



SHAMBA SHAPE UP SERIES 2 UGANDA

**SMALL-SCALE FARMERS' KNOWLEDGE,
ATTITUDES AND PRACTICES IN SELECTED
DISTRICTS OF THE CENTRAL REGION OF
UGANDA**



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1. KEY TAKEOUTS

Derived from the Day after Recall Study (DaR)

- The national reach of SSU (2) was 9.3% of the total adult television audience (representing 660,000 adults). The series reach among its key target group of farmers was 12.9%. Almost six in ten of SSU (2)'s audience (59%) lived in rural areas with 41% living in urban areas.
- The audience profile was slightly skewed towards 25-34 year old TV viewers and those living in the Western region of the country
- The vast majority (85%) watched the series on Bukedde TV in Luganda

Derived from the Knowledge Attitudes and Practices Surveys (KAP)

- SSU (2) viewers were much more likely than their non-viewing counterparts to have in-home access to television sets, watch television on a more frequent basis and use television as their source of information on farming matters. SSU (2) was by far the most watched and considered the most useful TV programme on farming matters
- Most (around 60%) SSU (2) viewers watched at least three episodes of the series each month it was broadcast and viewers watched in the company of others. Four in ten watched with one or 2 other people and 25% watched with three or four other people. Like all series of *Shamba Shape Up* the 'technically measured audience' is amplified to a considerable degree by joint viewing and the sharing of information learnt.
- Eight in ten viewers said they had made changes to their shamba and farming practices as a result of watching the series and around 70% felt that these changes had resulted in better incomes. Most said they had learnt something new from watching *Shamba Shape Up* and had passed information on to friends, family and neighbours.
- Very positive feedback from viewers, the series was highly rated and the intention to watch future series was very high.

Positive changes observed as a result of viewing the series (what is working)

- Some evidence that the series is having some effect on **financial record keeping behaviour** as SSU (2) viewers more likely to keep a written business plan for their farm. Others do not see the benefit of keeping written records as they 'keep in in their heads'.
- Improved knowledge and practice with regards to conducting a **soil test** among series viewers
- Levels of knowledge of the types of foods and benefits of cooking with an **electric pressure cooker** were higher among SSU (2) viewers

Little or no change observed as a result of viewing the series (what requires more attention)

- Improved **cattle feeding practices** – supplements and forages

- Although messages about the housing, feeding and welfare of chickens are being acted upon by viewers, there is work to be done on **chicken vaccinations**
- **Crop growing practices**, seed and fertiliser use, intercropping, harvesting (coffee, matooke and beans)
- **Climate change adaptation**, including the benefits of agro-forestry

2. INTRODUCTION

2.1 Shamba Shape Up (2)

Shamba Shape Up (SSU), a Mediae production, aired for first time in Uganda between March and August 2022. Following a successful first series, the second series of *Shamba Shape Up* (SSU 2) was shown on Bukedde Television and Urban Television between March and August 2023. The series continued to follow the well-established edutainment format and was filmed on small-holder farms in the Central region Uganda. The aim of the series was to illustrate new farming methods and solutions and to give small-holder farmers practical advice to help them increase production, improve their farming practices, turn their farms into viable businesses through improved financial literacy and improve their own and their families' knowledge of how to adapt to the challenges of the changing climate.

In this second series (SSU 2 Uganda) presenters and subject matter experts visited small-holder farms, of up to 10 acres in size, to demonstrate practical solutions to solve farmers' problems and improve farming methods through demonstrations and on-site 'make-overs'. The series aired weekly between 25th March and 20th August 2023 in Luganda on Bukedde Television on Thursday evenings at 20.00 and in English on Urban Television on Friday evenings at 20.00.

A bespoke Day after Recall (DaR) survey was conducted over the length of the series to establish the size and reach of the total audience for SSU (2) and the size and reach among its target group of small-holder farmers. Day after Recall (DaR) is a well-recognised survey methodology used to measure television and radio audiences in the absence of National Audience Measurement Surveys. In Uganda, the periodic audience measurement surveys, conducted every two or three years, do not provide the level of detail required to measure the actual performance of specific television series among television audiences in Uganda.

In addition to the DaR survey, Mediae commissioned a pre-broadcast (baseline) and post-broadcast (endline) knowledge, attitudes and practices (KAP) survey to evaluate the impact of the series on small-holder farmers in the Central region of Uganda. This report charts and describes the changes that have been observed between the pre-broadcast survey (among a sample of 1,032 non-viewers) and a post-broadcast survey among demographically matched samples of non-viewers of SSU (2) (516) and viewers (508). All changes, pre and post broadcast and demographic differences have been tested for significance and only those that are statistically significant have been commented on in

the narrative. As a guide for readers, a difference of +/- 7% in the baseline to endline and within the endline samples, can be interpreted as representing a statistically significant difference.

Audience measurement and series evaluation research are required by Mediae and its partners to provide a reference point for tracking series performance and understanding what has been 'successful' and what has been 'less successful' in terms of raising awareness and improving knowledge and awareness about specific topics and potentially changing behaviours and practices. Changing farming practices and behaviours is a notoriously challenging objective in the short-term as evidence shows that behaviours tend to change slowly, over longish periods of time, and often 'proof of success of new practices' needs to be demonstrated 'on the ground' for changes in traditional farming practice to be adopted. A list of SSU (2) Uganda partners is in Annex 1.

2.2 Study Methodologies

SSU (2)'s performance in terms of audience size and reach was assessed through a specially designed and commissioned Day After Recall survey. This methodology is an accepted measure of audience performance and is used in markets where there is no standard industry audience measurement system - such as in Uganda. The method involved contacting samples of television viewing adults the day immediately following the programme's transmission to establish viewing behaviour on the night of transmission. For this study GeoPoll, an independent research company based in Kenya, was commissioned to conduct the study using its mobile phone panel. Their technical report of the methodology is in Annex 2.

The impact of the series on small-scale farmers and extended audiences has been assessed through a standard baseline (pre-broadcast) and endline (immediately post-broadcast) Knowledge, Attitudes and Practices (KAP) survey among independent but matched samples of just over 1,000 small-holder farmers in the Central region of Uganda.

The primary research baseline and endline surveys took place in March 2023 and September/October 2023, respectively and the data collection was conducted by IPSOS, a research agency based in Uganda. In both waves, data collection was conducted in-person, in-home by a team of experienced and trained enumerators and supervisors. At each wave, before data collection, the teams of enumerators and supervisors attended a two-day training session and were fully briefed on the methodology, the sampling procedures and the study instrument. Pilot exercises were undertaken before the start of each wave of data collection to ensure that the study instrument was operational and comprehensible. A total of 1032 interviews were successfully achieved across the four target districts at the baseline and a total of 1024 was achieved across the same four target districts at the endline. A full technical report is in Annex 3.

2.3 This report

The KAP data presented in this report are based on the total sample profiles and responses from the pre-broadcast non-viewers and post-broadcast non-viewers (blue shaded bars) and post-broadcast viewers (yellow bars) to facilitate comparisons.

3. KEY FINDINGS

3.1 KEY FINDINGS: SSU (2) Audience Performance

3.1.1 Day After Recall study: Sample profile, methodology and limitations

In the absence of a regularly conducted audience measurement survey in Uganda, Mediae commissioned a bespoke Day After Recall (DAR) audience measurement survey so as to provide estimates of SSU (2)'s audience performance. The survey was conducted over the length of the series by GeoPoll, an independent research agency based in Nairobi, Kenya. The survey involved establishing a large representative pool of Ugandan television viewers from GeoPoll's telephone database of many thousand panellists across the whole country. Each week, on the day immediately after SSU (2) was broadcast (Thursdays on Bukedde and Fridays on Urban) a total of 300 panellists was telephone and asked about their television viewing the previous evening. Aggregated over the length of the series the data are able to provide an estimate of audience size, reach and profile among representative samples of Ugandan television viewers (aged 18 and over) and among the target audience of farmers.

The principal limitation of this methodology is that it relies on 'recall'. However, to mitigate the length of time the recall of television channels and programmes viewed 'yesterday' interviews took place between 8am and 12 noon on the day immediately after broadcast. Nevertheless, in an increasingly cluttered media environment and with the increase in media consumption via digital devices, remembering what was watched 'yesterday' with a high degree of accuracy is challenging.

A second challenge is that the universe of Ugandan adult (aged 18+) television viewers has not been updated since IPSOS conducted the last Establishment Survey in Uganda in 2019 and still stands at 7.1 million. The reach of SSU (2) has been calculated on this, somewhat out of date, base of Ugandan adult TV viewers.

3.1.2 Audience size and reach

In 2019 IPSOS Uganda conducted a nationally representation media establishment survey and estimated that there were 7.1 million adult (18+) television viewers in Uganda, representing about 30% of the total adult population of around 25 million. While these estimates have not been updated since 2019 other indicators in the market would suggest that there has been a growth in the number of television viewers in the Uganda market. In the absence of more recent updates 7.1 million has been used as the viewing universe for the purposes of estimating the size of the SSU (2) audience in Uganda. In Uganda, largely due to accessibility, television viewing tends to be higher in urban areas (disproportionate access to electricity) than in rural areas.

The national reach of SSU (2) was 9.3% of the total adult television audience (representing 660,000 adults). The series reach among its key target group of farmers was 12.9% of farmers. Almost six in ten of SSU (2)'s audience (59%) lived in rural areas with 41% living in urban areas.

3.1.3 Audience profile

The profile of SSU (2)'s audience was over-represented in the 25–34-year-old age group, in rural areas and in the Western region of the country.

Table 1: Audience composition (total sample, national)

SSU (2) Series profile	%	DAR sample profile %
Male	55	52
Female	45	48
18-24	34	47
25-34	41	29
35+	25	24
Urban	41	47
Rural	59	53
Central	48	47
Western	26	7
Eastern	18	28
Northern	8	18

Reflecting the respective sizes of viewers to Bukedde TV and Urban TV , 85% of viewers watched SSU (2) in Luganda; 15% watched in English. After NTV (35%), Bukedde Television (20%) has the largest audience reach of all the television channels available in Uganda.

3.2. KEY FINDINGS: Impact On Knowledge, Attitudes And Practices (Kap)

3.2.1 Study sample criteria

Only small-holder farmers, with access to television living in the Central Region of Uganda were eligible for inclusion in the pre and post broadcast KAP surveys. In order to ensure that the two sample waves were comparable and that observable differences could be attributed to viewing SSU and to limit sample variability, the following controls and quotas were applied:

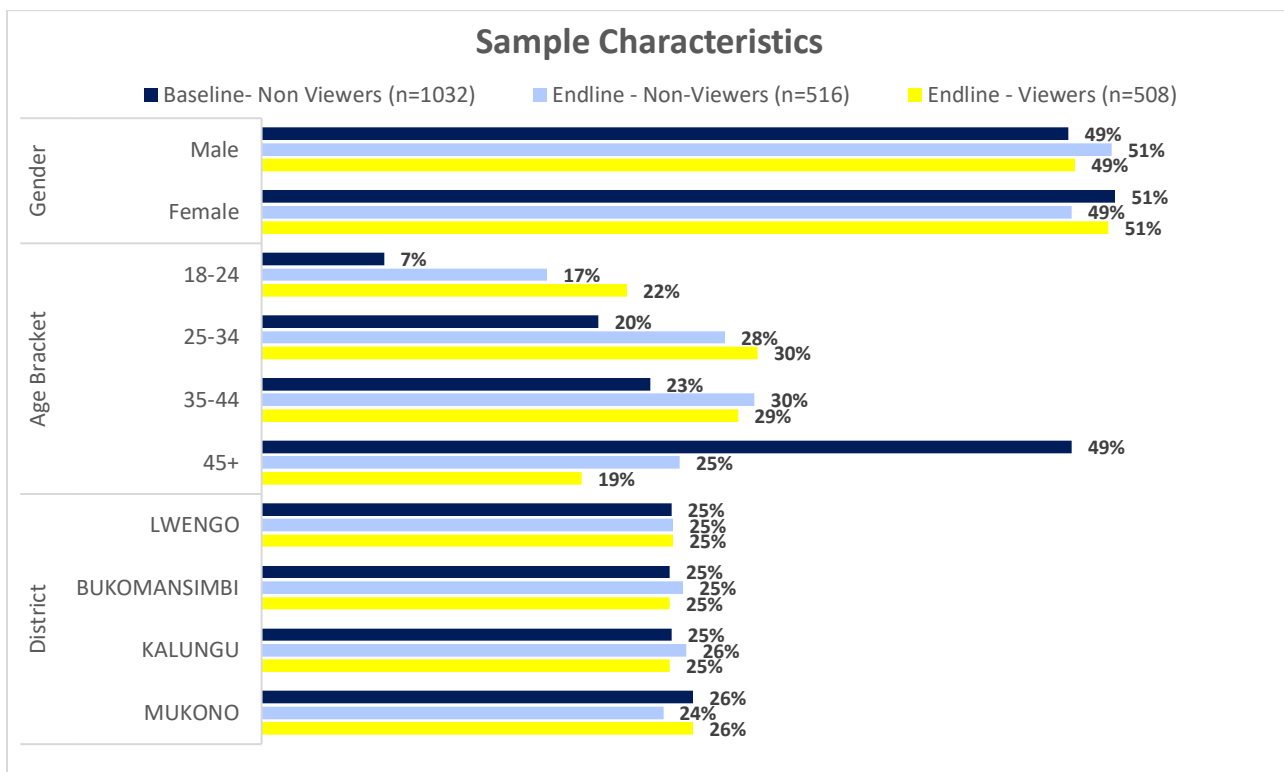
- Smallholder farmers farming between 0.5 and 10 acres
- Household access to television (at home or nearby)

- Watch television at least once a week
- Main or joint decision-maker on the farm
- Even split of age (18-34; 35+) and gender (male and female)
- Equal number of interviews conducted in each of Bukomansimbi, Kalungu, Lwengo and Mukono districts

3.2.2 Sample profiles by gender, age, acreage, farm ownership and socio-economic status

The sample profile charts below show that, at both waves of the KAP, the samples were well distributed by gender, age and district as per the sample and quota design. Most of the farmers who participated in both baseline and endline surveys were owners and managers (over 80%) of their farms which were – for the most part (over 50%) between 1 and 5 acres in size. Household ownership of items (as a proxy for socio-economic status) showed that these farmers were not the poorest – they had modest means (according to their household ownership of items and access to electricity) - and therefore, technically, among the most capable of their peers of making some modest investments to improve their productivity and farming practices.

Chart 1: KAP sample profile: Gender, age and district

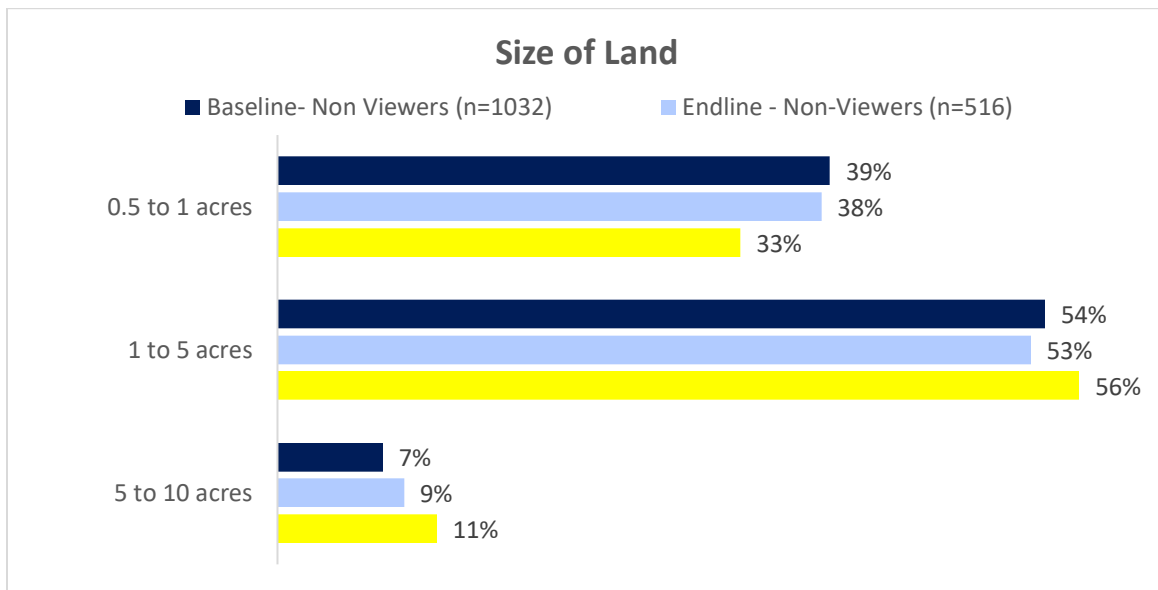


The demographic quotas set for the districts were fulfilled at both waves. With respect to gender and age, it was decided to quota for 50/50 men and women and younger and older respondents at the baseline and leave the quotas open at the end line in order to capture the correct profile of SSU

(2) viewers based on the information on audience composition derived from the DaR study. The gender profile of SSU (2) was evenly split between men and women but skewed very much in favour of the younger age demographics (52% aged 18 to 34). In the design considerations for future KAP surveys in Uganda it may be worth taking the profile of SSU (2) viewers into account when setting the age quotas in order to reflect the young audience profile of the series.

As evidenced by the KAP study for the first series of SSU in Uganda improvements in knowledge and practices as a result of exposure to SSU have the potential to have significant impact on the lives of many working in the sector and the businesses who support them. It is anticipated that the second series will build on the success of the first series in further enhancing knowledge and changing behaviours.

Chart 2: Sample profile: Size of farm



A little over one half (56%) of the of the smallholder farmers and managers in the KAP surveys farmed between 1 and 5 acres; just over one third farmed up to one acre and a tenth farmed larger acreages of between 5 and 10 acres. The following sub-groups farmed smaller acreages (0.5 to 1 acre)

- Small holder farmers in Mukono district
- Younger small holder farmers (18-34)

In line with the criteria for inclusion in the KAP survey, the vast majority of those interviewed owned and managed their farms (around 80%), around one in ten only managed the farms they were working on and fewer than one in ten rented and managed the land.

