ENDLINE SURVEY REPORT FOR CREATION OF PUBLIC AWARENESS FOR MODERN COOKING TECHNOLOGIES IN AND AROUND KAMPALA DISTRICT

JUNE 2023

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EXECUTIVE SUMMARY

The results of the endline indicated that more information on e-cooking was spread by organizations (55.5%) and friends (25.4%), with a 24.9% increase in the contribution of organizations. This serves to appreciate the awareness efforts conducted by UNACC on promoting e-cooking technologies as well as demystifying the use of electricity as an alternative way to prepare daily meals.

Awareness about e-cooking technologies increased mostly among middle-aged groups (30-39 & 40-50) by 24.8% and 31.3% respectively for both males and females during the endline survey. The endline showed increased awareness among participants about electricity tariffs and benefits (54.5%) while reducing awareness levels by 60.2%.

Awareness about the EPC's time and money saving benefits increased at the endline period (55.1%). The technology's appreciation and awareness increased mostly among households that prepare three meals (36.1%) and two meals (20.9%) on a daily basis, since these households value efficiency.

Usage of the EPC, Electric Hot plates, Electric Kettle, Electric Rice cooker and the Microwave increased by 4%, 41%, 45%, 22% and 9% respectively. This is highly attributable to the improved perceptions about the affordability of electricity. Evident to this was the 20% increase in the reliance on electricity among low-income participants. Nevertheless, expenditure on LPG also increased during the endline as compared to the baseline.

There was a 20% increase in the attribution of e-cooking to faster preparation of meals. Similarly, attribution of e-cooking to cleanness and hygiene also increased by 11.8% during the endline period. Much of the appreciation of e-cooking technologies was mostly among low-income earners which is a positive step towards technological inclusion for such income groups. This therefore justifies the increase in preference for installment payments in the endline survey results.

Perceptions on the barriers of e-cooking greatly reduced during the endline across all the different aspects of barriers. Perceptions that e-cooking technologies are difficult to use reduced by 16.3% as well as that e-cooking is more expensive (25.7%).

Sentiments on e-cooking improved at the time of the endline, with more of them focused on the benefits of e-cooking. Participants' comments emphasized that e-cooking cooks faster thus saving time. Furthermore, they also noted that e-cooking is clean, reliable, efficient and environmentally sustainable. Hence, the endline sentiment score improved due to the positivity that dominated most of the comments.

1.0 INTRODUCTION

According to the "Tracking Sustainable Development Goal (SDG) 7: The Energy Progress" Report, over 2.8 billion people around the globe do not have access to clean cooking fuels and technologies as of 2020. This retards the world's progress towards access to affordable and clean energy. The urgency of the matter can further be emphasized by the 4 million deaths every year since 2014, caused by household air pollution due to cooking with traditional stoves and fuels. In developing economies like Uganda, these issues are a great impediment to social and economic development.

Addressing this crisis calls for relentless advocacy and creation of awareness about the availability of affordable clean cooking technologies and fuels. In such a direction, the Uganda National Alliance on Clean Cooking (UNACC) proposes an intervention to create awareness and address wrong perceptions about e-cooking and other modern technologies, including supply chain-related factors that impede its adaptation. Specifically, the aim is to create more awareness and tackle wrong perceptions through enabling a communication strategy that seeks to inform, educate and serve the target population. To address the supply chain-related factors, the project will support marketing of e-cooking devices.

1.1 Objective of the Survey

This report aims to provide results of a comparative analysis of the status quo of the target population for the intervention during the baseline and endline periods. This pertains to the perceptions on the use of modern cooking technologies and fuels by the target population. The findings of this endline survey are the basis for evaluating the success of the project. Additionally, the results are aimed at validating the quality of implementation for purposes of change measurement due to the project's intervention. Specifically, the survey was aimed at exploring the parameters of the target population in line with the following objectives:

1. To evaluate the level of knowledge, attitude and perception regarding clean cooking technologies and their benefits, before and after the campaign.

2. To find out whether there is improvement in the uptake and adoption of electric pressure cookers to the people living in and around Kampala.

3. To gather information that will be useful in creating awareness of modern cooking technologies to the people in and around Kampala region.

1.2 Scope of the Survey

The survey was carried out in the Districts of Kampala, Wakiso and Mukono, all from which a total of 200 respondents participated in the endline survey. The distribution of theses respondents is shown below with both the baseline and endline data compared.

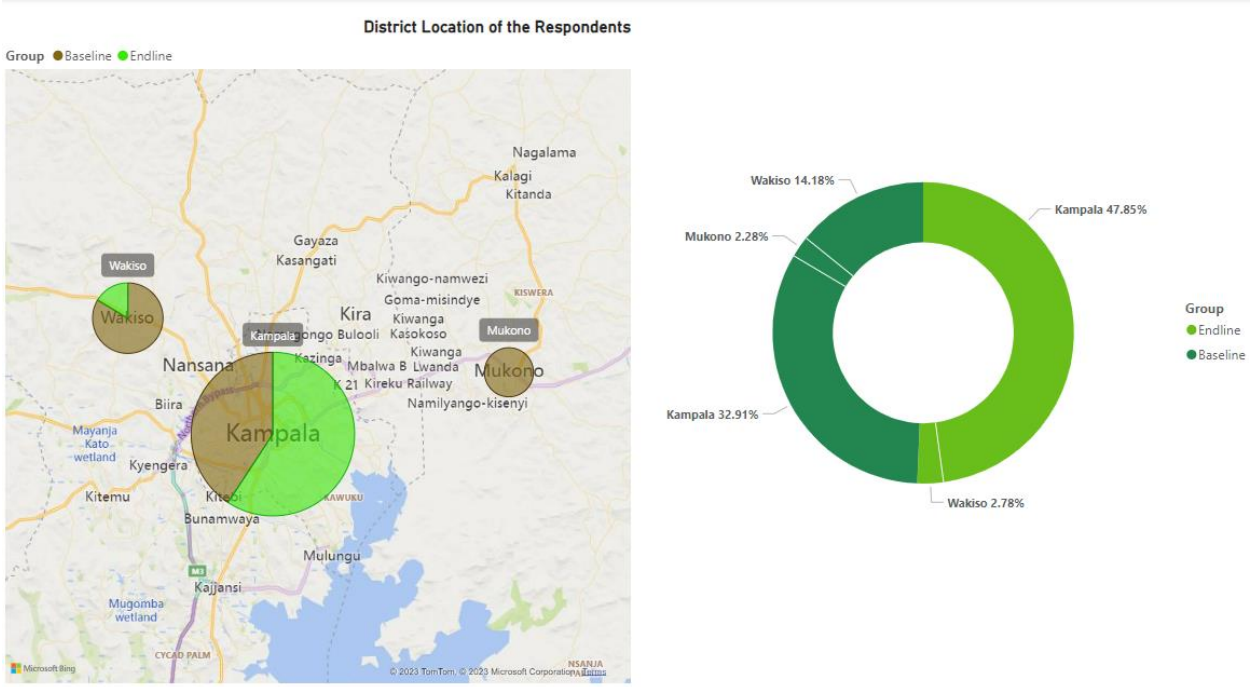

Figure 1: Distribution of survey participants per district

Among the baseline and endline survey participants, majority were residents within Kampala district. These increased by a proportion of 14.9% at the time of the endline survey as seen in figure 1 above. Wakiso district followed but with a 11.4% decrease in the total participants for the endline from the district

2.0 SURVEY FINDINGS

2.1 Demographics

2.1.1 Gender

Unlike the baseline where women dominated the survey with 72% contribution, the endline registered a comparable proportion of both men and women who engaged in the survey. As seen in figure 2 below, women contributed to 57.6% (28.8%) while men contributed to 42.6% (21.3%).

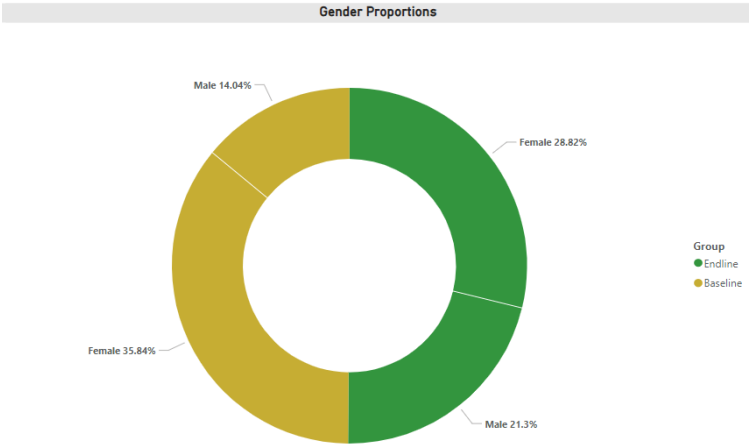

Figure 2: Gender proportions

2.1.2 Age and Gender Distribution

The participants had ages ranging from 20 years to over 50 years as seen in figure 3. More participants of the endline were aged between 30-39, resulting into a 22.2% increase. Similarly, participants aged between 40-50 increased by 20.4% during the endline compared to the 8.8% registered during the baseline.

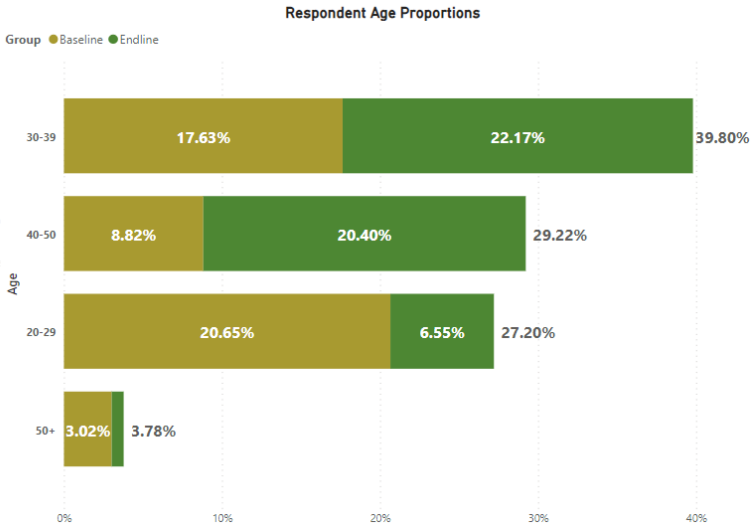

Figure 3: Age distribution of the respondents

2.1.3 Respondent Education Levels

Like the baseline, the endline was also participated by university degree holders. These respondents actually increased by 18.8% during the endline, followed by primary/secondary school education holders. This is shown in figure 4 below.

