



Final Project Report

Project name: Deployment of 500 Electric Pressure Cookers in Tanzania

Implementing Organization: Gre-Eco Tanzania LTD



Reporting Period: Ten months For: FCDO and Loughborough University

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SECTION 1: EXECUTIVE SUMMARY

The MECS-supported project to distribute **500 Electric Pressure Cookers (EPCs)** across Tanzania marks a significant milestone in our mission to accelerate modern energy cooking adoption. Over the past six months, **we at Rasasa Africa have deployed 525 EPCs across Dar es Salaam, Pwani, Morogoro, Mwanza, and Dodoma**, aligned with a 80:20 urban–rural distribution ratio. Notably, **260 units were delivered through the Vice President’s Office (VPO)**, contributing directly to the national clean cooking agenda.

Our work has shown that Tanzanian households are ready to transition when modern energy cooking solutions are accessible, affordable, and accompanied by strong after-sales support. Through our network of 72 trained field agents 49 of which are women and 23 men. The higher number of women reflects the strong link between clean cooking and women, who are the primary users at the household level. Their involvement supports better adoption and promotes clean energy within communities.

We provided hands-on demonstrations, home-based onboarding, and a 12-hour customer support line. This approach ensured that first-time users could adopt the EPC confidently, safely, and consistently. Training ranged from 10 minutes to one hour, depending on user familiarity, and included guidance on setup, lid and valve operation, cooking programs, safety, and cleaning.

While this first cohort of stoves did not include IoT functionality, our monitoring strategy combined field follow-ups, customer service calls, and TANESCO-verified performance. We tested energy use and cooking times for various foods to verify the savings for both time and energy. Across all regions, households reported dramatic reductions in cooking time and cost. The EPC routinely cooked all meals in a day using **under 2 kWh (with unsoaked beans cooked for under 0.6 kWh)**, translating to **TZS 2,500–5,000 per week**, compared to pre-transition charcoal spending of **TZS 17,000–50,000 per week depending on household sizes**. Based on customer feedback and field observations, we estimate **75% of customers transitioned to using eCooking as their primary cooking method**, with many households cooking on the second appliance that was often an induction stove.

Common technical challenges were minimal (3–5%) and limited to user navigation, valve handling, and pressure release (all resolved through guidance or replacement.) Using Tanzania’s medium charcoal-use baseline (40–50 kg/month) for Dar es Salaam (Tanzania Forestry Agency National Charcoal Study), our analysis indicates that each household switching to an EPC avoids substantial black carbon emissions and reduces CO₂e output significantly, contributing meaningfully to SDG 7, SDG 13, and national clean cooking targets.

The project also revealed broader insights: awareness gaps remain a major barrier; logistics and servicing outside our primary regions raise operational costs; and upfront affordability remains a

hurdle without PAYGo or on-bill financing models. Nonetheless, this pilot strengthened our institutional readiness. We expanded regional networks, improved appliance design for future batches, and deepened partnerships with government agencies including TANESCO, which identified our EPC and induction stove as among the **most energy-efficient appliances in the country**.

As Tanzania advances its ambition to reach **80% clean cooking adoption by 2034**, this project demonstrates that modern energy cooking is both viable and scalable today. The success of this pilot positions Rasasa Africa to supply modern cooking solutions at household and institutional scale, while preparing for IoT-enabled monitoring, carbon credit integration, and blended-finance models in collaboration with partners like the VPO, MECS, UNCDF, and TANESCO.

The next phase of our work will focus on:

- Introducing an IoT enabled stove for carbon financing;
- expanding to institutions (schools, hospitals, canteens);
- strengthening regional distribution;
- building results-based finance and carbon mechanisms;
- and supporting the national ecosystem toward universal adoption.

This project has not only delivered 525 high-impact appliances, it has reinforced a pathway for sustainable, inclusive, and transformative adoption of modern energy cooking across Tanzania.

SECTION 2: INTRODUCTION

2.1 Background and Context

Tanzania is undergoing a significant energy transition as national institutions, private sector actors, and development partners align toward the government's ambition of achieving [80% clean cooking adoption by 2034](#). With more than 60% of households still relying on charcoal and firewood, the shift toward electricity as a primary cooking fuel represents one of the most impactful interventions for public health, environmental sustainability, and household economics.

Recent national initiatives such as TANESCO's expansion of grid access, smart meter deployment, and the On-Bill Financing (OBF) model are accelerating accessibility to modern energy services. Alongside this momentum, modern cooking appliances like Electric Pressure Cookers (EPCs) and induction stoves continue to show strong evidence of cost savings, safety improvements, and substantial reductions in greenhouse gas emissions.

Against this backdrop, Rasasa Africa implements the MECS-supported pilot to distribute **500 EPCs** across urban and rural households in five regions. The project contributes directly to the broader ecosystem, complements government initiatives, and serves as a proof of concept for a scalable and commercially viable e-cooking model.

2.2 Project Aims and Objectives

The primary aim of the project was to **increase household adoption of Electric Pressure Cookers** and strengthen the enabling environment for modern energy cooking in Tanzania. The project objectives were to:

1. **Distribute 500 EPC units** across selected urban and rural regions. (Dar es salaam, Dodoma, Morogoro, Pwani, and Mwanza)
2. **Demonstrate the affordability and efficiency** of EPCs, including their ability to reduce cooking cost and time.
3. **Train first-time users**, ensuring safe and confident operation of the devices.
4. **Generate evidence on real-world user experience, satisfaction, and behavior change.**
5. **Identify barriers and opportunities** for scaling e-cooking adoption.