Most of the farmers (over 6 in 10) surveyed were the sole decision makers on their farms – this was the case in all the sample districts and for males and females alike. However, younger farmers were

more likely to be farm managers than farm owners and women were more likely to be ‘joint decision-makers’.

Respondents were asked if their household owned or had access to a number of items – this was to act as a proxy indicator of economic status. By targeting those smallholder farmers with access to television, the surveys deliberately included those with at least a modest level of income having demonstrated, in other markets, that this profile of smallholder farmers is the most able and the most likely to adopt new practices and technologies. The theory is that, when the less financially able see that the new practices and technologies deliver positive results, they follow thereby reducing their own risk and contributing to a ‘trickle down’ effect. Further, it has been demonstrated that those at the bottom of the pyramid are least well placed to make changes in their practices since they often require investment in ‘inputs’ and – without immediate positive impact on yields and income – can be judged too risky and uncertain.

The baseline and endline sample profiles with respect to the items their households either owned or had access to were very similar, as illustrated in the chart below. Access to television is an eligibility criteria, in order to be eligible for interview in the KAP surveys all households must have access to television (either in their own homes or elsewhere).

Table 2: Household Items Owned

Household items	Baseline- Non Viewers (n=1032)	Endline - Non-Viewers (n=516)	Endline - Viewers (508)
Household has access to TV	100%	100%	100%
Someone in household owns a phone	99% (mobile phone)	44% (smart phone)	48% (smart phone)
We use solar/ electricity for lighting	91%	91%	87%
Someone in the household owns a radio	84%	85%	79%
Storage facilities for farm outputs	68%	64%	62%
Own a motorcycle	33%	35%	39%
Own a vehicle/ car	6%	4%	7%
Household has Borehole, well or other open water for irrigation	(n/a)	21%	20%
Household uses Pump for irrigation	(n/a)	3%	5%

Household has a Fishpond	(n/a)	0%	1%
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Significant sub-group differences in ownership/ access to household items were:

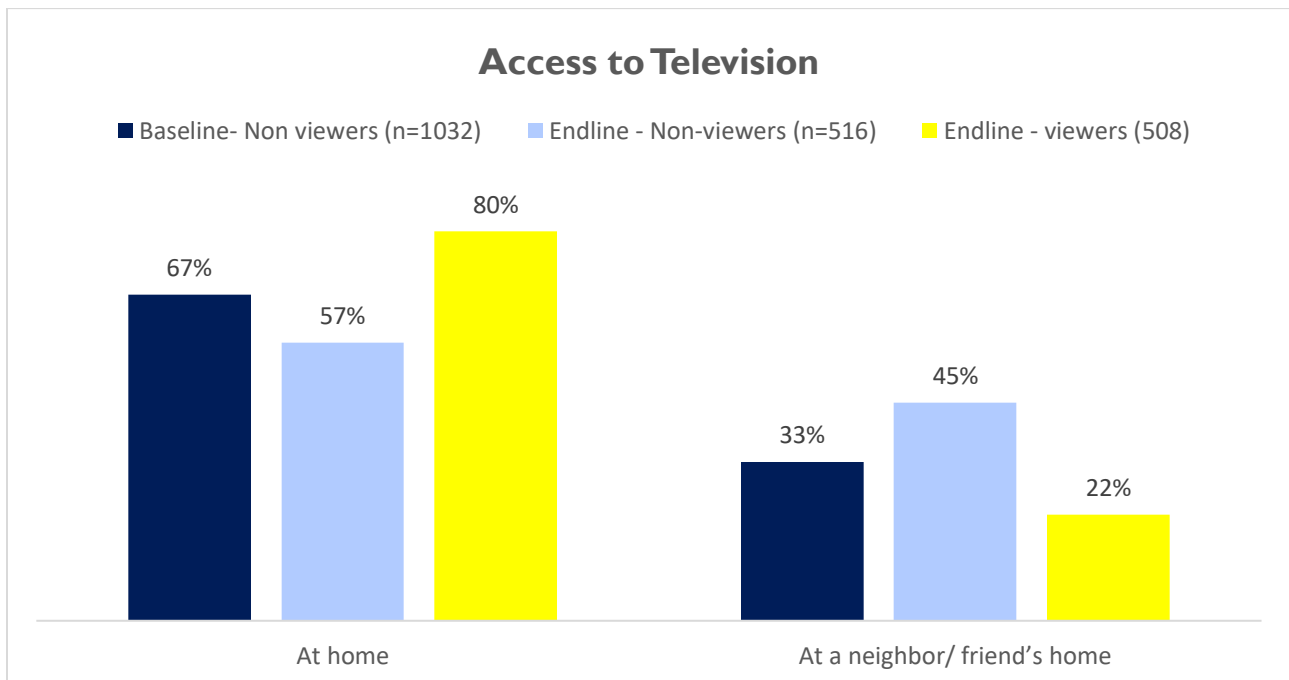
- Men were more likely to have access to a motorcycle and a car than women.
- 18-24's was over-represented in those who have storage facilities (but they were less likely to own the farms they manage)

3.3. KEY FINDINGS: Television Viewing (KAP)

3.1.1 Access to Television

To be included in the surveys, respondents had to have either in-home access to a working television or access to television set in the vicinity and be television viewers. As the chart below shows, there were significant differences between the home access to television and access at neighbours' or friend's houses between SSU viewers and non-viewers. Eight in ten viewers had access to television sets at home compared with around 6 in 10 non-viewers. This difference is significant and may explain why some small holder farmers watched SSU (2) and others, within the same communities, did not.

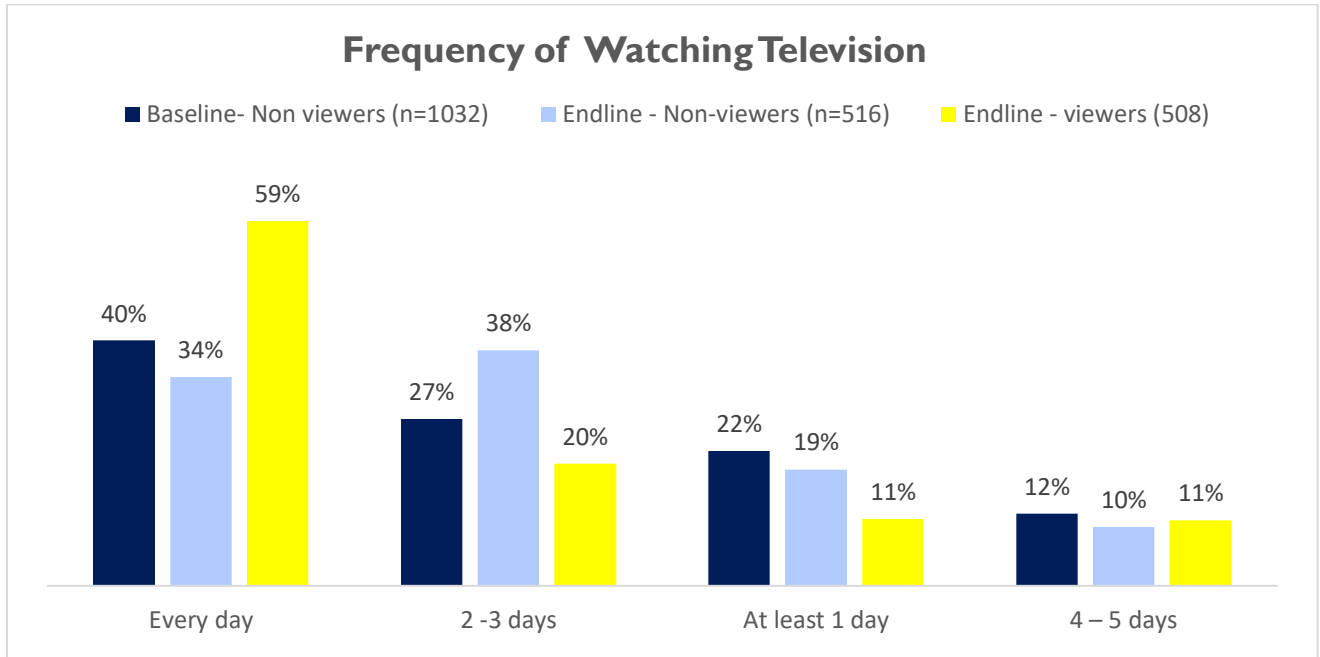
Chart 3: Sample profile: Access to television



Most likely as a result of their greater in-home access to television SSU viewers tended to be more regular television viewers than their non-viewing counterparts. Almost six in ten SSU (2) viewers said

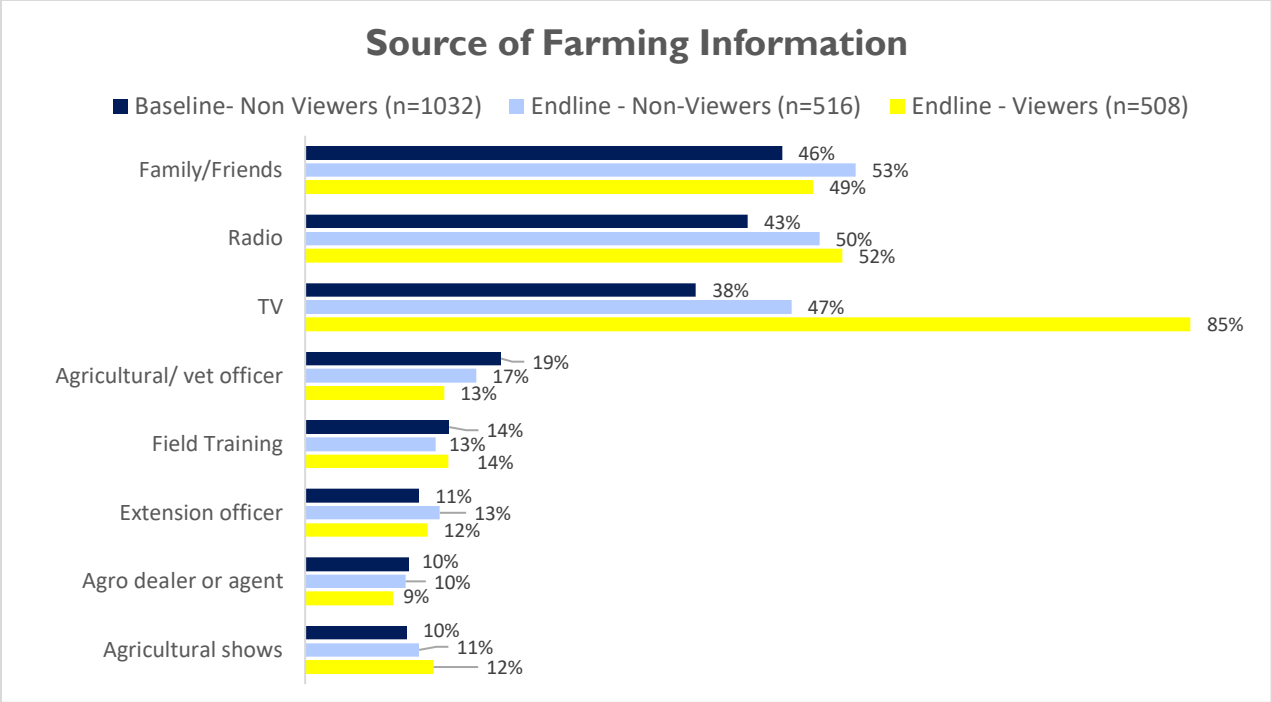
they watched television 'everyday' compared with between three and four in ten non-viewers of SSU (2).

Chart 4: Sample profile: Frequency of watching television



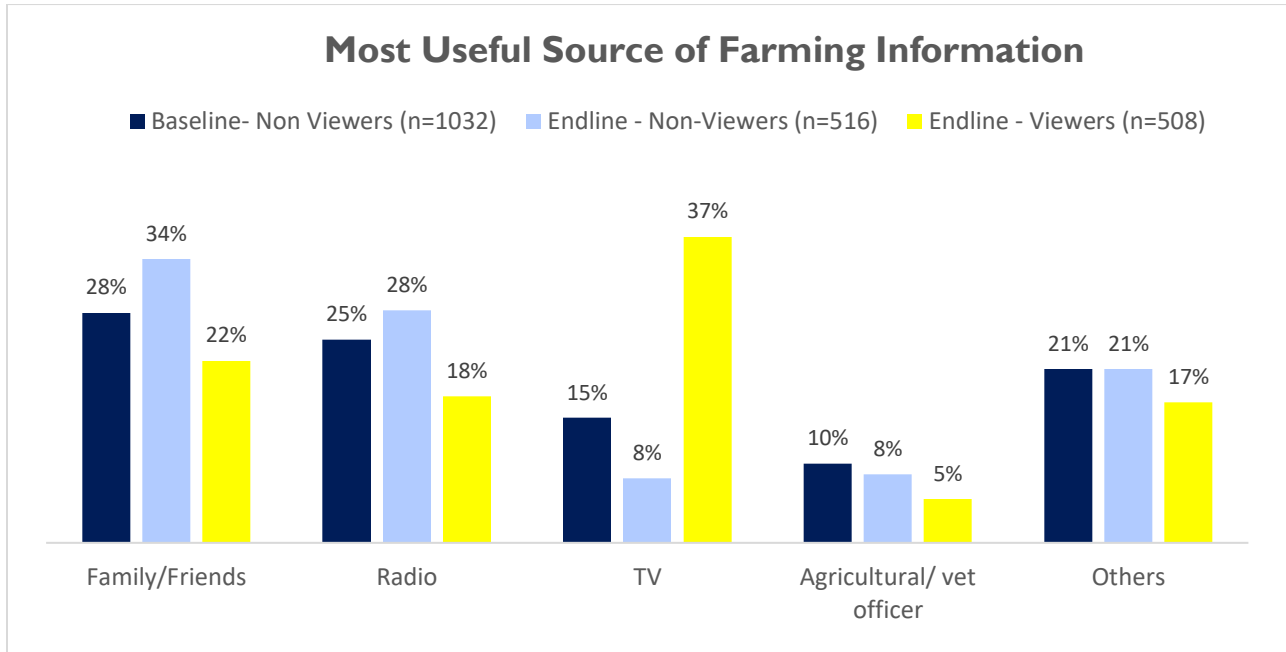
3.3.2 Most useful sources for farming information

Small holder farmers use multiple sources for information about farming and farming practices, including traditional media sources, word of mouth through friends and family and from professionals such as agricultural officers, extension officer and agro dealers/ agents. The vast majority of SSU (2) viewers (85%) said that television was their source of farming information, eclipsing all other sources.



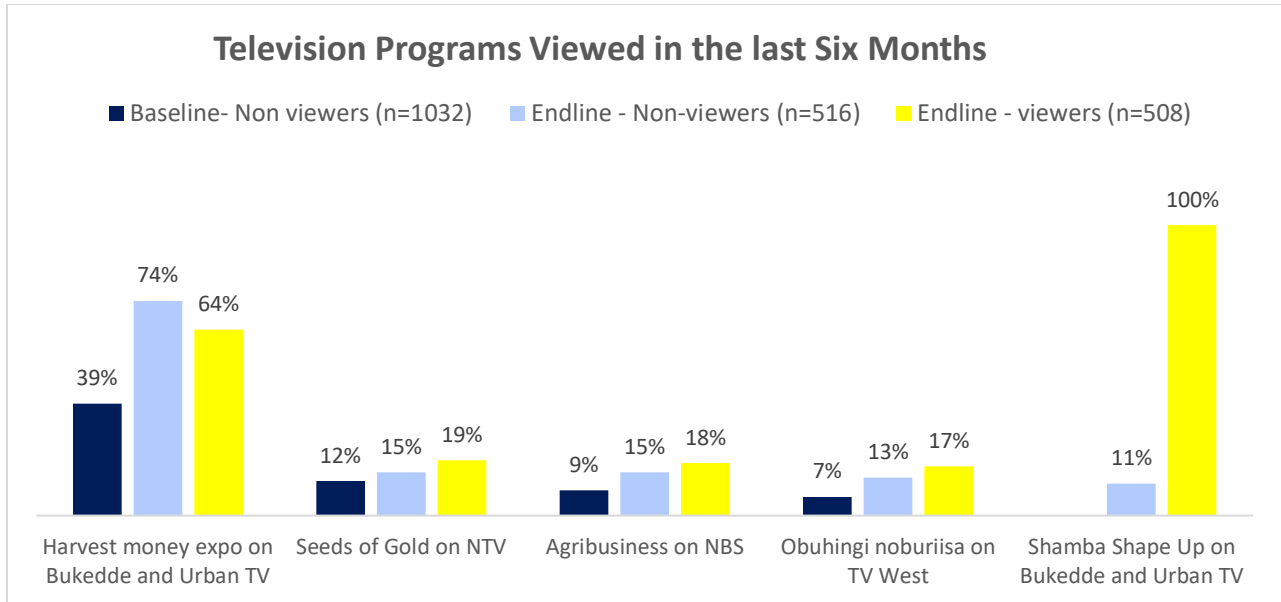
Before SSU (2) aired the two **most useful sources** of information about farming and agricultural practices were ‘family and friends’ (28%) and ‘radio’ (25%), with television considered as the most important source by only a small minority (15%). However, after the series aired and, among those who watched it, as many as almost four in ten said that, for them, the most useful source of farming information was television. This is an indication of how the television medium which has the power of illustrating as well as explaining can change to value of different communication channels as useful sources of information about farming practices.

