



**TAREA's Renewable Energy Week
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TRAJECTORY JOURNEY OF CLEAN COOKING IN TANZANIA

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INTRODUCTION

- **The long-held aspiration for transition to sustainable clean energy services for cooking is gaining traction and momentum in Tanzania.**
- **The current efforts are consequences of**
 - ❖ **External and internal influence of implementing the SDG7 and SE4All.**
 - ❖ **The efforts of the Government through the support of the President of the United Republic of Tanzania Hon Dr. Samia Suluhu Hassan.**

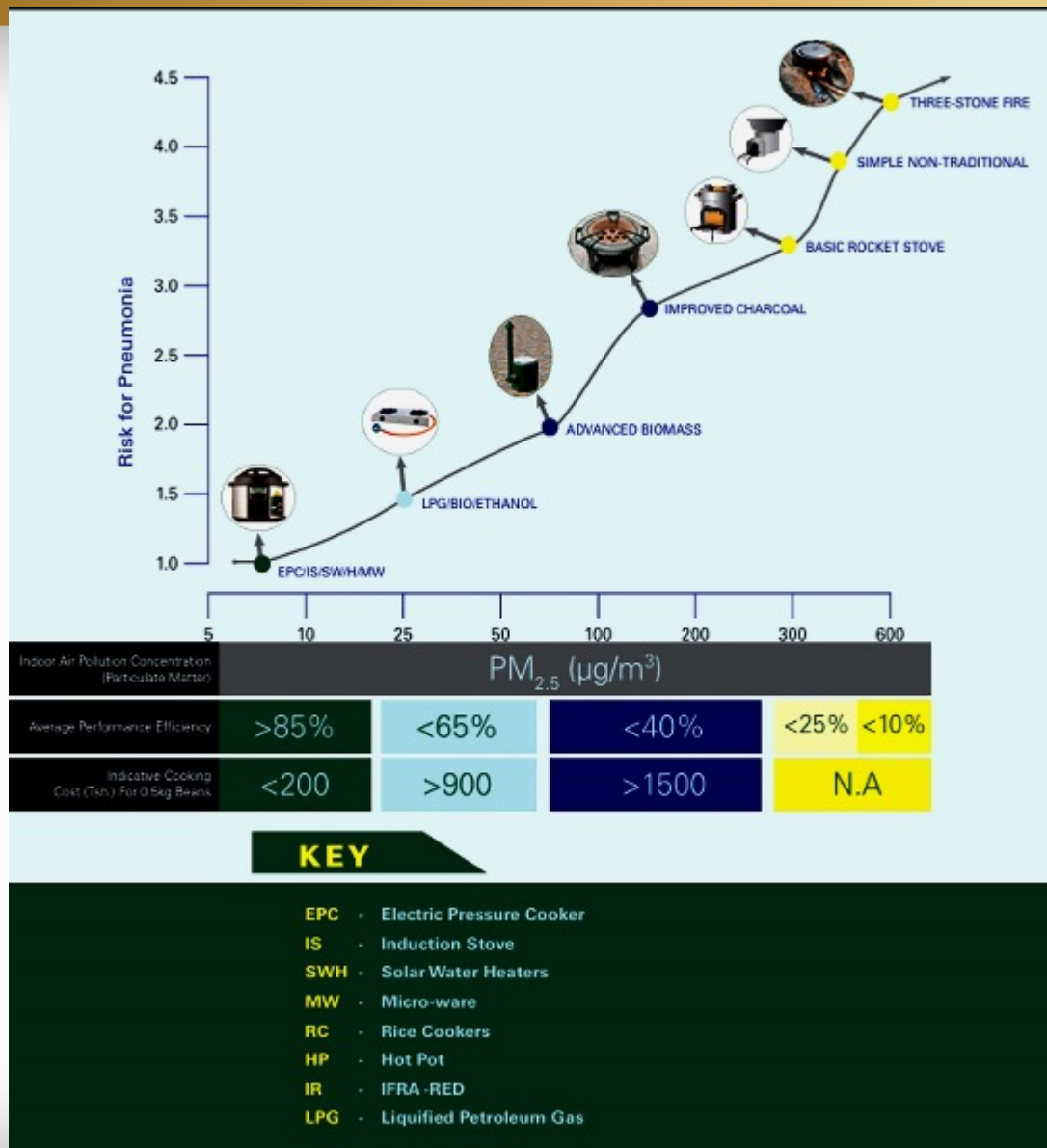


Clean Cooking Solutions



- Use of the term ‘Modern’ in relation to cooking energy - SE4ALL is understood as including ICS at Voluntary Performance Targets (VPT) Tier 2 or 3 and Clean cooking solutions of VPT Tier 4 and above