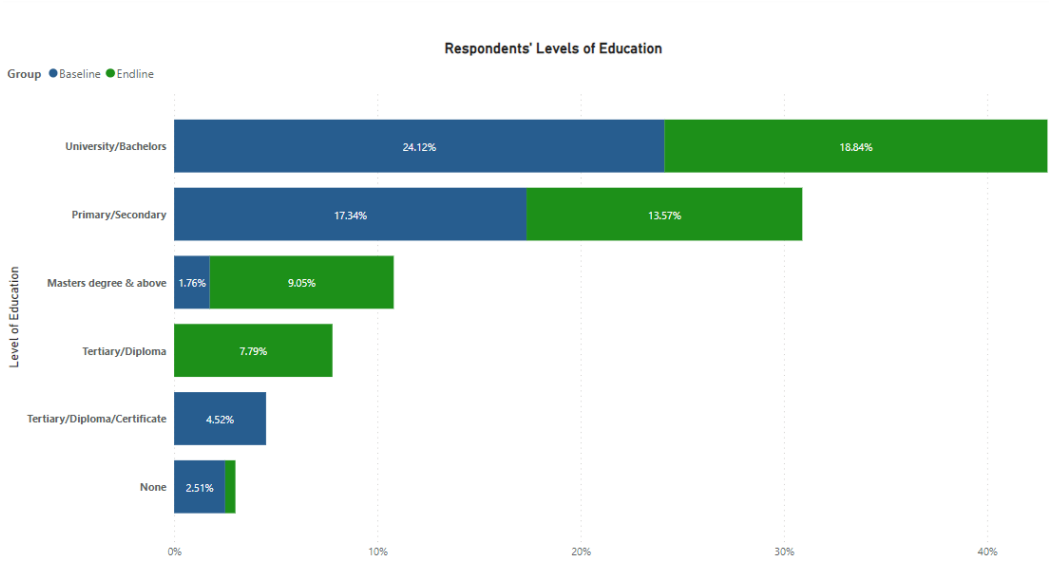

Figure 4: Education levels of the participants

2.1.4 House Types of the Respondents

Majority of the participants for both surveys were tenants, though the percentage dropped slightly by 0.5% during the endline survey. However, during the endline, the percentage of those staying in bungalows and apartments increased by 1.8% and 2.3% to 14.9% and 6.1% respectively (see figure 5).

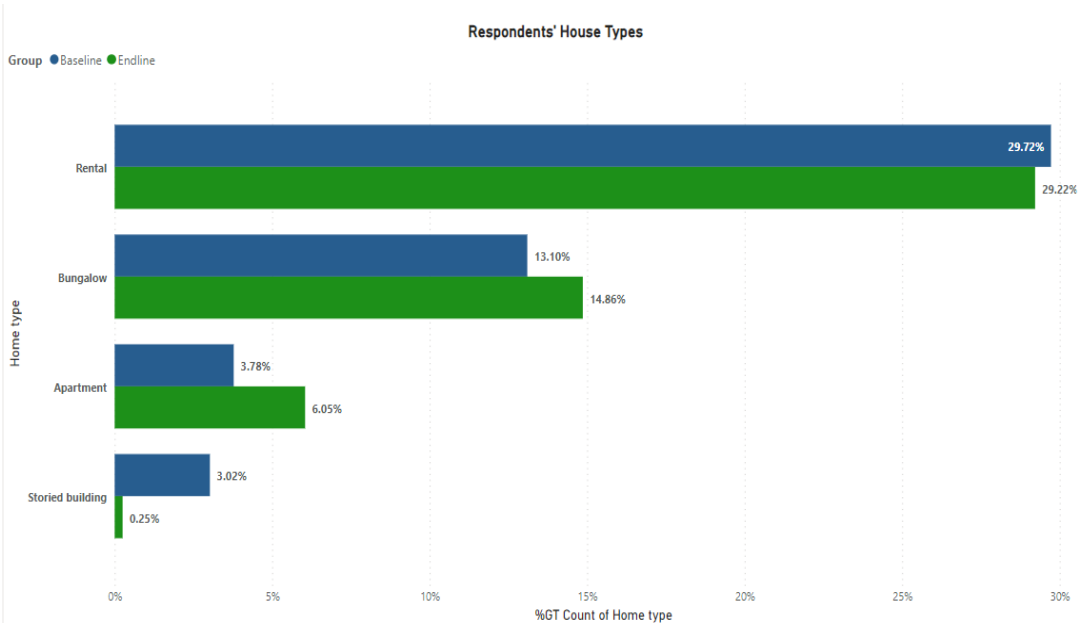

Figure 5: House types of the respondents

2.1.5 Respondent Income Levels

As seen in figure 6, the largest proportion of the endline survey participants were earners between 300,000-500,000shs. These actually increased by 9.7% from the baseline survey proportion of the same.

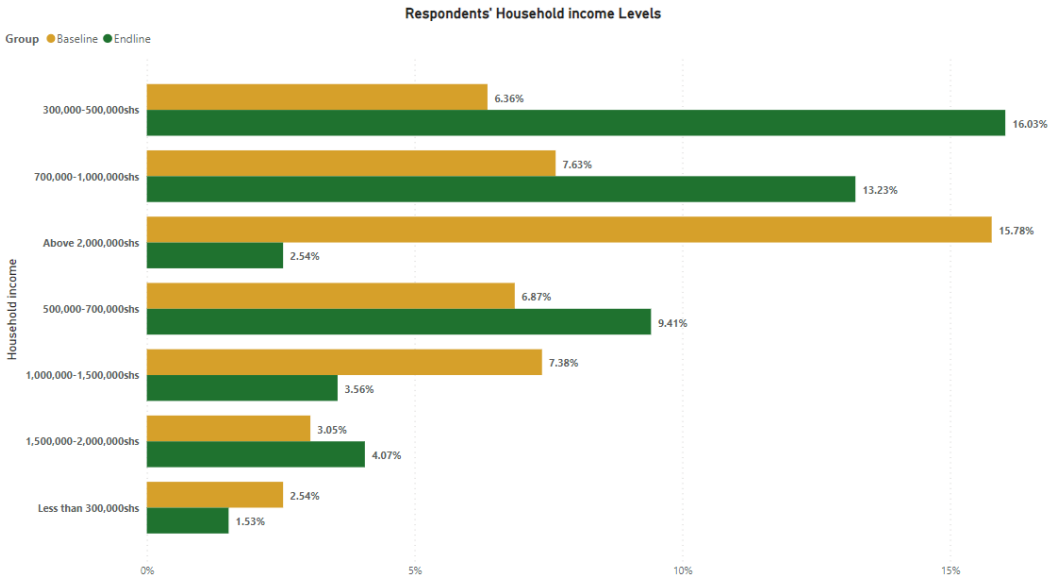

Figure 6: Income Levels of participants

Other income groups whose proportion increased in the endline include those between 700,000-1,000,000shs, 500,000-700,000shs and 1,500,000-2,000,000shs. These income groups increased by 5.6%, 2.5% and 1% respectively. This implies a higher participation of relatively lower income earners in the endline survey than it was during the baseline survey.

2.3.0 Awareness on E-cooking

2.3.1 Information Sources

The organization of UNACC has played a significant role in spreading information on the awareness of e-cooking. Evidently, 55.5% of the endline survey indicated the organization as their information source compared to the 30.6% who indicated this information channel during the baseline survey (see figure 7).

Similarly, the project also carried out awareness campaigns on radio stations which resulted in the 2.2% increase among those who got information from radio stations. Nevertheless, friends still play a significant role in extending information and creating awareness to others about clean

cooking and e-cooking technologies. This implies a lot of information shared to the project attendants on e-cooking was shared by them to their friends.

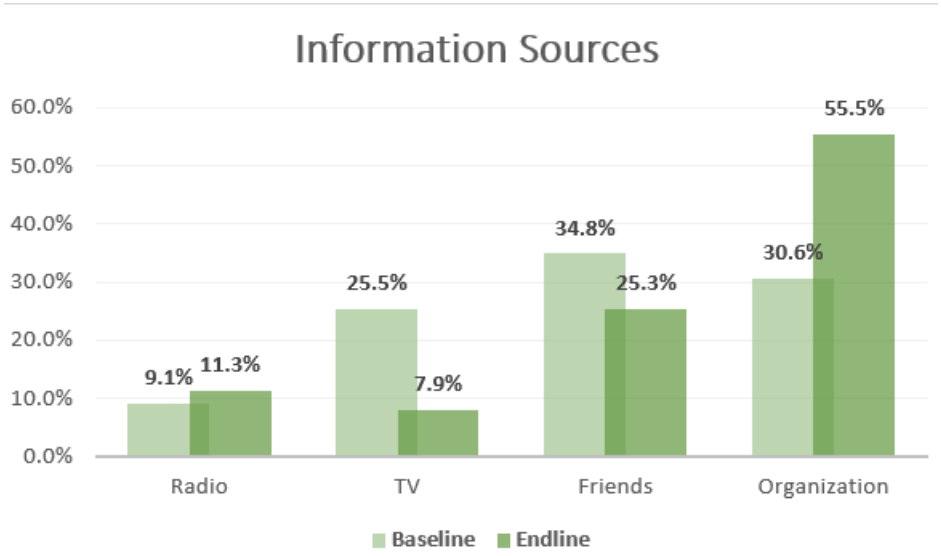

Figure 7: Information sources

2.3.2 Knowledge about e-cooking technologies

Knowledge about e-cooking technologies increased by 19.2% among females and 20.7% among male participants at the time of the endline survey (see figure 8). This closely-matched increment proportion among both males and females indicates that the project activities were attended by both genders in closely comparable proportions.

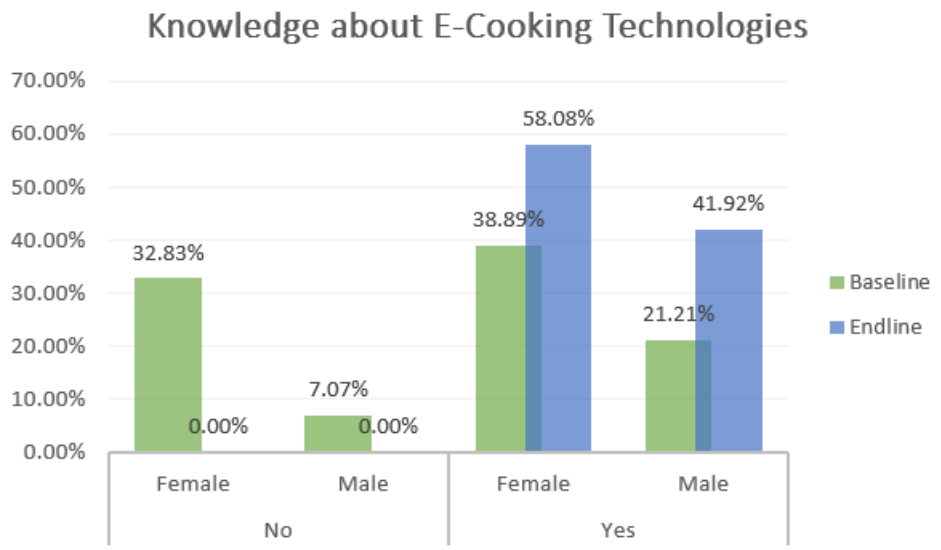

Figure 8: Knowledge about cooking technologies

More knowledge about e-cooking technologies was acquired among participants aged 30-39 and 40-50 years at the time of the endline. This is seen from the 24.8% and 31.3% respective increase in the proportions aware about e-cooking technologies among these age categories (figure 9). Similarly, there was a slight increase in the proportion of those aware among the 50+ category (0.2%).