Chart 5: Most useful source of information about farming and agriculture



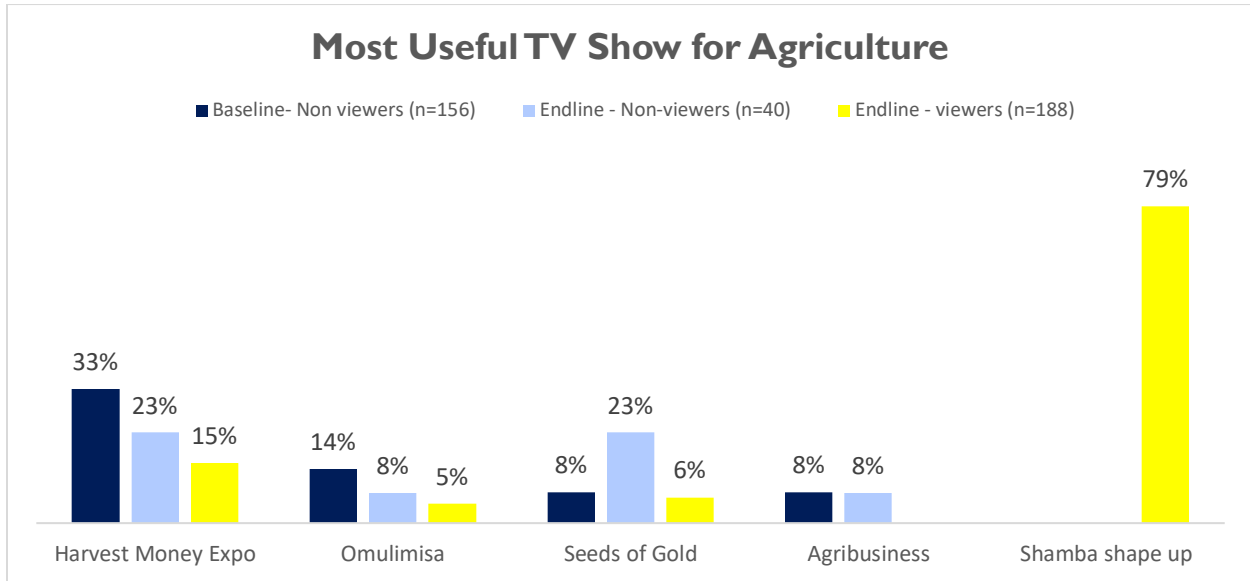
In answer to a question about specific, recently aired, television programs viewed, around four in ten at the baseline mentioned *Harvest Money Expo*, with *Seeds of Gold* (12%) and *Agribusiness* (9%) showing very low viewership. SSU (2) changed the landscape and increased the audience for all the farming related programs shown on television in Uganda in 2023. Around one in ten surveyed at the end line (11%) said they had watched SSU (2) but the lack of frequency with which they viewed did not qualify them to be included in the survey as SSU (2) viewers.

chart 6: chart 6: Television Programs Viewed in the last Six Months



Before SSU (2) was aired *Harvest Money Expo* was mentioned as the **most useful TV show** for farming information, although the small percentages suggested that the show did not have much of a following or was considered to be particularly informative. After SSU (2) had finished its run, the single most useful television programme for farming information cited by SSU viewers was SSU (79%) compared with only 15% who mentioned *Harvest Money Expo*. The data illustrate that, even in the early days of SSU’s presence on Ugandan television, it is being consumed and valued by its key target audience and, as happened in Kenya, it is highly likely that the series will go from strength to strength in attracting audiences and impacting the knowledge and practices of small holder farmers.

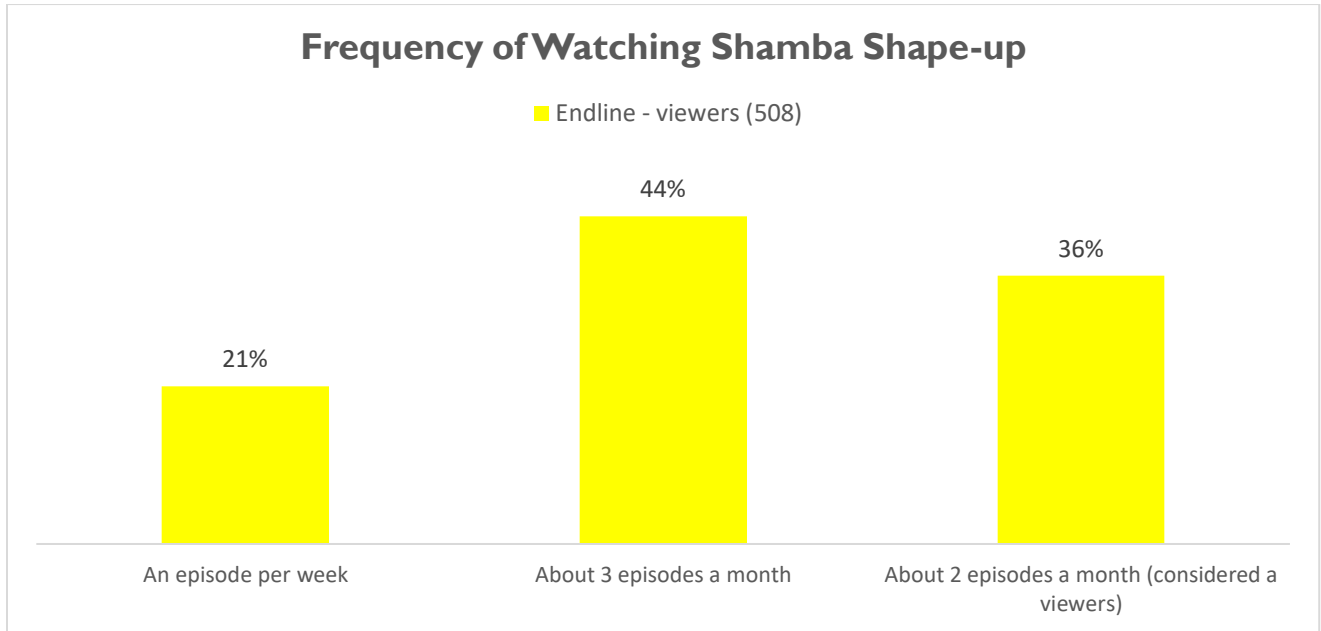
Chart 7: Most Useful TV Show for Agriculture



3.3.3 Watching SSU (2)

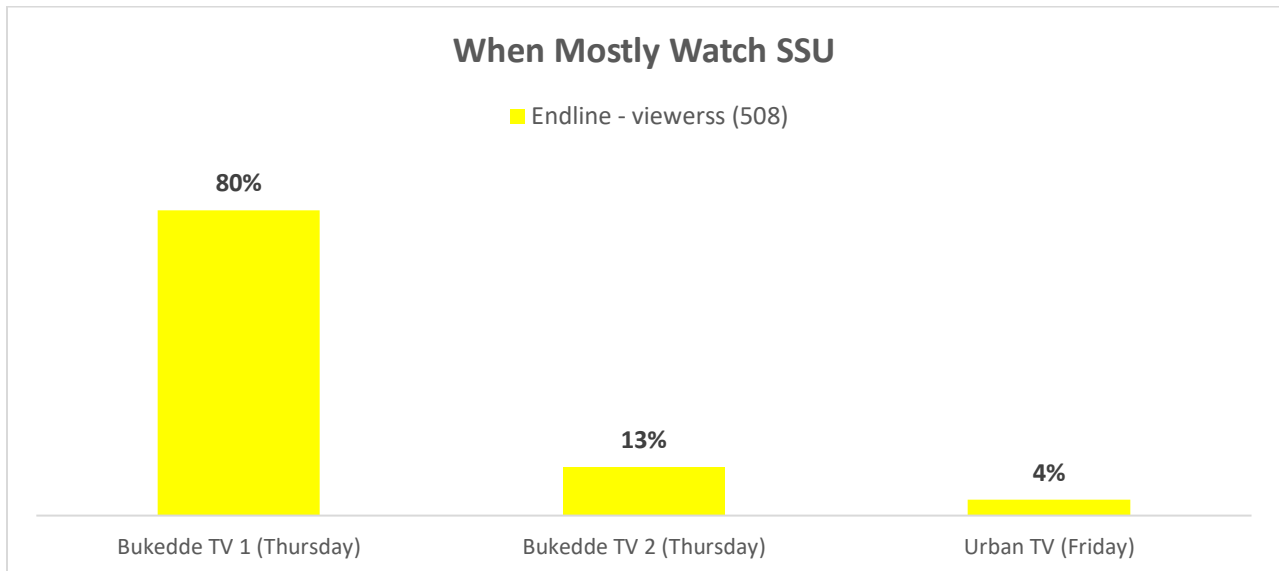
At the endline, small-holder farmers who viewed SSU were asked a number of questions related to the frequency with which they viewed the series, who they watched with and where they watched. As illustrated in the charts below, around two-thirds of viewers said they watched viewed at least three episodes of the series a month and can therefore be considered to be regular viewers. It is encouraging that such a high proportion were regular viewers and a positive sign that the series will grow its audience in the future.

Chart 8: Frequency of Watching Shamba Shape-up



The broadcast on Bukedde 1 on Thursday evenings was by far the most watched transmission (80%) with relatively few watching on either Bukedde 2 on Thursdays or Urban TV on Fridays. As the largest television channel in Uganda, Bukedde 1 would appear to be the natural home for an increasingly popular and informative series aimed at small holder farmers.

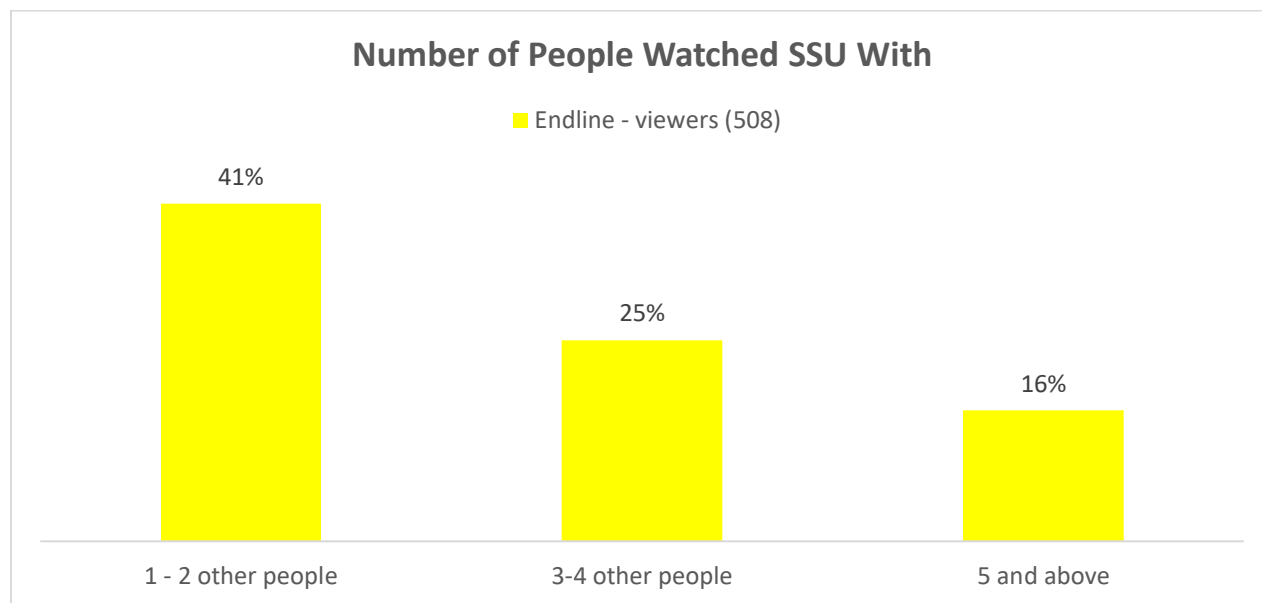
Chart 9: Viewing Shamba Shape Up



Reflecting the high penetration of in-home access to TV among SSU (2) viewers, most (80%) said they watched the series at home, with a further just over one in ten (13%) saying that they watched at a neighbour’s place.

Viewing to the series tended to be in the company of one or two other people (41%), with one quarter (25%) saying they watched with three to four other people.

Chart 10: People Above 18 Years Watched Shamba Shapu Up With



Among SSU viewers the series rates very highly on a number of key dimensions and information from the series is widely shared among friends, family and members of the community.

Television and especially *Shamba Shape Up* is becoming a respected source of information and advice for small holder farmers, ahead of other formal media (radio), professional services (extension workers) and informal channels (family and friends). Other, similar studies, in Kenya have shown that ‘word of mouth’ is a powerful amplifier of SSU’s messages and the early signs from Uganda would suggest that SSU is set to become a ‘go to’ source of trusted information for Ugandan small holder farmers. The importance of this cannot be understated given the resistance of the sector to experiment with new farming technologies and adopt new financial and other practices.

3.4 KEY FINDINGS: Financial Literacy

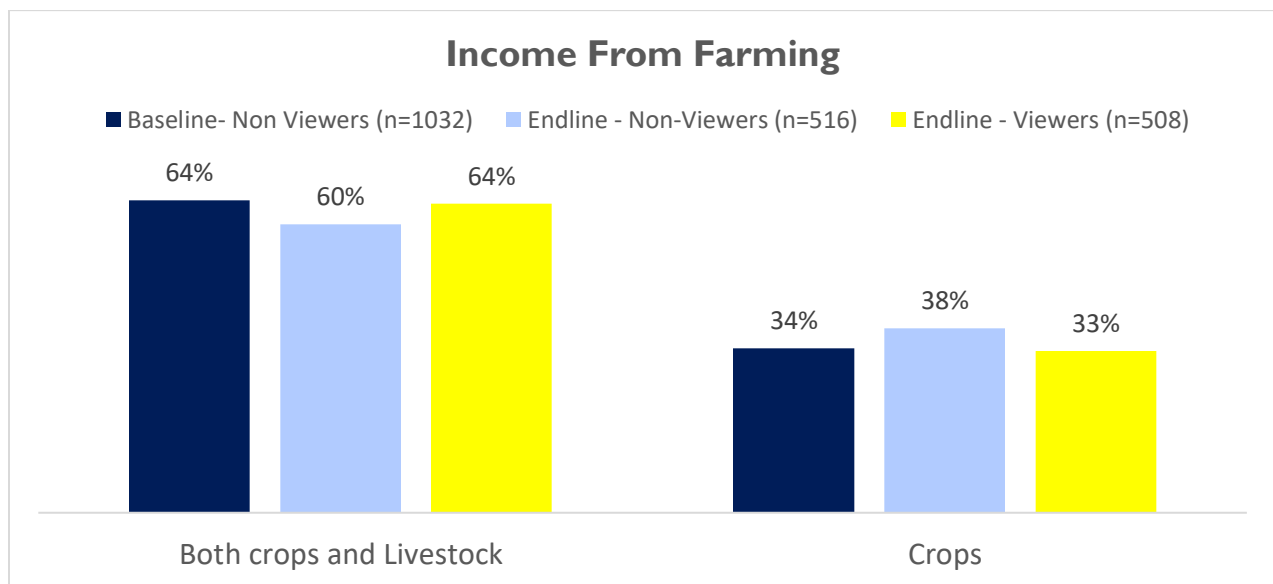
Key SSU (2) content	
• Record keeping	• Access to finance

- How to make a budget

3.4.1 Sources of farming income

The profile of farming, in terms of size of farms, duration of farming and sources of income from farming were well matched across the baseline and endline samples. Around two thirds at each wave practiced mixed-farming, cultivating crops and rearing livestock. Only one third were solus crop growers.

Chart 11: Farming activities engaged in

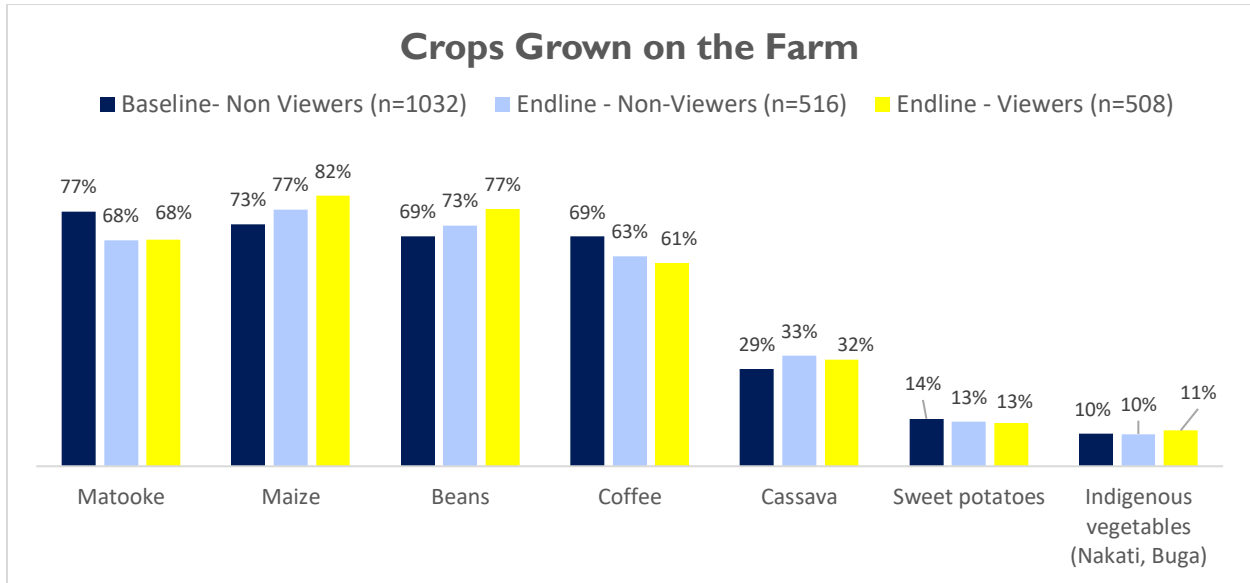


The vast majority of small holder farmers who grow and harvest crops grow:

- Matooke (around 7 in 10)
- Beans and maize (around 8 in 10)
- Coffee (around 6 in 10)

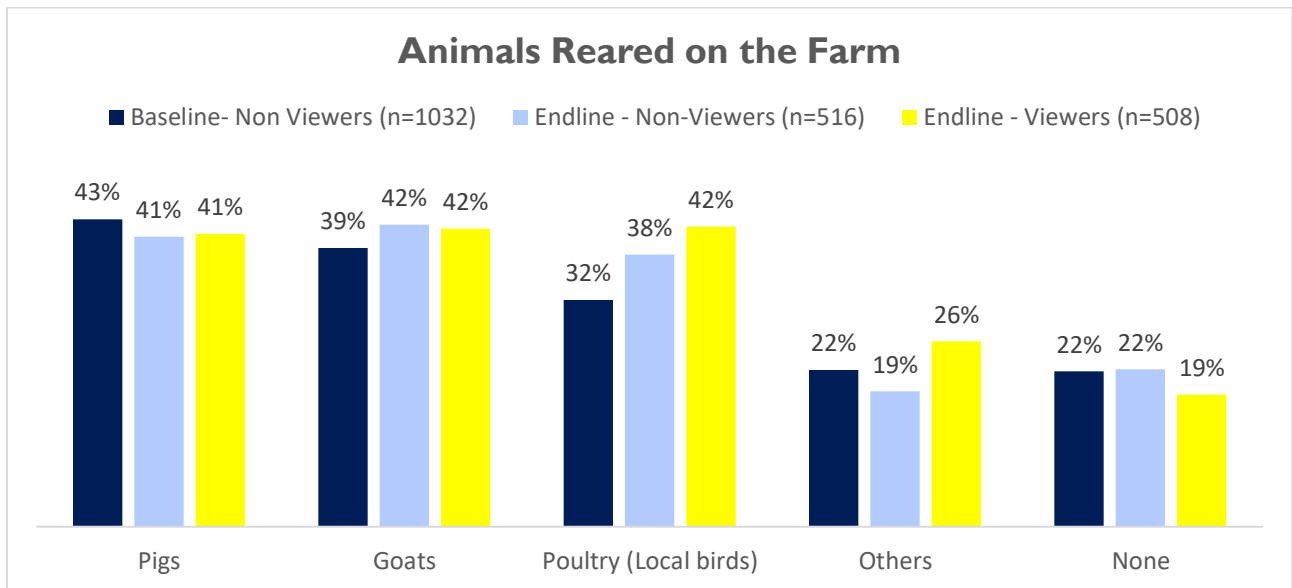
These profiles serve to guide the balance of the content in the series and demonstrate that SSU covers the primary farming interests and activities of the vast majority of the farmers in Central Uganda.