6. **Strengthen partnerships**, particularly with government institutions (VPO, TANESCO) and community groups.
7. **Position EPCs as a practical, scalable solution** aligned with national targets and the SDGs.

This project supported multiple Sustainable Development Goals, including **SDG 7 (Affordable and Clean Energy)**, **SDG 5 (Gender Equality)**, **SDG 13 (Climate Action)**, and **SDG 3 (Good Health and Well-Being)** by reducing household air pollution.

2.3 Country and Sector Overview

Tanzania has one of the fastest-growing electricity access rates in sub-Saharan Africa, driven by TANESCO's ongoing grid expansion and policy commitment to a modern energy economy. While electricity availability is increasing, adoption for cooking remains comparatively low due to persistent myths around cost, perceptions of safety, limited exposure, and affordability barriers for appliances.

The e-cooking sector is evolving rapidly through combined efforts from MECS, the Ministry of Energy, TANESCO, the Vice President's Office, private sector distributors, and international donors. EPCs, in particular, have been identified as a high-potential intervention due to:

- **Electric pressure cookers reduce cooking time by 50–90% because they trap steam under pressure, heat food evenly and directly, and automate cooking cycles, unlike traditional open-fire stoves that lose heat and require constant attention.**
- **Substantial monthly cost savings** compared to charcoal and LPG
- **Cleaner indoor air quality and reduced household emissions**
- **Consistent cooking results and improved convenience**, particularly for working families and school-going households

Within this emerging landscape, Rasasa Africa is positioned as one of the **leading distributors** of modern cooking appliances, with growing demand across households, institutions, and private-sector clients. This project embodies our commitment to expanding safe, affordable, and sustainable cooking solutions nationwide.

SECTION 3: METHODOLOGY

3.1 Overview

For this project we designed the EPC based on the needs of the Tanzanian people to ensure easy use and adoptability. We decided to brand the EPC in-house because we expected to continue selling EPCs as one of our major products even after project completion. Apart from energy efficiency and reduced cooking times, three other major parameters considered during the EPC design are language functionality, allowing open-lid cooking to allow variety cooking, and including an additional cooking pot. The EPC display buttons, user manual, and warranty are completely in Swahili language to ease usability, the EPC comes with 2 pots (1 stainless steel, and 1 non-stick) this is to facilitate cooking various foods without having to move the food and wash the pot immediately. The EPC branded RASASA is manufactured from China, to ensure Users associate the technology with our organization, which helps in trust, adoption, and outreach in effective deployment of 500 Electric Pressure Cookers (EPCs) across Tanzania. We adopted a mixed-methods approach combining field distribution, hands-on training, remote monitoring, and institutional engagement. Our methodology prioritized scalability, inclusivity, and practical adoption insights, while gathering data to inform future e-cooking interventions.



EPC preset buttons as well as the information shared to the customer written in Swahili language to ease usability.



The Rasasa-branded EPC full pack, manufactured in China under the local brand, is being customized. The EPC comes with two pots, one measuring cup, a spoon, and one cable.



The Rasasa User Manual-In swahili (with 7 pages) that provides guidance on the proper use of the EPC, from cooking procedures to product maintenance for enhanced durability.

3.2 Distribution & Selection of Participants

- Regions Covered:** Dar es Salaam, Morogoro, Mwanza, Pwani, and Dodoma. These regions have high demand for traditional cooking fuels, which presents significant potential for substitution with clean cooking products. They also show higher electrification and urban consumption patterns compared to rural interiors, increasing the likelihood of clean cooking adoption with the right support as indicated in the [NBS-Household energy consumption survey report-2025](#). Furthermore, they align with national and international clean cooking programmes, facilitating market-level support, access to subsidies, and strategic partnerships as indicated in [the UNCDF- Accelerated Market rollout of Clean Cooking Solutions in Tanzania](#).
- Urban vs Rural Ratio:** Approximately 80% urban, 20% rural, reflecting both electricity availability and strategic demand targeting.

Institutional Recipients A total of 260 Electric Pressure Cookers (EPCs) were allocated to the Vice President's Office (VPO) as part of its commitment to supporting the national clean cooking agenda and environmental protection efforts. The VPO had set aside a budget to promote clean cooking among its staff through an end-of-year appreciation initiative. After assessing several suppliers, the office selected RASASA EPCs based on their quality, efficiency, and suitability for local cooking needs. Instead of providing conventional gifts or cash incentives, the VPO opted to distribute EPCs to its employees, many of whom previously relied on charcoal thereby encouraging a transition to cleaner energy use. Prior to distribution, training was provided to ensure proper use of the appliances, and payment for the units was made in cash and deposited into our accounts following successful delivery and training on usage of the stove.

