

# Enabling Electric Cooking Ecosystem in Rural India

## Modern Energy Cooking Forum 2024

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Funding by



# Introduction

December-June 2023



## Preparation of Supply Chain Activation Plan

Electric cooking supply chain is to build a network based on existing network of local retail shops in rural and peri-urban areas. This is integrated with evidence-based policies through action research. It involves activities such as collecting a range of data and subsequent analysis to enhance the contextual and market understanding of various aspects. Based on the data, learnings, and consultations with the project partner agencies JWIRES and Jeevika/BRLPS, a supply chain activation plan for electric cooking appliances has been designed.

August 2023-Feb'2025



## Implementation of Supply Chain Activation plan for Clean Cooking Appliances

Based on the designed structure, the implementation of the supply chain for clean cooking appliances involves strengthening the last-mile distribution and service network for e-cooking appliances, while also adding to the portfolio of J-WIRES. Document the challenges encountered and the myriad adjustments made to the structure throughout the implementation phase. Chronicle the adoption of electric cooking appliances.

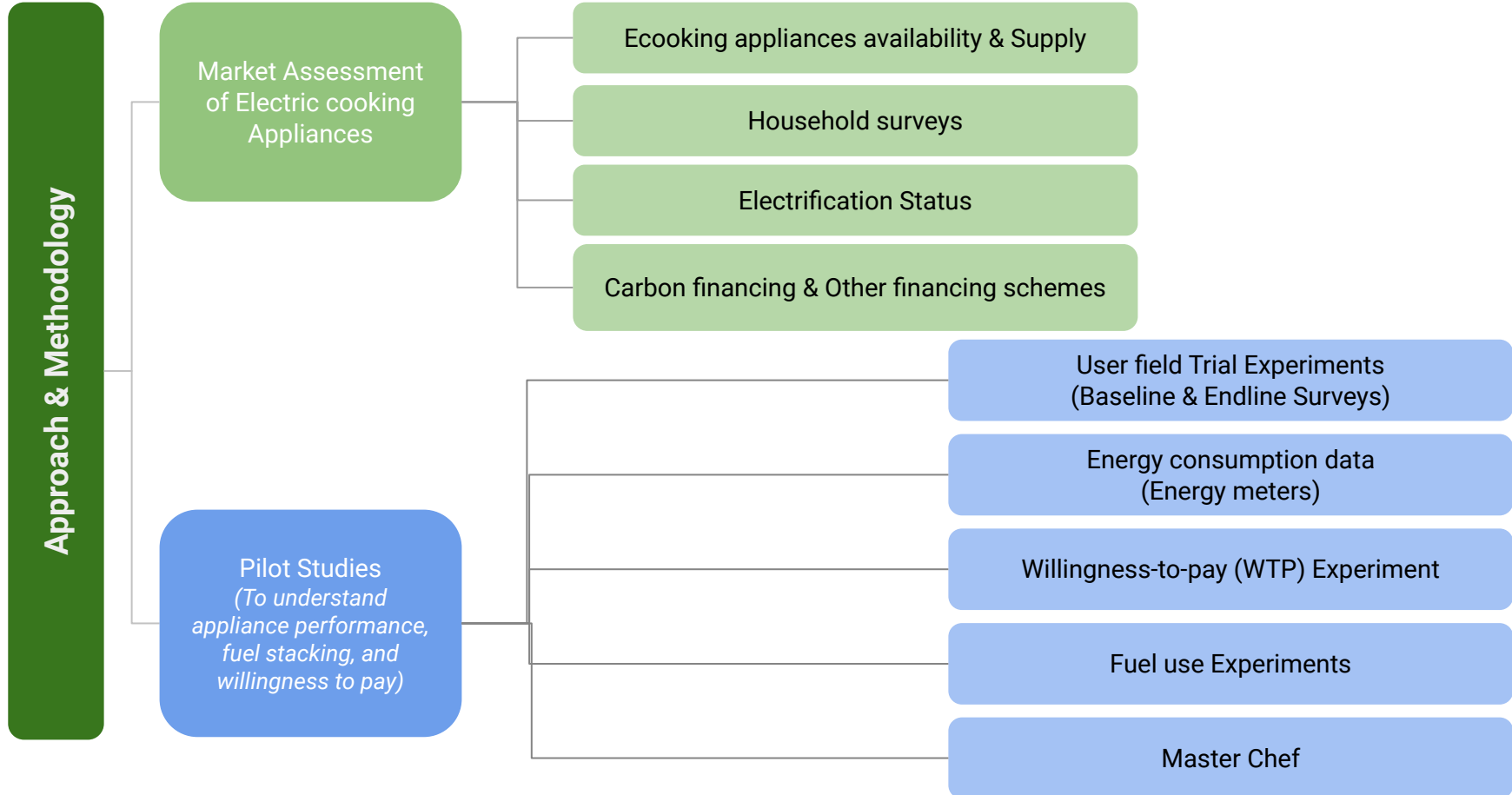
March 2025-Dec'2025



## Sustainability of Supply chain for Clean Cooking Appliances

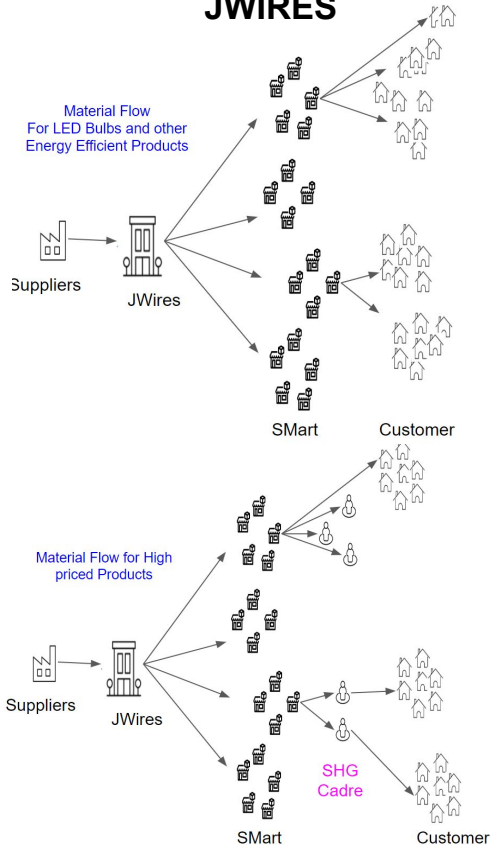
J-WIRES as the focal company shall continue to provide sustained access to electric cooking appliances and support services to the consumers.