- In ESMAP terminology ‘Modern Energy Cooking Services’ (MECS) is defined as a household context having achieved Multi-Tier Framework (MTF) Tier 4 or above



Genesis of Clean Cooking Efforts in Tanzania

- **The journey towards clean cooking solutions started way back in the late 1980s by the Government through then the Ministry of Energy, Minerals and Water through the Energy 1 Woodfuels Conservation Project (1988-1992).**
- **The project introduced ICS and Casamance Charcoal Kiln**







- **The project introduced improved charcoal stoves for Dar es Salaam urban area, only.**

Clean Cooking Promotion Efforts



- The efforts of promoting clean cooking was for along time left to few CSOs and the Private Sector which realized opportunities in the completed WB project.
- From the 1990s to the 2020s, organizations such as

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- The above organizations have made efforts with limited resources to promote clean cooking solutions in urban and rural areas. Success has been limited.

Clean Cooking Promotion Efforts



- **Different types of cooking technologies and fuels have been promoted over the years including:**



improved charcoal stoves



improved firewood stoves



biogas



Biowaste Briquettes



Solar box cooker



Solar parabolic cooker



Fireless Cookers

The intention has been to address concerns of environmental problems caused by increased wood energy use specifically indoor air pollution, forest degradation, and deforestation.

Biogas

- The First biodigesters were introduced in TZ in the 1970s under the SIDO Programme. (Indian Floating drum)
- These efforts were continued by CAMARTEC with GIZ support and others by SUA/SURUDE (Plastic Tubular Biodigester).
- From 2008 to 2014, SNV, CAMARTEC, and HIVOS implemented the Tanzania Domestic Biogas Program (TDBP) which installed 6,000 Fixed Dome bio-digesters,
- Through all the above programs and projects, local technicians, NGOs, and artisans for installing biodigesters were trained.
- Success for biogas has been limited due to several reasons (upfront costs, feedstock, etc.)



Briquettes

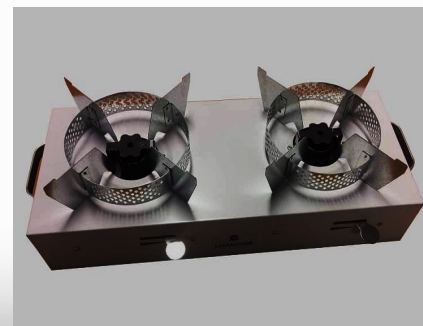


- Briquette production was for the first time introduced by CAMARTEC in the 1980s.
- The production was piloted further by KIDT, in Kilimanjaro in 1982 with support from JICA,
- ARTI established a project on Scaling up Charcoal Briquette Production in Tanzania, in the early 2000s
- Other stakeholders include TaTEDO-SESO, Mlandizi Groups, Space Engineering, Kushoka, TEMDO, Mkombozi Lushoto Centre, etc



Ethanol

- Cooking with Ethanol was introduced in Arusha, Tanzania by MotoPoa by introducing ethanol stoves and fuel in 2015.
- SAFI Company operated in Tanzania (supplying stoves and gel fuel through several outlets in Dar es Salaam (supported 2015)).
- UNIDO is promoting Ethanol as an alternative clean fuel for cooking in collaboration with VPO.



Liquefied Petroleum Gas (LPG)



- LPG has been available in Tanzania for many decades, but uptake has been low.
- Several companies are selling LPG (Oryx, Mihan, Taifa, Lake Gas, etc.).
- According to the Energy Access Report (2020) only 5% of the population was using LPG for cooking.
- However, the cooking solution has low local content (ie fuel, stoves, and cylinders are all imported)



Clean Electric Cooking (2018-To-date)



- **The e-Cook Initiatives, implemented from 2018, involved actors in clean cooking such as TaTEDO-SESO, Loughborough University, the University of Surrey, Gamos, Innovate UK, and DFID.**
- **ECook is a concept designed to offer efficient clean cooking with electricity to households currently cooking on charcoal or other polluting fuels.**