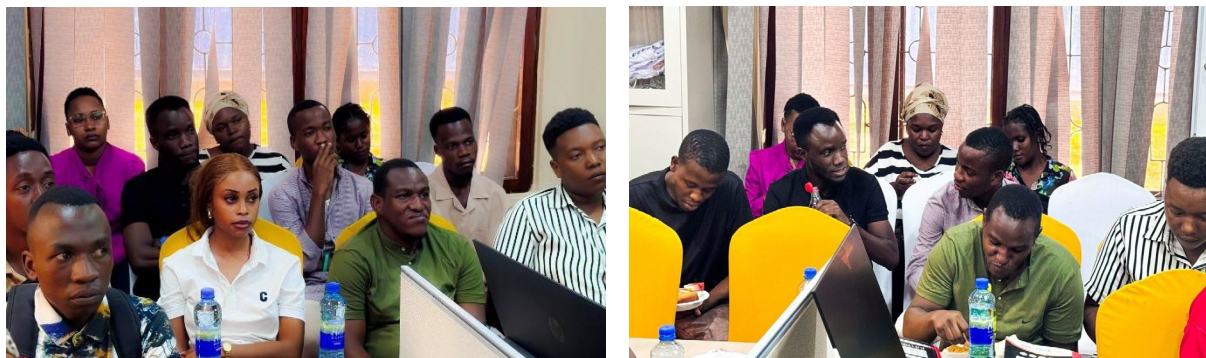
- **Household Selection:** Beneficiaries were selected via Rasasa agents' local networks, institutional partnerships, and targeted outreach campaigns in high-density urban areas and accessible peri-urban communities such as markets and e-cooking focused gatherings. During these engagements and door to door movements in general, agents branded in Rasasa uniform distribute fliers, offer demonstrations if they have a stove on sight (sample stoves are managed by team leaders to ensure security), close sales or collect leads for future follow-ups.
- **Sample Size:** 525 EPC units successfully deployed, achieving 105% of the planned 500-unit target.

3.3 Training & Capacity Building

Training was conducted to the field agents both women and men whom were experienced with the e cooking project for the distribution of the induction cookstoves laid a foundation for deploying the EPCs, we already had a base of 27 agents working in Dar es Salaam. Following the EPC project and expansion to other regions, we recruited 45 new agents. All agents were trained inhouse to equip them with skills on how to operate the EPC.. An installment payment option was offered to agents at the beginning of each month to support their meal and transport expenses. The remaining commission was then paid at the end of the month based on the number of units sold against their assigned targets. This structure served as a strong motivation, encouraging agents to actively push for higher sales, with each agent expected to achieve a monthly target of 20 units.

Training Modules to the Field agents in a door to door distribution was centered in

1. First-time setup and safe installation
2. Correct lid locking and pressure valve positioning
3. Selecting appropriate cooking programs
4. Manual time-setting for common Tanzanian meals



In the picture: Rasasa field agents attending in-house EPC training, preparing for door-to-door distribution

5. Safety procedures during pressure build-up and release
6. Post-cooking pressure release techniques
7. Cleaning and maintenance
8. Troubleshooting common errors
9. Energy-saving best practices (e.g., stacking cooking, pre-soaking, precise water measurement)

Duration: 10–60 minutes per household, sometimes including live cooking demonstrations.

Support: A 12-hour customer service hotline was available for troubleshooting, usage guidance, and follow-up monitoring. Technical issues were addressed through remote guidance or home visits when required.

3.4 Payment Process and Purchase

We currently operate under a full-payment purchase model, where customers acquire EPCs by paying the total amount upfront. Payments are made either directly through the company's LIPA Namba or in cash to an authorized field agent, who then completes the transaction to LIPA Namba on behalf of the customer. Although the company initially relied exclusively on digital payments, many customers encountered challenges with this method, requiring the addition of a cash-to-agent workflow to ensure wider accessibility.

While our long-term strategy includes transitioning to PAYGo as a more flexible option, we have experimented with several other approaches;

We had a limited pilot where institutional clients could purchase on credit, but payment follow-ups were difficult due to no remote stove control or repayment enforcement methods.

Another pilot, known as the Customer Account, allowed households to make installment payments and collect the appliance once full payment was made. This pilot was paused during election-related disruptions and is pending redesign.

Rasasa is currently finalizing integration of a PAYGo-enabled technology stack, which will be incorporated into the next batch of EPCs. This will allow customers to make incremental payments while using the device, improving affordability and reducing credit risk for the company.

3.5 Monitoring & Data Collection

Although electricity usage metering was not included in this first batch, Rasasa employed alternative monitoring mechanisms:

- **Field Observations & Follow-ups:** Agents recorded user adoption, challenges, and behavior change during visits. At the beginning of the sales part of this project, we had several house visits mainly to demonstrate how to correctly use the stove especially for customers who purchased the stove during the SabaSaba Trade Fair and NaneNane exhibitions. We made house visits to demonstrate how to use the stove and sometimes even had cooking sessions with the customer. The biggest challenge with the early customers were navigation on the function buttons, improper placement of the pressure relief valve, and not properly closing the lid. This was a learning process for all of us, both the customers, and Rasasa team. Moving forward, all these usability challenges

can be easily resolved through the call center team, furthermore, with the next batch we have made modifications to ensure that the EPC is as user friendly as can be.

In the picture: Our EPC end-user in Mwanedege, Mbagala, Dar es Salaam, using the EPC in her kitchen during our field visit



Most did not agree to participate in documenting the visits, such as speaking on video, which we had primarily aimed for social media publications and records. This led to follow-ups being conducted

mainly through calls. However, we requested a few who consented for their contributions to be recorded as shown above.



- **Call Center Data:** Routine check-ins assessed user satisfaction, usage frequency, and technical issues.

- **Technical Validation:** Independent tests to evaluate stove efficiency was done by TANESCO. The test involved testing energy usage and cooking time for different local foods. The tests confirmed EPC energy efficiency (<2 kWh/day for full household meals). A data report from the tests done has been attached for reference.
- **Adoption Metrics:** Estimated 75% of households transitioned to using eCooking (both EPCs and induction cookstoves) as their primary cooking fuel, with 10–12% adopting e-cooking as a secondary option. Follow-up calls from the call center revealed that most customers completely switched to e-cooking after experiencing the benefits of reduced cooking times, and low cooking costs. Some emphasize that they have not refilled their LPG cylinders since adopting e-cooking while others say that they have LPG as backup for when there are power outages.