# Preparation of Supply chain Activation Plan (Phase I)



# Electric Cooking Supply Chain Activation plan

## Study of Existing Network of JWIRES



## Business Model Canvas (BMC)

Electric Pressure Cooker		Business Model Canvas		Feb 24-25 2023
<b>Key Partners/ Stakeholders</b> <ul style="list-style-type: none"> <li>JWIRES</li> <li>Jeevika</li> <li>Suppliers</li> <li>Transporter</li> <li>Retailers</li> <li>SHG Network</li> <li>TERU/CEW</li> <li>IIT Bombay</li> <li>Loughborough University</li> <li>Finovista</li> <li>Solar Marts</li> </ul>	<b>Key Activities</b> <ul style="list-style-type: none"> <li>Marketing and Sales</li> <li>Procurement</li> <li>Hiring and Training</li> <li>Transportation</li> <li>Inventory Management</li> <li>Accounts, finance</li> <li>Financing options</li> <li>Quality control</li> <li>Content development</li> <li>Documentation</li> <li>Dashboard</li> </ul> <b>Key Resources</b> <ul style="list-style-type: none"> <li>Trained Manpower</li> <li>Master Chef</li> <li>Clean Cooking Champions</li> <li>Identified CLF and cadres</li> <li>Computer Systems, Phone, internet</li> <li>Website</li> </ul>	<b>Value Propositions</b> <ul style="list-style-type: none"> <li>New Technology Option for Cooking</li> <li>Available for immediate purchase</li> <li>Affordable price</li> <li>Last mile delivery</li> <li>Local service/repair/warranty</li> <li>Support local business</li> <li>After-sales support</li> <li>Promote nutritious cooking</li> <li>Portable and Compact</li> <li>Multi-option cooking</li> <li>Preprogrammed cooking options</li> <li>Aesthetic design</li> <li>Smart and clean cooking</li> <li>Easy to operate</li> <li>Safety</li> </ul>	<b>Customer Relation</b> <ul style="list-style-type: none"> <li>Direct by JWIRES</li> <li>Indirect via Shops, Community Institutions (CLF)</li> <li>One-off purchase</li> <li>Dedicated Personnel/ team for after-sales support</li> <li>Timely repair service</li> <li>Pass on supplier warranty terms to customer from sales day</li> <li>Feedback on overall experience after product purchase</li> <li>Service Support through phone</li> <li>Via user manual videos</li> </ul> <b>Channels</b> <ul style="list-style-type: none"> <li>Awareness creation, Campaigning</li> <li>Advertisements (Pamphlets, Newspaper, brochures, Banners, Social Media, Website)</li> <li>Demonstration- fairs, CLFs, Organisation/Dept</li> <li>Organizations (SHG/VO/CLF Meetings, Jeevika staff, and cadres, offices, BPI, Retailer/SMarts)</li> <li>Housing Society Meetings</li> <li>Cooking competition</li> <li>Word of mouth/ Experience sharing by Master Chef and other experienced HHS )</li> </ul> <b>Material/Logistics</b> <ul style="list-style-type: none"> <li>Directly from JWIRES</li> <li>Retailer/ Smart Shops</li> <li>District Facility/ Godown</li> <li>Order by phone</li> <li>Nodal CLF (Patna)</li> <li>Through trained Local technicians/retailer</li> </ul>	<b>Customer Segments</b> <ul style="list-style-type: none"> <li>Households                             <ul style="list-style-type: none"> <li>Urban</li> <li>Rural</li> <li>Peri-urban</li> </ul> </li> <li>Students</li> <li>Bachelors</li> <li>Department Staffs- Govt/Pvt,</li> <li>Event Manager/ Wedding Planner</li> <li>Institutions (eg: Didi Ki Rasol, canteen)</li> <li>Restaurants</li> <li>Mess</li> <li>Hostels</li> <li>Small Vendors (eg, fast food, tea stalls, dhaba)</li> </ul>
<b>Costs</b> <ul style="list-style-type: none"> <li>Salary</li> <li>Establishment cost (laptop, printer, test equipment, etc.)</li> </ul>	<b>Variable Cost</b> <ul style="list-style-type: none"> <li>Material cost</li> <li>Training</li> <li>Advertising</li> <li>Transportation</li> <li>Utilities (electricity, water)</li> <li>TA and DA</li> <li>Consumables/Maintenance charges, Stationary/Items)</li> <li>Overheads</li> </ul>	<ul style="list-style-type: none"> <li>Incentives, honorarium, and Clean Cooking Champion salary</li> </ul>	<b>Revenue</b> <ul style="list-style-type: none"> <li>Sales to customer</li> <li>Service charges/home visit charges/R&amp;M charges</li> <li>Payment from retailer ~100% advance to 100% post sales</li> <li>Carbon Trading</li> </ul>	<ul style="list-style-type: none"> <li>Cash/UPI</li> <li>EMI</li> <li>upfront payment</li> </ul>

*BMC helped to bring and visualise the different aspects of the business together on a single template. J-WIRES, although having experience in solar products and improved cookstoves, electric cooking appliances is a new line of business.*

## Expression of Interest

- An Expression of Interest (EOI) was issued to various suppliers/ distributors/ manufacturers, inviting them to express their interest in supplying the electric cooking appliances.
- The details requested from interested parties included technical specification and other related points
- Total 3 EPC manufacturing companies has shown interest in our EOI

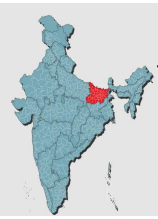
# Sustainable Supply Chain Activation (Plan Implementation)

The objective is to provide sustained access to affordable, quality products and services to encourage rural communities to transition to electric cooking.

Designed with J-WIRES as the focal company.

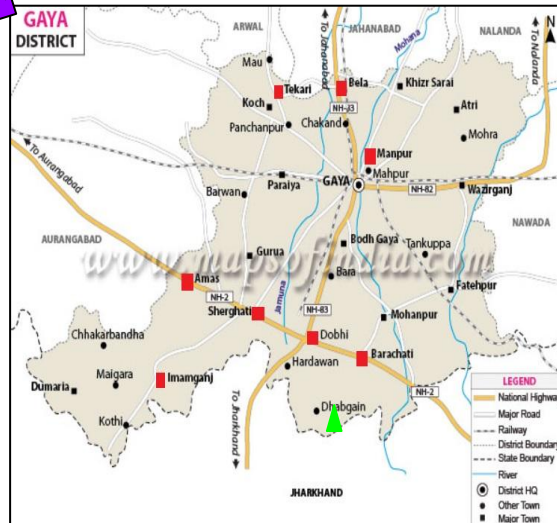
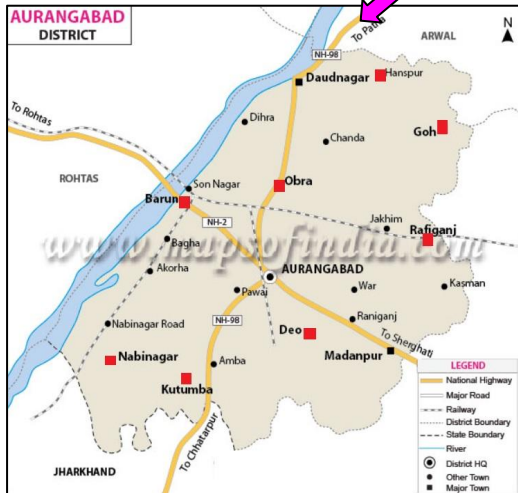
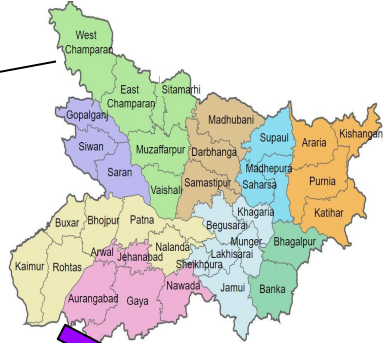
Strengthening the last-mile distribution & service network for e-cooking appliances, and adding to the portfolio of J-WIRES.

# Location and Target Market



India

## Bihar



## Target Market

Electrified rural/ peri-urban households especially using biomass for cooking purpose

## Key Opportunities

- Strong presence of SHG Network
- Close to 100 % Electrified HHs
- **Low** Penetration of Ecooking appliances but potential is **High**
- Availability of Skilled manpower for installation and services.
- Good potential for carbon market → Significant use of Biomass by HHs.

## Challenges

- Affordability (*addressed by access to credit*)
- Technology readiness (*addressed by awareness, demonstrations, localised support*)
- Adoption (*addressed by demonstrations, localised support, incentives*)

# Proposed Appliances

## IoT Enabled Induction Cookstove



**Wattage** 1600 Watts

**Operating Voltage**  
220-240 Volts

**Brand**  
RealFlame

## Induction Friendly Utensils



**Induction Friendly Utensils**  
5 Ltr. Induction Friendly Pressure Cooker  
1.5 Ltr. Saucepan  
3-3.5 Ltr. Kadhai  
250 mm Induction friendly tava

## Electric Pressure Cooker



**Capacity** 6 Ltrs

**Wattage** 1000 Watts

**Operating Voltage** 220-240 Volts

**Brand** Aufla

Proposed appliances are manufactured in India and subsequently purchased from the said manufacturing companies mentioned above based on the demand of the product.