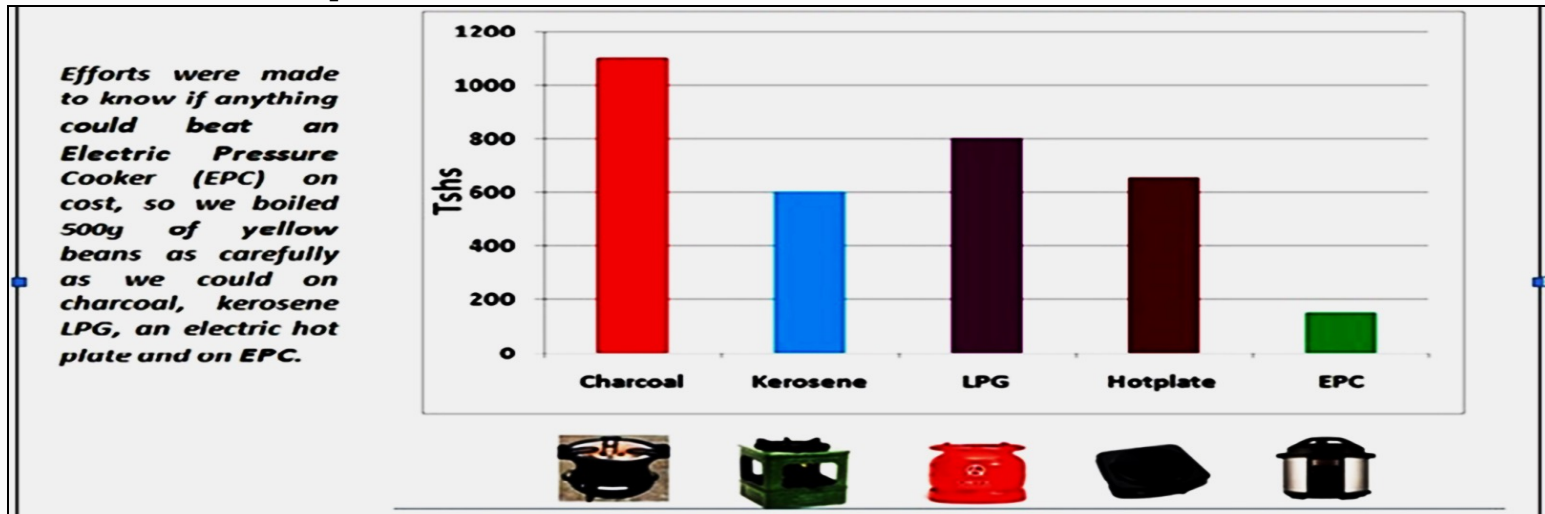


Clean Electric Cooking ...



• Research and Studies

- ❖ Research and studies performed by TaTEDO SESO in DSM, Dodoma, Morogoro, and Kilimanjaro, Tanzania
 - ✦ Cooking Diaries Survey
 - ✦ Choice Modeling Study
 - ✦ Gender Assessment in Cooking Sector
 - ✦ Focus Group Discussions



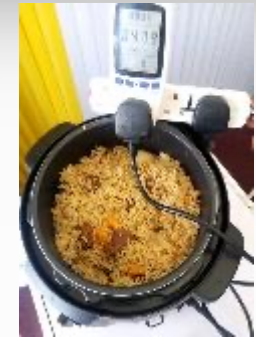
- ❖ Approach for Designing the Delivery Model of MECS, Ukaid funded in Tanzania implemented by TaTEDO SESO.
- ❖ TaTEDO SESO under MECS-ECO Pilot Project for Piloting Innovative Business Models for Accelerating Uptake of Efficient Electric Cooking Appliances in Morogoro, Tanzania

Clean Electric Cooking ...



• Pilot Projects

- ❖ **Promoting Thriving Market of Modern Energy Cooking Services in Tanzania.** The TaTEDO SESO/MECS pilot project for widening the focus of eCook in Tanzania.
- ❖ **MECS-CREST Power-hub Pilot Project to Mitigate High Power Draws and Blackouts and Support Cooking in On-grid and Off-grid Areas of Tanzania.** The TaTEDO SESO project piloted AC and DC Power-Hub systems to support full-day cooking in-off-grid and mitigate high power draws and blackouts during cooking in on-grid areas.
- ❖ **TaTEDO SESO/MECS EPCs Awareness Campaigns and Influencing Decision Makers in Tanzania.** This was an intervention for removing drawbacks observed from the households of low awareness of the benefits of cooking with electricity using EPCs and creating a market for EPCs in Tanzania
- ❖ **Accelerating Microgrid E-Cooking through Business and Delivery Model Innovations.** Implemented by PowerGen for piloting EPCs in mini-grids to exploit unused energy and increase the portfolio of household appliances.
- ❖ **TaTEDO SESO Integrated Sustainable Charcoal Value Chain Promotion Project EU funded/TZ Govt supported in Tanzania** intends to increase capacities and commitments for local communities in five districts of the Pwani Region by improving productivity along the charcoal value chain.