Unfortunately, due to the lack of PayGo system, first time adoption for the lower income majority was still a challenge even though the stove price was highly subsidized. Our customer base is mainly made up of the mid-to-high income smaller group of the population.

3.6 Data Points Captured

- Daily household cooking times (before vs. after EPC adoption)
- Energy consumption and cost savings (TZS/week)
- Technical challenges and resolution frequency (~3–5%)
- Carbon-impact proxy (based on 40–50 kg charcoal/month baseline)
- Behavioral and gender outcomes (time savings, women agents' employment, skill-building)
- Institutional uptake (VPO and other institutional stakeholders)

3.7 Methodology Evaluation

What went well:

- High adoption rate across diverse regions. 85% of customers who purchased the RASASA EPC, reported that they were able to successfully use it, while the rest at the time of follow-up calls, revealed that they were either not the immediate users (purchased for a friend or family) or were attracted by the features that the EPC has to offer but are yet to use.
- Effective hands-on training reinforced by female agent credibility

- Reliable data collection through call center and field visits
- Strong institutional partnerships, especially with the VPO and TANESCO

Challenges:

- Limited access to interior or rural regions due to logistics
- No metering system for monitoring electricity consumption (to be included in next batch)
- Persistent perceptions of electricity cost and safety
- First-time purchase costs remain high without PAYGo or financing mechanisms

Lessons for Future Iterations:

- Integrate metering system for monitoring precise usage of electricity
- Explore financing mechanisms to enhance accessibility for low-income households
- Expand training to address persistent technical misunderstandings
- Strengthen institutional engagement for broader, faster adoption

SECTION 4: FINDINGS & LESSONS LEARNED

4.1 Distribution Outcomes

- **Total Units Deployed:** 525 out of 500 EPCs (105% of target) across Dar es Salaam, Morogoro, Mwanza, Pwani, and Dodoma.
- **Urban vs Rural Reach:** Approximately 80% urban, 20% rural.
- **Institutional Engagement:** 260 units supplied to the Vice President's Office (VPO), advancing national clean cooking initiatives.
- **Distribution Channels:** Field agents, institutional partnerships, pop-up demonstrations, and community awareness campaigns ensured broad and strategic reach.

Key Insight: The near-complete deployment demonstrates Rasasa's operational readiness and the feasibility of large-scale household and institutional distribution.

4.2 Training & Capacity Building Outcomes

- **Agents:** Primarily women, experienced EPC users, enhancing credibility and trust.
- **Training Modules:** Setup, lid and valve operation, program selection, safety, cleaning, troubleshooting, and energy-saving best practices.
- **Duration:** 10–60 minutes per household, often including live cooking demos.
- **Support Mechanisms:** 12-hour call center and escalation line for technical issues.

Key Insight: Hands-on training and female-led engagement directly contributed to high adoption and correct use of EPCs, demonstrating the importance of context-aware, community-based capacity building.

4.3 Adoption & Behavior Change

Cooking Time Reductions:

The data was gathered from inhouse product testing, most of which aligns with the TANESCO

timed tests with minor discrepancies, some even proved better efficiencies and lower cooking times. The data sheet has been shared for reference

Dish	Before (Charcoal/LPG)	After (EPC)	Time Saved
Rice	40 min	20 min	50% faster
Ugali	35 min	15 min	57% faster
Beans & Makande	3 hr	1 hr	67% faster
Beef Stew/Kongoro	3 hr	1 hr	67% faster

- **Overall:** 1–2 hours saved for every meal preparation daily per household, primarily benefiting women.

Fuel & Cost Savings:

The fuel and cost savings data presented in this report is derived from our ongoing phone-based household survey conducted between September and December. Out of 298 calls made, 182 EPC users completed the survey and provided reliable data on their weekly fuel expenditures before and after adopting the EPC. Respondents represented both urban and rural/semi-urban regions. Households reported their baseline weekly spending on charcoal or firewood and their current electricity usage attributable to EPC cooking. The findings demonstrate a 70–90% reduction in household cooking energy expenditure.

- **Before EPC:**
 - Rural: TZS 15,000-20,000/week
 - Urban: TZS 40,000–50,000/week
- **After EPC:**
 - Rural: TZS 2,500–3,500/week
 - Urban: TZS 3,500–5,000/week
- **Savings:** 80–90% reduction in household cooking energy costs.

Adoption Rate: 75% fully transitioned to e-cooking, with an additional 10–12% adopting e-cooking as a secondary cooking method.

Key Insight: EPC adoption drives substantial time and cost savings, accelerating behavior change and household transition to modern energy cooking. Technical Performance & Issues

Minor Challenges (~3–5% of units)

- Button navigation confusion
 - Incorrect pressure valve positioning
 - Users forgetting to release pressure
 - Occasional fuse burnout due to unstable household wiring
 - Lid not sealing correctly (user error)
- **Resolution:** All issues addressed via call center guidance, home visits, or replacement units.

Key Insight: Minor technical issues are easily resolved with effective user support, highlighting the importance of post-sale service and robust guidance materials.

4.5 Carbon & Environmental Impact

The carbon and environmental impact analysis was done in-house; in line with Rasasa's preparation of the PDD for the development of a carbon project.

