmer-crop-irrigation schedules (demand gen)

Smart Trolley: Movable (not stationary) to fulfill demand in a radius of 30 km

Compelling Economics for Solar Irrigation as-a-Service

Movable Trolley + 3 x 2000 W Solar Carry Pack **\$1500**

Leasing

Pay-as-you-Go

Customer

NGOs | FPOs | Village Entrs

Small & Marginal Farmers

Revenues

ARR : \$900 / year

ARR : \$1100 / year

Cost

OpEx : \$200 / year (repairs)

OpEx : \$700 / year (O&M)

Breakeven

~ 2 Years

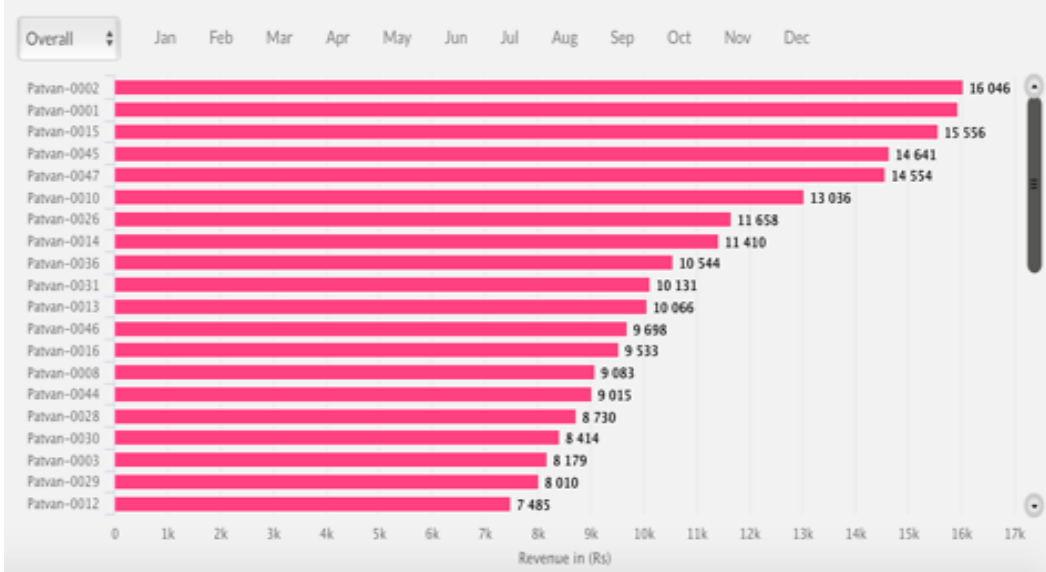
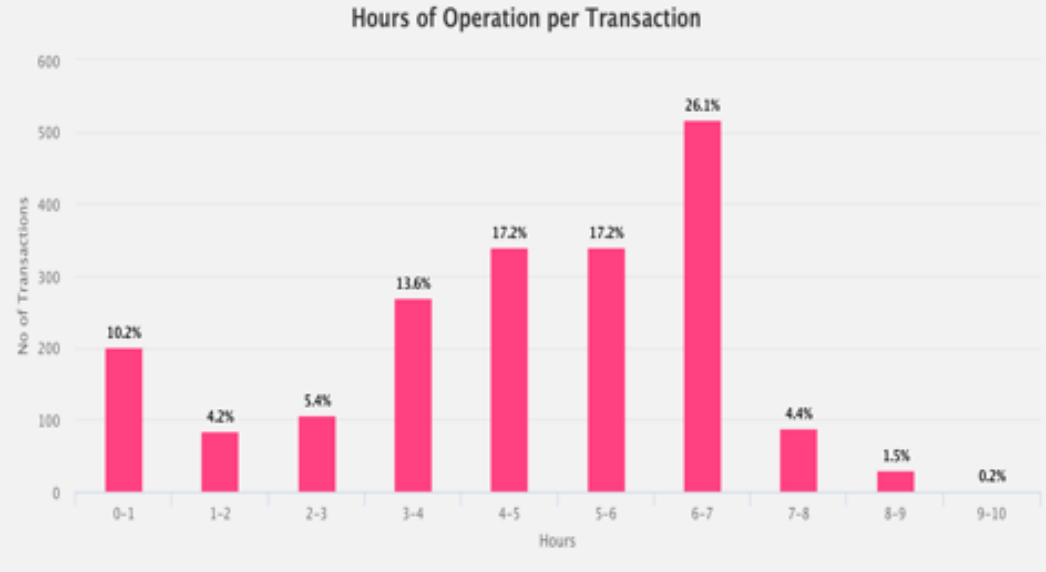
~ 4 Years

