

E-Cooking Hub Launch in Makueni County: A Game Changer in the eCooking Landscape in the Region



Photo credit: Haron Akala, ACTS, 2022

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Introduction

Electric cooking is emerging to be a technology that is convenient and cost effective, which can address a myriad of problems associated with the use of biomass cooking fuel. With the recent rising campaigns on electrification in Kenya, which stands at 75%, electric cooking has a lot of potential in enhancing the clean cooking access according to the SDG 7 and the universal access to clean cooking ambitions in the SEforALL agenda if adequately promoted and uptake scaled out at the national level. Nevertheless, cooking culture in Kenya is largely socially driven and thus strongly embedded in the cultural practices of different communities, something that implies that the behavior of the diverse population has to be understood if a change is to be realized. It is also worth pointing out that influencing social change is a process that could be prioritized as an opportunity of scaling up the use of modern cooking technologies. For a new technology to be accepted and embraced, public awareness has to be raised through successful capacity building campaigns across different forums in the country.

The income level of households further defines the type of energy they decide to use. For instance, at the rural level, there is a high likelihood that households will prefer to use firewood because it is readily available and cheaper to access. This may differ in the urban and peri-urban areas where the charcoal form of biomass may be preferred among other cooking fuels. Urban areas are characterized by populations with diverse social-cultural backgrounds and thus, the need to learn about other cultures is a major factor contributing to cross culture learning. In most cases, the urban setup is characterized by high access to information among the populace and thus an opportunity to learn about modern energy cooking services. The infrastructure development and the need to learn has proven to be a key driver for information sharing. The emerging new technology of modern cooking appliances in the Kenyan Market has proven as one of the key opportunities to create awareness on social media and other platforms. It has, therefore, been vital to publicize such innovations, which also provoke people to learn new methods of cooking.

It is on that basis that the African Centre for Technology Studies (ACTS) through the Modern Energy Cooking Services (MECS) program together with its partners in the clean cooking space and electrification sector began the journey of setting up e-cooking hubs in different parts of Kenya to catalyze the adoption of e-cooking. The electric cooking hubs have been launched previously in the counties of <u>Nakuru</u> and <u>Kitui</u> in April and May respectively. On the 16th of June 2022, Makueni's e-cooking hub was launched at Wote Technical and Training Institute, where e-cooking was introduced in the region and identified champions trained and tasked with the responsibility of catalyzing its adoption. The technology was well received by the host institution and the participants who saw its effectiveness first-hand after a series of practical demonstrations. The event was graced by the presence of the Makueni county government officials who saw the usefulness of the technology and the need to create policies that facilitate its uptake.









The County Government of Makueni is Keen to Support e-cooking Adoption and Uptake. John Wamae – County director in charge of TVETS



Figure 1: Director TVETS, John Wamae, giving his speech (Photo credit: Haron Akala, ACTS, 2022).

Mr. John who is the head of Technical and Vocational Education and Training (TVETS) in Makueni County was very pleased that the launch was conducted at the institute. He stated that the vision of TVETs was about innovation, changing the way things are done, bringing solutions to the people, and also identify the best technologies like EPCs which are cost effective and energy efficient. "After we come up with our innovations and research findings, we need to translate/transfer them to the people who matter," said the director. He thanked ACTS and Partners for organizing and making the function a reality by bringing about research findings and innovations to the grassroots and for using local champions whom the community can relate with.

Besides, he noted that the county government took a very drastic step to reduce rapid deforestation through banning charcoal production. The idea of using renewable energy to generate electricity will make it possible to adopt the technology for cooking. "The government did a great job of transmitting electricity to almost every part of the county, even in villages, making it easier to convince the locals that there is another way of cooking instead of the way they are used to," echoed the director. The country has the problem of forest cover and if people continue with the practice of using firewood and burning charcoal, with learning institutions being great consumers of the same, the 10% forest cover will never be realized. He, therefore, concluded by stating there is need for Kenya Power and Lighting Company (KPLC) to provide an alternative and cheaper cooking tariff that would encourage cooking with electricity and spur interest among the members of the community. This would eventually facilitate the adoption of e-cooking.









Mary Mbenge – Chief Officer, Natural Resources, Environment and Climate Change, Makueni County



Figure 2: Mary Mbenge giving her official remarks (Photo credit: Haron Akala, ACTS, 2022).

Mary is the Chief Officer, Natural Resources, Environment and Climate change, Makueni County. She believes that it is very critical to have the e-cooking hub launched in Makueni and Kitui since these are counties that are located in arid and semi-arid, inferring that the climate in the region is dry. As such, if measures are not put in place to curb wanton deforestation and charcoal burning, then this will have devastating impacts on the ecosystem. "The effects of climate change can already be witnessed at the county. This may worsen in future if proper measures are not taken to address the problem." said Mary. For example, the rainfall patterns have changed making it hard to predict the timing of the planting season. She thus encouraged the residents of Makueni to protect their environment for the sake of forthcoming generations.