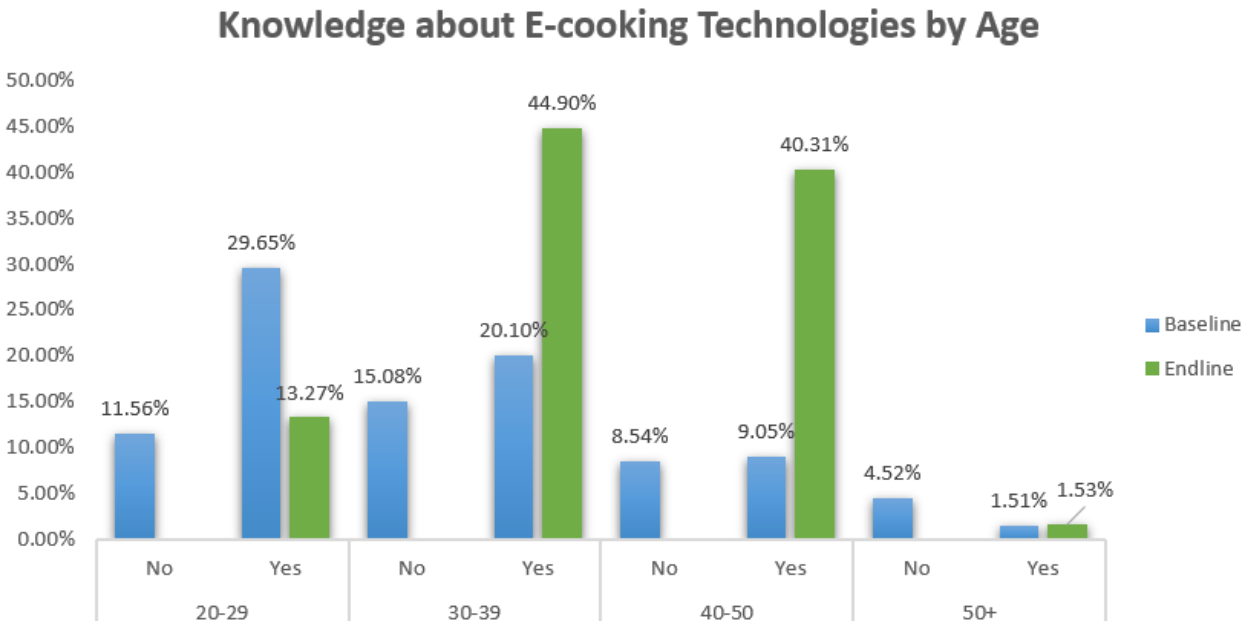

Figure 9: Awareness about technologies by age group

However, the proportion reduced by 16.4% among participants aged between 20-29 years at the time of the endline survey.

2.3.3 Awareness about Electricity Tariffs and Benefits

Participants were also asked about their awareness about electricity tariffs the associated benefits (see figure 10). Generally, the proportion of those aware about these tariffs increased at the time of the endline survey.

Similarly, the proportion of those unaware about electricity tariffs and benefits reduced by 60.2% to 36.3%.

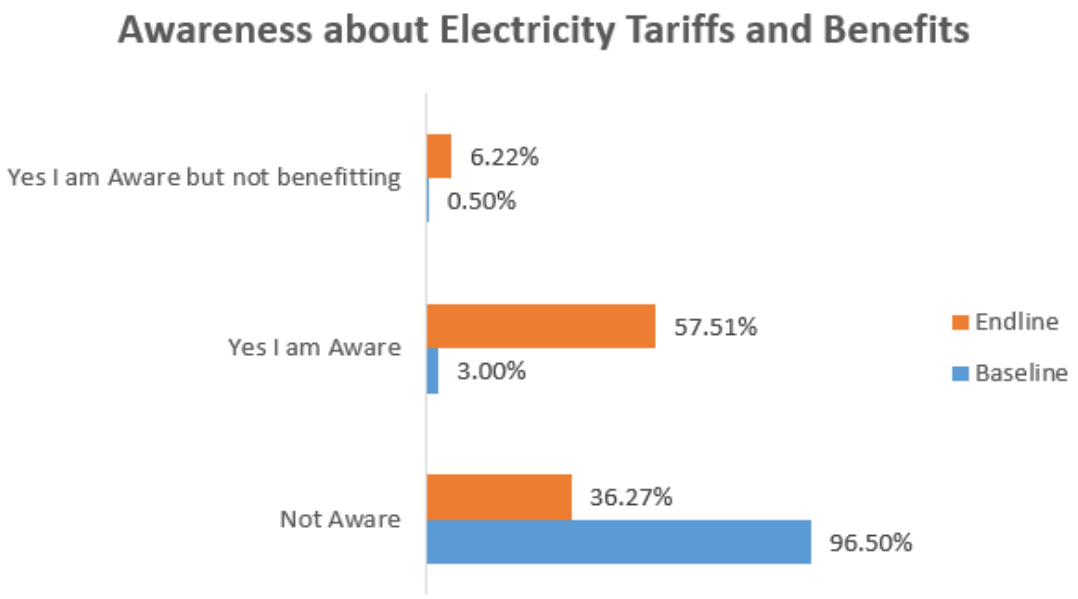

Figure 10: Awareness about electricity tariffs

Participants further indicated their awareness about the specific tariff plans, with the proportion of those unsure about these plans dropping by 56.6% to 40.2% at the time of the endline (see figure 11). The highest increase in awareness was among participants who are aware that 80th-150th units cost 412shs each.

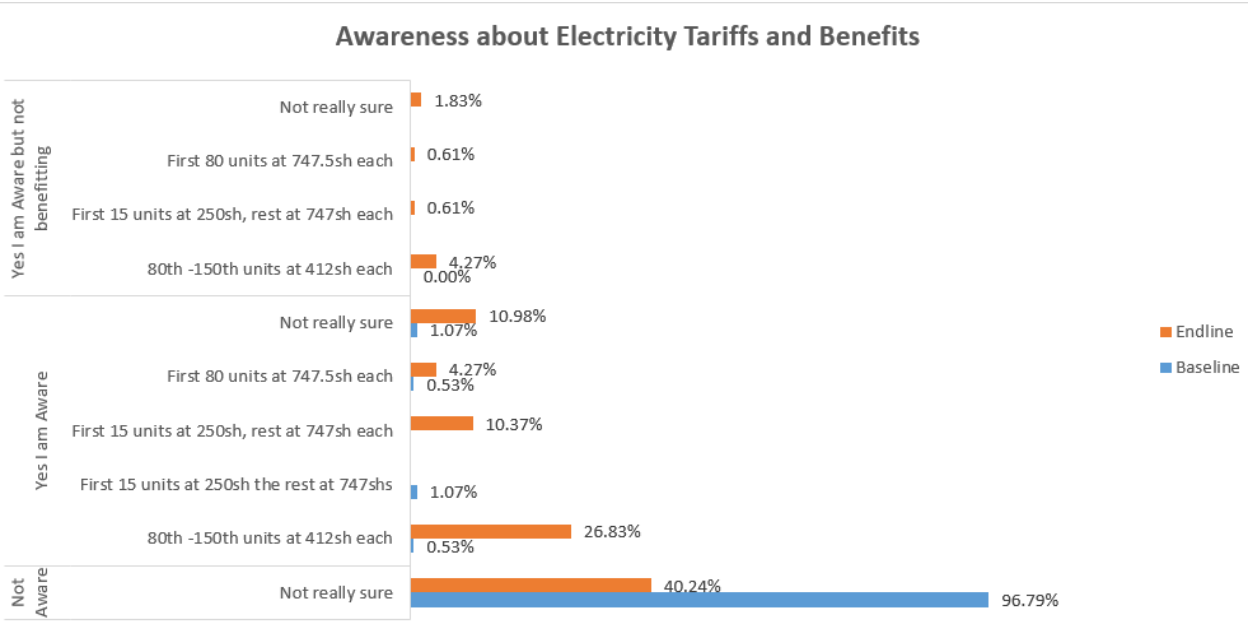

Figure 11: Awareness about electricity tariffs

Similarly, those aware that the first 15 units cost 250shs increased by 10.37%, while those aware that the first 80 units cost 747shs increased by 3.7%.

However, there is still uncertainty about electricity tariffs and benefits among the participants, even those who are aware about their existence. For instance, 10.9% of those aware about these tariffs are unsure about the specific tariff plans.

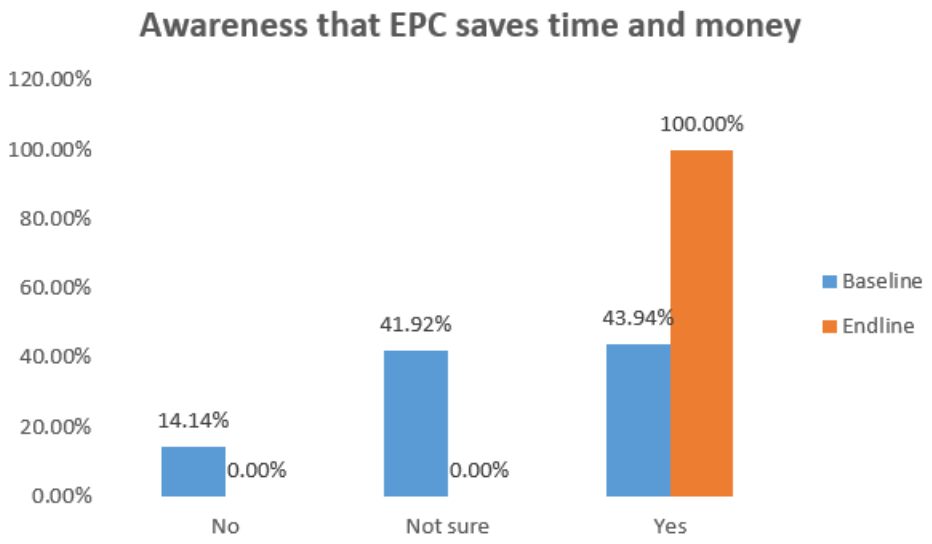

Figure 12: Awareness that EPC is efficient

Knowledge about the efficiency of the EPC in terms of saving time and money also increased at the time of the endline (figure 12). This is especially among those who are really sure that the technology is efficient. This group increased by 55.06% at the time of the endline compared to the 43.9% at the time of the baseline.

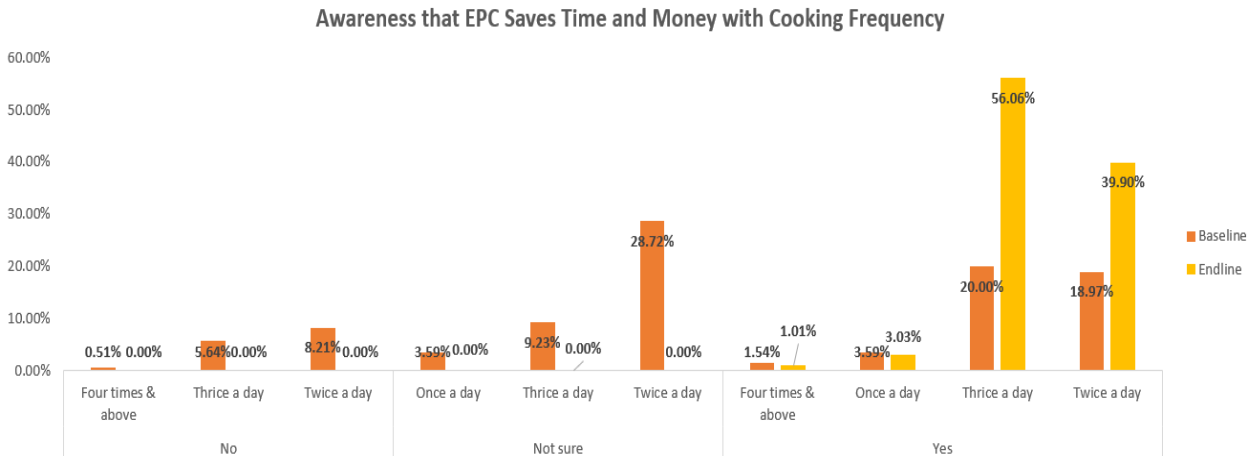

Figure 13: Awareness that EPC saves time and money with cooking frequency

Awareness that the EPC saves time and money increased among the survey participants at the time of the endline survey. The increase was by 36.1% among those who prepare three meals per day and 20.9% among those who prepare two meals a day (see figure 13).