Chart 12: Crops grown on the farm



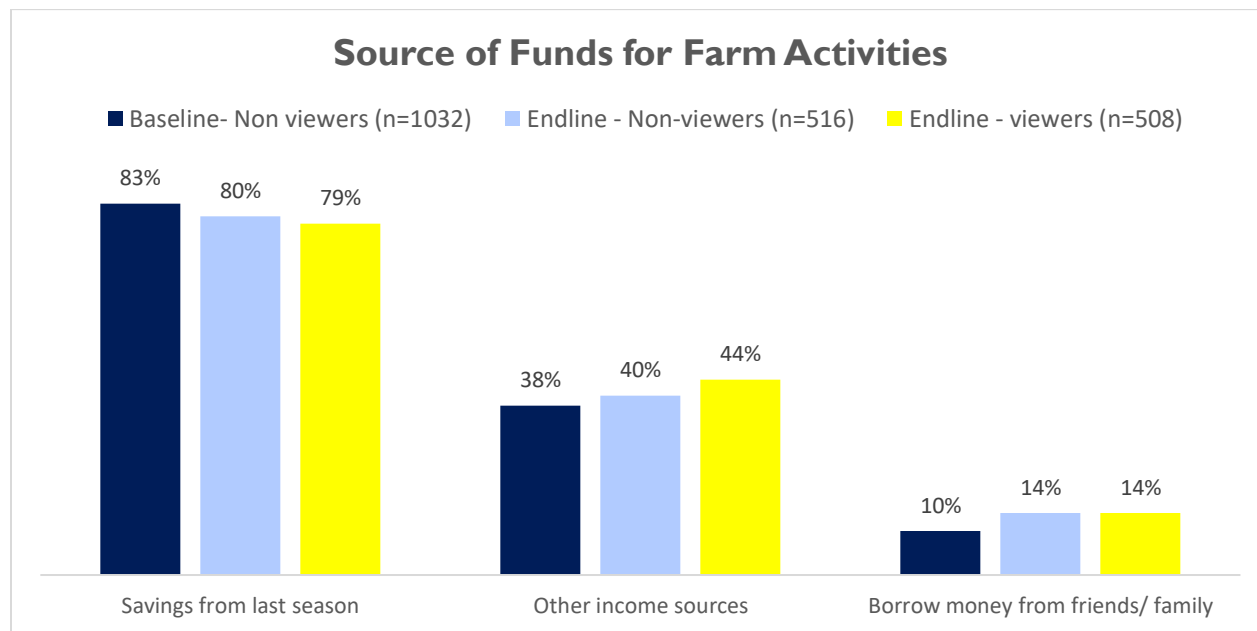
In terms of livestock pigs, goats and poultry were kept by just under one half of the baseline and endline small holder farmers surveyed

Chart 13: Animals kept on the farm



When asked about the sources of income farmers’ use for their farming activities the vast majority (around 8 in 10) said they used savings they made from the previous year’s harvest and this showed no significant difference between SSU viewers and non-viewers. There were no observable differences in the sources of income used to fund farming activities between any of the sample sub-groups.

Chart 14: Sources of income to support farming activities



3.4.2. Written Financial Record Keeping

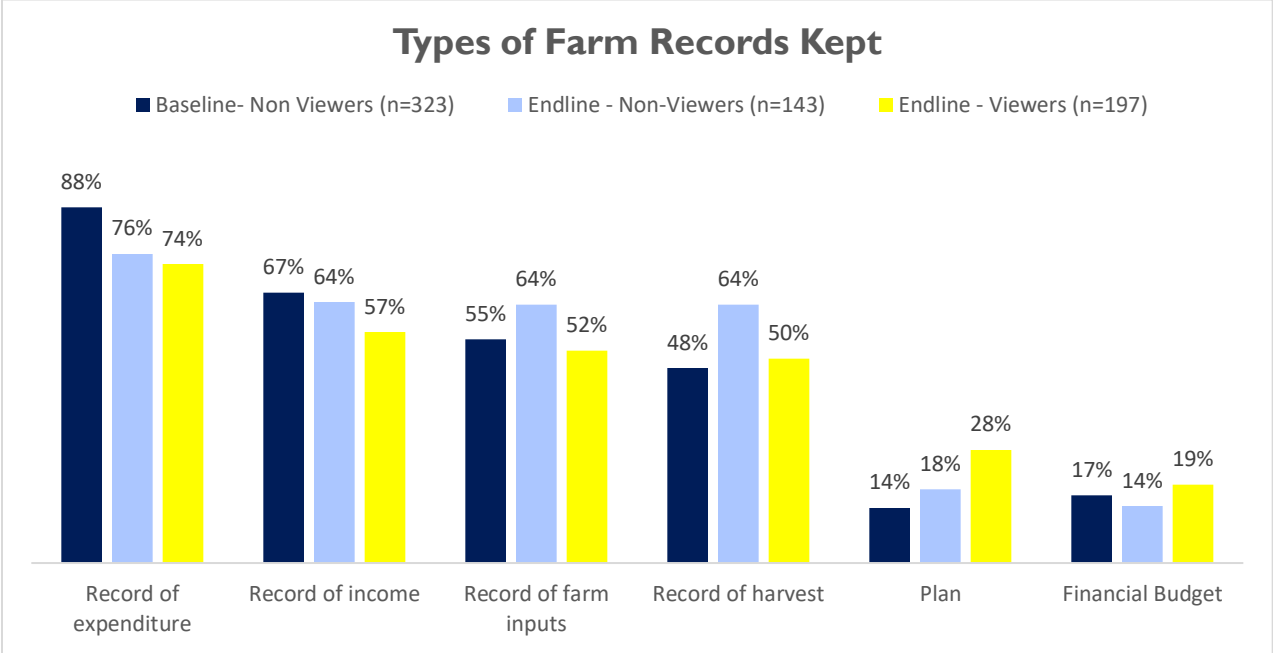
To ascertain farmers’ financial literacy and to track changes between viewers and non-viewers, respondents were asked if they kept any written financial records for their farming activities such as a budget, list of expenses, a savings plan or any other form of farm record, and, if so, which types of records were kept and if not, why not.

A significant majority (two thirds of viewers and non-viewers alike) said they **did not** keep any form of written financial records. Fewer than one third of non-viewers of SSU (2) and marginally more (39%) SSU (2) viewers said they kept some form of written financial records. The differences in record keeping behaviour between viewers and non-viewers was small, but just on the margins of significance. One of the aims of the series 2 was to improve financial literacy and financial confidence and there are signs that viewers are acting on the advice given in the series.

The differences in the types of written financial records kept among the baseline non-viewers and the endline non-viewers and viewers were marginal. The only financial activity which showed any small increase among SSU (2) viewers was ‘keeping a written plan’ for the farm. The findings serve to illustrate that changing financial behaviour is a long process and the benefits of instituting unfamiliar behaviour changes need to be demonstrated over time. Small-holder farming and financial record keeping and financial planning tend not to be considered a priority for the farmers of small acreages who have many other things to cope with in their daily lives. Consistent, long-term messaging and demonstrations of the benefits are likely to be needed to ‘move the needle’. Underlining the sense of how priority was the finding that the majority (around six in ten) small

holder farmers, irrespective of their viewing of SSU (2), did not think that it was important to keep financial records of their farming activities.

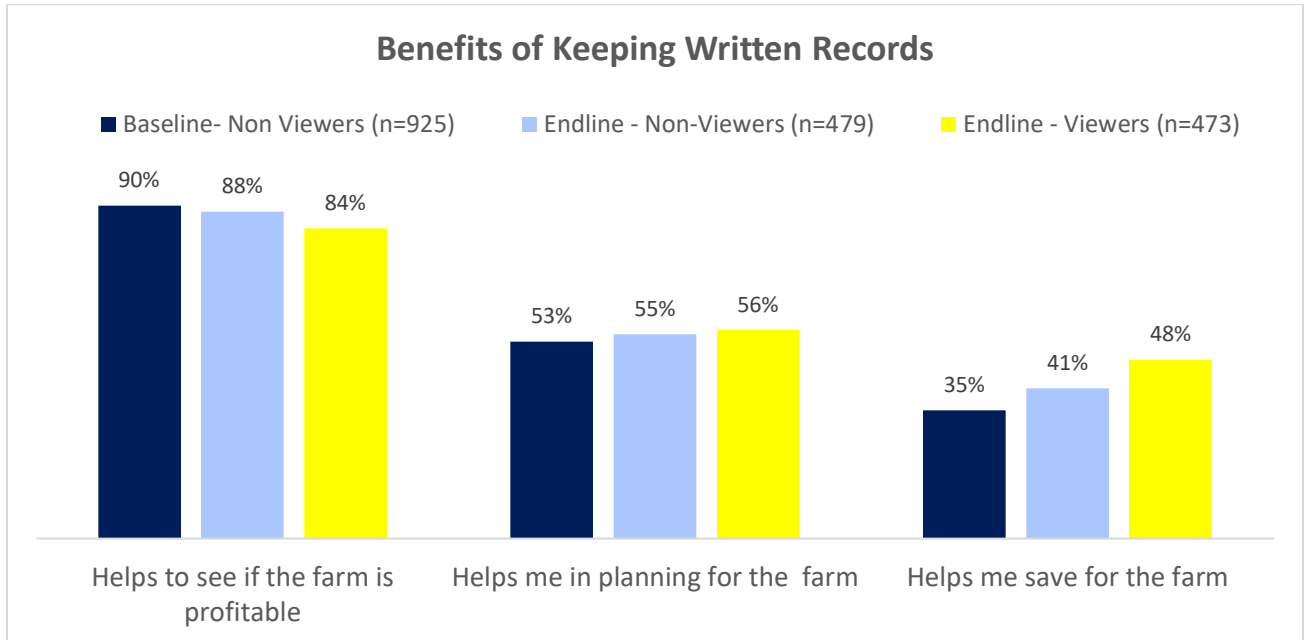
Chart 15: Financial records kept



While most (around 90%) small-holder farmers think that there are benefits to keeping financial records, very few actually keep them. Consistent messaging and demonstrations about how to

achieve profitability through careful financial planning and record-keeping may encourage more small-holder farmers to keep written records.

Chart 16: Benefits of keeping written financial farm records



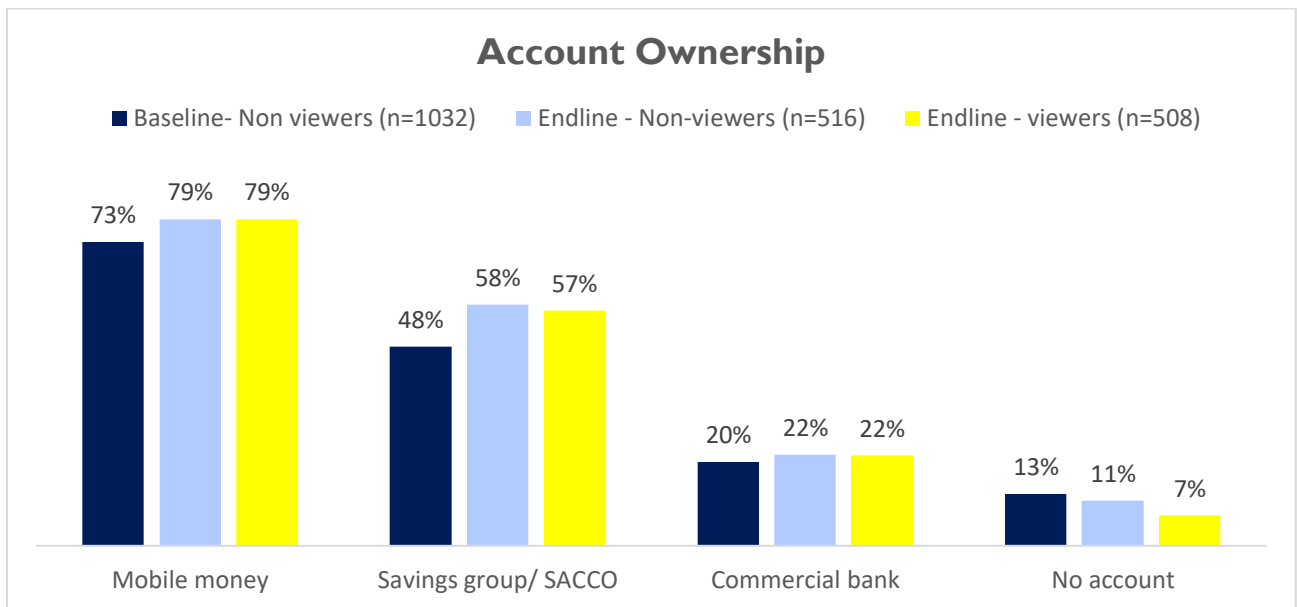
The farmers interviewed at both waves of the survey were asked if they have a written *business plan* for their farm and the vast majority (around 80%) did not. However, there was a modest difference between SSU (2) viewers and non-viewers with the former slightly more likely to have a written business plan for their farms. Although it is not possible to attribute this small difference to SSU (2) viewing or responses to specific messages in the series, the survey findings suggest that either viewers are more adept at keeping records, or the series is having some positive effect on financial record-keeping behaviour.

The reasons for not having a written business plan were many but similar and spoke to the fact that these types of farmers do not think it is necessary to keep anything written down as they are accustomed to keeping things in their heads. Very few (only around one in five) said that they kept a budget as the basis for making decisions about spending on the farm. The data indicated that most of these smallholder farmers were not very business literate and may not even think of their farms as businesses. Further investment in the coverage of financial management, planning and budgeting and the benefits they bestow on the business and financial management aspects of farming is required to influence the financial management and business practices of these small holder farmers.

3.4.3 Savings accounts held

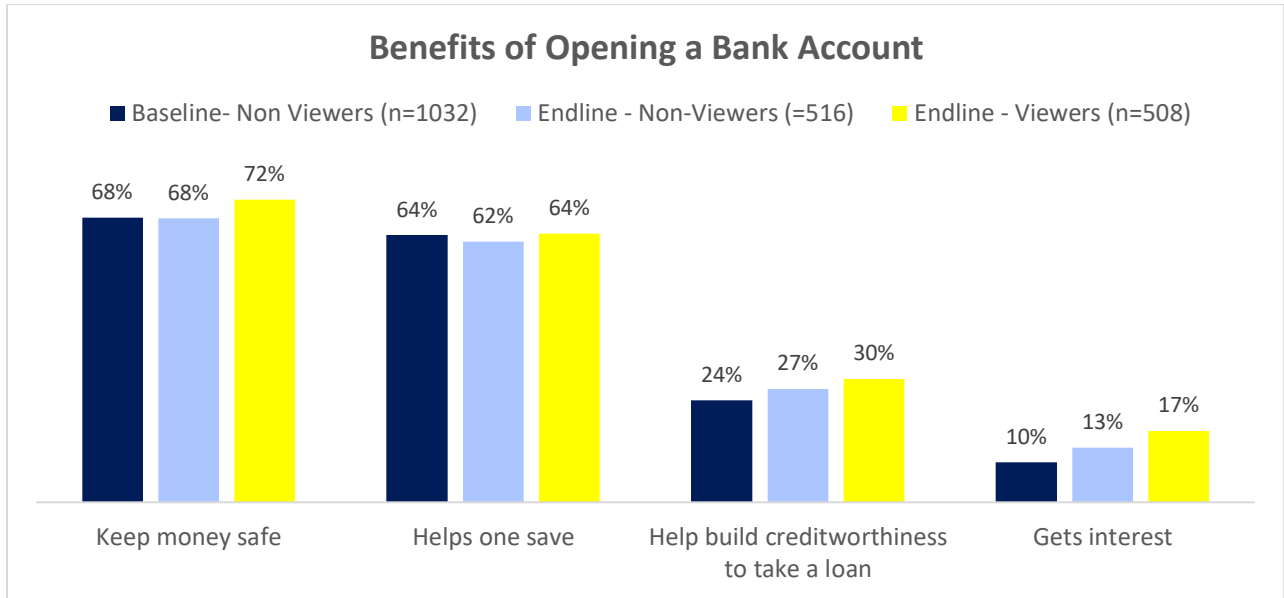
Most of the small-holder farmers surveyed held mobile money accounts (almost eight in ten). Savings Groups were also extensively used, especially by women. Relatively few smallholder farmers (around 20%) said they had commercial bank accounts, having a commercial bank was, unsurprisingly more male than female with younger farmers more likely to consider opening a bank account than were their older counterparts.