# Main Stages of Sales of Electric cooking Appliances

**1. Awareness  
Creation**

**2. Product  
Demonstration**

**3. Product  
Sales**

**4. Installation  
and Demo**

**5. Product  
Adoption Study**

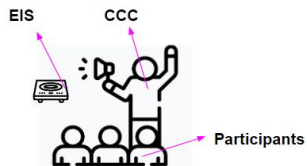
Where: VO/CLF  
Who: CCC  
How: Script

CCC meeting with CLF and VO officials



Fixing of date and time  
for awareness activities  
at village level

Where: CLF  
Who: CCC  
How: Script



Demonstration of EIS in CLF office

Where: S-MART  
Who: S-Mart owner



Where: Household  
Who: CCC



Where: Household  
Who: Researcher  
How: Survey

*~150-300 Interested  
participants*

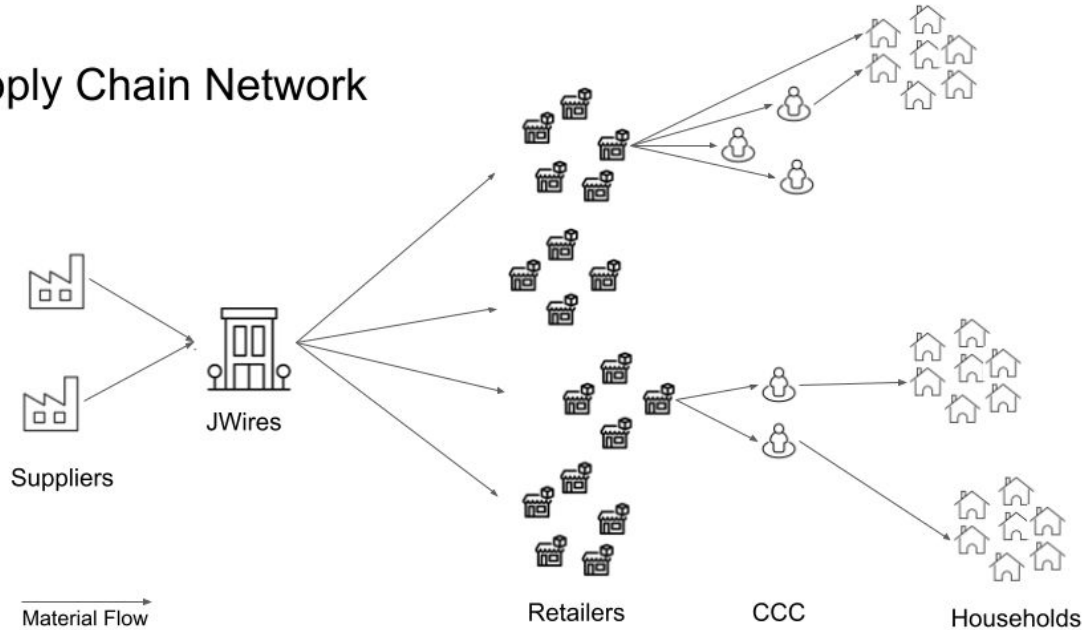




# Supply Chain Network Design

J-WIRES will sell the cooking appliances through the network of Retail shops (S-Marts), ably supported by Clean Cooking Champions (CCCs).

## Supply Chain Network



### Clean Cooking Champions (CCCs)

- Sales and customer support personnels.
- 3-4 CCCs with each S-Mart.

### Role of CCCs:

- help raise awareness, do cluster level product demonstrations, interact with potential buyers.
- Connect customers with the S-Marts & J-WIRES for services.
- help provide after-sales support.

# Consumer Finance



## Full Payment



## Loan via SHG

Customers who are SHG members can avail the loan facility from the SHG group for procurement of the electric cooking appliances



## Installment Scheme

Customer shall pay the product price in 3 Installment with additional charges of Rs. 100/-

**At the time of Purchase : Rs.1900** (Inclusive 500 Pre-booking)

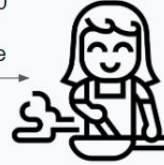
**2nd Installment : Rs. 1450**

**3rd Installment: Rs. 1450**

'Pay for performance' based on their cumulative usage of their electric cooking appliance will be given to all the ~150-300 interested participants who participated in the survey and allowed to deploy energy meters along with the electric cooking appliances

# After Sales Support

Within 10 days of purchase

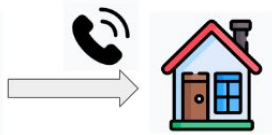


Cooking demo by CCC

After 1 week



Verification by S-Marts/JWIRES



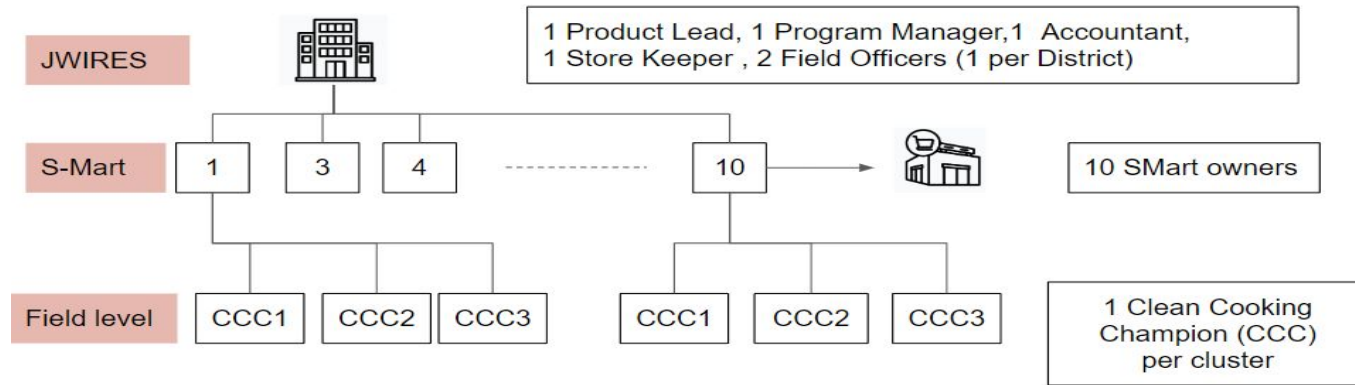
All customers will be provided after sales service support by JWIREs through the S-Marts and CCCs

- Within 10 days of purchase of the appliance, cooking demonstration by CCC at the customer HH.
- Review the various benefits and demonstrate the usage of the appliances by CCC
- A basic follow up/ verification call by JWIREs between days 10-20.
- Whatsapp/ SMS to households with customer care contact information/ digital pamphlets/ videos link/ information about future demonstrations in that area.
- Customers can call the customer care number to discuss and clarify any device usage clarifications they need.

# Proposed Job Creation

In Phase II, the long-term job creation at JWIRES will be about 30 CCCs, 10 S-Marts owners, and six staff at JWIRES

As per the margins planned, the expected earnings by CCC during Stage 1 is approximately INR.3167/month/CCC; and that of SMart during Stage 1 is approx. INR.6500/month/SMart



Apart from these direct job creation, a significant amount of capacity building (through awareness) and institution building of the SHG network is also planned. The training modules like Onboarding workshop, Training for electric cooking, Technical training, Marketing and Awareness Creation Training, Business operations and Record keeping Training are planned in the first quarter.

# Performance Dashboard

(Till 20th September 2024)

# Training & Capacity Building

Training conducted for electric cooking based on Technical aspect, Marketing and Awareness Creation, Business operations and Record keeping  
Duration of the training : 5 days



**Total Participants  
(61)**



**Training @ Bodhgaya  
26 Jan'24 - 2 Feb'24**

**Total Participants (31)**  
Clean cooking Champions (17)  
S-Marts (5)  
J-WiRES Officials (4)  
IITB (5)

**Training @ Aurangabad  
27 Aug'24 - 30 Aug'24**

**Total Participants (30)**  
Clean cooking Champions (17)  
S-Marts (5)  
J-WiRES Officials (3)  
IITB (5)



Training Session



Mock Awareness Practice



Cooking demonstration



Cooking Competition

# Awareness Creation

Awareness of electric cooking appliances are facilitated by **Clean cooking champions at village and Gram panchayat levels**, utilizing **Awareness kit**.

## Awareness Kit

**प्रचारकथा लिखिए**

आपका नाम: \_\_\_\_\_  
 पता: \_\_\_\_\_  
 मोबाइल नंबर: \_\_\_\_\_

**प्रश्न:** क्या आप एक नया बर्तन खरीदना चाहते हैं?  
 यदि हाँ तो क्यों? किस कारण से? (क्या खरीदने का कारण है?)

**उत्तर:** \_\_\_\_\_

**समाप्ति:** \_\_\_\_\_

Awareness script

**क्या आप एक नया बर्तन खरीदना चाहते हैं?**  
 यदि हाँ तो क्यों? किस कारण से? (क्या खरीदने का कारण है?)



प्रकार/विशेषता	दुष्प्रकार	दुर्लभ/प्रकार
1. खरीदने का कारण	1. खरीदने का कारण	1. खरीदने का कारण
2. खरीदने का कारण	2. खरीदने का कारण	2. खरीदने का कारण
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9. खरीदने का कारण	9. खरीदने का कारण	9. खरीदने का कारण
10. खरीदने का कारण	10. खरीदने का कारण	10. खरीदने का कारण

Poster

**क्या आप एक नया बर्तन खरीदना चाहते हैं?**  
 यदि हाँ तो क्यों? किस कारण से? (क्या खरीदने का कारण है?)



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Pamphlet

**रिकार्ड बुक**

नाम	_____
पता	_____
मोबाइल नंबर	_____
दिनांक	_____

Record Book

Awareness created  
**420+**

People aware about electric appliances:  
**6100+**

Awareness campaign conducted by CCC using Awareness kit.