The endline survey also revealed a reduction in uncertainty levels among respondents about electricity as a cheaper option for use in cooking. This is evident by the 71% reduction in the proportion of the respondents who were unsure about electricity's affordability in cooking (as seen in figure 14). Additionally, the proportion of those aware about the affordability of electricity increased by 79%.

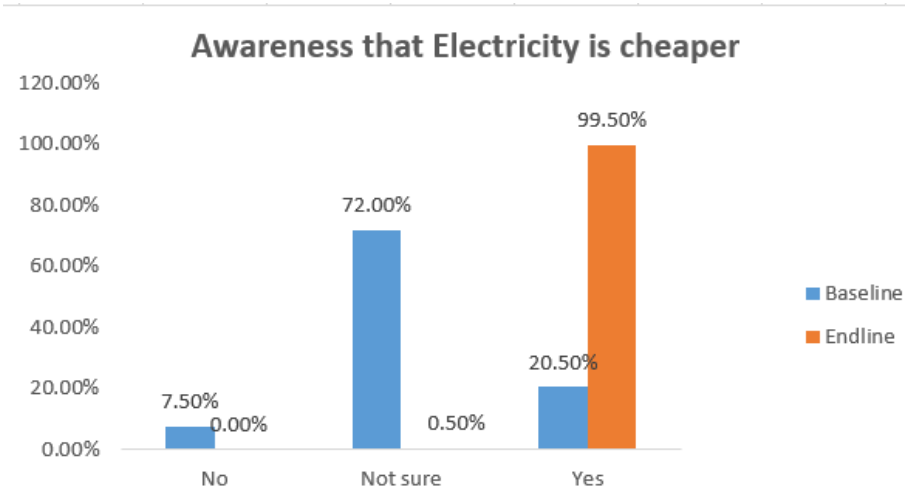

Figure 14: Awareness that electricity is cheaper

2.4.0 Attitudes about Clean Cooking Technologies

At the time of the endline survey, more participants from Kampala district showed interest in purchasing E-cooking technologies. These increased by 16.9% while those in Wakiso district reduced by 10.8% (see figure 15).

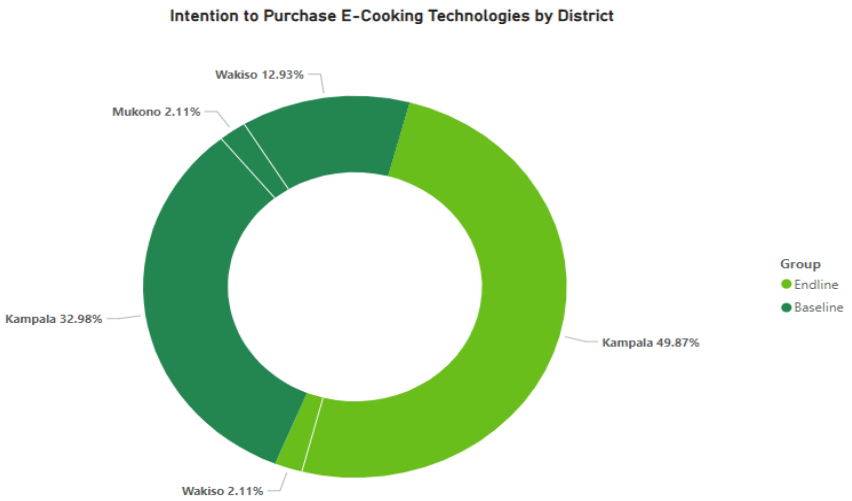

Figure 15: Intention to buy e-cooking technologies

2.4.1 E-Cooking Technologies – Knowledge, Usage and Future Adoption

At the time of the baseline, Gas cookers were the mostly known technologies by majority of the participants (17%) followed by the basic charcoal stoves, the EPC and improved charcoal stoves, all the three being heard about by 13% of the survey participants (see figure 16).

These proportions (including those of the other technologies) increased in comparable magnitudes by the endline survey period. Awareness about the Gas cookers, EPC, Basic and improved charcoal stoves saw increase as seen in participant proportions by 43%, 46%, 40% and 39% respectively.

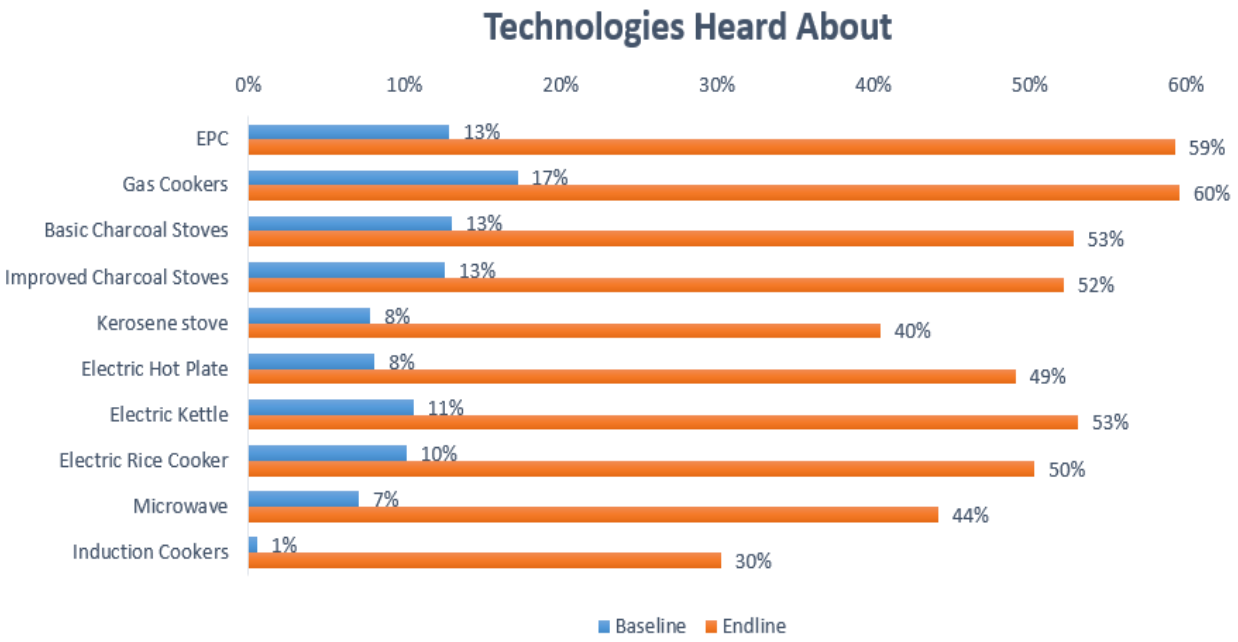

Figure 16: Technologies heard about by the participants

The endline saw increase in the proportions of participants utilizing the different cooking technologies. This increase applied to the usage of e-cooking technologies such as the EPC, Electric Hot plates, Electric Kettle, Electric Rice cooker and the Microwave (figure 17).

Their usage increased by 4%, 41%, 45%, 22% and 9% respectively. This is highly attributable to the improved perceptions about the affordability of electricity as seen in previous sections.

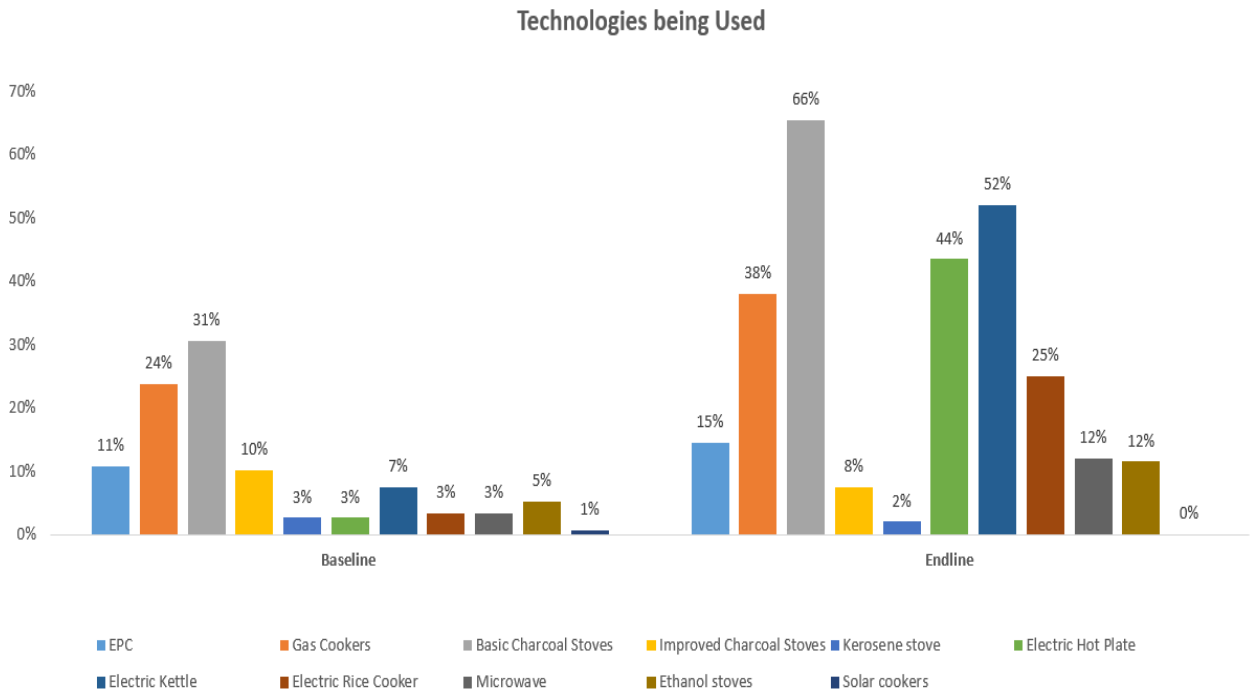

Figure 17: Technologies being used

Other clean cooking technologies whose utilization increased include the Gas cookers (14%) and Ethanol stoves (7%).

Participants also indicated their willingness to buy e-cooking technologies during the endline survey (as seen in figure 18). The EPC, despite registering a decline in the proportion of those willing to buy it, was still the mostly coveted clean-cooking technology at the time of the endline. This is expressed by the 37% of the endline participants who intend to buy the EPC.