Research by the Tanzania Forestry Services (2019 National Charcoal Study) estimated that average household charcoal use is roughly 31.6 kg to 53.2 kg per month depending on the city, while earlier studies (Charcoal Use and Technology in Rwanda and Tanzania| Improved Biomass Cooking Stoves) suggested about 96 kg per household per month. For this analysis, the following assumptions were considered;

Assumptions:

- Charcoal usage (baseline): Household use (~96 kg/month; 1080 kg/year)
- Firewood (baseline): 2800 kg/year
- National baseline: 33% urban and 67% rural population
- Biomass cooking account for 90% of cooking energy.
- Average daily use: 1.5 hours
- NRB: 80% urban (charcoal majority), 60% rural (firewood majority)

- EPC rated power: 1000 W with high efficiency (>80% thermal efficiency)

Formula:

$$BE_y = Q_{fuel,y} \times EF_{fuel} \times f_{NRB}$$

Where:

- $Q_{fuel,y}$ = Annual quantity of baseline fuel consumed (kg/HH)
- EF_{fuel} = Emission factor of the baseline fuel (kg CO₂e/kg)
- f_{NRB} = Fraction of non-renewable biomass (NRB)

Values used:

Parameter	Urban	Rural
Fuel type	Charcoal	Firewood
Annual consumption	1,100 kg	2,800 kg
Emission factor	2.94 kgCO ₂ e/kg	1.65 kgCO ₂ e/kg
NRB factor	0.80	0.60

Urban Baseline Emissions (Charcoal HH)

$$1100 \text{ kg} \times 2.94 \times 0.80 = 2,587 \text{ kg CO}_2\text{e/year}$$

Urban baseline = ~2.59 tCO₂e per household per year

Rural Baseline Emissions (Firewood HH)

$$2800 \times 1.65 \times 0.60 = 2,772 \text{ kg CO}_2\text{e/year}$$

Rural baseline = ~2.77 tCO₂e per household per year

National Baseline

Tanzania ≈ 33% urban and 67% rural population.

$$\text{National Baseline} = (0.33 \times 2.59) + (0.67 \times 2.77) = 0.8547 + 1.8559 = 2.71 \text{ tCO}_2\text{e per HH/year}$$

National Baseline = ~2.7 tCO₂e per household per year

Annual electricity consumption:

$$1.0 \text{ kW} \times 1.5 \text{ hrs/day} \times 365 = 547.5 \text{ kWh/year}$$

547.5 kWh/year (per EPC household)

Project emissions $PE_y = \text{Electricity (kWh)} \times EF_{\text{grid}}$ Grid EF = 0.329 kg CO₂e/kWh

Project emissions = $547.5 \times 0.329 = 180.1 \text{ kg CO}_2\text{e/year} = 0.180 \text{ tCO}_2\text{e}$

EPC Avoided Emissions $ER_y = (BE_y \times f_{\text{disp}}) - P_y$

Where:

- f_{disp} = Fuel displacement rate (conservatively 0.60 → 60%)
- BE_y = Baseline Emissions per

HH P_y = Project emissions

With:

Baseline emissions: 2.71 tCO₂e/HH/year

Displacement factor: 0.60

$(2.71 \times 0.60) - 0.180 = 1.626 - 0.180 = 1.446 \text{ tCO}_2\text{e per year}$

EPC = ~1.45 tCO₂e/year avoided

Environmental benefits: Reduced pressure on forests, lower indoor air pollution, and reduced GHG emissions, contributing to SDG 13 and Tanzania's clean cooking and NDC targets

MECS notes that the fNRB value for Tanzania is currently undergoing revision, and will be 0.51 going forward. MECS researchers, re-running this calculation with this fNRB value, find that the avoided emission calculation yields 1.09 tCO₂e/year avoided. MECS also notes that the baseline charcoal usage value used in this calculation is on the upper end suggested by relevant sources.

4.4 Gender & Social Impact

- **Women's Time Savings:** 1–2 hours daily, enabling additional educational, economic, or leisure activities. This is all based from in-house testing and customer calls as described in the previous chapters. (Questionnaires can be found in Appendices)
- **Female Agent Empowerment:** Training and employment created local economic opportunities and technical skill-building.
- **Community Influence:** Women-led agents inspired trust and influenced household decisions on modern energy adoption.

Key Insight: Gender-sensitive design of distribution and training amplifies adoption, equity, and social impact.

4.5 Institutional Learning & Insights

- **Government Partnerships:** VPO engagement validated institutional scalability and policy alignment.
- **TANESCO Validation:** EPC and induction stove recognized as among the most energy-efficient appliances in Tanzania.
- **Market Insights:** Awareness gaps, logistics limitations, and upfront cost barriers remain challenges but are addressable with PAYGo, financing, and broader outreach.

4.6 Overall Project Challenges

1. Importation delays, high logistics and importation tax: Inaccurate shipping time projections, customs clearance delays set us back about a month from the initial projected selling launch.
2. High upfront costs for consumers: Lack of PAYGO and other reliable financing mechanisms made the initial purchase price of EPCs to remain a major barrier for low income households.
3. Low customer-awareness and misconceptions about EPC technology: Awareness has been a major part of Rasasa's initiatives, still, a large part of the population still fear electricity bills, believing that EPCs use too much power, don't understand how EPCs work, or are influenced by unfortunate testimonials from previous users due to misuse or using low quality EPCs.
4. Limited local after-sales service: A shortage of technicians, spare parts, and repair centers especially in rural areas greatly increases the costs to facilitate after sales support. Although we only faced minor technical issues, this is a problem we project with expectations of future expansion.
5. Market competition from cheap, low—quality alternatives: These also undermined customer trust and forced Rasasa to work harder to prove durability and safety.
6. Difficulty accessing carbon finance quickly: We are working towards developing a carbon project to tap into carbon financing to increase affordability, the whole process takes too long delaying impact and customer reach.
7. Distribution challenges in remote areas: limited transport routes, high last-mile logistic

costs and scattered populations greatly increased cost per EPC sold and forced us to sell in mostly the urban and peri-urban areas.