Awareness activity in village Barachetti block, Gaya



Awareness activity in the village of Kutuma block, Aurangabad

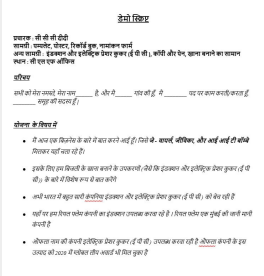
Interested participants/Potential customers:  
**1000+**

# Product Demonstration session

Demonstration of electric cooking appliances are facilitated by **Clean cooking champions** at **Cluster level Federation (CLF) office**, utilizing **Demo kit**.


Demo Kit

डेमो स्क्रिप्ट




Demonstration script

Posters



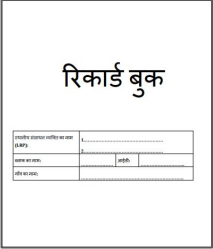
Poster

Pamphlet



Pamphlet

Record Book



Record Book

Demo conducted:

40+

Interested participants  
attended Demonstration  
Campaign :

200+

Cooking demonstration conducted by CCC using demo kit.



Cooking demonstration at CLF in Sherghati



Cooking demonstration at CLF in Barachetti

# Sales through S-Mart

 <p>EPC</p>	 <p>Induction</p>	<p>Sales</p>  <p>Utensils</p>	 <p>रिकार्ड बुक</p> <p>Record Book</p>	 <p>वेब पॉइंट सर्वे</p> <p>सर्वे कार्ड और विक्रम</p> <p>परिचयनाम: "शाहीस भारत में इलेक्ट्रिक कुकिंग पारिसेज (इलेक्ट्रिक) को सक्षम करना. फेज 2"</p> <p>सहकारकर्ता का नाम : _____</p> <p>डिजिटल (AMODERN) : _____</p> <p>सर्वे कर रहे हैं : _____</p> <p>एक माह में अर्डरों : _____</p> <p>एक माह में का नाम : _____</p> <p>प्रोडक्ट कैटेगरी (s): _____</p> <p>सेब पॉइंट सर्वे (सभी प्रश्नों के लिए)</p> <ol style="list-style-type: none"><li>1. पूरा नाम : _____</li><li>2. पता/सम्बन्ध : _____</li><li>3. पता : _____</li><li>4. ब्रांच/सहकारी : _____</li><li>5. विद्या : _____</li><li>6. आयु : _____</li><li>7. शिक्षा : _____</li><li>8. महिला <input type="checkbox"/> पुरुष <input type="checkbox"/> दूरसंचार <input type="checkbox"/> अन्य <input type="checkbox"/></li><li>9. फोन नंबर : _____</li></ol> <p>Sales point survey</p>
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## Sales conducted by S-Mart owner .



Sales at Satyam S-Mart



Sales at Ankush S-Mart

Total Sales:  
**198**



# Product Installation and Household demonstration

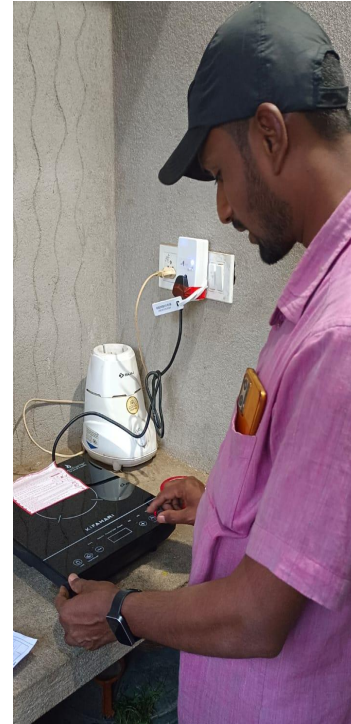
## Installation and demo kit



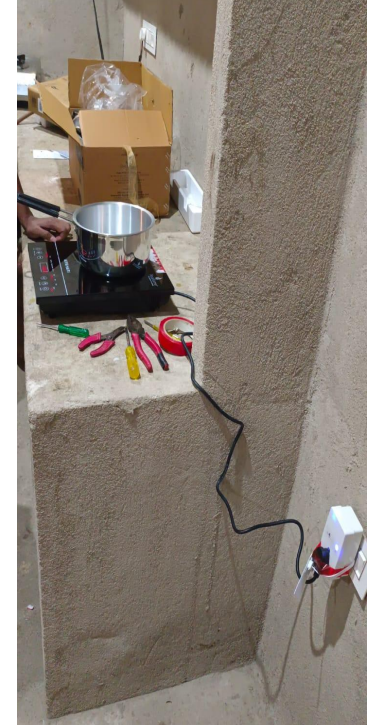
## Installation and HH demonstration conducted by CCC.



Household level demonstration by CCC



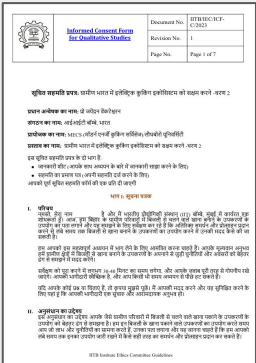
Data Logger installation and testing by technician



*Total Installation and HH demo:*

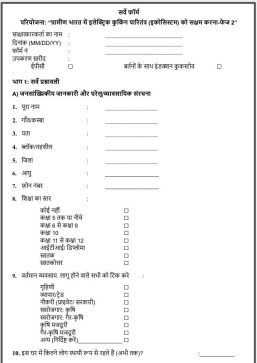
**170**

# Survey



**Consent Form**

## Survey kit



**Questionnaire**

Aim of this survey of the programme to understand:

- Marketing, sales, and after-sales strategies for increasing electric cooking uptake.
- Financial options
- Appliance usage in rural households, and identifying strategies to enhance appliance utilization.

It also includes data collection on demographic information, household composition, economic status, cooking habit, cookstove and their stacking, Stove usage, User experience and perceived Barriers/ Enablers for the adoption of electric cooking appliances.

Survey conducted by IIT Bombay Research team.



Baseline survey in household



Follow up survey in household

*Total Baseline Survey:*

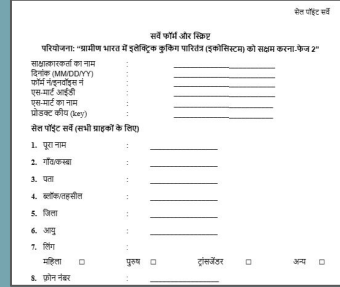
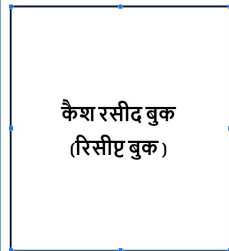
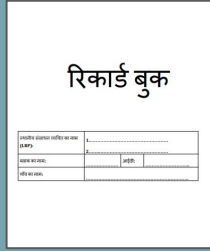
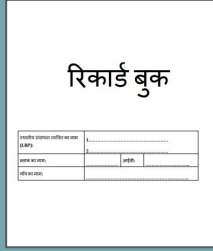
**150**

*One month Follow-up Survey:*

**36**

# Data Collection Tools

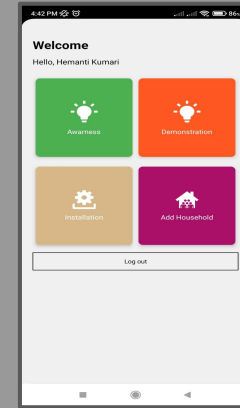
Record Books used to collect Primary level of data collection



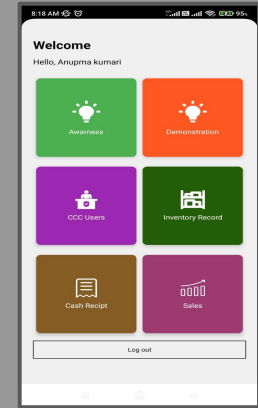
Record Book for CCC

Record Book for Solar Mart (S-Mart)

Mobile App: Data collection of all the stages of inventory, awareness, demonstration, sales and household visit

