

Business Case Competition



Gramin E-Mobility: Powering Rural India – Launching an EV Startup

Mission: Eco-friendly, accessible transportation for rural India

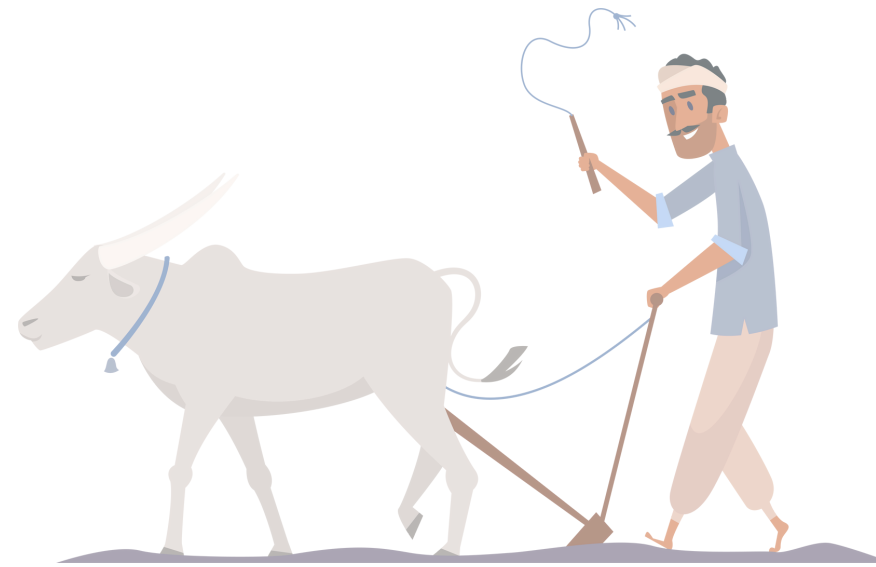
Team MAD: Aditya Singh & Mohit Sharma

Meet Rekha – Revolutionizing a Woman's DAILY Life



In the small village of Rajnagar , Bihar, famous for its lively weekly market (haat), transportation is a constant struggle. Rekha Kumari, a talented artisan specializing in Madhubani paintings, used to rely on expensive and unreliable shared autos or her husband's old, polluting motorcycle to get to the haat and sell her artwork. The long travel times and high costs not only ate into her profits but also left her physically drained.

Rekha's income was unpredictable, and she often missed out on valuable selling days because of transportation issues. This affected her ability to contribute to her family's finances and limited her independence.



The Context

Meet Rajesh – Transforming a Farmer's LIVELIHOOD



In the village of Hapur , Uttar Pradesh, where agriculture is the main occupation, farmers face challenges with inefficient transportation of their produce. Rajesh, a dedicated farmer who grows vegetables on his small plot of land, used to depend on bullock carts or costly diesel-powered three-wheelers to transport his crops to the nearest market. This often led to substantial losses due to spoilage and high transportation expenses, ultimately cutting into his income.

Rajesh faced difficulties in getting fair prices for his produce because he couldn't transport it to larger markets in a timely and cost-effective manner. The unreliable transportation also limited his ability to expand his farming operations.

- **Affordability:**
 - The average monthly income in rural households is ₹8,000 – ₹15,000, making the ₹90,000 price point of the Zippy a significant investment for many.
 - Even with financing options like EMIs, the monthly payments need to fit within these income levels.
- **Charging Infrastructure:**
 - Less than 10% of rural areas have dedicated EV charging points. This creates "range anxiety" – the fear of running out of charge.
 - Unreliable electricity and power cuts in some villages further complicate charging.
- **Awareness and Trust:**
 - Rural consumers are largely unfamiliar with EV technology.
 - Building trust in a new technology is crucial, as people may be skeptical of its reliability and performance.
- **Accessibility:**
 - Distribution gaps might exist, making it difficult to reach potential customers in remote areas.
 - Service and maintenance facilities may be limited in rural areas.