To prove the magnitude of the problem, she illustrated why people tend to prefer charcoal from the region over other areas. The charcoal from Ukambani has more heat content and last longer, something that can be attributed to the age of the trees used for charcoal. The trees used for charcoal in the region are usually between 30 to 50 years, which explains why they produce more heat. One tree produces at least 5 bags of charcoal and a bag costs Ksh. 1,000, to mean that Ksh. 5,000 is earned for every tree burned, a tree that is roughly 50 years of age. As such, what the locals are doing to the trees is not justifiable considering the age of the trees, their benefits to the environment, and the costs associated with it. While the benefits linked to forests cannot be quantified, their destruction will bring about devastating consequences not only to the ones bringing them down but to the entire universe. She thus thanked the organizers for inviting them to the event with an aim to promote clean cooking. As such, she volunteered to champion the e-cooking agenda at the County and across other









platform to sensitize the locals on the need to adopt clean cooking solutions at the household level.

Clean Cooking is the real deal of the time: Testimonies from Clean Cooking Champions



Figure 3: Champions sharing the experiences (Photo credit: Haron Akala, ACTS, 2022)

The community in Kitui and Makueni have almost similar culture and thus they tend to cook similar dishes. For that reason, a need arose to bring on board the clean cooking champions from Kitui for them to help out in propagating the clean cooking message to the participants in Makueni and share their skills with the Makueni champions and the general participants. Considering the proximity of Kitui to Makueni and the fact that the two communities speak the same local language, it was an idea that was warmly welcomed. The champions from Makueni got to interact and learn a few things about e-cooking from their Kitui counterparts whom they could well relate with. The champions from both ends got the opportunity to cook different food items together using the EPCs after which they shared their experiences with the participants.







Kitui County Champions

Agnetor Mumbe



Figure 4: Agnetor Mumbe narrates her experiences with EPC (Photo credit: Haron Akala, ACTS, 2022).

Agnetor is a middle-aged woman and a clean cooking champion from Kitui. She has interacted with the EPC for almost a year and narrates her experience with the technology. Previously, she would use 10kg of charcoal in a month to cook githeri (mixture of maize and beans). But with an EPC, she only uses 0.8 units of electricity to prepare githeri that had not been presoaked to imply that fewer units will be used if the cereal is presoaked. Agnetor recalls that the last time she refilled her LPG was in December 2021 that she does not even know the retail price of refiling LPG at the moment.

Due to the convenience that comes with the use of an EPC, she uses it to prepare all her meals and incurs little cost in electricity. In a month, the average amount of money she uses to purchase her tokens ranges between Ksh. 500 and Ksh. 800 used for both lighting and cooking. Moreover, she attests that the EPC brought her closer to her husband. "What I love about the EPC is the mere fact that I can cook even in the comfort of my sitting room while watching Television with my spouse, something that has brought us even closer. With time, my spouse began to gain some interest in cooking owing to the convenience and ease of use of the EPC," says Agnetor. It is thus a technology worth embracing considering the multiple benefits it has.









Joel Mwendwa



Figure 6: Joel Mwendwa encourages participants to adopt the technology (Photo credit: Haron Akala, ACTS, 2022).

Joel considers himself a clean cooking ambassador who underscores the use of clean and efficient technologies for cooking. "With an EPC, you do not have to worry about your food getting burned. You can even leave your food while cooking and go and attend to some errands without having to be fearful" he says. Once the timing allocated to cook a specific meal has elapsed, the EPC automatically shifts to standby mode, which can last for up to 24 hours. Most importantly, he discourages the use of firewood and charcoal for cooking due to the harmful effects they have on the environment. To Joel, people tend to put so many barriers when talking about electric cooking that prevents them from seeing the good about ecooking and the need to adopt

the technology. He thus pointed out that:

- i. The cost of electric consumption; Joel participated in a cooking diary study that was conducted for 3 months to determine the number of units used to prepare the different types of local dishes in Ukambani. From the study, it emerged that the highest consumption of electricity was 0.5 units used in the preparation of the githeri dish. Evidently cooking with electricity using EPC, does not consume a lot of electricity.
- ii. The upfront cost; to Joel, despite the high upfront cost of an EPC, the amount an individual will save in terms of electric consumption in a year is much more than the amount needed to buy an EPC. It has value for money and as such, much focus ought not to be centered on its cost. Additionally, those with minimum wages can make use of their local formal and informal table banking as opportunity to procure the EPC on a rotational basis.









Clean Cooking Champions from Makueni

Catherine



Figure 5: Catherine shares her excitement after learning about the technology (Photo credit: Haron Akala, ACTS, 2022).

Catherine is the deputy head of department, Hospitality at Wote Technical Training Institute. Prior to the launch, she had little knowledge about the pressure cooker but not electric pressure cooker. As such, we had to conduct training before the actual launch of the hub. This provided an opportunity for the staffs and the champions to learn how to use the EPC, the benefits of using the technology, and safety precautions. During the actual launch, the champions were given the opportunity to demonstrate how to use of the appliance to the participants.