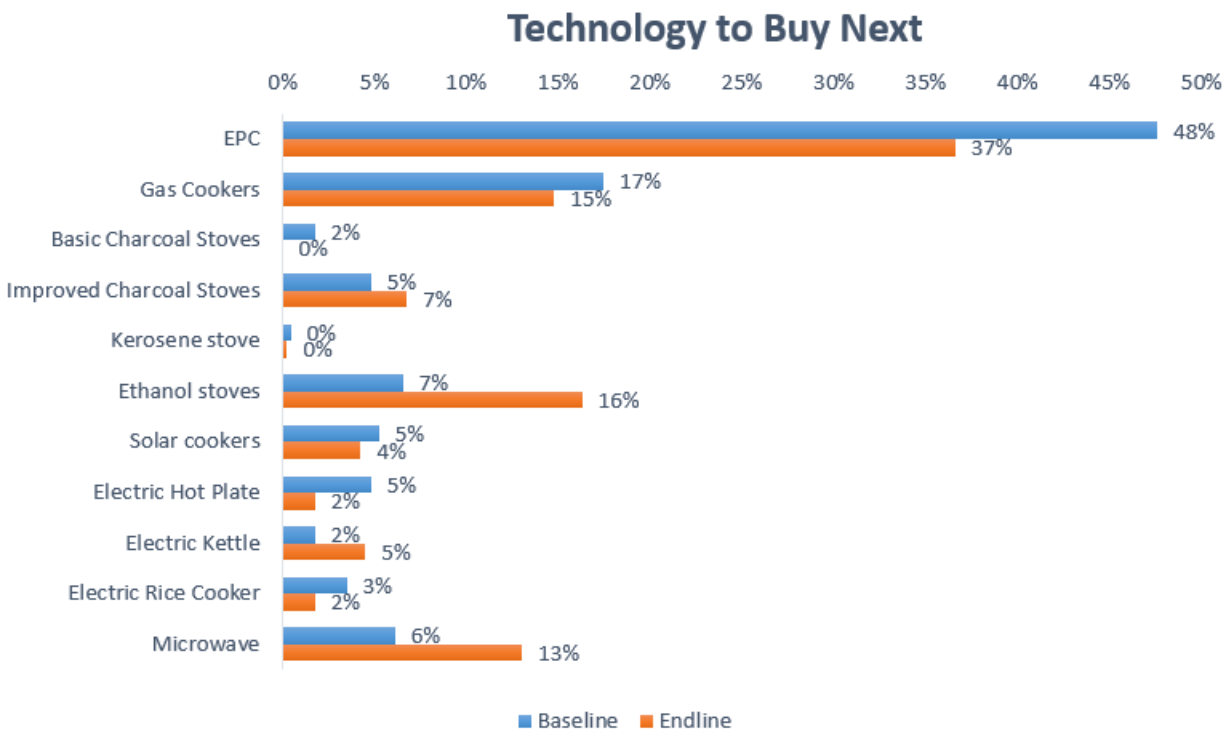

Figure 18: Technologies to buy next

The Gas cooker also registered a considerable proportion of those willing to buy it (15%), though this was a 2% decline compared to the baseline (17%).

On the other hand, more intentions were showed for the purchase of improved charcoal stoves, Ethanol stoves, Electric kettles and the microwave. The proportion of the endline participants that expressed their intention to buy these technologies increased by 2%, 9% 3% and 7% respectively.

2.5.0 Fuels Used

2.5.1 Spending on Fuels

At the baseline period, Charcoal was the most used fuel by the majority of participants, with 62% of them using this fuel type for cooking. Liquid Petroleum Gas (LPG) followed in usage with heavy reliance by 15% of the respondents. Reliance on charcoal reduced by 23% by the time of the endline survey, while that of LPG increased by 5% (see figure 19).

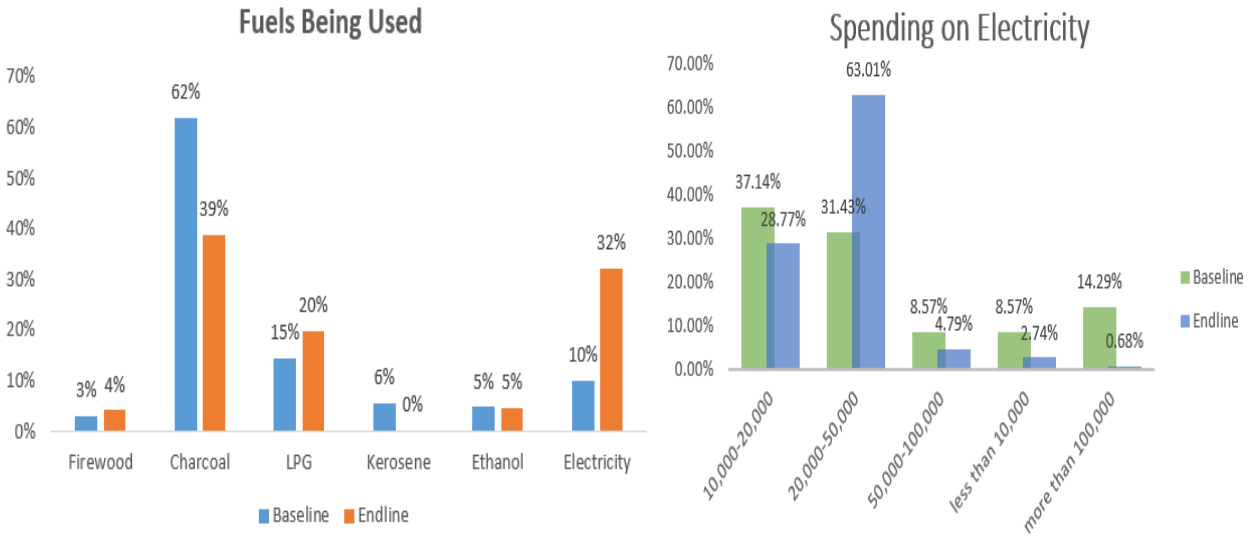

Figure 19: Proportion of fuels used and spending on electricity

Electricity on the other hand which was used by 10% of the baseline survey participants saw an increase in dependents by 20%. The proportion of those relying on ethanol was maintained at 5% while that of firewood increased by 1% and that of kerosene reduced by 6%.

Also, the proportion of those spending between 20,000-50,000shs on electricity increased at the endline by 31.6% while all other spending categories registered reductions including those who spend between 10,000-20,000shs (8.4%).

Figure 20: Spending on LPG and Charcoal

There was an increase in the proportion of respondents who spend above 50,000shs on LPG, while those spending 50,000shs or less on this fuel reduced except those spending between 10,000-

20,000shs (see figure 20). This implies that the e-cooking campaigns opened their eyes about the efficiency and affordability of LPG. For charcoal users, their proportion increased for those who spend between 10,000-100,000shs while declining for those spending below 10,000shs and above 100,000shs.

2.5.2 Incomes and Spending on Fuels

The endline survey showed that reliance on electricity has gained more traction than it was during the baseline. This is especially more evident among those who spend 50,000shs or below on electricity monthly (see figure 21). In fact, this implies that participants have realized that electricity can be used in more efficient and affordable ways. This is evident due to the fact that most of the increase in the proportion of participants reliant on electricity at the time of the endline are spending less than 50,000shs and mostly between 20,000-50,000shs.

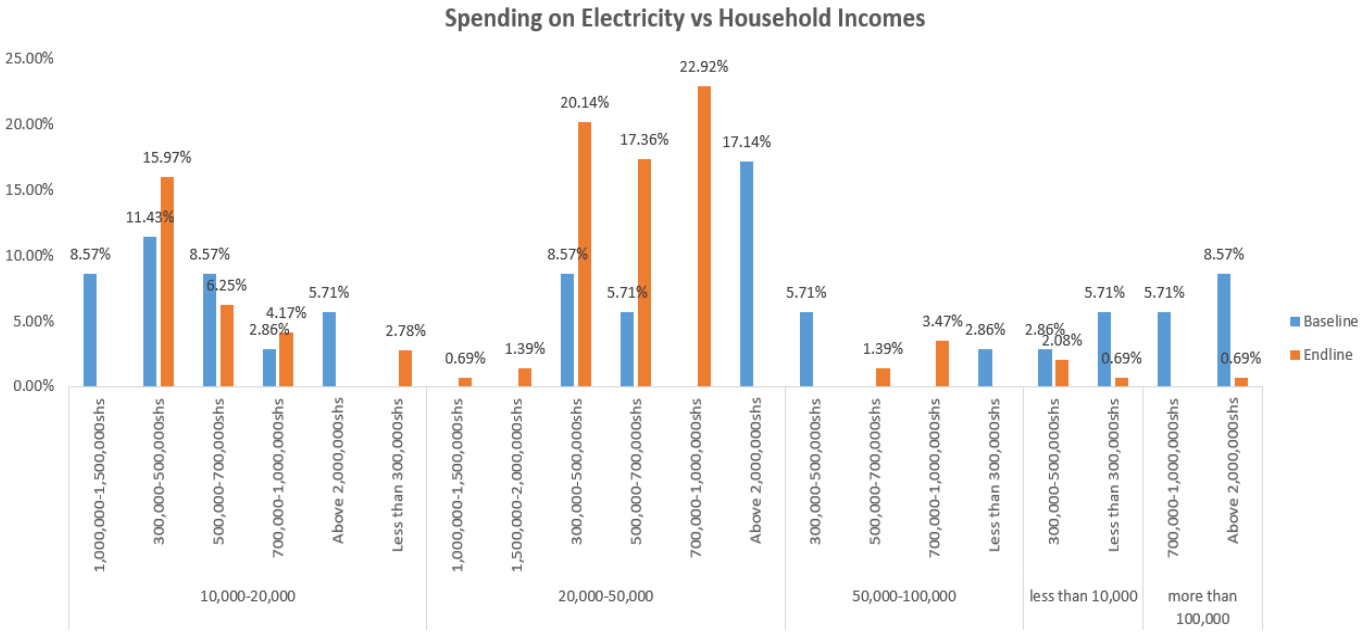

Figure 21: Income levels and spending on electricity

Low-income earners such as those earning 1,000,000 and below were the most beneficiaries of the project awareness campaigns on the affordability of electricity. For instance, the proportion of participants spending 10,000-20,000shs on electricity while earning between 300,000-500,000shs increased by 4.5% while those who earn between 700,000-1,000,000shs increased by 1.3% at the time of the endline. Additionally, the percentage of those in the same spending category who earn less than 300,000shs increased by 2.8%.

Similarly, the proportion of those spending between 20,000-50,000 increased greatly by 11.6%, 11.7% and 22.9% among participants who earn between 300,000-500,000shs, 500,000-700,000shs and 700,000-1,000,000shs respectively. Additionally, those who spend 10,000-20,000shs while earning between 500,000-700,000shs contributed to 6.3% of the endline group. Despite the percentage being a reduction compared to the baseline, it is still higher than that for similar income groups spending above 50,000shs on electricity.

2.6.0 Willingness to buy E-cooking Technologies

2.6.1 Willingness to buy Gas Cookers

The proportion of respondents willing to buy Gas cookers increased mostly among those aged between 40-50 years (by 21.6%) and those between 30-39 (8.9%) at the time of the endline survey (see figure 22).