Challenges

Product and Pricing Strategy

Target Users:

Small Vendors, Students, Field Workers Farmers, Rural traders, Transporters

Use Case:

Daily Travel, Small Deliveries Produce transportation, Goods delivery, Farm logistics

• Pricing Model:

Down Payment	₹15,000
Loan Amount	₹75,000
EMI (3 yrs @ 10-12%)	₹2,400-₹2,600/month
Battery-as-a-Service	₹500/month swap plan

• Pricing Model:

Down Payment	₹60,000
Loan Amount	₹3,20,000
EMI (3-4 yrs @ 12%)	₹7,000-₹8,000/month
Battery-as-a-Service	₹1.5-₹2/km OR Monthly Unlimited Plan

Common Strategy

- Rural financing partners (NBFCs, MFIs)
- Local service network & mobile repair
- Solar/portable charging + battery-swap ready
- Split-ownership model for high-value batteries (e.g., co-op, FPO, leasing entity) reduces capital burden

Value Proposition:

- Save ₹1,500-₹2,000/month on fuel
- Break-even in < 22 months.
- Ideal for last-mile connectivity
- Running cost ~₹0.50/km (vs ₹3 for diesel)
- ROI in ~18-20 months
- High income-generation potential



Gramin Zippy

Compact Two-Wheeler | ₹90,000

• Key Features:

- Lightweight
- low maintenance
- portable charger



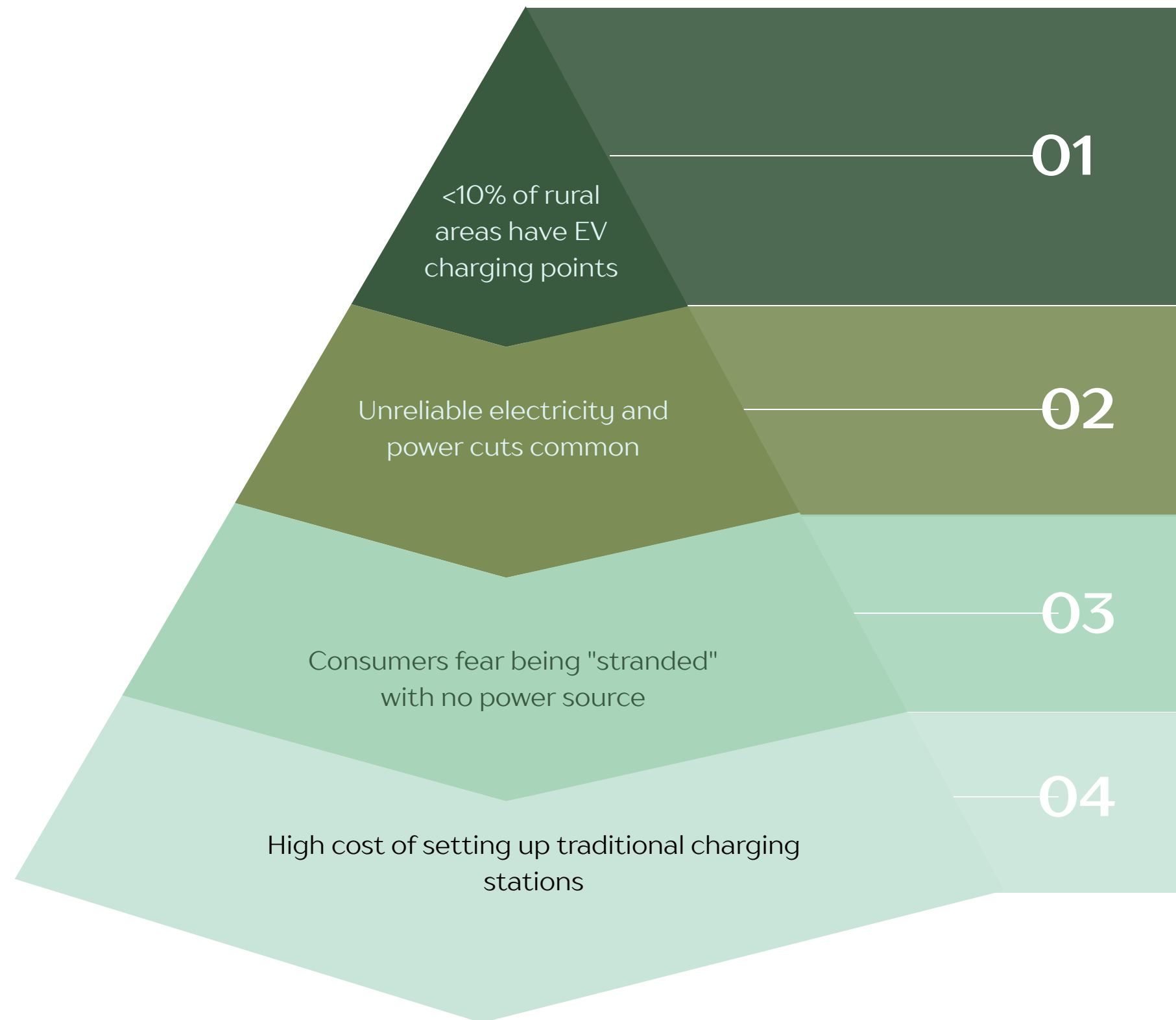
Gramin Hauler

Electric Three-Wheeler | ₹3,80,000

• Key Features:

- Heavy load capacity
- Rugged design
- Long range

CHARGING AND INFRASTRUCTURE



Challenges



Home-Based Portable Charging

- All vehicles come with a standard plug-in charger
- Compatible with existing household power supply
- Slow charging overnight (6–8 hours)
- Ideal for users with predictable daily travel



Solar-Powered Charging Stations

- Set up solar charging hubs at key village points:
 - Panchayat Bhawans
 - Rural schools
- Off-grid charging option where electricity is unstable



Battery Swapping Stations

- Fast turnaround: swap in <5 minutes
- Reduces range anxiety & downtime
- Ideal for high-usage vehicles (e.g., Hauler)
- Pilot in high-footfall zones like mandis or haats



Partner-Driven Infrastructure

- Collaborate with:
 - Petrol pump owners (idle land & grid access)
 - Micro-entrepreneurs to run charging kiosks
 - Renewable energy firms (for solar deployment)
- Franchise model to scale quickly & locally

Our Multi-Layered Solution



Marketing & Awareness Campaign

“Rural India values trust, word-of-mouth, and relatable communication.
Our strategy blends local culture with grassroots activation to build awareness and drive conversions.”

“Zippy chalao, paisa bachao!”

“Gaon ki nayi sawari, bijli wali gaadi”

Diesel chhodo, bijli se judo!

Mazboot safar, Gramin Hauler!

Community Building

Local Influencers & Farmer Cooperatives:

- Engage village leaders, teachers, and vendors as ambassadors. Use FPOs & SHGs for bulk test rides and community-driven promotions.

WhatsApp & Community Groups:

- Share video testimonials, offers, and EMI details via WhatsApp broadcasts and local group admins (SHGs, mandi groups, PTAs).

Places

Haats & Village Melas:

- Set up demo booths and offer free EV test rides. Use live commentary, small contests, and instant rewards to attract crowds.



Proposed Budget:

Strategy	Description	Low-High End Estimate (INR)
Radio Jingles & Loudspeaker Announcements	Catchy jingles aired on local radio stations and loudspeaker announcements in villages.	₹2,00,000 – ₹4,00,000
Weekly Haats & Village Fairs (Melas)	Setting up demo booths, test rides, and event activities in rural haats/fairs.	₹5,00,000 – ₹10,00,000
WhatsApp & Community Groups	Content creation, sharing promotional offers and video testimonials through WhatsApp.	₹50,000 – ₹1,00,000
Emotional, Rural-Centric Messaging	Creation of local language creatives, slogans, and promotional materials.	₹2,00,000 – ₹4,00,000

Rural-Centric Messaging:

- Use slogans and taglines in local dialects that emphasize savings, strength, and daily utility:
- Referral programs for the word to mouth marketing.

Promotion

Local Ads

Radio Jingles & Loudspeaker Announcements:

- Catchy, local-language jingles aired during farming hours and market days.

Rural ads:

- Set up billboard EV awareness.



Financial Viability & Revenue Model

With Government Support Driving Affordability & Growth

Initial Investment Estimate

CAPEX

Component	Qty	Unit Cost (Est.)	Subsidy (FAME-II + State)	Net Cost (after subsidy)
Gramin Zippy (2-Wheelers)	500 units	₹55,000	₹15,000/unit	₹2.0 crore
Gramin Hauler (3-Wheelers)	100 units	₹2,30,000	₹60,000/unit	₹1.7 crore
Charging Infrastructure (50)	—	₹1,00,000/station	N/A	₹50 lakh
Warehouse + Logistics Setup	—	—	—	₹25 lakh

OPEX

Component	Cost
Marketing & Awareness Campaign	₹15 lakh
Team & Operations (per year)	₹30 lakh



Break-Even Analysis:

- Total Investment (Post-Subsidy): ₹5.2 crore
- Average Monthly Revenue: ₹45–50 lakh
- Average Monthly Costs (OPEX): ₹18–25 lakh
- Net Operating Surplus: ₹17–25 lakh
- Break-Even Point: Achieved in ~18 months

Subsidies reduce consumer price & company CAPEX, accelerating break-even and adoption.