Chart 17: Types of accounts held



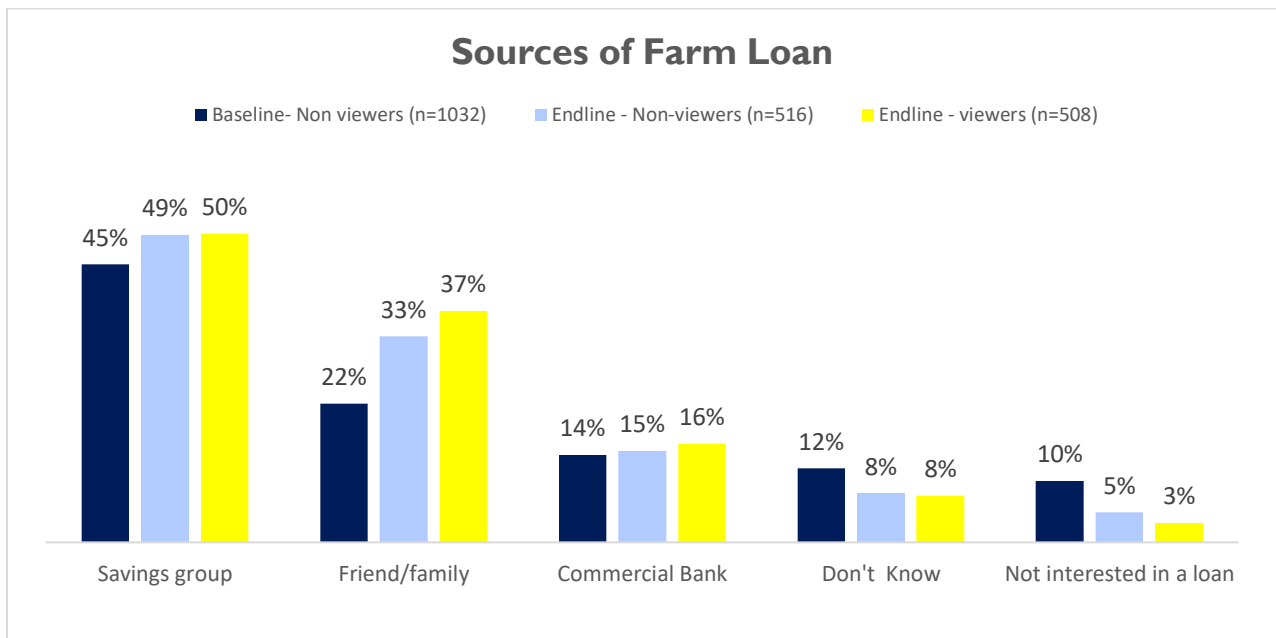
Around six in ten, SSU (2) viewers and non-viewers alike said they would consider opening a bank account in the future and they saw the benefits of this as 'keeping money safe' and 'helping to save money'. There were no significant differences in the perceived benefits of opening a bank account or intended behaviour between SSU (2) viewers and non-viewers.

Chart 18: Benefits of having bank accounts



Reflecting the current profile of savings and account holdings, most small holder farmers interviewed said they would approach a savings group for a loan. More SSU (2) viewers said they would approach family and friends for a loan (37%) than the baseline non-viewers (22%).

Chart 19: Preferred sources of loans



3.5. KEY FINDINGS: Dairy Cows

Key SSU (2) content

- Growing fodder for livestock
- Heifer management
- Improved Breeds through Artificial insemination
- How to treat diseases like Mastitis
- Nutrition and Supplementation

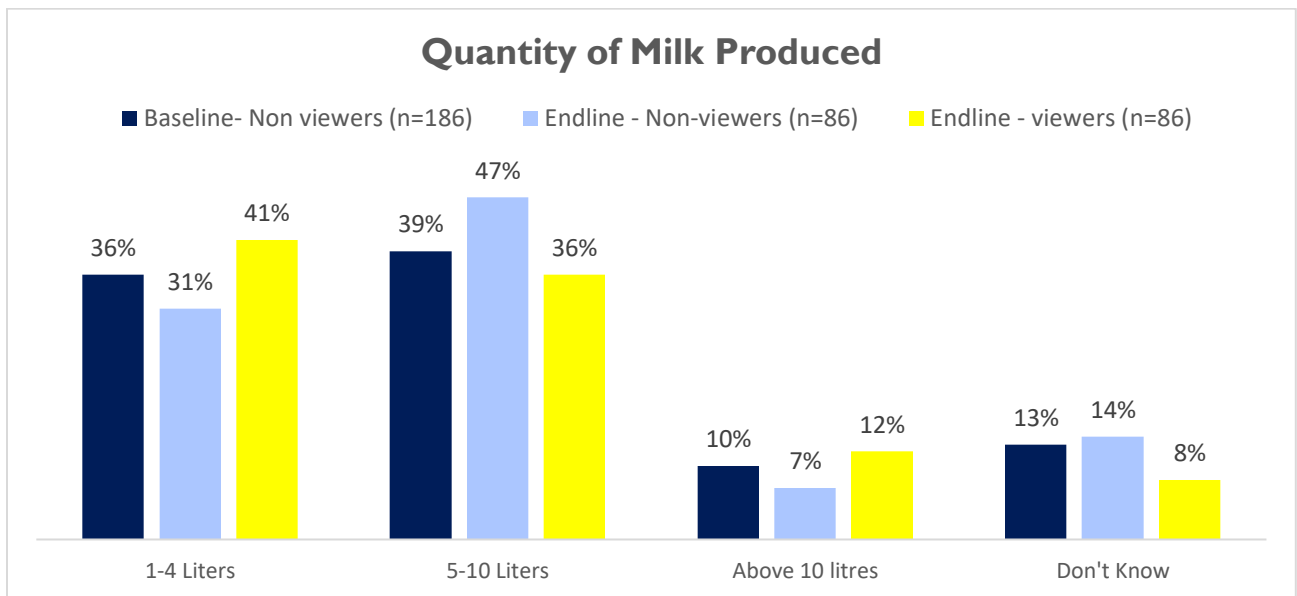
3.5.1

Dairy Cows Husbandry and Milk Produced

Around one fifth of smallholder farmers in Uganda, and in the KAP survey samples, kept cattle and of those who did around twice as many kept dairy cattle as kept beef cattle. In the KAP samples around 18% said they kept dairy cattle and around 10% kept beef cattle.

Those who kept dairy cattle were asked to estimate how much milk their cows produced on a daily basis and there were similar results at both the baseline and endline. Similar proportions of those who have dairy cattle reported that their average daily milk production was either between one and four litres per cow per day or five to ten litres. Very few dairy farmers said their daily yield was in excess of ten litres per day.

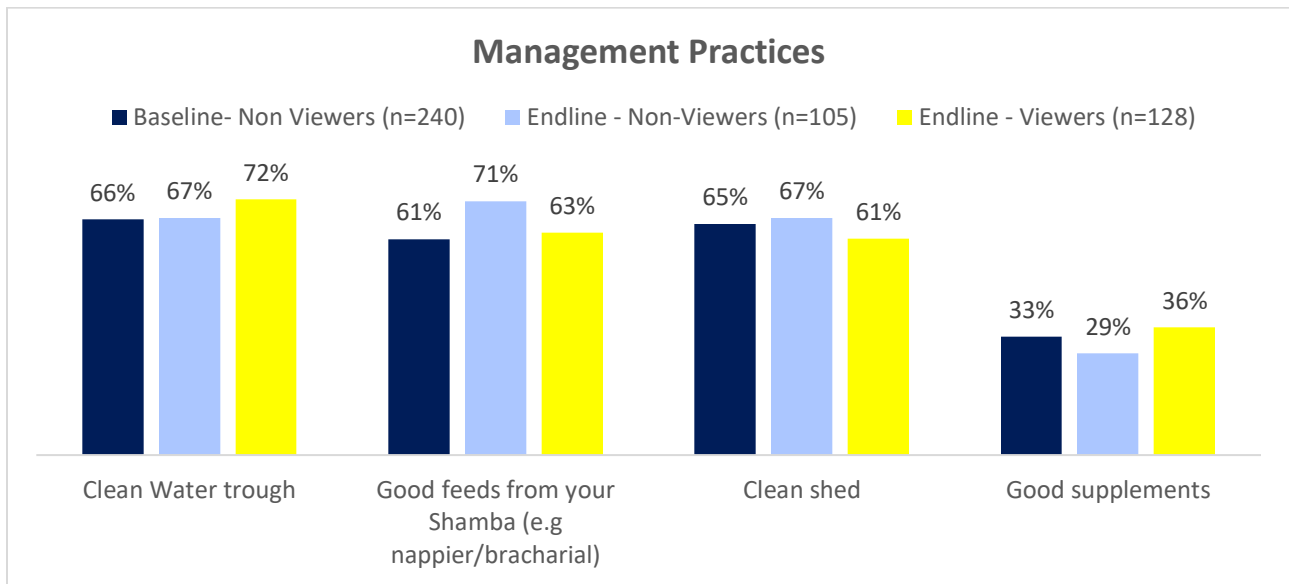
Chart 20: Quantity of milk produced



3.5.2 Cattle management and feeding practices

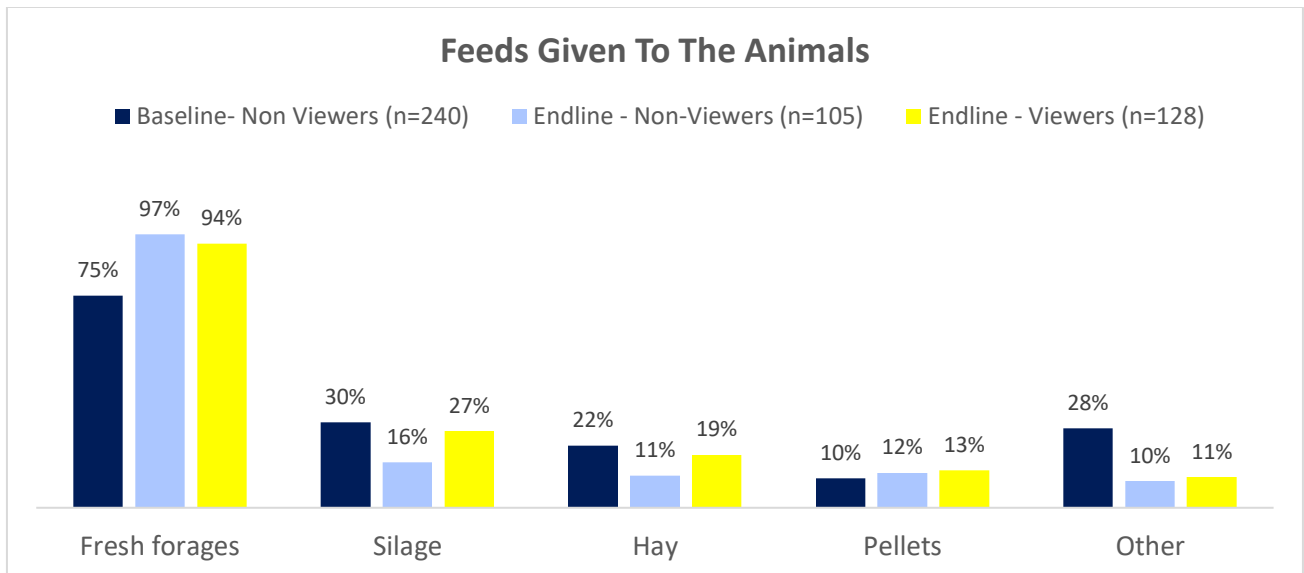
Most small holder livestock farmers (around two thirds) said that they kept their water troughs clean for their cattle, most said they yielded good quality feeds from their shamba and kept clean sheds for their cows. However, only a minority (around a third) said they gave their cattle good supplements. These feeding and management practices showed little change between the baseline and endline or between SSU (2) viewers and non-viewers.

Chart 21: Most Important Management Practices Carried out on the Herd



The most commonly used cattle feed was fresh forages (75% at the baseline and 95% at the endline), with equal proportions of endline viewers and non-viewers (95%) saying that they fed their cattle with fresh forages. By comparison, relatively few (25% to 30%) fed their cattle on silage and even fewer (around 20%) used hay as a feed. The use of silage and hay as cattle feed showed no difference between SSU (2) viewers and non-viewers.

Chart 22: Cattle Feeds Used



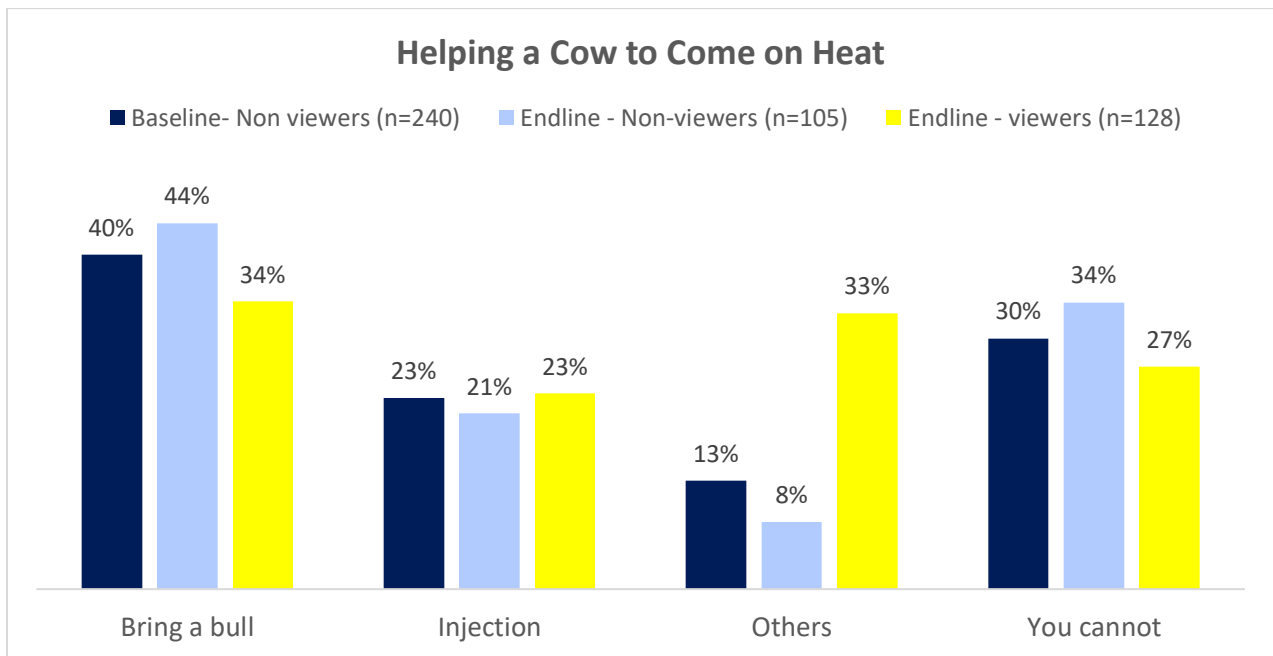
Overall levels of knowledge about using forages to feed cattle was low at both study waves and only around one in seven said they knew anything, or could mention any specific, improved types of forages.

3.5.4 Breeding practices

The vast majority of the small holder livestock farmers interviewed at both study waves said that they used bulls to impregnate their cows (just under 90%), a small minority (10%) said they used AI and a very tiny proportion (3%) said they used a combination of bulls and AI.

Levels of knowledge about the steps that can be taken to bring a cow come into heat (if they refuse) were relatively low. Around one third mentioned introducing the cow to a bull, around a third thought that there was nothing to be done and around one quarter mentioned being able to give the cow an injection. Overall differences in levels of knowledge between SSU (2) viewers and non-viewers were negligible – with the exception of the use of (unspecified) other methods.

Chart 23: How To Make a Cow Come on Heat if They Refuse



3.6. KEY FINDINGS: Chickens

Key SSU (2) content	
<ul style="list-style-type: none"> • Getting the right breed • Proper housing • Vaccination schedule • Disease management 	<ul style="list-style-type: none"> • Hygiene • Feeding • Marketing

3.6.1 Keeping and sourcing chickens

Around one half of the farmers surveyed said they kept chickens on their farms – mainly local/ indigenous varieties of chickens. Chicks are mainly sourced from friends, relatives and neighbours with little difference between the two study waves or between SSU (2) viewers and non-viewers.