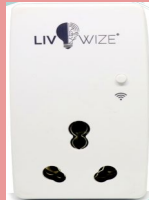


CCC interface

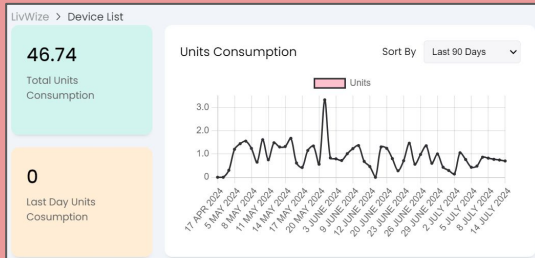
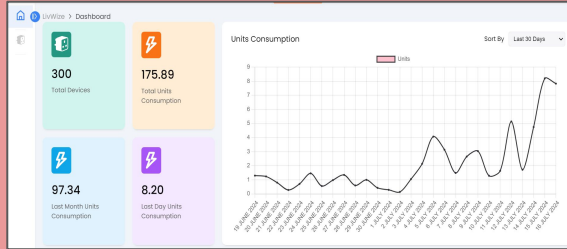


S-Mart interface

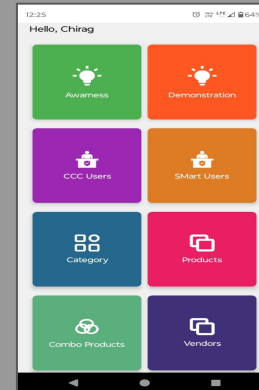
## Energy Meters



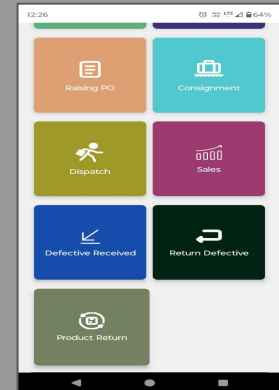
- 4G-LTE based in-built IoT M2M SIM
  - Class-1 Energy Metering
  - Operating Temp: 0°C to +60°C
- Brand Liwize**



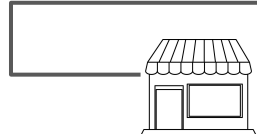
id	status	report	last	report	report	id	id	id
68.006	0	0	0	68.006	0800_JOS794	MA 8A-801-01_A202_34 IU		
67.812	0	0	0	67.812	1800_JOS794	MA 8F-8A-8-A202_28 IU		
15.171	0	0	0	887	0800_JOS794	MP 6E-81-T_A202_12 vM		
80.47	887	68.6	0	58.107	0800_JOS794	MA 80-S1-T_A202_17 vM		
88.8	0	0	0	0K6	1800_JOS794	MP 7D-5-E_A202_01 IU		
80.0	0	0	0	846	0800_JOS794	MP 6E-5-E_A202_01 IU		
88.8	5867	5.1	0	887	0800_JOS794	MA 8A-1A-8-A202_28 IU		
52.0	0	0	0	165	0100_JOS794	MP 0E-3-A202_3 IU		



JWIREst interface



# Impact: Job Creation & Total Earnings



S-Mart (10)

## Job Creation at Local level

Clean Cooking Champions (34)

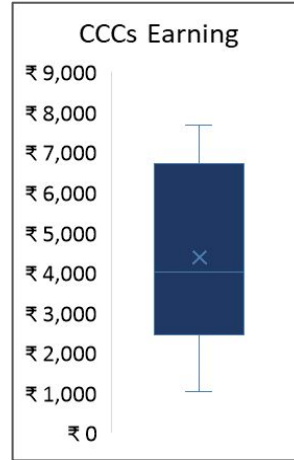


### Gaya District

Satyam S-Mart- Feb'24  
Dibya S-Mart - Feb'24  
Anubhav S-Mart - Feb'24  
Ankush S-Mart - Feb'24  
Bhavna S-Mart - Feb'24

### Aurangabad District

Bharat S-Mart - Sept 24  
Pankaj S-Mart - Sept 24  
Himanshu S-Mart - Sept 24  
Raju S-Mart - Sept 24  
Divya S-Mart - Sept 24



### Gaya District

Sushma Kumari (Feb-24)  
Kanchan Kumari (Feb-24)  
Hemanti Kumari (Feb-24)  
Champa Kumari (Feb-24)  
Priyanka Kumari (Feb-24)  
Priyanka Sivahani (Feb-24)  
Gudiya Kumari (Feb-24)  
Sarita Kumari (Feb-24)  
Anita Kumari (Feb-24)  
Sulekha Kumari (Feb-24)  
Annapurna Kumari (Feb-24)  
Deepmala Devi (Feb-24)  
Renu Kumari (Feb-24)  
Soshita Kumari (Feb-24)  
Shobha Devi (Feb-24)  
Soni Kumari (Feb-24)  
Babita Kumari (Feb-24)

### Aurangabad District

Gudiya Devi (Sept-24)  
Kavita Kumari (Sept-24)  
Savita Kumari (Sept-24)  
Anju Kumari (Sept-24)  
Rubi Kumari (Sept-24)  
Shobha Devi (Sept-24)  
Chinta Devi (Sept-24)  
Sanju Kumari (Sept-24)  
Mikki Kumari (Sept-24)  
Anjani Kumari (Sept-24)  
Asha Kumari (Sept-24)  
Kaushaila Kumari (Sept-24)  
Preeti Kumari (Sept-24)  
Suman Devi (Sept-24)  
Chandni Kumari (Sept-24)  
Priyanka Kumari (Sept-24)  
Suganti Kumari (Sept-24)

# Job Creation

## Job Creation at Institution level



**J-WiRES**

J-Wires(6)

Amit Singh  
Gaurav Pandey  
Srisant Kumar  
Priyanka Kumari  
Santosh  
Rajesh

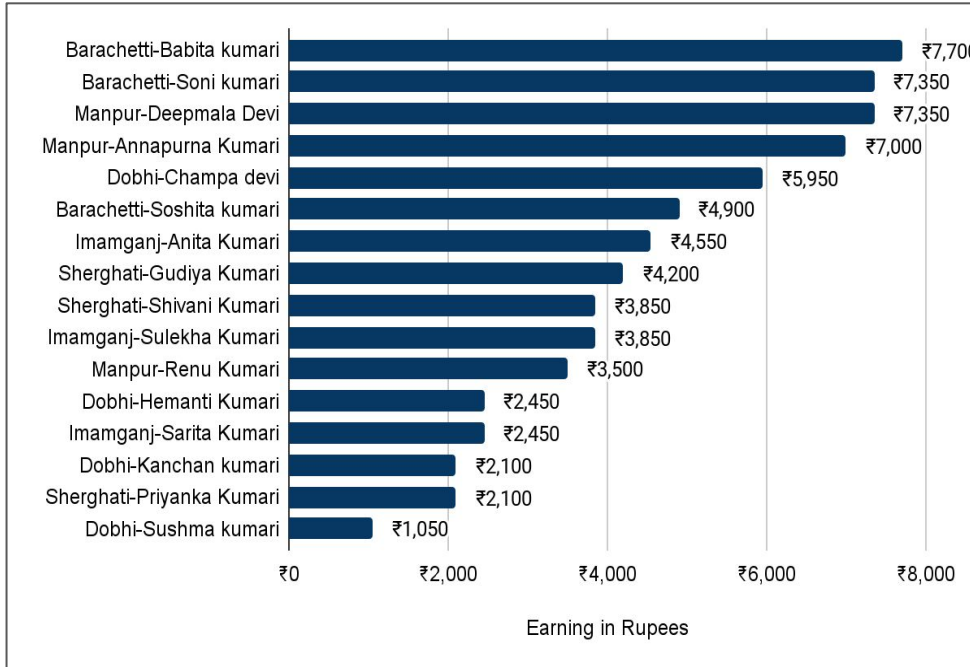


IIT Bombay(6)