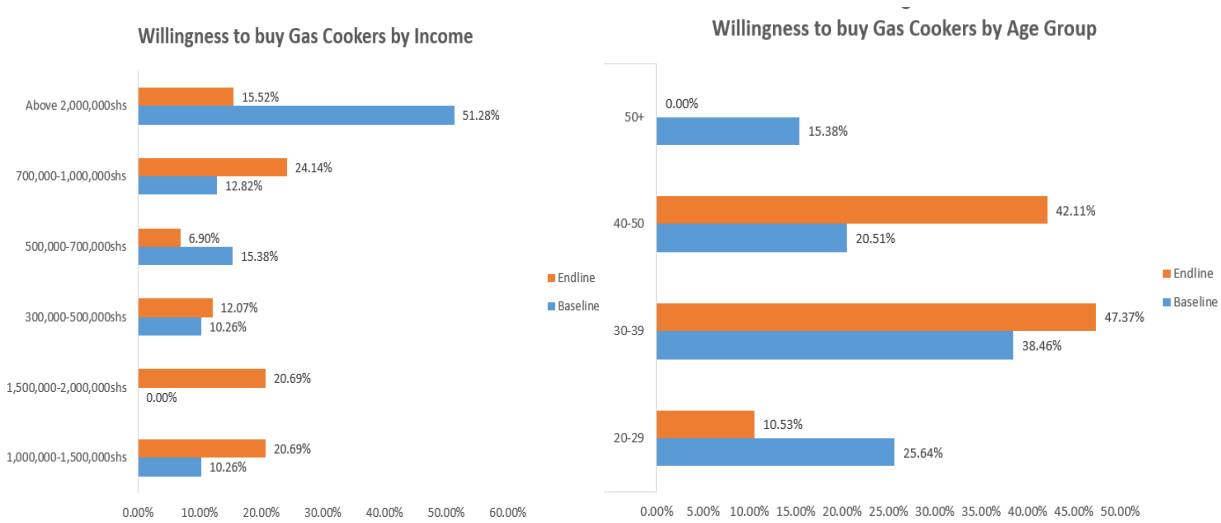

Figure 22: Willingness to buy gas cookers

The endline also revealed more willingness to buy Gas cookers than during the baseline among different income levels. Among those who earn between 700,000-1,000,000shs, the increase was by 11.3%, 1.8% for those between 300,000-500,000shs, 10.4% among those between 1,000,000-1,500,000shs and 20.7% among those earning between 1,500,000-2,000,000shs.

Conversely, willingness to buy Gas cookers declined among the richest group of the survey participants and those earning between 500,000-700,000shs. The latter's proportion reduced by 8.5% while that of the former reduced by 35.8%. This implies that the former being earners of over 2,000,000shs are likely to already have been in possession of Gas cookers during the baseline survey period.

2.6.2 Willingness to buy Improved Charcoal Stoves

Participants also indicated their willingness to buy improved charcoal stoves. The increase in the proportion of those who were willing these stoves was more evident in older aged people. For instance, at the time of the endline, the proportion of those aged between 40-50 increased by 15.2% while that of those above 50 years increased by 3.7% (see figure 23).

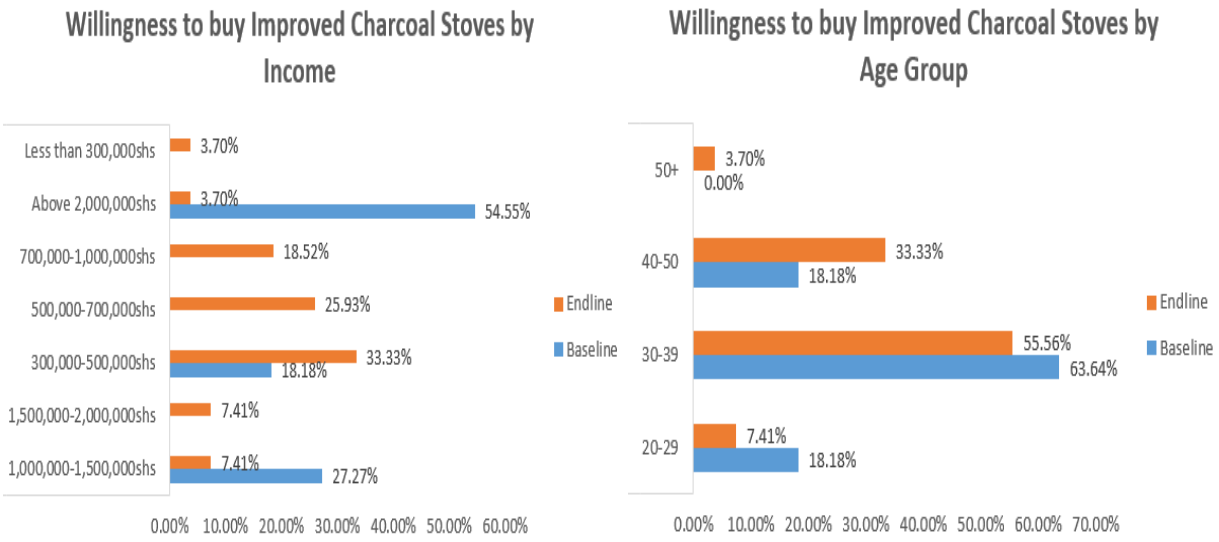

Figure 237: Willingness to buy improved charcoal stoves

On the other hand, relatively younger-aged participants (20-29 and 30-39) had proportional reductions by 10.8% and 8.1% respectively. However, the latter age group still had the highest proportion during the endline (55.5%) just as it was during the baseline.

Among different income groups, much of the increase in the percentage of those willing to buy improved charcoal stoves at the time of the endline was higher among those earning 700,000shs and below. For instance, those willing to buy improved charcoal stoves increased by 15.2%, 25.9% and 18 5% among 300,000-500,000shs, 500,000-700,000shs and 700,000-1,000,000shs earners respectively.

On the other hand, willingness greatly reduced among those earning above 2,000,000shs and those between 1,000,000-1,500,000shs (by 50.8% and 18.8% respectively at the time of the endline survey). This is likey due to the apparent reliance on electricty or other technologies or intentions to buy them.

2.6.3 Willingness to buy the EPC

During the baseline, more willingness to buy the EPC was prominent among younger survey participants and vice versa. The endline however, saw more willingness among 30-39 and 40-50

age group (44.9% and 39.6% respectively). These proportions came with increments of 10.3% and 21.8% in the endline as compared to the baseline respectively (see figure 24).

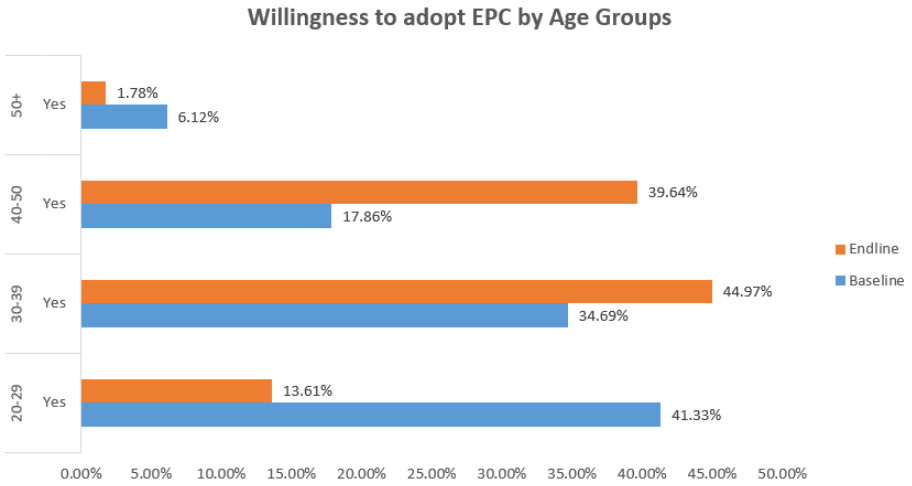

Figure 24: Willingness to buy the EPC

Low-income earners (300,000-500,000shs) between 30-39 years showed more willingness to buy the EPC during the baseline than their baseline equals (15.8%). In fact, during the endline, this salary group saw increase in the proportions willing to buy the EPC across all age groups except among those above 50 years.

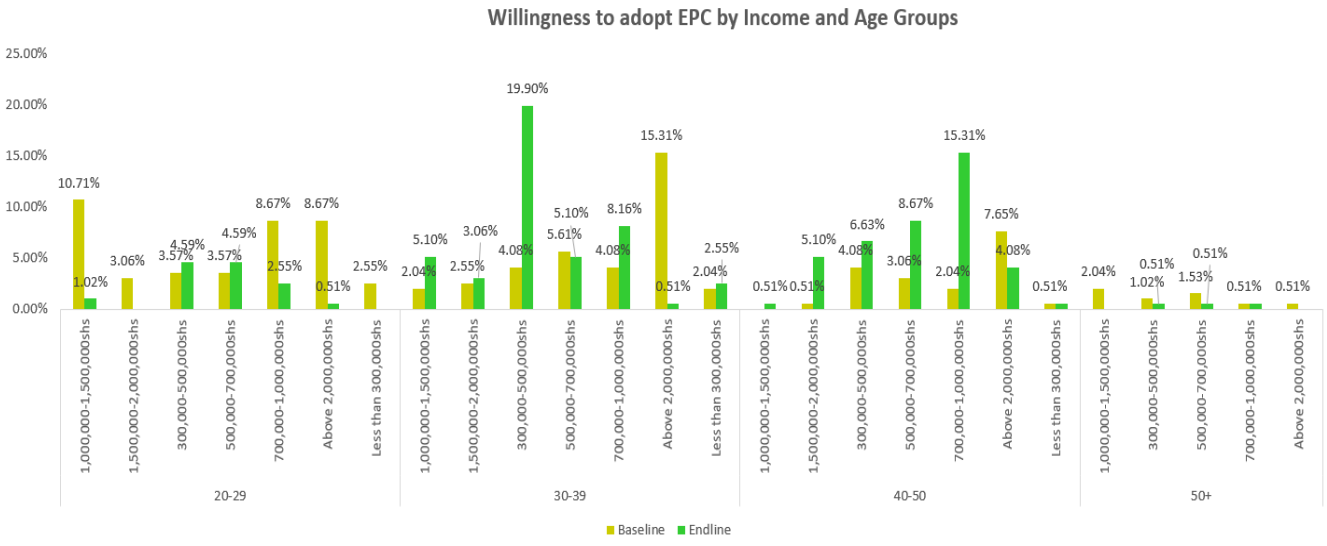

Figure 25: Willingness to buy the EPC per income and age group

The endline survey results further revealed more proportions of those participants with intentions to buy the EPC across all income categories of the 40-50 years category, with the exception of those earning above 2,000,000shs as monthly salary (see figure 25). The highest percentage increase in this age category was among those earning between 700,000-1,000,000shs (13.3%).

A similar trend was also exhibited in the 30-39 age category in which the endline registered percentage increments among those willing to buy the EPC. This was the case across all income categories except the earners of 500,000-700,000shs and those above 2,000,000shs. In fact, the latter income group did not register any proportional increment across all the different age categories during the endline survey.

2.6.3.1 Price Willingness for the EPC

At the time of the endline, there was more appreciation about the technology of the EPC. This is seen in the price willingness to buy the EPC (see figure 26). For instance, the proportion of those willing to buy the EPC at less than 50,000shs greatly reduced from 9.09% to 0%. Similarly, those who were willing to buy the EPC at a price range of 200,000-300,000shs also increased by 9.8% in the Endline. Also, those who prefer to buy the EPC between a price of 100,000-200,000shs increased by 33.4% in the Endline. This implies a great deal of associating the technology to various clean-cooking advantages.