Chart : Types of chicken kept

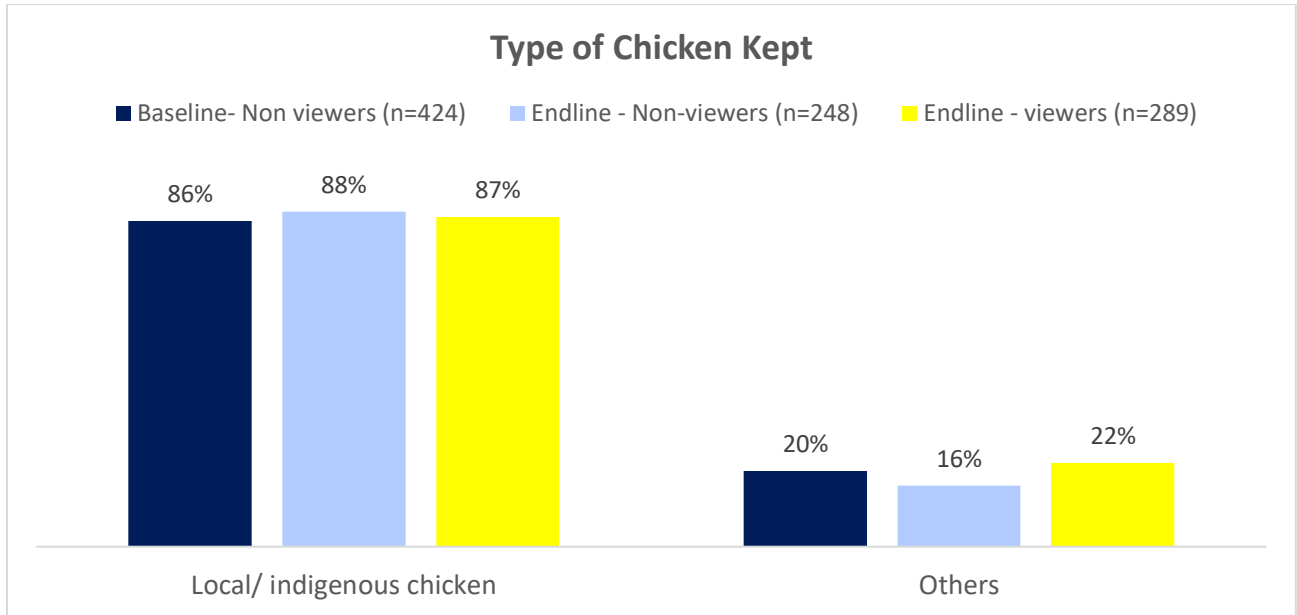
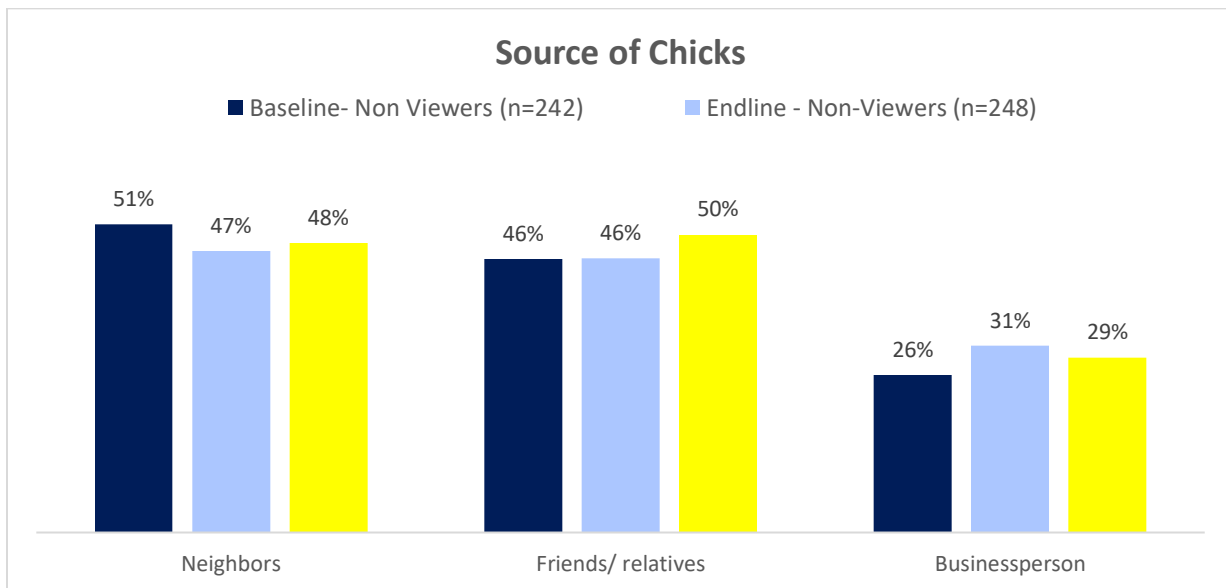


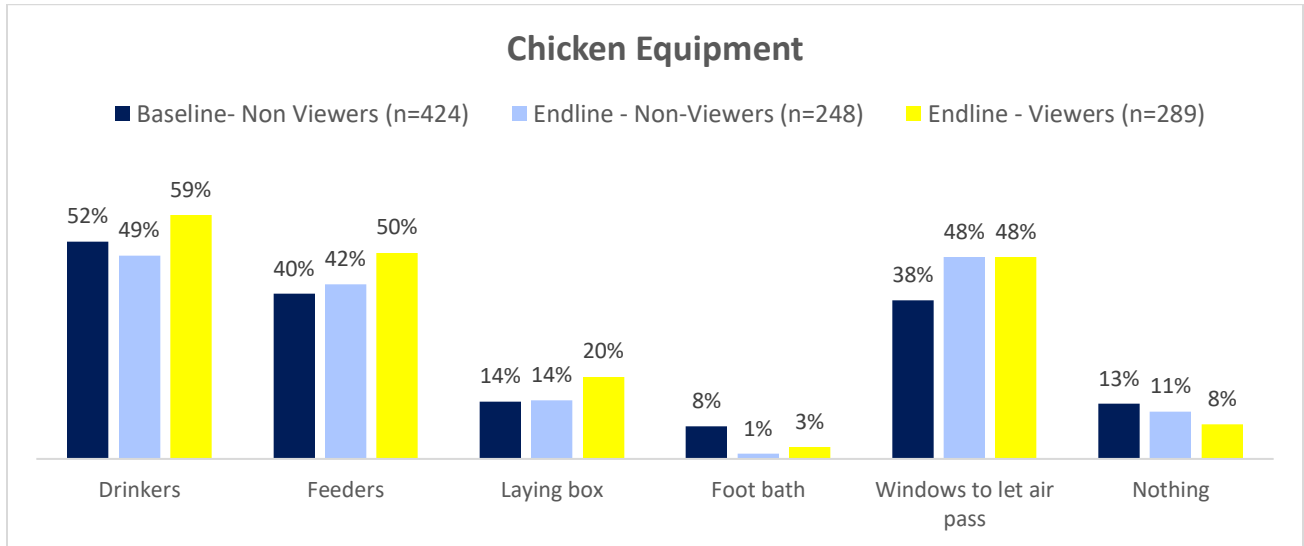
Chart 24: Where farmers buy their chicks from



3.6.2 Chicken welfare

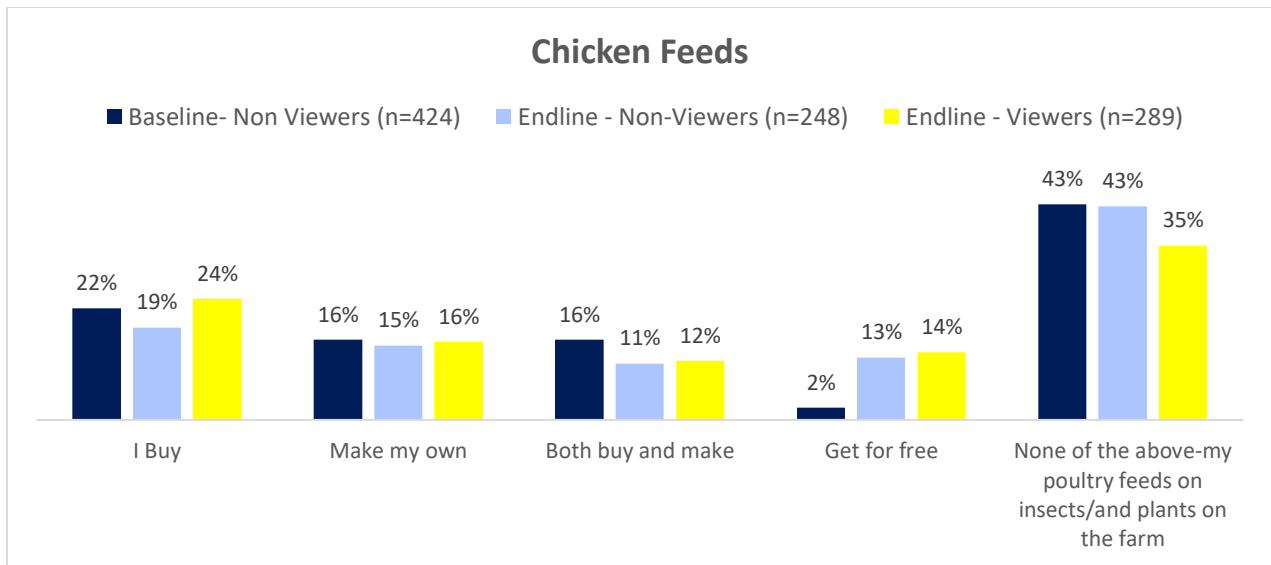
In answer to questions about the types of equipment farmers have outside and inside their chicken houses there were significant differences between non-viewers and viewers, with many more viewers (than non-viewers) claiming to have ‘drinkers’, ‘feeders’ and ‘laying boxes’. All of these important messages were emphasised in the series in relation to improve the housing and welfare of chickens.

Chart 25: Ownership of chicken equipment



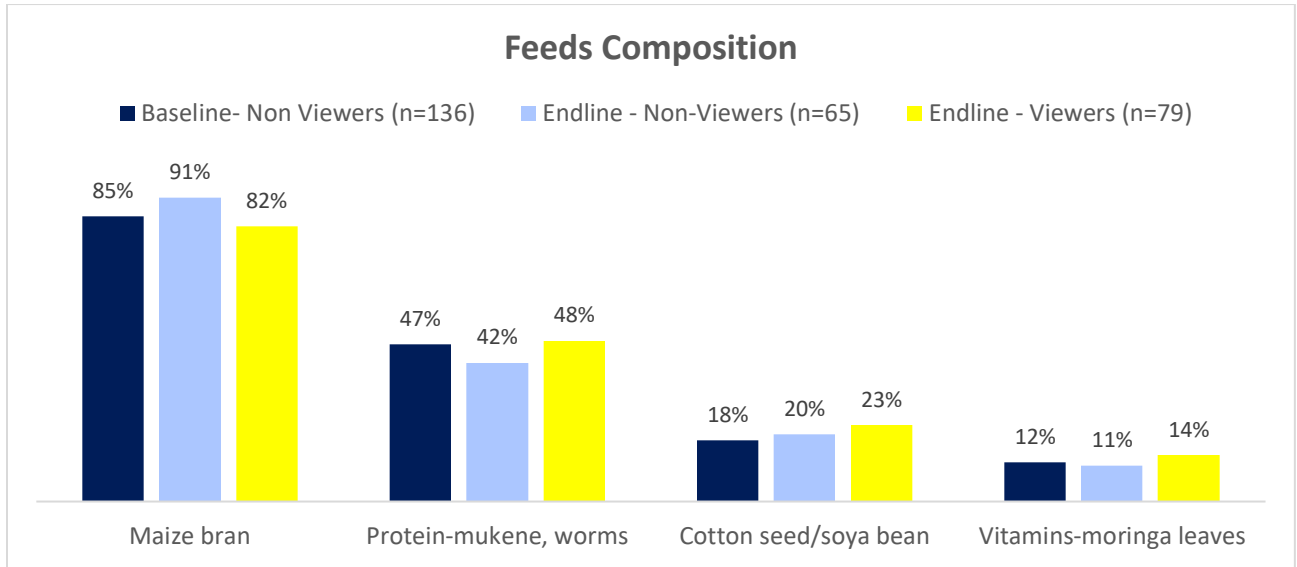
Allowing the chickens to feed on insects and plants on the farm was a more common practice than making or purchasing chicken feed with little discernible between SSU (2) viewers and non-viewers

Chart 26: Source of chicken feed



Among the very few who said they made their own chicken feed (fewer than 1 in 10 who keep chickens) the most commonly used ingredient was maize bran (around 80%), followed by protein (48%) – with no significant differences between SSU (2) viewers and non-viewers.

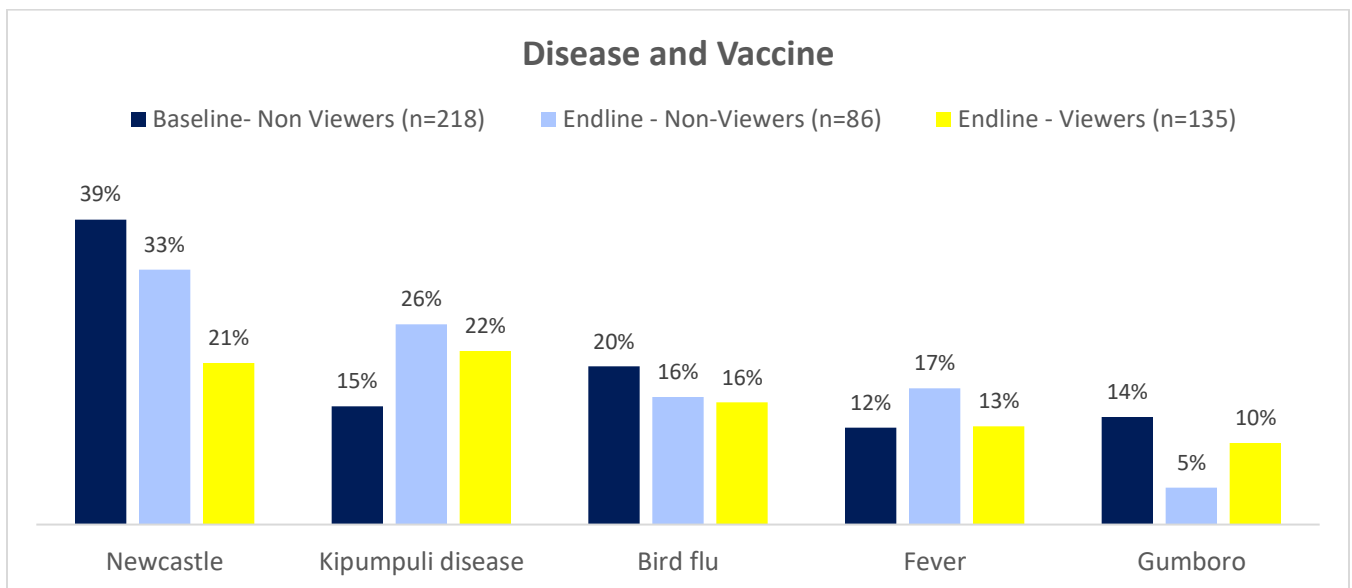
Chart 27: Composition of chicken feed



Around one half of chicken farmers at the baseline and endline said that they vaccinated their chickens (51% baseline non-viewers and 47% endline viewers). It would appear that watching the series had no real impact on chicken vaccination practices.

However, SSU (2) viewers were significantly less likely to vaccinate for Newcastle disease than their baseline non-viewing counterparts, with little difference between endline viewers and non-viewers in the vaccination for Kipumpuli disease (around 25%) or Bird flu (just under 20%).

Chart 28: Diseases Vaccinated For



3.7. KEY FINDINGS: Coffee Growing

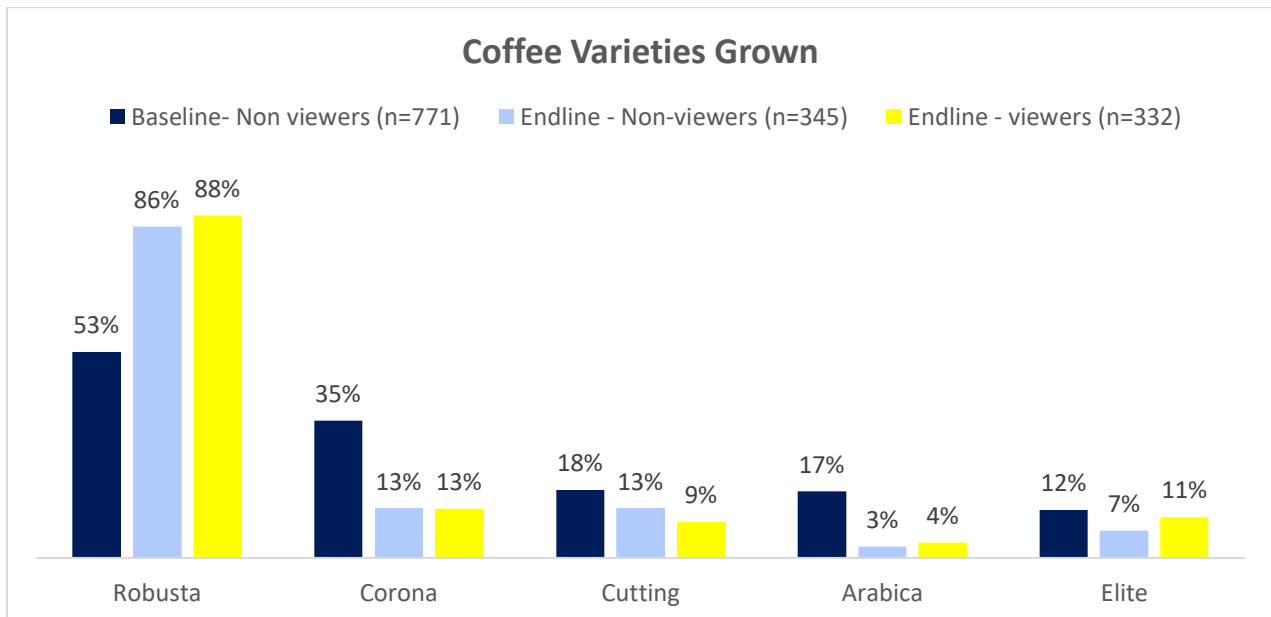
Key SSU(2) content

- Planting the correct varieties
- Management of new seedlings
- Correct way of weeding and stumping.
- How to manage pest and diseases.
- Proper way of harvesting coffee.
- How to check for the prices in your area.

3.7.1 Coffee growing practices

Between two-thirds and three quarters of the small holder farmers interviewed said they grew coffee on their farms, with Robusta far and away the most popular variety.