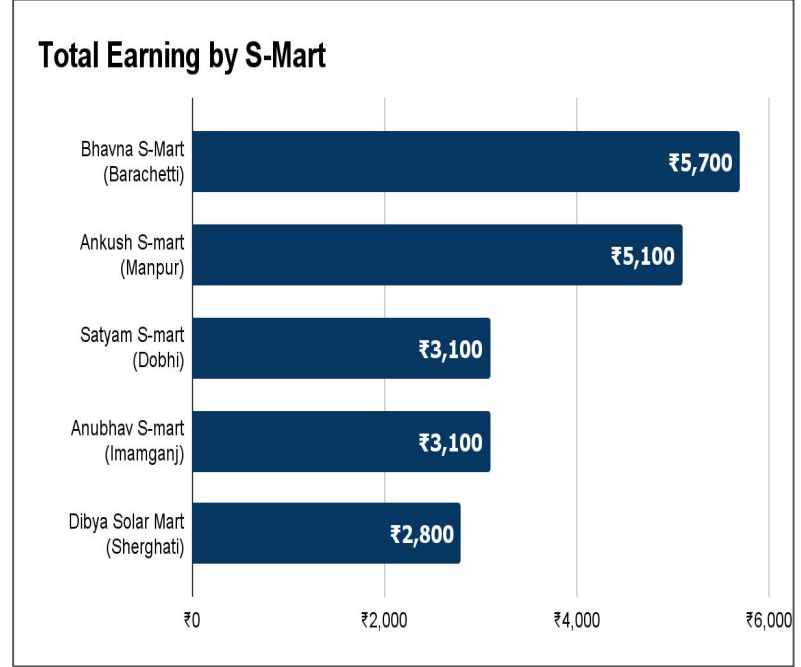
Purva Jamsandekar  
Deepak Choudhary  
Jivita Poojari  
Vimlendu Pandey  
Ajeet Singh  
Sunil Kumar

# Impact: Earning\*

## CCC Earnings



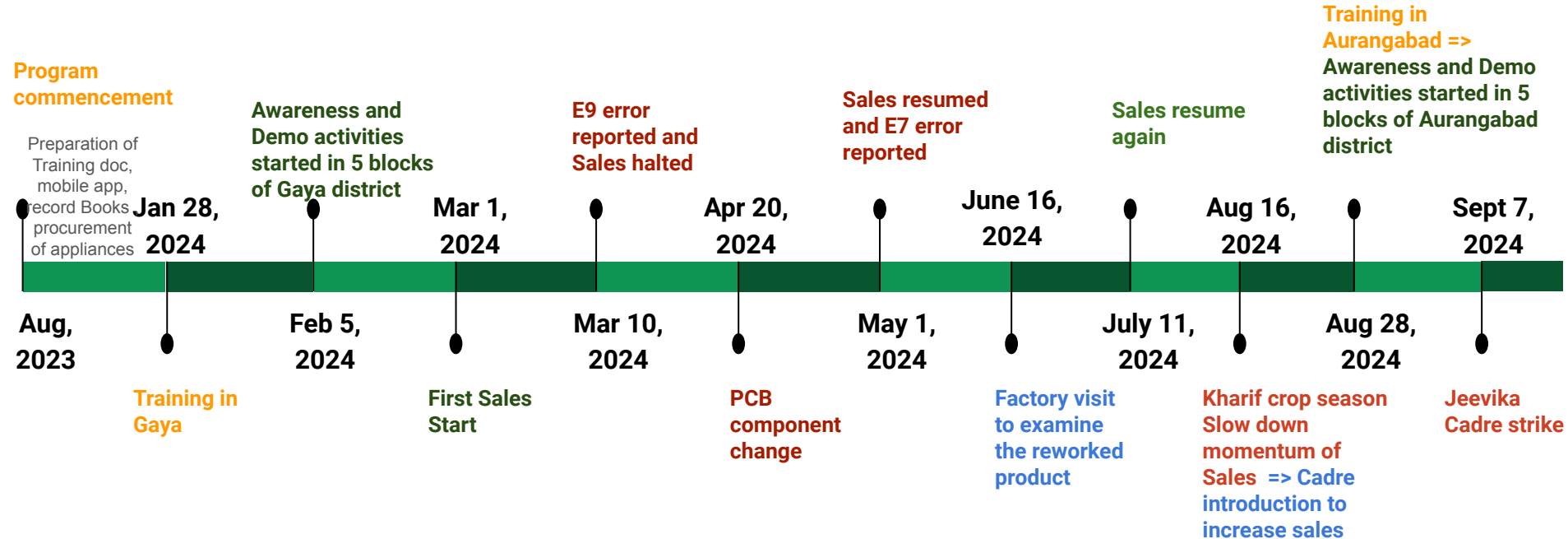
## S-Mart Earnings



This earning exclude the monthly compensation (given for initial 6 months for setting up)

\*Majority of sales has happened after July 10, 2024

# Timeline & Operational challenges



## Other Operational challenges during execution:

1. Customers showed less interest if the product name is not available on ecommerce site or on Google
2. Delay in procurement of IoT enabled induction cookstove

# Research and Data Collection

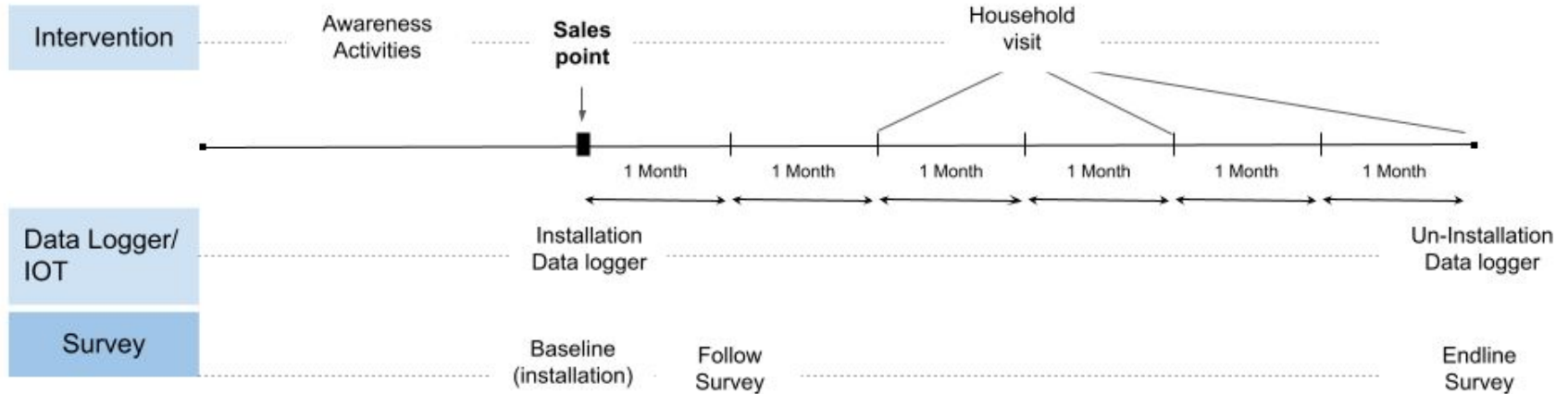


# Research Design

## Assessing the sustainable adoption and consumer finance plan

The finance option chosen by the customer will be noted, and the performance of the instalment option (in terms of ability to collect full payment) will also be studied.

## Research Design Plan



Sample of 150-200 HHs will be selected from among the total HHs who purchased electric appliances

- **Treatment 1 (T1):** Bi-monthly visits by CCCs to give additional info, maintenance, and support.
- **Treatment 2 (T2):** Informed of their monthly usage via SMS,
- **Control (C):** No additional intervention.

# Research Design (contd.)

## Action Research for Operations Management

- Activation of the electric cooking supply chain to be closely monitored, its inherent risk anticipated, assessed, and possible risk mitigation strategies & other course corrections employed, as required.
- Adherence to standard and recommended business practice of Plan-Do-Check-Act (PDCA) cycles.
- In practice, J-WIRES together with IITB will implement monthly/quarterly PDCA cycles towards
  - (i) monitor progress,
  - (ii) record best practices, and
  - (iii) design & implement course correction required, if any, to continue and sustain the business.
  - Detailed records of the findings and learnings are to be documented (action research)

## Towards Action Research/ PDCA

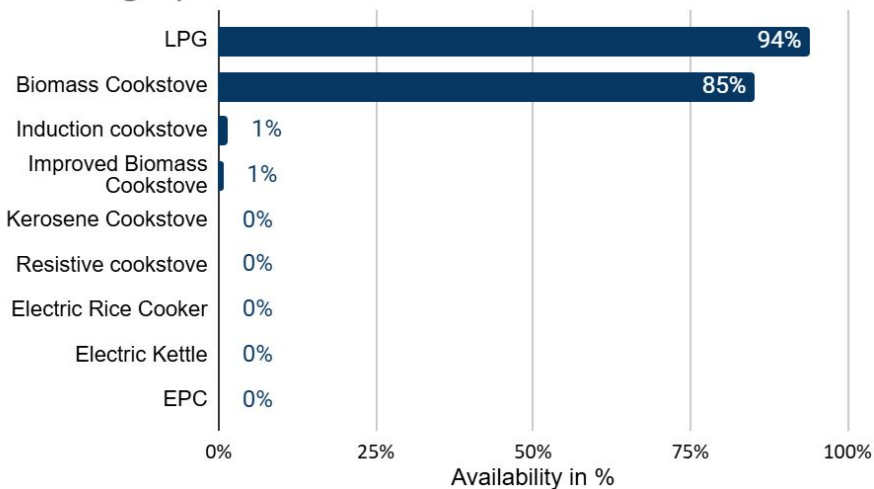
- Standardised workflows, maintain records, Management Information Systems (MIS).
- In order to assess possible future pathways, a simulation model of the detailed supply chain operation is being developed