8. **Stakeholder engagement dynamics:** For much of the project period, engagement from the national grid supplier mainly focused on a single e-stove provider. While other suppliers were included later, most initiatives continued to feature one brand. Given the supplier's central role in electricity distribution, this influenced market perceptions regarding other product adoptability, forcing increased marketing efforts.
9. **Slow institutional procurement processes:** The long procurement cycles associated with institutions lead to delayed bulk orders, and revenue forecasting.
10. **High costs in awareness campaigns along with government tariffs on PAs and activations:** A minimum of TZS 50,000 as part of government tariffs for PAs and market activations greatly increase operational costs on activities that mainly aim to spread awareness. Sometimes not even a single unit is sold at the end of these initiatives, but the operational costs are very high.

4.7 Customer Stories

1. **Cost Savings (Dar es Salaam):** A mother reduced her monthly charcoal expense from TZS 120,000 to TZS 16,000 after EPC adoption.
2. **Time Savings (Morogoro):** A shopkeeper's daughter gained an extra hour of study each evening thanks to faster cooking.
3. **Modernization (Mwanza):** A young couple eliminated indoor smoke and improved meal predictability.
4. **Multi-appliance Adoption (Mbeya):** A household bought a second Rasasa induction stove after realizing electricity was cost-effective.
5. **Institutional Confidence (VPO):** EPC demo units influenced more discussions on scaling e-cooking under the Clean Cooking Strategy.

4.8 Lessons Learned

1. Hands-on, female-led training drives higher adoption and confidence.
2. Field follow-ups and a responsive call center are critical for early-stage adoption success.

3. Behavioral change is maximized when households directly experience time and cost savings.
4. IoT-enabled monitoring in future batches will strengthen evidence-based reporting and carbon accounting.
5. Financial mechanisms (e.g., PAYGo, financing) are essential to overcome first-time adoption barriers.
6. Institutional partnerships accelerate reach and validate project credibility.

SECTION 5: CONCLUSION & NEXT STEPS

5.1 Conclusion

The MECS-supported pilot project to deploy 500 Electric Pressure Cookers (EPCs) across Tanzania has demonstrated the feasibility, effectiveness, and transformative potential of modern energy cooking. With 525 units successfully delivered; achieving 104% of the target, the project achieved substantial household, institutional, and environmental impact.

Key outcomes include:

- **Household Transformation:** 75% of users fully transitioned to e-cooking, with time savings of 1–2 hours per day and reductions in cooking energy costs of 80–90%.
- **Environmental Benefits:** Each medium-use household avoids 18–23 tons of CO₂e annually by replacing 40–50 kg of charcoal per week.
- **Gender & Social Impact:** Women-led agent networks empowered communities and enabled women to reclaim time for education, income-generating activities, and household decision-making.
- **Institutional Engagement:** 260 units delivered to the Vice President's Office reinforced national clean cooking policy alignment and positioned Rasasa as a credible partner for government-led initiatives.

This pilot has validated that EPCs are a viable, scalable, and commercially sustainable solution, capable of advancing Tanzania's clean cooking targets while improving household welfare, health, and environmental outcomes. It has also highlighted operational lessons; awareness, logistics, financing, and technical support that are critical for national-scale expansion.

5.2 Next Steps & Scale-Up Strategy

To capitalize on the pilot's success and maintain momentum toward national adoption targets, Rasasa will pursue a multi-pronged scale-up and sustainability strategy:

1. Appliance & Technology Enhancement

- Integrate metering system to EPCs for real-time usage monitoring and energy tracking.

- Upgrade user interface and ergonomics based on first-batch feedback.
- Explore the PayGo system to lower the cost of first time adoption and maximize household transition to e-cooking.

2. Institutional & Household Expansion

- Target schools, hospitals, prisons, canteens, and community centers for bulk deployment.
- Strengthen distribution networks to reach peri-urban and rural households.
- Continue partnerships with government agencies, MECS, and development actors.

3. Financing & Affordability Innovations

- Develop PAYGo, on-bill financing, and carbon credit-linked mechanisms.
- Reduce first-time adoption barriers for low-income households.
- Collaborate with financial institutions and donor programs for blended financing models.

4. Awareness & Behavior Change Communication

- Implement targeted campaigns addressing electricity safety perceptions and appliance affordability.
- Leverage success stories, community champions, and female agent networks to build trust and accelerate adoption.

5. Operational & Sustainability Measures

- Strengthen after-sales support through regional agent hubs and responsive call centers.
- Establish long-term monitoring and evaluation systems for continuous learning.
- Align with national clean cooking strategy and SDGs to secure policy and institutional backing

6. Funding-Readiness & Strategic Partnerships

- Position Rasasa as a credible, high-impact partner for donors, government agencies, and impact investors.
- Use pilot outcomes, quantified impact, and institutional endorsements to secure additional funding for scale-up.
- Explore carbon finance opportunities linked to verified CO₂ reductions from EPC adoption.

5.3 Strategic Vision

Rasasa envisions a Tanzania where modern energy cooking is **accessible, affordable, and universally adopted**. This pilot proves that with the right combination of **technology, training, finance, and partnerships**, households can transition from traditional fuels to e-cooking, achieving measurable social, economic, and environmental benefits.