To Catherine, what she liked most about the EPC is centered on the fact that one can do other errands at the same time while preparing the meals. Besides, with the appliance, the issue of having to get late to work is addressed, something that implies that she will become much more effective at delivering her duties at work.









Benson Kimuyu



Figure 6: Benson gives his story based on his short acquired interaction with EPCs (Photo credit: Haron Akala, ACTS, 2022).

Benson is the head of department Hospitality at Wote Technical Training Institute. Just like Catherine, Benson had not interacted with an EPC and was curious to know how it works and if it is indeed effective in terms of the time used to prepare different dishes and the electric units spent. After sessions of demonstrations a day before the actual launch, Benson was surprised at how easy it was to prepare and cook different food items at minimal cost and time when compared to other fuels. He appreciated the technology and also underscored the fact that only a little water is used to prepare food items that normally require a longer boil time. This was especially important to him considering that Makueni County faces major water shortage issues. Water is scarce in the region and people usually have to buy water for use where a 20-liter gallon goes for Ksh. 25, money that could be channeled to purchase electric tokens and not incur additional costs in purchasing other fuels.

Benson mentioned that in the hospitality department, there are 562 students and 3 workshops that may not always accommodate all of them given that training is normally done twice a week. He likewise mentioned that the department uses 135kg of gas every week for training thus spending Ksh. 35,000 on the same, which is much more expensive when compared to using an EPC. To him, having to embrace the technology during the training is









something worthwhile. "I will no longer have to worry about the student population or the time it takes for one training session," says Benson. On a regular day, the training classes normally take an hour for preps, 4 hours for the actual cooking, and an hour for service, all of which translates to 6 hours. However, with an EPC, the whole process will take at most one hour implying that they can have as many shifts as possible in a day and be left with ample time to engage in other activities.

Benson concluded by stating that the technology has to be plugged into the mainstream, "it is real, it is time-saving." He will not be bothered about too many students being admitted into his department as the technology will address the previous issue that he had on the time taken to practically train the students.

After-Sale Services



Figure 7: Tom Randa addresses the question raised on after-sale services (Photo credit: Haron Akala, ACTS, 2022).

From the launch, so many questions emerged about the after-sale services available and how readily the services were accessible should a need arise that necessitates the EPCs to be repaired. Besides, from the evaluation that we had of the stores in the town, no outlet was selling any brand of the electric pressure cookers. ACTS through the MECS project have engaged different eCooking technology suppliers including the VON, and SAYONA brand distributors and directly linking them with the launched hubs and the champions. While we acknowledge that the outlet branches are created by purely the market forces of demand and supply, there are ongoing dialogues for the two brands to grow with the growth of the hubs and make the technology services available as the adoption grows with the regional hubs. There is a further proposal to train and transfer the technological skills and expertise in the







institute to make the after sale services readily available in the regions. The idea was wellreceived as it will also contribute to job creation opportunities for the students graduating from the institution. VON and SAYONA distributors among other suppliers are also to partner with the local retail shops to ensure that their products are stocked in the market for ease of accessibility.

Conclusion



Figure 8: Emily Bolo shedding more light about the e-cooking technology during the food sampling session (Photo credit: Haron Akala, ACTS, 2022).

The e-cooking technology was well received in Makueni. Through the event, ACTS established a good working relationship with Wote Institute, identified, and build the capacity of 10 local champions composed of trainers and students who are to spearhead the clean cooking agenda in the region. The champions were able to buy the idea and promised to propagate it far and wide. Out of the 60 participants who attended the event, 12 of them made purchase requests for electric pressure cookers doubled up as air fryers, something that had never been witnessed in the initial e-cooking hub launches in Nakuru and Kitui. The implication as such is that with proper awareness in different regions, the adoption of e-cooking technology will be catalyzed in the country making it possible to realize the 2028 universal access to clean cooking.









Mecs Modern Energy Cooking Services



Figure 9: Part of the participants receiving their EPC/Air fryers from Sayona suppliers (Photo credit: Mary, WTTI, 2022).







MECS Modern Energy

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Figure 10: Dr. Joanes Atela giving his closing remarks (Photo credit: Haron Akala, ACTS, 2022).

In his closing remarks, Dr. Joanes Atela, MECS project lead, emphasized the need for the participants to be bold enough and risk-takers to be able to embrace new technologies. The participants were urged not to entertain ideas and myths that act as barriers to the adoption of e-cooking technology. "Innovative ideas can be translated into a concept that is supported through seed funds," said Dr. Atela. To encourage continuity, seed funds will be allocated to keep the hub functioning.









MECS Modern Energy Cooking Services



Figure 11: Stakeholders posing for a group photo (Photo credit: Haron Akala, ACTS, 2022).