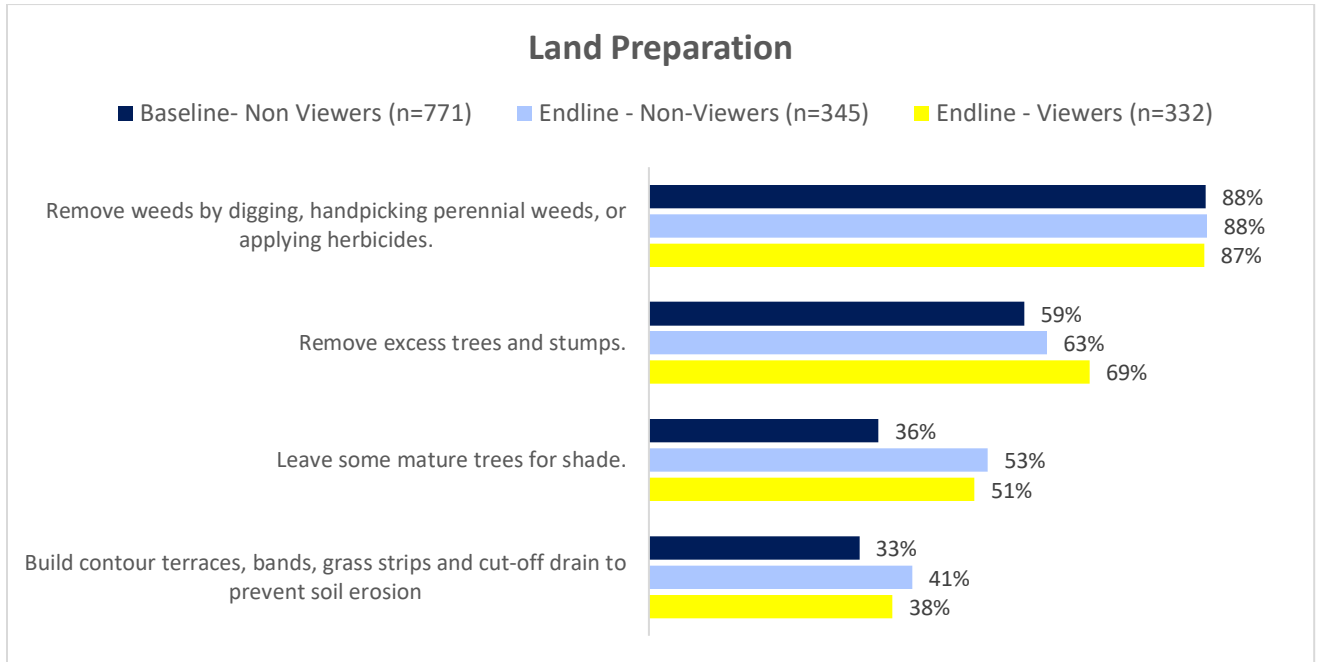
Chart 29: Varieties of coffee do you grown



3.7.2 Preparing the ground for growing coffee

Most prepared their land for growing their coffee plants by removing weeds (over 80%) and removing trees and stumps. At the endline there is evidence that both viewers and non-viewers left some trees for shade, whereas this was not common behaviour among the baseline sample.

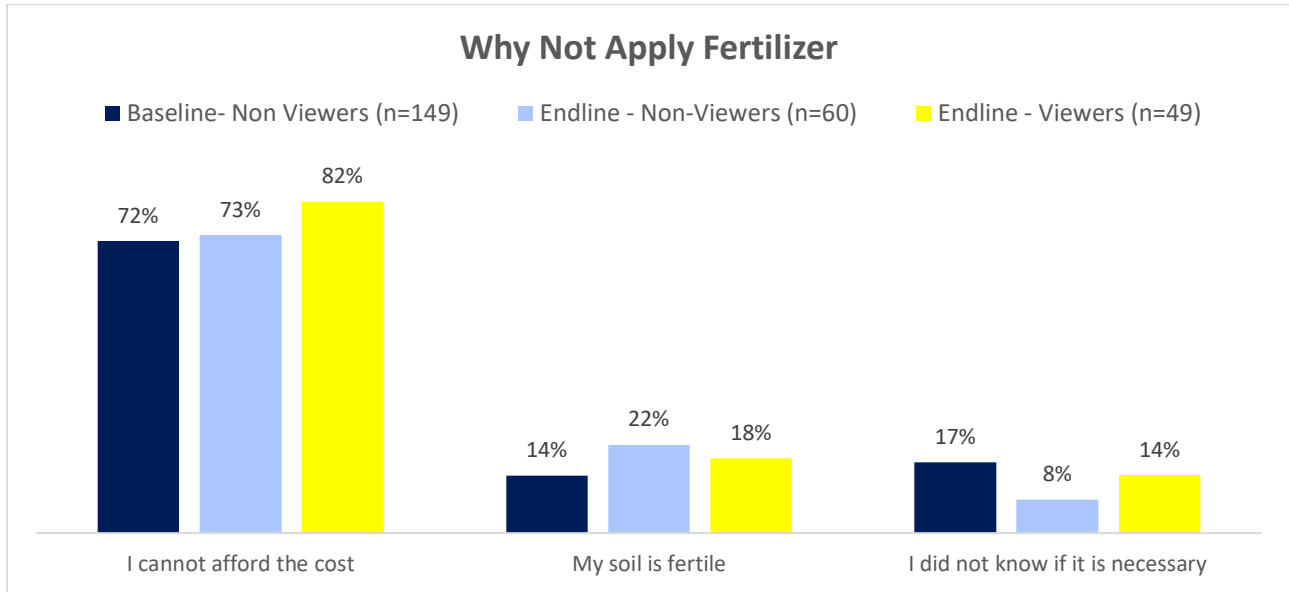
Chart 30: Preparing the Ground



3.7.3 Applying fertilizer to coffee plants

The vast majority of coffee farmers said that they applied fertilizer or manure to their coffee plants – most (in both surveys) applied the fertilizer around the trees close to the stem, with around a quarter applying it around the trees away from the stem. The relatively few who said they did not apply any fertilizer or manure to their coffee plants said that it was because the cost was prohibitive.

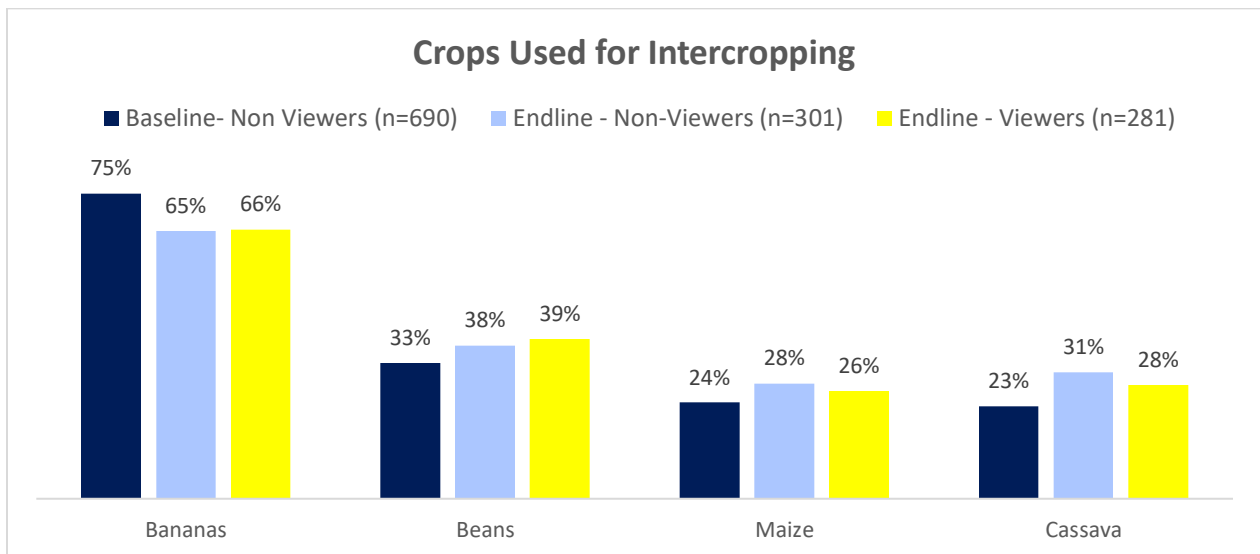
Chart 31: Reasons for not applying fertilizer to coffee



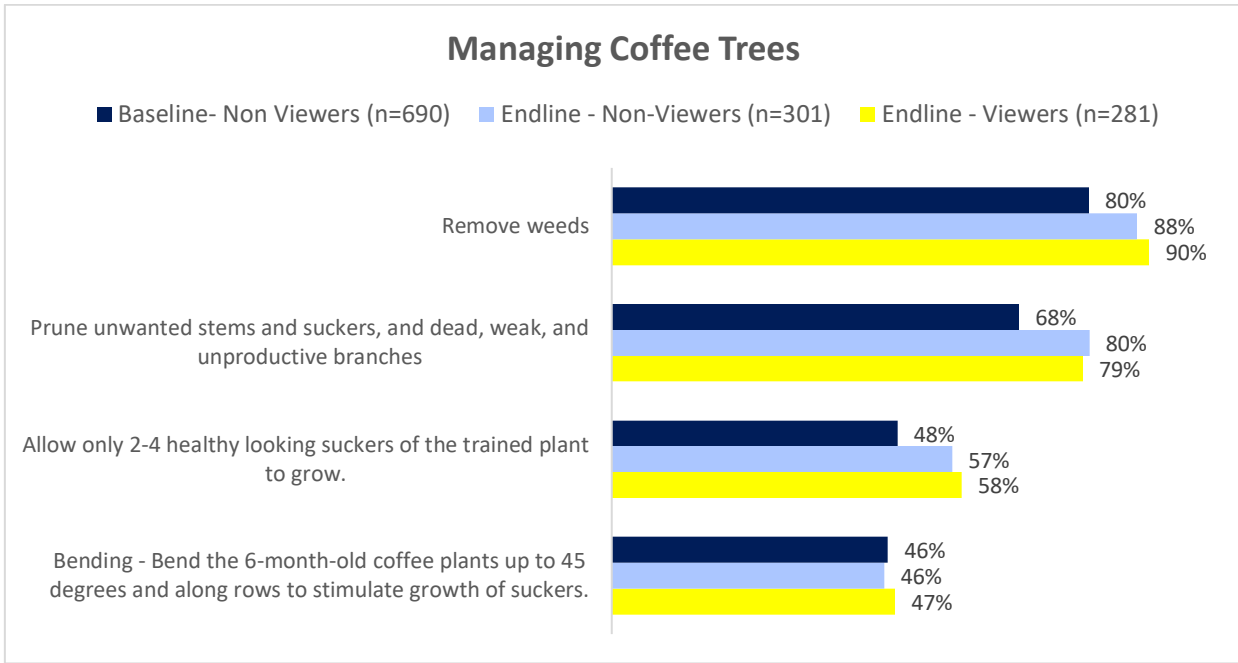
3.7.4 Intercropping with and managing coffee plants

Intercropping between coffee bushes was common practice (85% to 90%, with no difference between viewers and non-viewers) – most intercropped with bananas and a significant minority of one third did so with beans. There were differences between the baseline and endline samples in relation to intercropping with bananas and beans, but there were no differences between SSU (2) viewers and non-viewers at the endline.

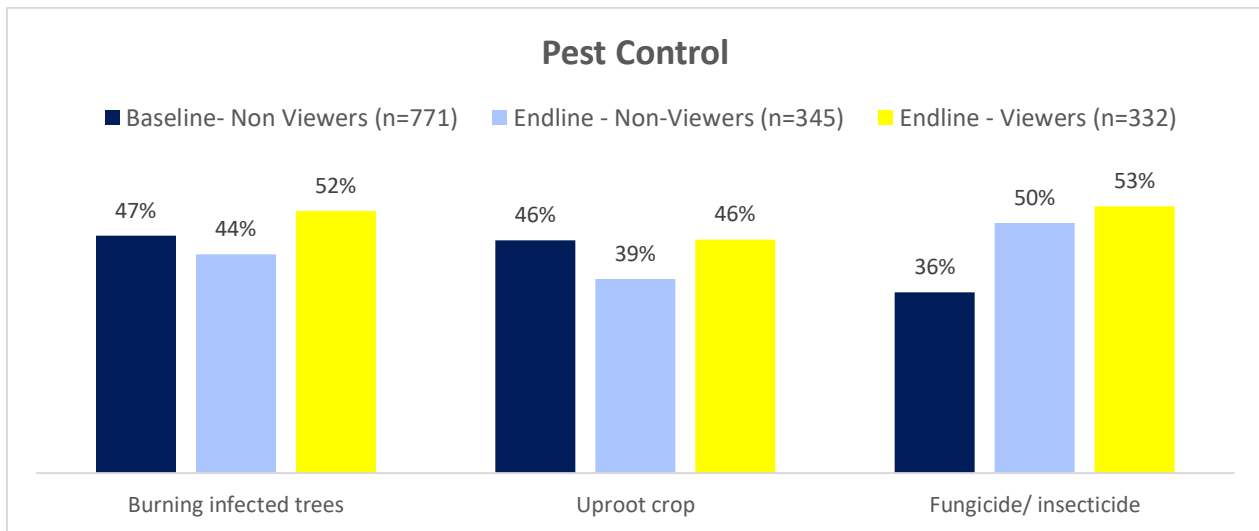
Chart 32: Crops intercropped with coffee



The practice of managing coffee trees by removing weeds and pruning unwanted stems and suckers was commonplace. Slightly more coffee growers in the endline sample said that they managed their plants through weeding and pruning, but the incidence of this behaviour was similar regardless of the viewing of SSU (2).



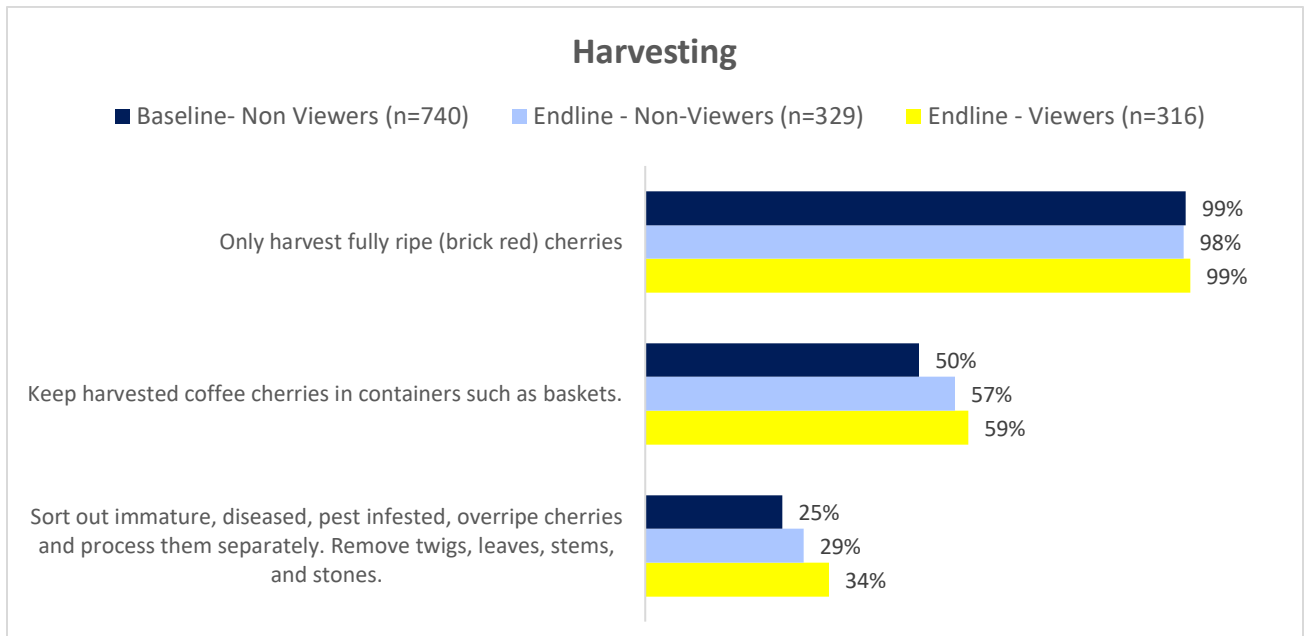
The practice of controlling pests using the burning of infected trees was significantly different and higher between SSU (2) viewers and non-viewers. The other commonly used methods for controlling pests were uprooting the crops and using fungicides or insecticides – with little differences between the surveyed groups.



Almost all coffee growers (90%) knew that the definition of ‘stumping’ means ‘cutting off old stems to allow new ones to grow’ and used the practice on their coffee farms - there was no difference in awareness or behaviour of stumping between SSU (2) viewers and non-viewers. Most practiced stumping by using a panga (over three quarters) with up to one fifth saying they practiced stumping by snapping the trees. The practice of ‘snapping’ was lower at the endline than at the baseline, but there were no differences between viewers (17%) and non-viewers (13%).

All coffee growers said they harvested their crops when the berries were fully ripe, a small majority kept the harvested berries in a container and around one third sorted the berries and processed them separately. There were no significant differences in coffee harvesting practices between SSU (2) viewers and non-viewers.

Chart 33: Harvesting practices



The vast majority (85%) of SSU (2) viewers said that they had learnt something about coffee growing from watching the series.

3.8. KEY FINDINGS: Matooke

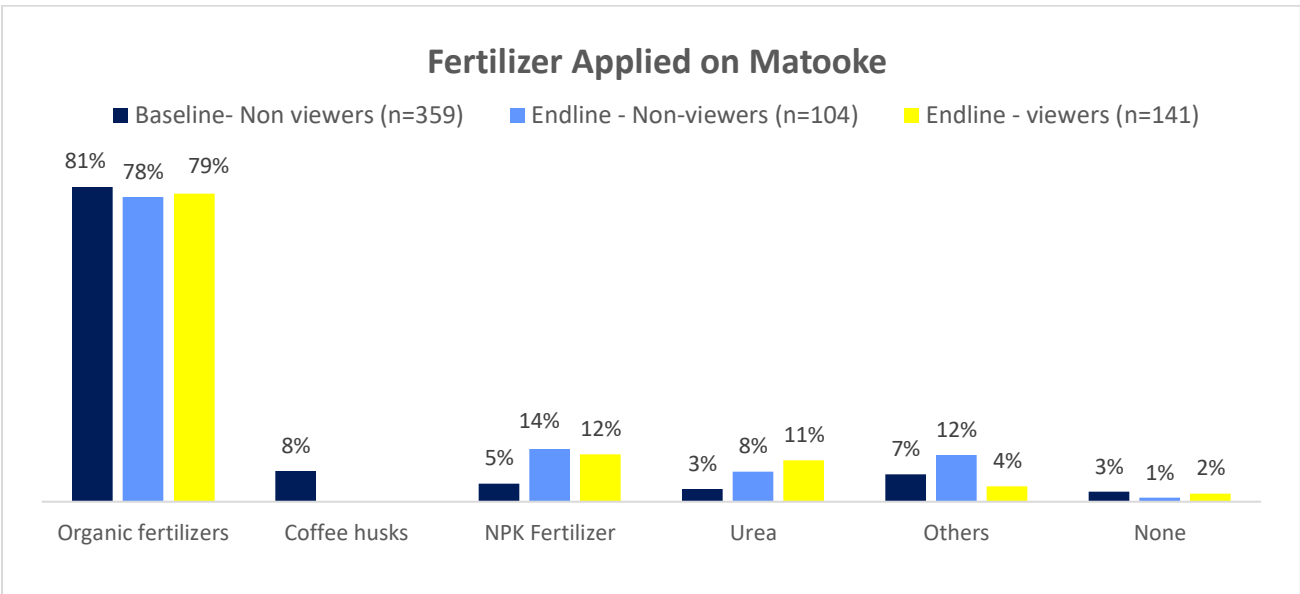
Key SSU (2) content

<ul style="list-style-type: none"> • Planting correct varieties • Cleaning banana sucker • Pest and disease management • Mulching and weeding 	<ul style="list-style-type: none"> • Controlling terminates • Good Agricultural practices • Harvesting
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3.8.1 Matooke growing practices.