# Appliance and Fuel Stacking

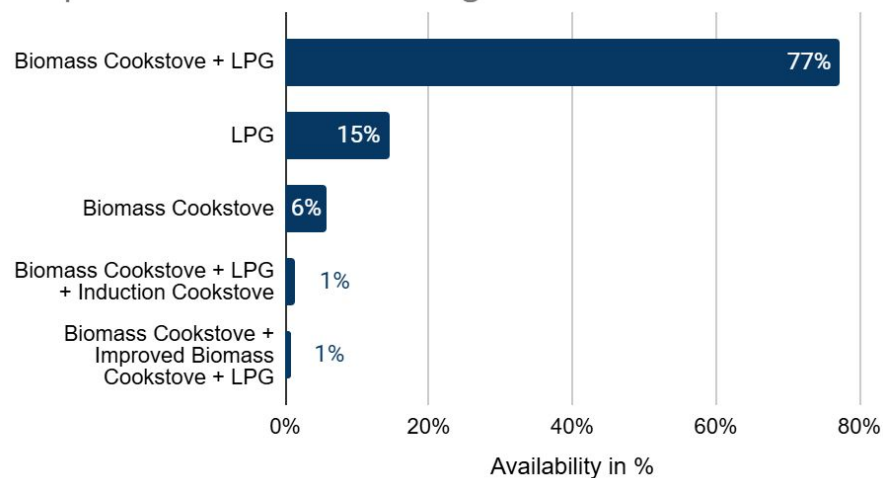
Based on *Baseline Survey*  
N=137

- 94% of HHs have LPG, but still 85% continue to have a biomass cookstove
- 77% of HHs stack LPG and Biomass, and 15% use only LPG for complete cooking.
- 6% HHs reported using biomass or improved biomass only for cooking purposes

## Cooking Options available in the HHs



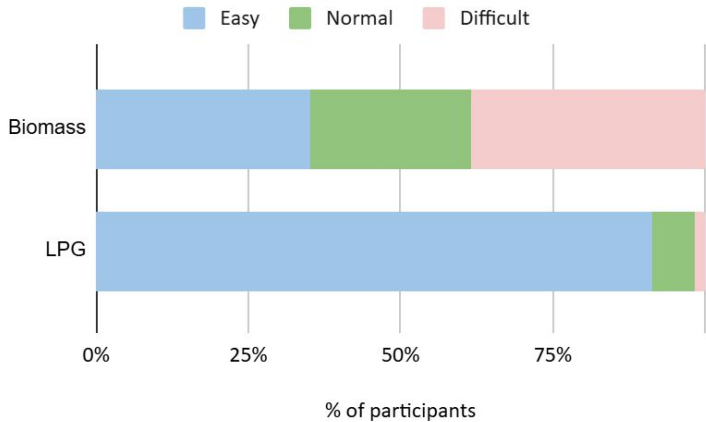
## Reported cookstove stacking



# Understanding of Cooking Culture and ease of use

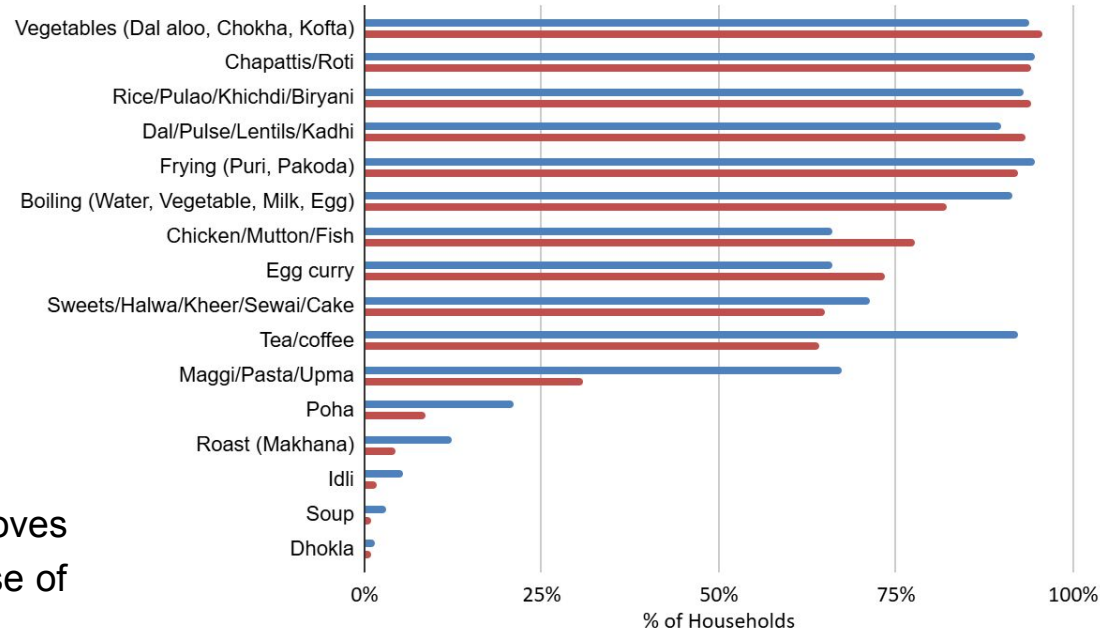
Based on *Baseline Survey*  
N=137

## Cookstove: Ease of use



- 38% of participants find biomass cookstoves difficult to use, with only 35% reporting ease of use.
- 91% of users finding them easy to operate, indicating a strong preference for this fuel type.

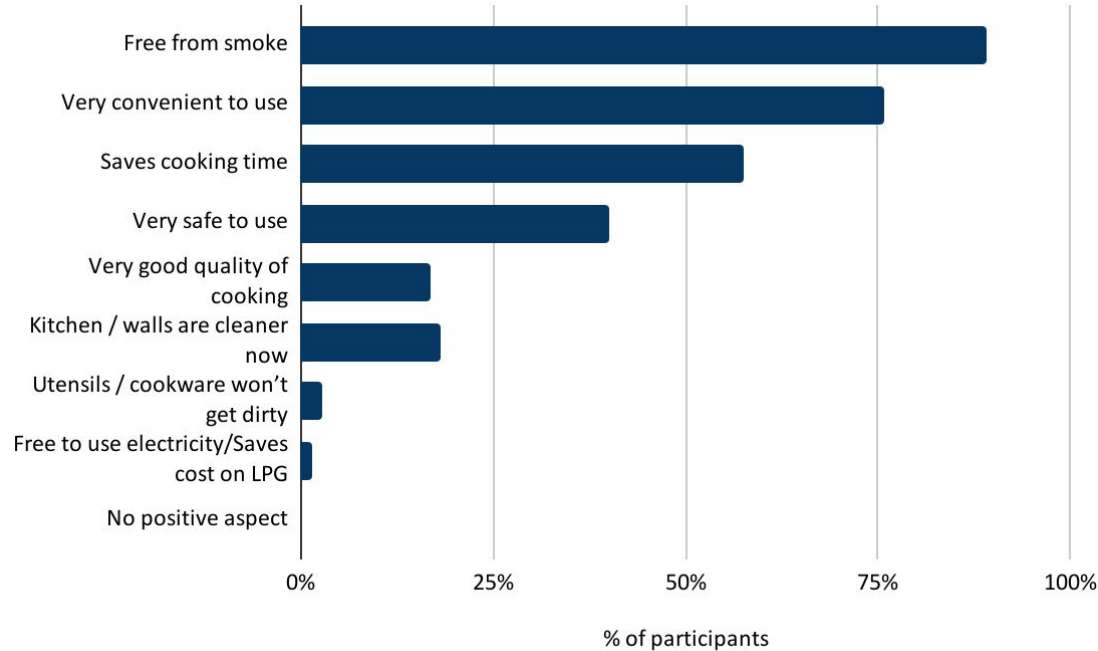
## Food cooked on Biomass and LPG



- Biomass and LPG has been used approximately equally for cooking the dishes

# Advantages of Cooking with Electric Stoves

Based on *Baseline Survey*  
N=137



- 89% of users appreciate that electric stoves eliminate smoke, enhancing indoor air quality.
- 76% find electric stoves very convenient, with 58% noting significant time savings in cooking.
- 40% feel electric stoves are very safe, and 18% report cleaner kitchens and walls, reducing maintenance efforts.