Clean Electric Cooking ...



- **Scale-up Projects**

- ❖ **Sustainable Supply Chain Project.** The SESCOM/MECS supported project for increasing access and availability of EPCs
- ❖ **EU-UNCDF CookFund Programme.** Accelerated Market Rollout of Clean Cooking Solutions in Tanzania”.
- ❖ **Modern Cooking Facility for Africa (SIDA-MCFA)** aims to provide up to 4 million Africans with clean cooking solutions by the end of 2027.
- ❖ **Tanzania Clean Cooking Programme (AECF).** The project aims to catalyze clean cooking through enhanced private-sector participation.

Government Efforts



The government through the Ministry of Energy and other sectoral ministries has provided an enabling environment :

- **The National Energy Policy (2003):** Promote efficient biomass conversion and end-use technologies to save resources; reduce the rate of deforestation and land degradation; and minimize threats of climate change.
- **The National Energy Policy (2015):** Emphasized (i) Enhancing fuel switch from Woodfuel to modern energy, and (ii) Facilitating the adoption of appropriate cooking appliances to promote alternatives to Woodfuel.
- **Tanzania SE4ALL Investment Prospectus (December 2015):** Promoted 1) Universal access to modern energy services (75% cooking energy) ii) Doubling rate of improving energy efficiency and iii) Doubling share of renewable energy in the energy mix.
- **National Charcoal Strategy (2023):** One of its objectives is to enhance the adoption of alternative cooking energy by prompting enabling environment and encouraging use of efficient and clean cooking solutions
- **Others:** Acts (REA, EWURA, Electricity), Environment Policy, BEST, Energy Efficient Strategy, etc

National Clean Cooking Conference (2022)



- **This was Tanzania's first National Clean Cooking Conference, conducted on 1-2 November 2022 at JNICC, Dar es Salaam, Tanzania. (officiated by President Dr Samia Suluhu Hassan)**
 - **The conference paved the way for required actions toward clean cooking**
- 1. The conference discussed barriers and ways for ;**
- **Increasing the penetration of modern cooking solutions,**
 - **Directed the preparation of a national strategy for achieving affordable, clean, and reliable cooking solutions.**



National Clean Cooking Strategy (2024-2034)

- **The Ten-Year National Clean Cooking Strategy (2024-2034) was launched on May 8, 2024, by the President Dr Samia Suluhu Hassan**
- **The strategy envisions raising the population of Tanzanian households that access clean cooking solutions from the current less than 10 percent to 80 percent by the year 2034,**



Challenges

- **The Tanzanian government targets by 2034 to have at least 80% of the population access clean energy services. The strategy provides different means and solutions, but the current political influence focuses on LPG promotion which is also tax exempted.**
- **Emerging e-cooking actors face barriers of inadequate outdated policies and difficulties in accessing finance and tax exemption.**
- **The market for e-cooking is underdeveloped. There is low awareness of new e-cooking technologies and, a lack of innovative and flexible business models for marketing e-cooking appliances.**
- **Lack of strong association or alliance for coordinating clean cooking sub-sector in the country**



Future Prospects



- The Tanzanian government has embarked on an aggressive program of electrification to achieve 100% connectivity access by 2030.
- Increase Electricity Generation to more than 5000MW by 2026.
- The fact that more households will soon be connected to electricity presents an opportunity for transition from cooking with biomass and other fuels to electric cooking.
- Use of improved cookstoves, LPG, LNG, Ethanol, etc. are considered to be important fuels during transition/stacking with cleaner electricity cooking.
- The ultimate clean cooking solution is to use electricity produced from renewable energy sources (five-tier)



TaTEDO-SESO In Brief



TaTEDO-Sustainable Energy Services Organization (TaTEDO-SESO) is a sustainable energy services development organization based in Dar es Salaam, Tanzania. The organization has more than thirty-two years of experience actively involved in the development of sustainable energy services.

- **Our Vision**

A country where all have access to sustainable energy services while conserving the environment, creating wealth, and combating climate change.

- **Our Mission**

To facilitate and empower stakeholders to unlock barriers along sustainable energy value chain by providing support services and fostering enabling environment for enhanced access to sustainable energy services for environmental conservation, wealth creation, and climate change mitigation and adaptation.

- **Goal:** To facilitate improvement of the quality of life of Tanzanians by contributing to the availability of improved and sustainable energy services

- **Objective:** to facilitate the improvement of people's livelihoods through increased access to sustainable energy services.





Thank You for Your Attention

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