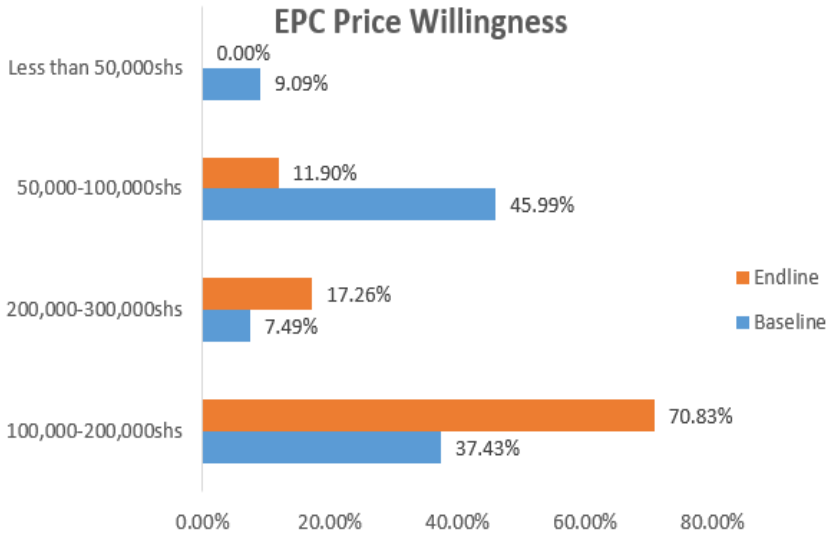

Figure 26: Price willingness for the EPC

Among different income groups, the proportion of those willing to buy the EPC at 100,000-200,000shs increased as shown by the endline survey results in comparison with the baseline (see figure 27). The exceptions were only among those earning above 2,000,000shs and those between 1,000,000-1,500,000shs who instead registered reductions of 8.8% and 3.1 respectively.

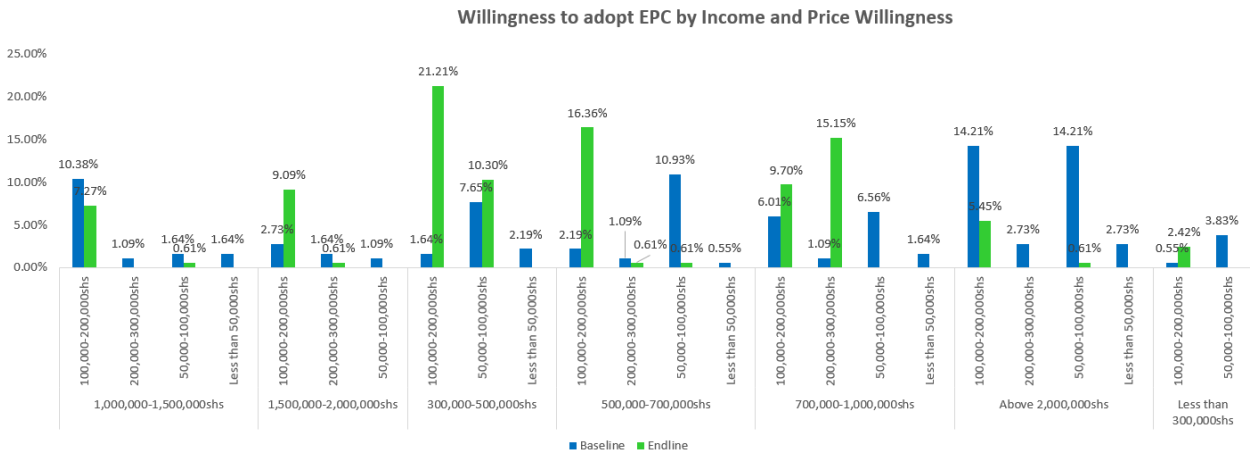

Figure 27: Price willingness for the EPC with income levels

In isolation, participants who prefer to buy the EPC at a price between 200,000-300,000shs while earning between 700,000-1,000,000shs increased greatly by 14.1% at the time of the endline survey. It is also noteworthy that during the endline, much of the proportional increase among those willing to buy the EPC was among those participants earning within a range of 300,000-1,000,000shs.

2.7.0 Preferred Payment Means and Supply Channels

There is a lot of preference for installment payment in the purchase of clean-cooking technologies, evidenced in both the baseline (43%) and the endline (65.7%) as seen in figure 28. This implies a 22.7% increase in the preference for installment payment for the purchase of the EPC. Further evidence to this is the decrease in the preference for cash payments by 15.6% in the endline cohort.

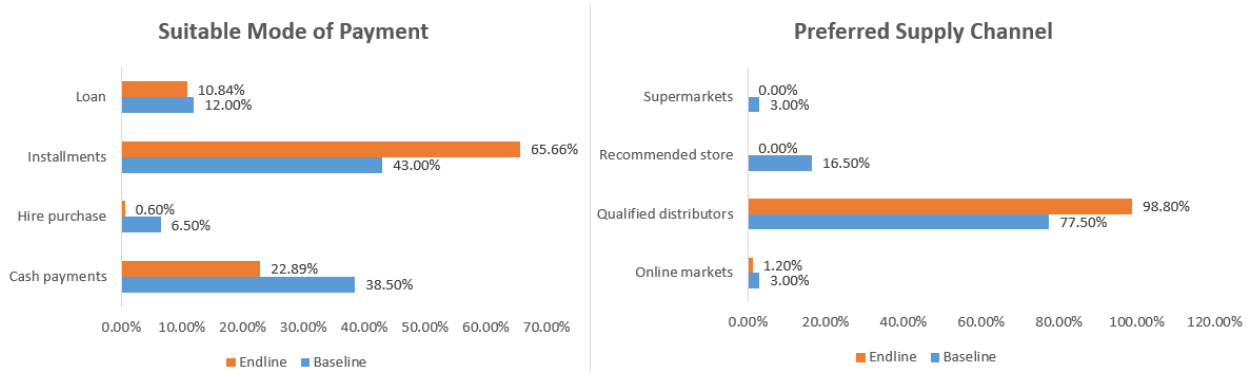

Figure 28: Preferred payment and supply channels

Similarly, there is high preference for e-cooking technologies to be supplied through qualified distribution channels, and this was the same at both the baseline and the endline levels of the surveys. More evident to this is the 21.3% increase in this preference at the endline level.

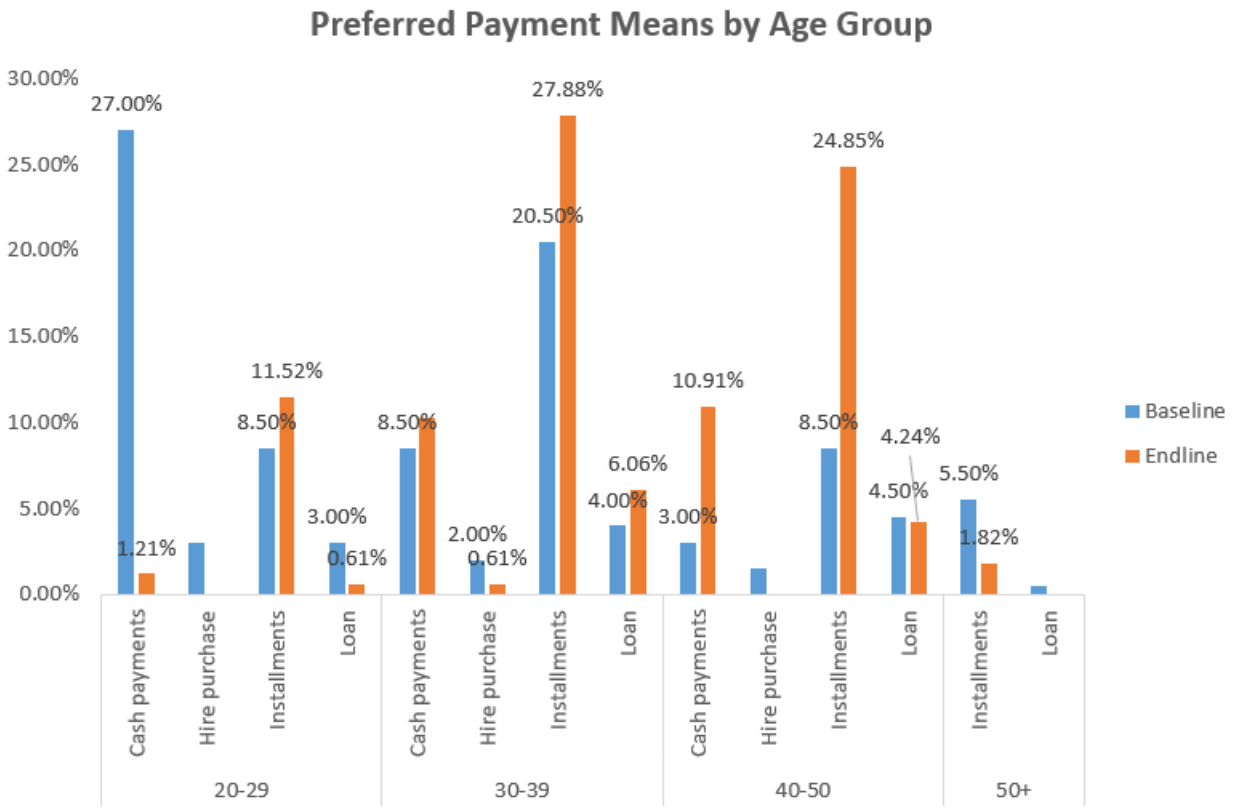

Figure 29: Preferred payment means per age group

At the endline, installment payments gathered more interest from different age groups of participants as seen in figure 29. The highest percentage increase was exhibited among the 40-50 age group (16.4%).

On the other hand, preference for cash payments reduced greatly especially among the 20-29 age groups of participants (by 25.8%).

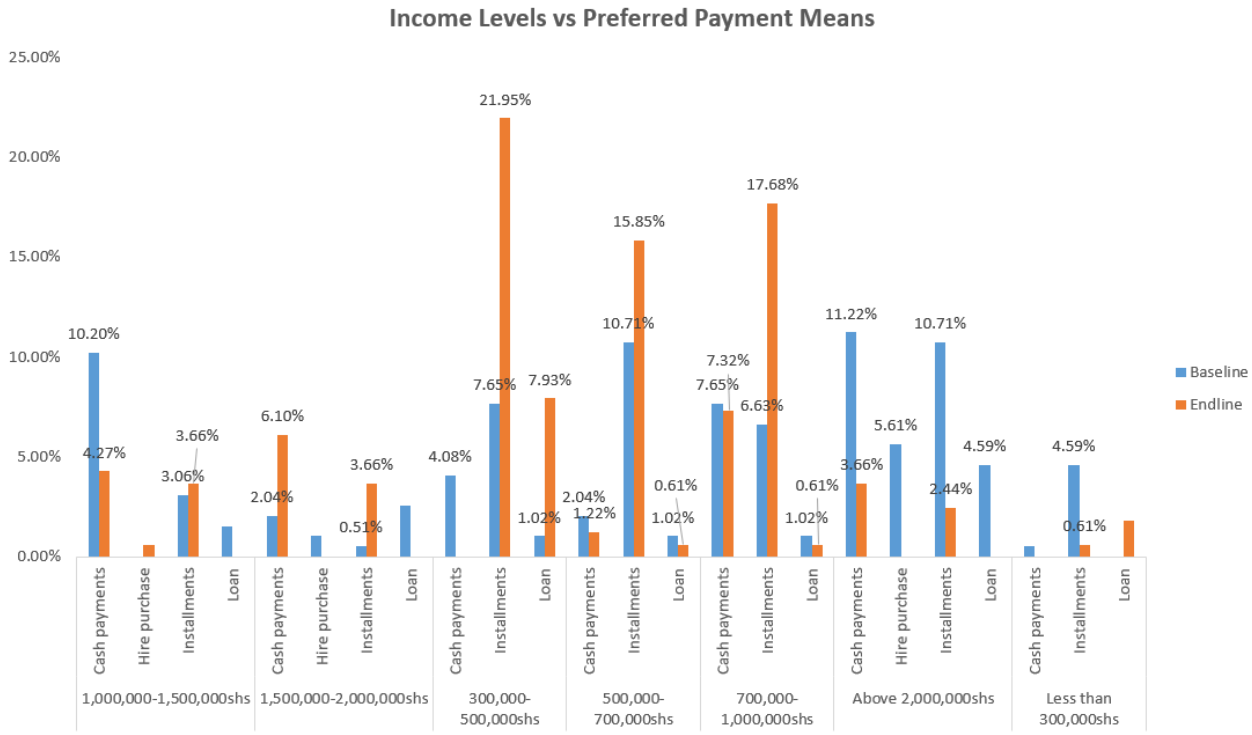

Figure 10: Income levels and preferred payment means

The endline also showed increase in preference for installment payments among several income groups as seen in figure 30. Higher proportional increments were seen mainly in low-income groups (300,000-1,000,000shs). For instance, there was more preference for installments by 14% among 300,000-500,000shs income group.