# Survey highlights

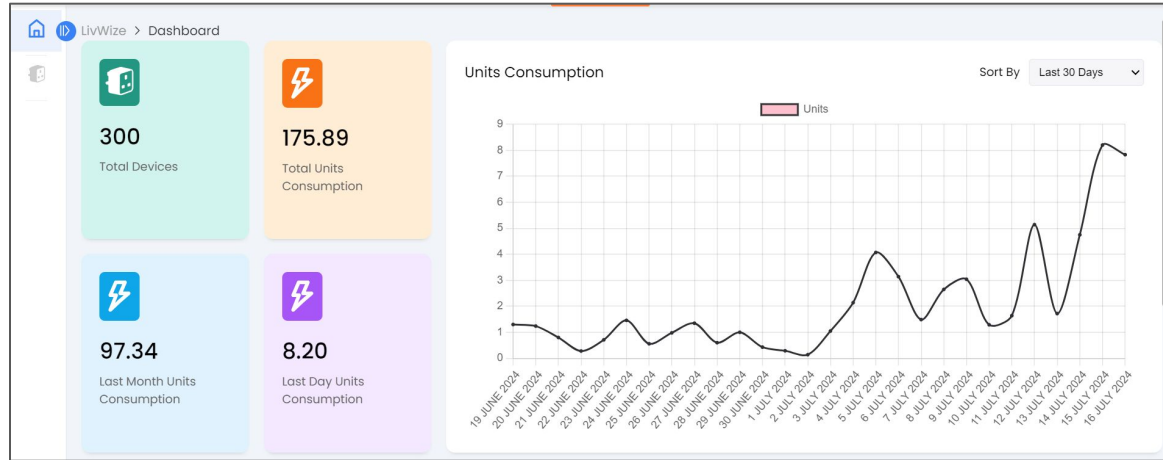
Based on *Baseline Survey*  
N=137

- The average household size is 6.
- 66% of the respondents have a BPL card.
- The average household income is approximately 11,000 rupees.
- On average, participants reported usage of 6 LPG gas cylinders per year.
- The average cost of refilling a cylinder is 990 rupees.
- All households have an electricity connection, and the average electricity supply available in each house is 19 hours.
- On average, respondents spend 2 hours each time they go for collection of wood.
- Respondents spend 500 rupees on buying firewood every month.

# Datalogger



IOT based smart plug



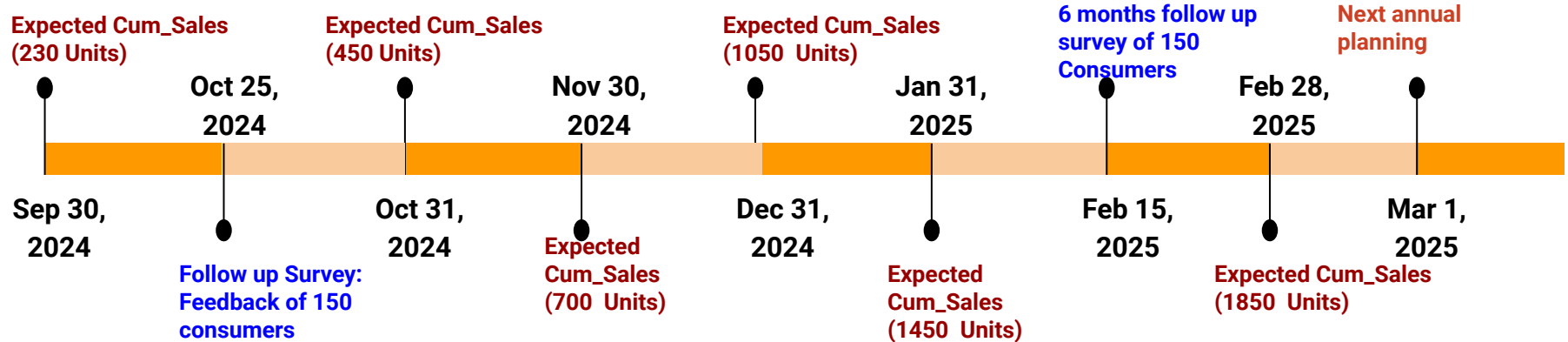
Datalogger Dashboard

Duration (Month)	Meter Installed	Approximate unit consumed (kWh)
July 11 - 31, 2024	34	210
Aug 1 - 31, 2024	34	1396
Sept 1 - 19, 2024	57	1775

As per preliminary analysis, average consumption per day per household is 0.81 kWh

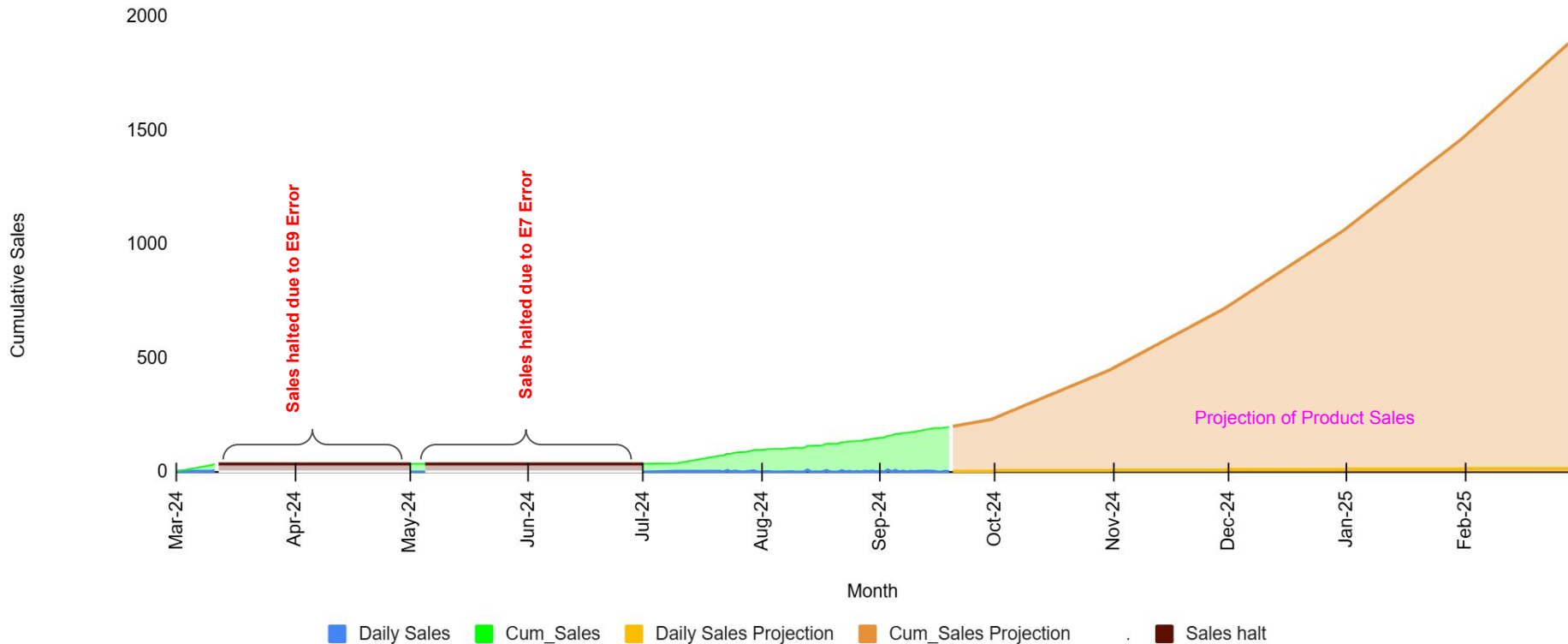
\* 170 dataloggers has been installed, here 125 dataloggers has been included in the above analysis.

# Future Plan





# Sales Projection



# Summary

- Initial supply delay led to a late start in appliance sales.
- During the initial Sales, a technical error was encountered resulting in the halting of sales activities.
- Resolved the initial issue, but faced a different technical error, causing further sales halts.
- The sales resumed on July 10 and an increase in sales is anticipated in the coming months.
- Mobile app and data logger dashboard is helping us to keep track of the activities.
- Plan-Do-Check-Act cycle is useful for strategic decision for improving the business.

Thank You