Revenue Streams

EV Sales (Direct-to-Consumer):

- 500 Zippys @ ₹90,000 = ₹4.5 crore
 - 100 Haulers @ ₹3,80,000 = ₹3.8 crore
- Total Vehicle Sales Revenue = ₹8.3 crore



Battery Subscription / BaaS:

Optional monthly battery rental = ₹16.32 lakh/year



Charging Station Usage:

Community charging access = ₹18 lakh/year



After-Sales & AMC:

₹1,000/vehicle/year × 600 = ₹6 lakh/year



Total Revenue (Per Year): ₹8.7 – ₹8.9 crore

Sustainability & Long-Term Adoption

Pillar	Key Strategies
Affordability	Pay-per-use subscription & battery swapping. Micro-loans + FAME-II subsidies. Modular 3-wheelers (cargo + passengers).
Charging Infrastructure	Solar-powered village hubs + mobile battery vans. Home chargers + battery leasing. Partner with DISCOMs for grid connectivity.
Awareness & Trust	Free village demos + local influencer campaigns. Train local mechanics for repairs. Vernacular WhatsApp/radio education.
Ecosystem Partnerships	Collaborate with FPOs for farm transport. Tie-ups with e-commerce for last-mile delivery. Govt./NGO solar partnerships.
Scalability & Sustainability	IoT-enabled tracking for performance optimization. 2nd-life battery recycling

Key Performance Indicator (KPI) Impact Area		
1	Vehicles deployed/month	EV Adoption
2	Charging stations installed	Infra Growth
3	CO ₂ saved (tons/year)	Emissions Impact
4	No. of batteries repurposed locally	Battery Upcycling
5	Youth trained/employed	Rural Jobs Created
6	Active SHGs/FPOs onboarded	Community Engagement

1



- 30 villages (15 Bihar, 15 UP)
- 5 solar hubs + 3 mobile swap vans
- Train 15 mechanics

Target: 30 EVs sold, 60% awareness

2



- 50 village fairs + local radio ads
- 50 solar hubs (₹80k/hub)
- Partner with 1 NBFC for EMI

Target: 600 EVs sold, 80 hubs

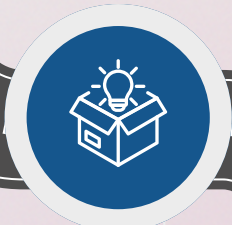
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- Launch Hauler Pro (no Zippy Flex)
- Train 200 youth via govt. programs
- 20 EV literacy camps

objective:1,500 EVs deployed, 75% retention

4



- 1 battery recycling pilot in Patna
- Advocacy via SHGs
- Prep for Haryana entry

Target: 2,500 EVs sold, 100 tons recycled

01

- EV Sales:
 - ₹600 Zippys × ₹90k = ₹5.4 Cr | 100
 - Haulers × ₹3.8L = ₹3.8 Cr → ₹9.2 Cr
- Baas/Charging: ₹15L (conservative estimate).

02

~20 months (vs. 18 months in original plan).

01

Infrastructure: Use existing petrol pump land for solar hubs (lower setup costs).

02

Awareness: Leverage SHG networks for word-of-mouth instead of costly radio ads.

03

Subsidies: Maximize FAME-II (₹15k/Zippy, ₹60k/Hauler) to offset 25% of vehicle costs.

Conclusion



Rekha's success story showcases how the Gramin Zippy empowers rural women, increases their income, and provides them with independence and mobility. This resonates with the core values of Gramin E-Mobility: accessibility, affordability, and empowerment.

Rajesh's journey highlights how the Gramin Hauler transforms the lives of rural farmers by providing them with a reliable, cost-effective, and eco-friendly means of transportation. This aligns with Gramin E-Mobility's mission to support rural livelihoods and promote sustainable agriculture.

Gramin E-Mobility is not just a mobility solution but a catalyst for rural empowerment. Together, we can drive India's villages toward a cleaner, economically vibrant future—one electric ride at a time. 🌱🚲



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