Challenges

Misuse ; Underuse
Loss of Interest

Operators Needed

Strong Starting Market Traction for Solar Irrigation as-a-Service



4 Avg. Daily Operating Hours

100 Movable Trolleys in Operation (beta)

250 Avg. Annual Irrigation Days

1600 Farmers and a rapidly growing base

An Interactive Solar Irrigation Map & Data Analytics Portal

10,000+

No. of Solar irrigation systems deployed

25,000

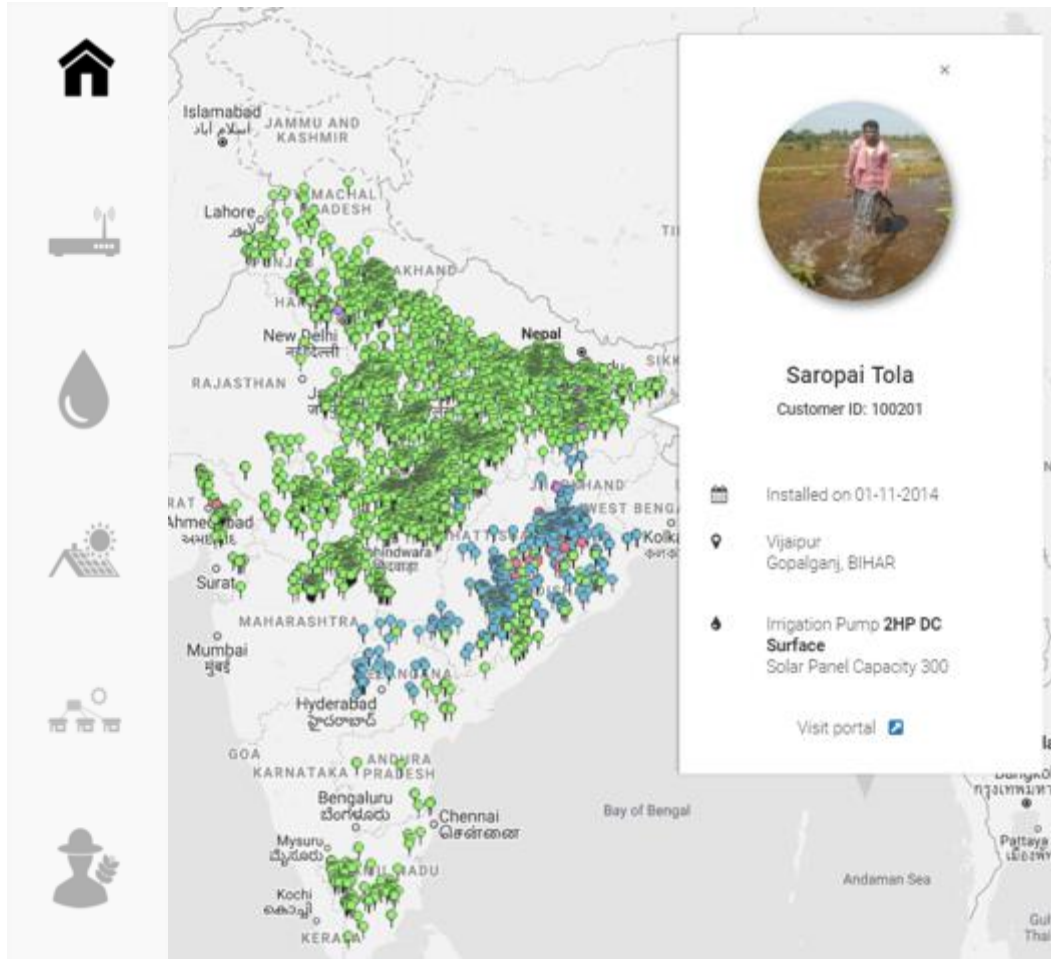
Farmers doing profitable agriculture using solar irrigation

35 MW

Solar capacity installed

50,000

Acres Under Cultivation



Creating India's Largest Database of Authentic Agri. Data

Irrigation pump | Patvan | Drinking water | Minigrid | Rooftop | All states ▼

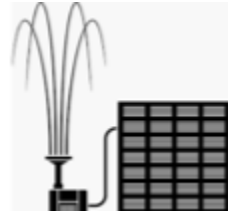
Impact of our work

Solar irrigation delivers impact on several fronts

THANK YOU



\$315 million
Cumulative Farmer
Income Generated



10,000+
Solar Irrigation systems
deployed



3200+
Women farmers
empowered



50k acres Under
reliable and affordable
irrigation



35MW+
Solar capacity installed



500 tons
Annual reduction in GH
gas emissions through
our solar irrigation
systems



~25%
Improved Attendance. Our
farmers are more likely to
send their kids to school



THREE
Farmers with access to
solar irrigation are likely
to grow 3 crops a year



200%
Average increase in
farmer income using
solar irrigation



25k+
Estimated farmer
families benefitted