The same group also had a 6.9% increase in those that prefer loan payments at the endline survey time. Similarly, those that prefer installments while earning between 700,000-1,000,000shs increased by 11% during the endline survey.

2.8.0 Benefits and Barriers to E-cooking

2.8.1 Benefits of E-cooking

The proportion of participants who attribute the selected e-cooking benefits increased at the time of the endline (see figure 31). For instance, the was a 20% increase among those participants who consider e-cooking to be a faster way of preparing meals. Similarly, those who attribute e-cooking to cleanness and hygiene also increased by 11.8% during the endline period.

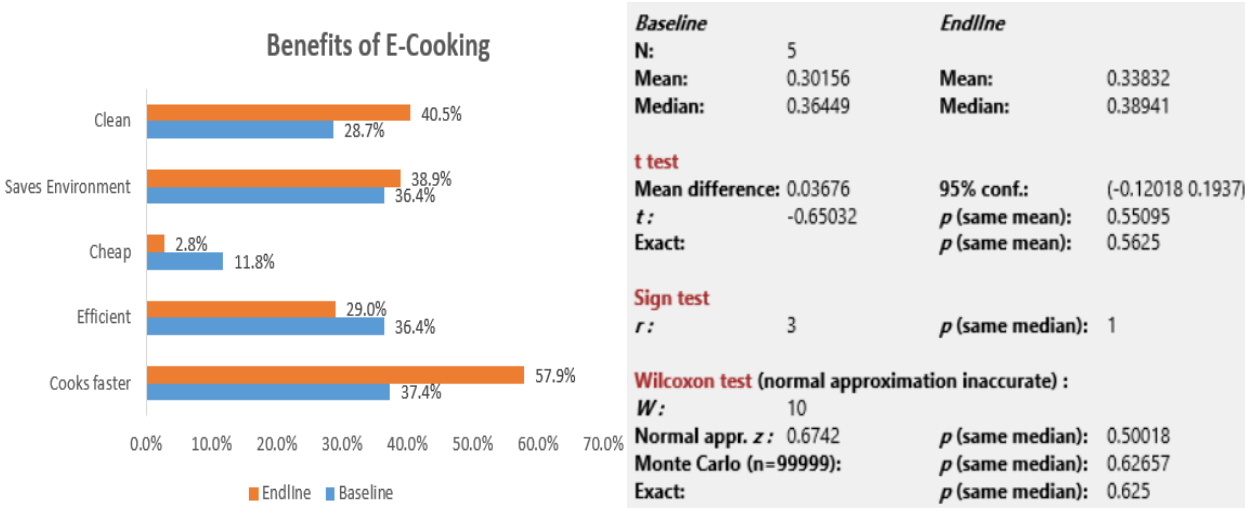

Figure 31: Benefits of e-cooking

2.8.2 Barriers to E-Cooking

Perceptions leading to the barriers of e-cooking greatly reduced during the endline survey as seen in figure 32.

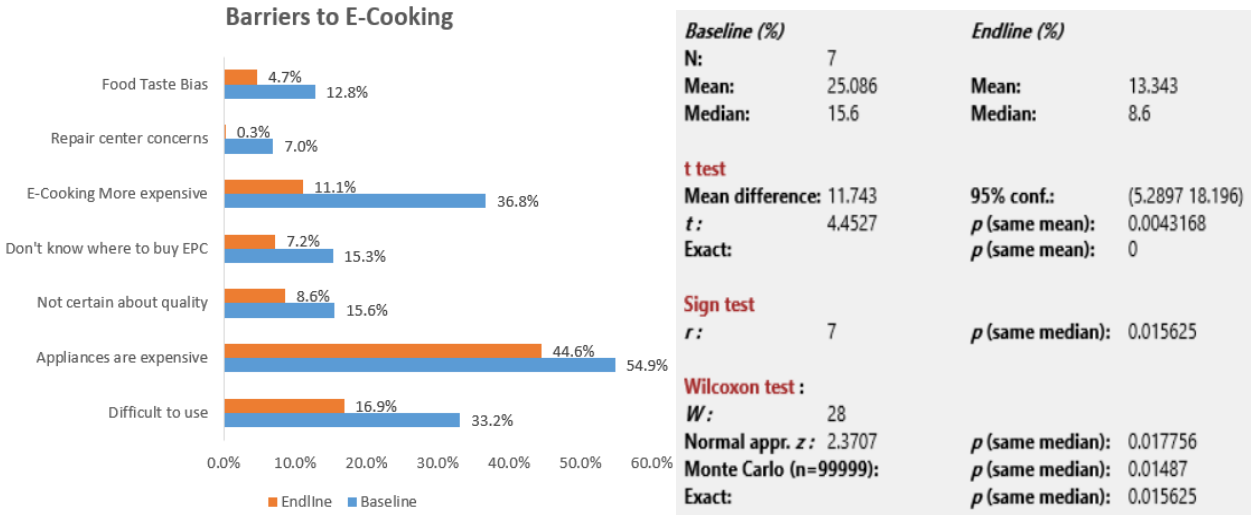

Figure 32: Barriers to e-cooking

This reduction was observed across all the different aspects of barriers. For instance, there was significant reduction in the perception that e-cooking technologies are difficult to use (16.3%) and also the perception that e-cooking is more expensive (25.7%).

The most highlighted challenge (that appliances are expensive) also registered a decline by the endline period, with a 10.3% decline in the proportion of those noting it as a challenge. It is also noteworthy that the reduction in these perceptions was a significant one (p-value = 0.004).

2.9.0 Sentiments on E-cooking

Sentiments on e-cooking improved at the time of the endline, with more of them focused on the benefits of e-cooking as seen in figure 33. Participants mainly emphasized that e-cooking cooks faster and also saves time.

Furthermore, they also noted that e-cooking is clean, reliable, efficient and environmentally sustainable. This was unlike during the baseline where sentiments were mixed with both positive and negative ones.

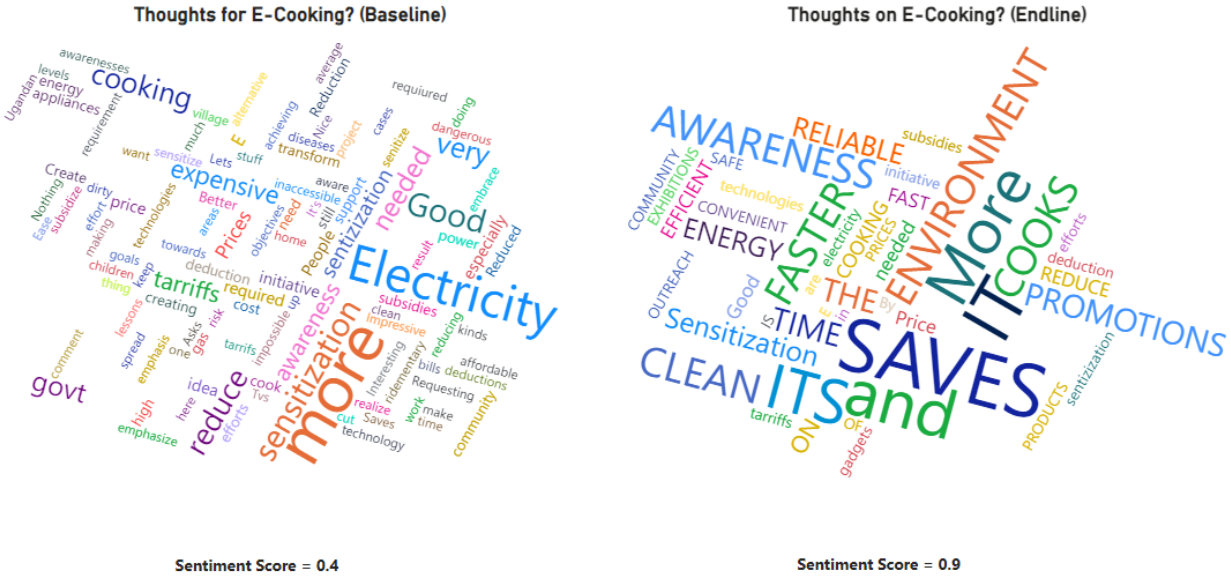

Figure 33: Sentiments on e-cooking

Nevertheless, participants also called for more sensitization and awareness creation among the general public so that the e-cooking benefits are enjoyed at a national level. This was suggested through calling for more community exhibitions to showcase the efficiency of e-cooking.

Resultantly, overall endline survey sentiments from the respondents about e-cooking are generally positive with a score of 0.9 (maximum score is always 1). This positivity was mainly due to the high appreciation, anticipation, satisfaction and excitement amongst the endline participants.

3.0 CONCLUSIVE RECOMMENDATIONS

The endline showed a positive impact of the project activities as seen in different aspects of this report's results. Results revealed that much of the information about e-cooking was mainly provided through organization campaigns. Furthermore, results revealed that participants of the project campaign activities passed on information to their fellows. Henceforth, more campaigns are valuable step towards ensuring wider coverage of clean-cooking.

Participants of the endline showed an increase in the positive attitudes about the e-cooking technologies such as the EPC, Gas cookers and improved charcoal stoves. Much of the satisfaction and appreciation was mainly among low-income earners (earning 1,000,000shs and below). This is also a justification to the increase in the preference for installment and loan payments while leaving a decline in the preference for cash payments.

This therefore suggests that financial support schemes should be considered in the promotion of clean-cooking technologies. This will enable all categories of income earners to have financial access to these technologies.

The reliance on electricity greatly increased by 20% especially among low-income participants. Similarly, LPG also gained more dependency as revealed through the increased expenditure by respondents on LPG. This is highly attributable to the awareness campaigns that demystified the affordability of LPG.

Participants also appreciated e-cooking technologies with remarks on their prospects and associated benefits. They highlighted the need for more public awareness and sensitization through further community exhibitions to increase the information coverage about clean cooking. Such remarks dominated their sentiments leading to highly positive sentiment score in the results of the endline survey.

Conclusively, the endline survey results have showed that project activities were instrumental in creating awareness and sensitization in the selected areas in and around Kampala district. Furthermore, the project's promotional campaigns improved the perceptions and attitudes around clean cooking. Specifically, there was improvement in the attitudes towards the use and adoption of several clean-cooking technologies such as the EPC and Gas cookers as well as electricity and LPG as alternative and cleaner fuels.