The next phase of Rasasa's work is to **scale rapidly**, deepen institutional engagement, integrate technological innovations, and secure sustainable financing mechanisms. By doing so, Rasasa will continue to advance national clean cooking objectives, contribute to climate action, and create lasting, inclusive change.

APPENDICES

Appendix 1: Survey Questionnaire (Household Level)

Section A: Demographics

1. Age of respondent
2. Gender
3. Household size
4. Monthly household income range
5. Education level
6. Location (Urban/Peri-urban/Rural)

Section B: Current Cooking Practices

1. Primary cooking fuel used
2. Secondary cooking fuel used
3. Average daily cooking time
4. Average monthly expenditure on cooking fuels
5. Type of cookstove(s) currently owned

Section C: eCooking Awareness & Perception

1. Have you heard of electric cooking (eCooking)?
2. What are your main sources of information about eCooking?
3. What benefits do you perceive (cost, convenience, safety, cleanliness, speed)?

4. What concerns do you have (electricity price, outages, safety, durability)?
5. Are you willing to try an induction stove? (Yes/No/Maybe)

Section D: Product Testing Feedback

(For households who tested Rasasa EPCs)

1. Ease of use (1–5 scale)
2. Cooking speed (1–5 scale)
3. Taste/quality of food (1–5 scale)
4. Electricity consumption compared to LPG/charcoal
5. Reliability during power fluctuations
6. Overall satisfaction
7. Would you purchase the stove? Why or why not?

Appendix 2: Focus Group Discussion (FGD) Guide

Group Composition

- 8–12 participants
- Segmented by gender, income level, or cooking fuel type

Core Themes

1. Daily cooking routines & preferences
2. Pain points with current fuels
3. Initial perceptions of electric cooking
4. Hands-on testing impressions
5. Willingness to adopt and barriers
6. Gender-specific aspects (time, safety, household budget)

Appendix 3: Data Collection Tools & Instruments

- Household Survey (digital format) (Pre-purchase (Comm-care is used))
- Consent form and warranty (Warranty also includes consent over carbon rights for future use)
- Observation checklist (kitchen setup & cooking environment (institutional level))
- Product performance monitoring sheet (electricity consumption log)



In the picture: Our EPC end-user in Mwandeghe, Mbagala, Dar es Salaam, using the EPC in her kitchen during our field visit.

Survey Questionnaire for EPC User Follow-Up (Phone-Based Survey)

Project: Rasasa Africa – Electric Pressure Cooker (EPC) User Monitoring

Method: Structured Phone Interview

Period: September – December (Ongoing)

Target Group: Households who purchased Rasasa EPCs

Interview Language: Swahili/English (based on respondent preference)

Section A: Respondent & Household Information

1. **Name of respondent:**
2. **Phone number:**
3. **Region/District:**
4. **Household size:**
5. **Date of EPC purchase:**
6. **Model purchased:**
 - ☐ EPC 6L
 - Induction stove:
 - Other (specify): _____

Section B: Usage Patterns

7. **How often do you use your EPC?**
 - Daily
 - 3–5 times/week
 - 1–2 times/week
 - Less than once a week
8. **What meals do you commonly cook with the EPC? (multiple choices allowed)**
 - Rice
 - Beans
 - Meat/Chicken
 - Makande
 - Stews/Soups
 - Vegetables
 - Other (specify): _____
9. **Average time spent per cooking session (approximately):**
 - < 30 minutes
 - 30–60 minutes
 - > 60 minutes

Section C: Fuel Displacement

10. **Before purchasing the EPC, what fuel did you use most?**
 - Charcoal
 - LPG
 - Firewood
 - Kerosene
 - Electric coil/Hotplate

11. Have you reduced your use of previous fuels since adopting the EPC?

- ☐ Yes
- No

12. If yes, by how much? (self-estimated)

- Reduced slightly (0-5,000)
- Reduced moderately (5,000-10,000)
- Reduced significantly (10,000-20,000)
- Stopped using previous fuel completely (>20,000)

Section D: User Experience & Satisfaction

13. How easy do you find the EPC to use?

- Very easy
- Easy
- Neutral
- Difficult

14. What benefits have you noticed? (multiple choices allowed)

- Faster cooking
- Lower cooking costs
- Less smoke
- Safer cooking
- Convenient/Hands-off cooking
- Better food quality
- Other (specify): _____

15. Any challenges faced while using the EPC?

- Yes
- No
- If yes, specify: _____

Section E: Reliability & After-Sales

16. Have you experienced any technical issues with the EPC?

- No issues
- Minor issues
- Major issues (appliance stopped working)
- Details: _____

17. Did you contact Rasasa for support?

- Yes

- ☐ No
- Was the support helpful? Yes No

Section F: Perceived Impact

18. Do you feel the EPC saves you time?

- Yes
- No
- If yes, how much time? _____

19. Do you feel the EPC saves you money?

- Yes
- No

20. Has the EPC improved your overall cooking experience?

- Yes
- No
- Comment: _____

Section G: Adoption & Recommendations

21. Are you satisfied with your EPC overall?

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied

22. Would you recommend the EPC to others?

- Yes
- Maybe
- No

23. Would you be interested in PAYGo financing options in the future?

- Yes
- No
- Not sure

Section H: Consent & Notes

24. Do you consent for your responses to be used for project monitoring and analysis (anonymously)?

- Yes
- No

25. Enumerator notes:



WARRANTY CARD

MPENDWA MTEJA:

Taarifa ya Udhhamini wa Rasasa Africa:

- Asante kwa kununua bidhaa kutoka **Rasasa Africa**. Bidhaa (Rasasa Pressure Cooker) inalindwa kwa udhamini kulingana na masharti na vigezo vilivyoainishwa hapa chini. Rasasa Pressure Cooker na vipengele vyake vimehakikishwa dhidi ya kasoro za nyenzo na utengenezaji kwa kipindi cha miaka mitatu **(3-Years Warranty)** kuanzia tarehe ya ununuzi leo -----
- Ili kupata ulinzi wa udhamini, unapaswa kuripoti kasoro yoyote inayoshukiwa mara tu inapogunduliwa. Kadi ya udhamini lazima iwasilishwe pamoja na uthibitisho wa ununuzi (RISITI) wakati wa kuomba huduma. Wahudumu wetu watachunguza tatizo na kuamua kama Rasasa Pressure Cooker itafanyiwa matengenezo chini ya masharti ya udhamini.
- Kampuni ina haki ya kubaini ikiwa kasoro imetokana na kuuziwa Pressure Cooker yenye hitilafu au kasoro ya utengenezaji, na mteja anakubali kuzingatia uamuzi huu.
- Sehemu mbovu ya Pressure Cooker itabadilishwa kwa kifaa kinachofanya kazi sawa na kile chenye hitilafu iliyosababishwa na tatizo la kiufundi na sehemu ya kifaa iliyobadilishwa itakuwa mali ya kampuni.

NAKALA KWA MTEJA:

Bidhaa:

Modeli Na: RSSE 022

Serial Na.....

Jina la mnunuzi na anuani.....

Jina la wakala na simu.....

Saini ya Mteja.....

MHURI WA OFISI

NAKALA KWA KAMPUNI:

Bidhaa:

Modeli Na: RSSE-022

Serial Na.....

Jina la Mnunuzi.....

Namba ya simu.....

Jina la wakala na simu.....

Saini ya Mteja.....

Saini Ya Muidhinishaji

MHURI WA OFISI

Appendix 4: Photos from Fieldwork & Demonstrations

- Community demos in Dar es Salaam & Dodoma
- Enumerator training sessions
- Household cook-testing sessions
- Before-and-after kitchen photos
- Electricity monitoring logs
- Stakeholder workshops
- Rasasa eCooking booth at public events/exhibition











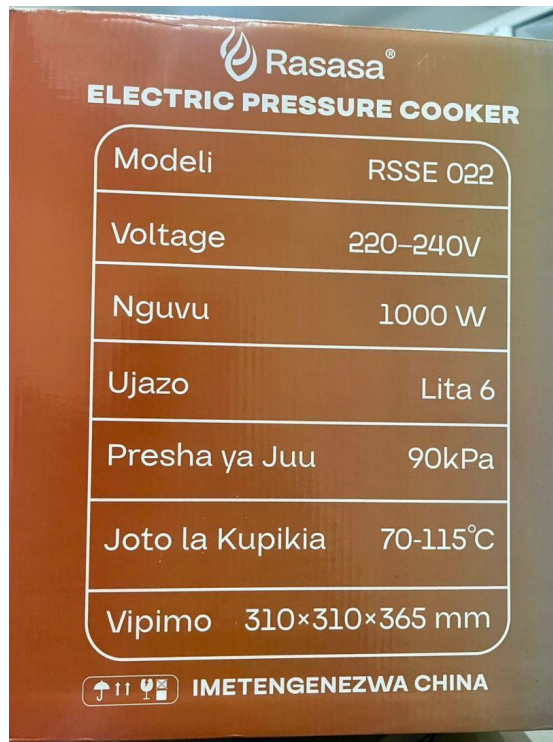




Appendix 6: Rasasa EPC Technical Specifications

Core Specs

- Power Rating: 1000W
- Voltage: AC 220–240V
- Energy Efficiency: 90–93%
- Safety Features: Auto shut-off, overheat protection
- Capacity and Compatible Cookware: Comes with 2 6L pots
- Warranty: 36 months
- Expected lifespan: 5–8 years



The image shows the side of a brown cardboard box for a Rasasa Electric Pressure Cooker. The box features the Rasasa logo at the top, followed by the text 'ELECTRIC PRESSURE COOKER'. Below this is a table with technical specifications in Swahili and English. At the bottom of the box, there are icons for handling instructions and the text 'IMETENGENEZWA CHINA'.

Rasasa®	
ELECTRIC PRESSURE COOKER	
Modeli	RSSE 022
Voltage	220–240V
Nguvu	1000 W
Ujazo	Lita 6
Presha ya Juu	90kPa
Joto la Kupikia	70-115°C
Vipimo	310×310×365 mm
IMETENGENEZWA CHINA	

In the picture: The EPC specifications included in the box as part of the product package

Appendix 7: Stakeholder List

Institutions

- MECS Programme
- EPRA
- TANESCO
- TAREA
- SNV
- Private stove retailers
- Community groups (women-led savings groups, youth innovation clubs)

Roles

- Knowledge sharing
- Policy input
- Market access
- Technical support
- Data verification

Appendix 8: Risk Assessment Matrix

Risk	Probability	Impact	Mitigation
Power outages	High	Medium	Use backup demos, test during peak/off-peak hours
Low awareness of eCooking	Medium	High	Increase demonstrations & marketing
Household reluctance to change	Medium	High	Offer trial periods
Data gaps	Low	Medium	Enumerator cross-checks

- **Data Tables:** Cooking times, energy costs, adoption rates
- **Customer Stories:** Dar es Salaam, Morogoro, Mwanza, Mbeya
- **Photos:** Household EPC adoption, training sessions, institutional deployment
- **Technical Notes:** Minor technical issues and resolutions