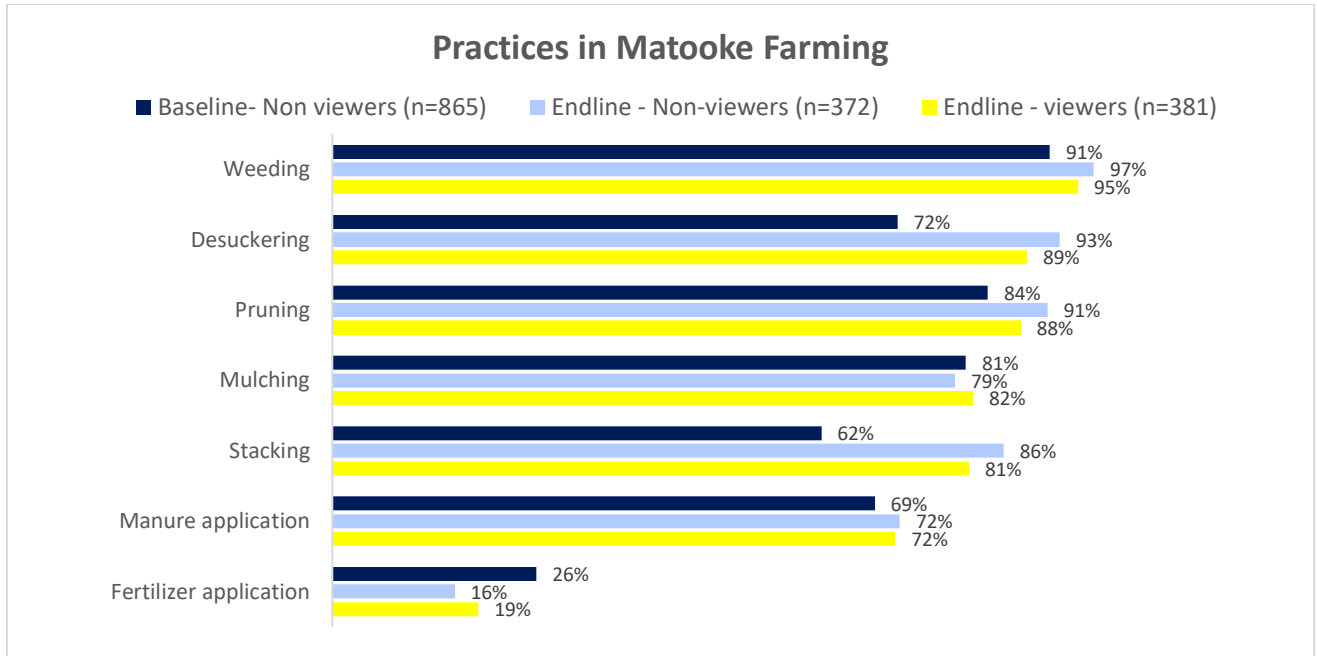
The vast majority of farmers surveyed said that they grew matooke on their farms (over 80%), but under half apply fertilizer to their plants. This was true for SSU (2) viewers (37%) and non-viewers (42%) alike. Those who did apply fertilizer tended to use organic fertilizers (around 80%). The use of other types of fertilizers was minimal among all surveyed groups.

Chart 34: Farmers Applying Fertilizer on their Matooke Farm



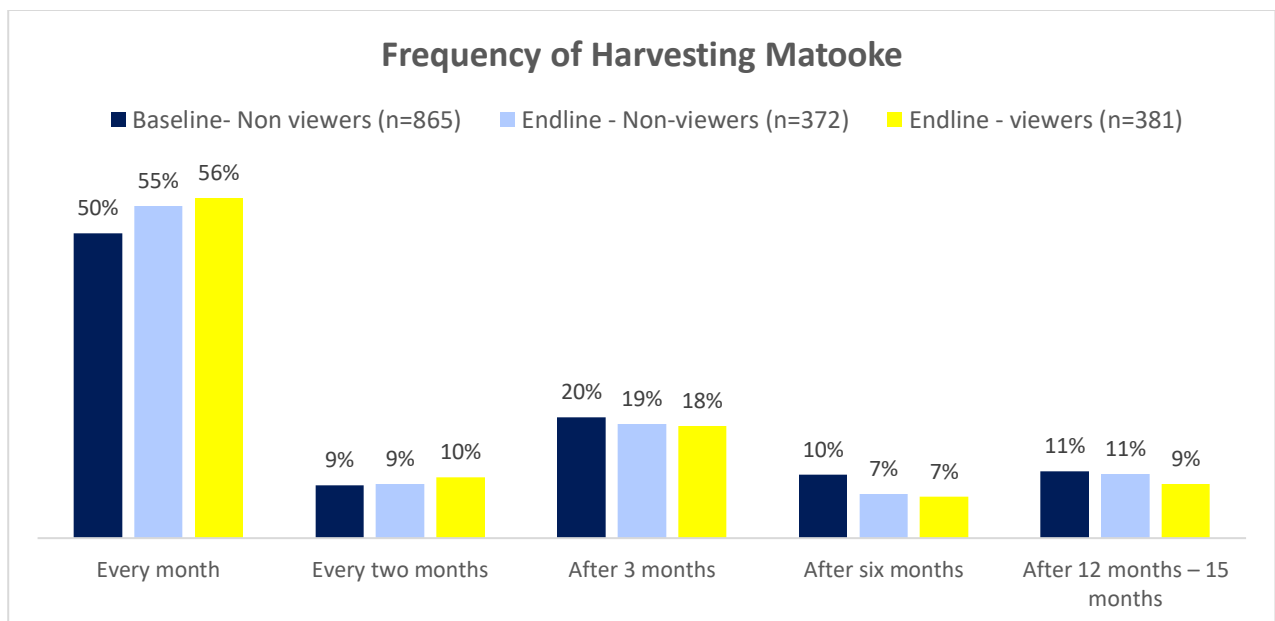
In terms of keeping the matooke plants healthy, the vast majority said they weeded around the plants, desuckered, pruned and mulched. As shown in the chart below, there were some differences in terms of uplifts intending to matooke plants between the baseline and the endline samples, but at the endline there was no measurable difference between SSU (2) viewers and non-viewers.

Chart 35: Practices in Matooke Farming



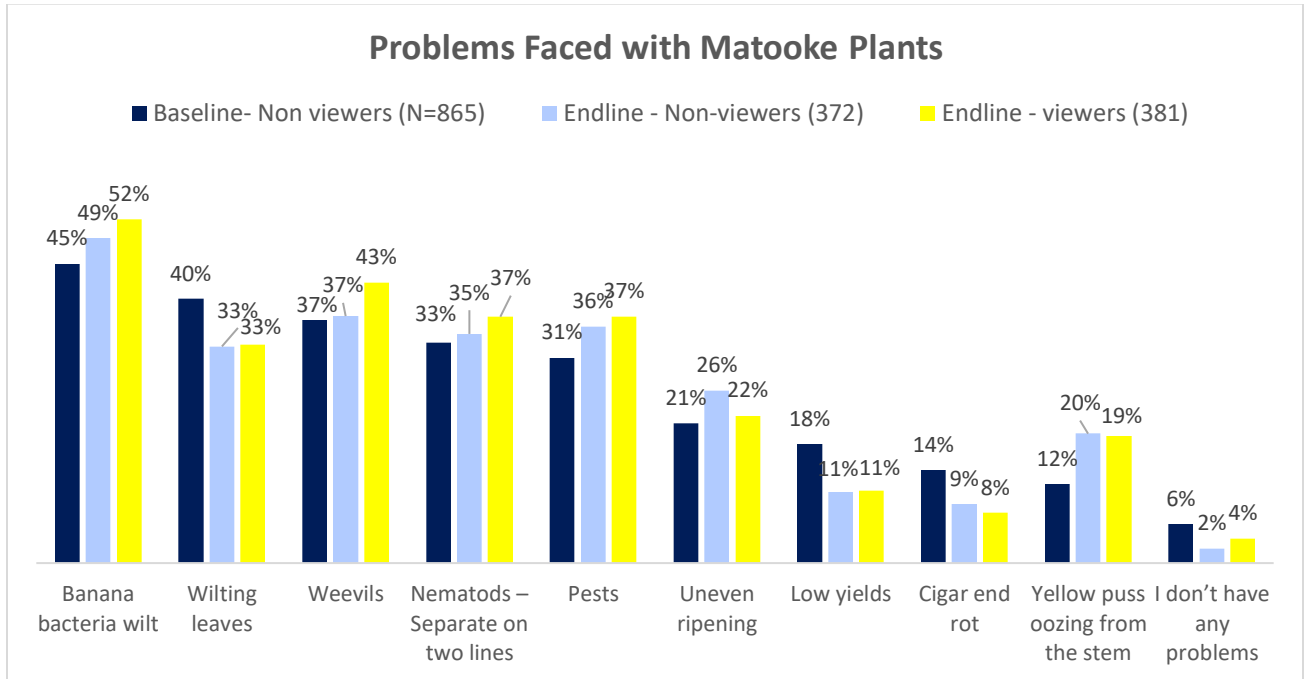
Most matooke growers (just over 50%) said that they harvested their plants every month. A slightly higher percentage of endline viewers (56%) said they harvested every month than did their baseline non-viewing counterparts (50%).

Chart 36: Matooke harvesting



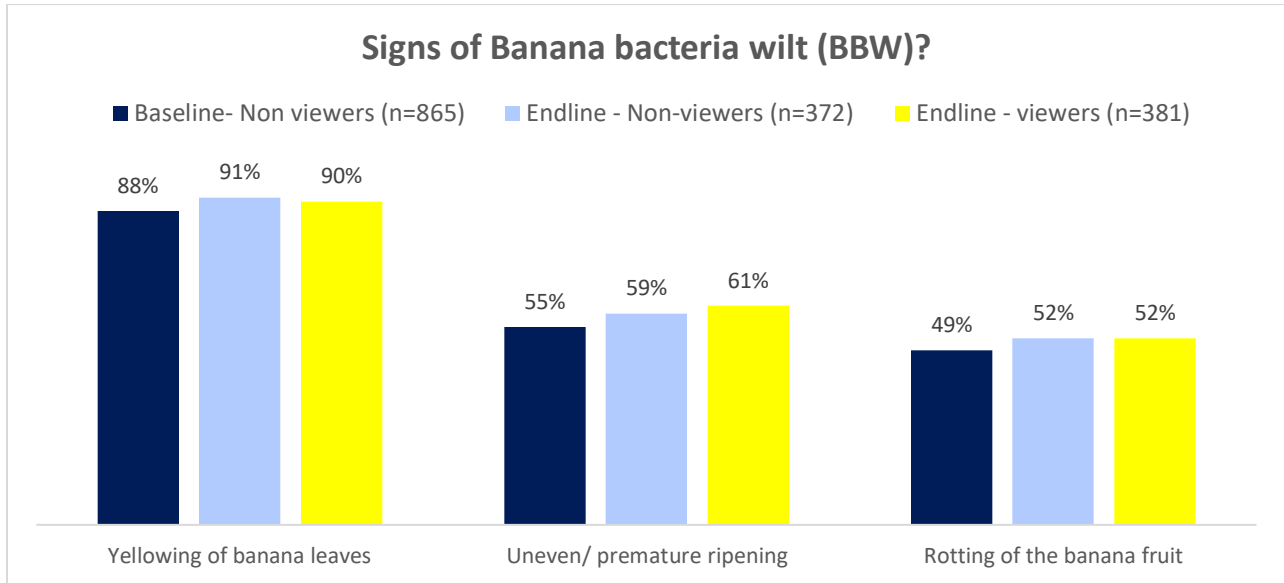
Typical of the problems farmers faced with their matooke crops were: banana wilt (around five in ten), wilting leaves and weevils. The differences in the problems faced with matooke plants did not vary between the surveyed groups.

Chart 37: Problems Faced with Matooke Plants



Almost all (90%), at the baseline and the endline, recognised the signs of banana wilt (BBW) through the yellowing of leaves or uneven or premature ripening (60%). There was no evidence that watching SSU (2) had any impact on knowledge of recognising the signs of banana bacteria wilt.

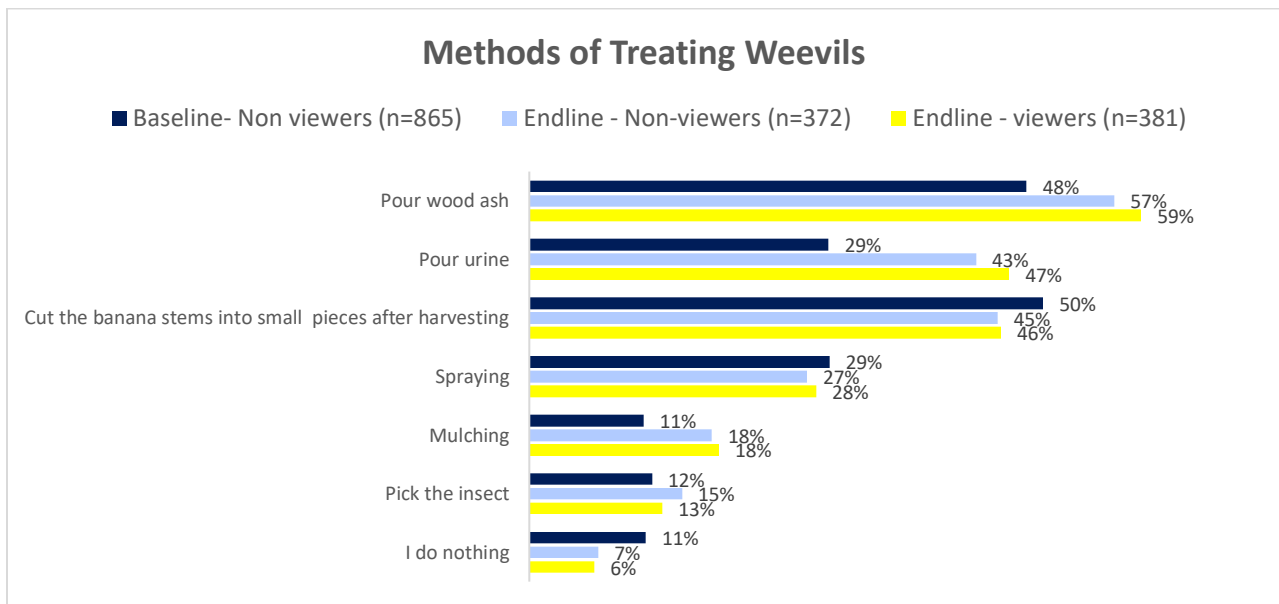
Chart 38: Signs of Banana bacteria wilt (BBW)



There was a significant baseline to endline change in the recognition of the signs of weevils. Through identifying tunnelling in stems +16%.

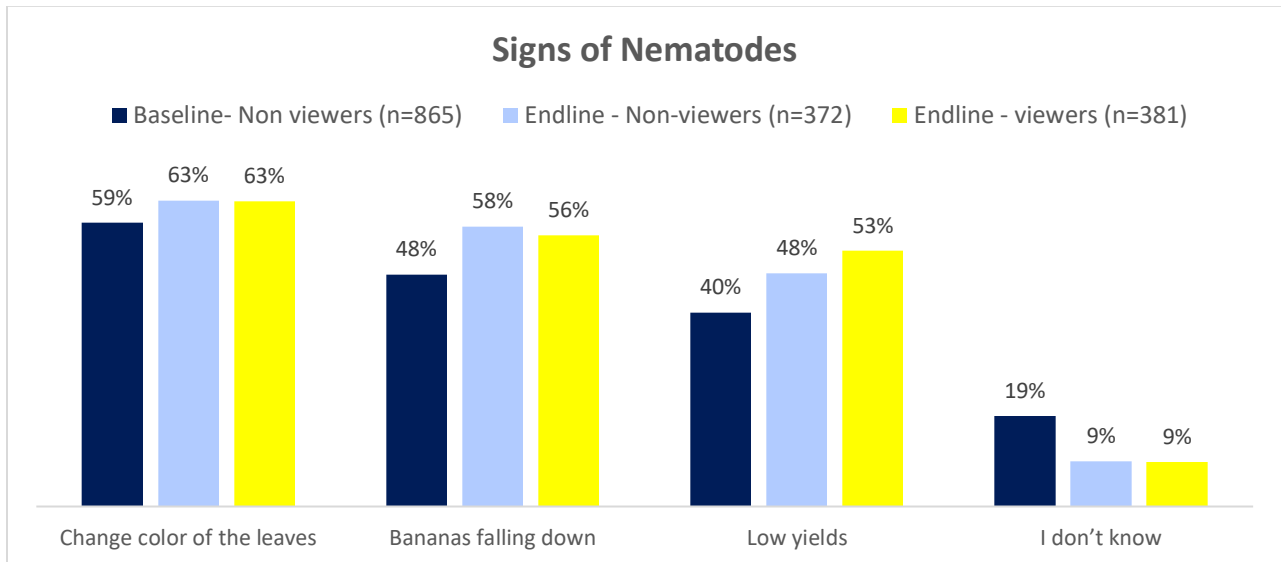
Those interviewed at the endline (58%) were more likely to treat weevils by pouring on wood ash than those interviewed at the baseline (48%) and they were also more likely to use urine as a form of treatment.

Chart 39: Treating Weevils



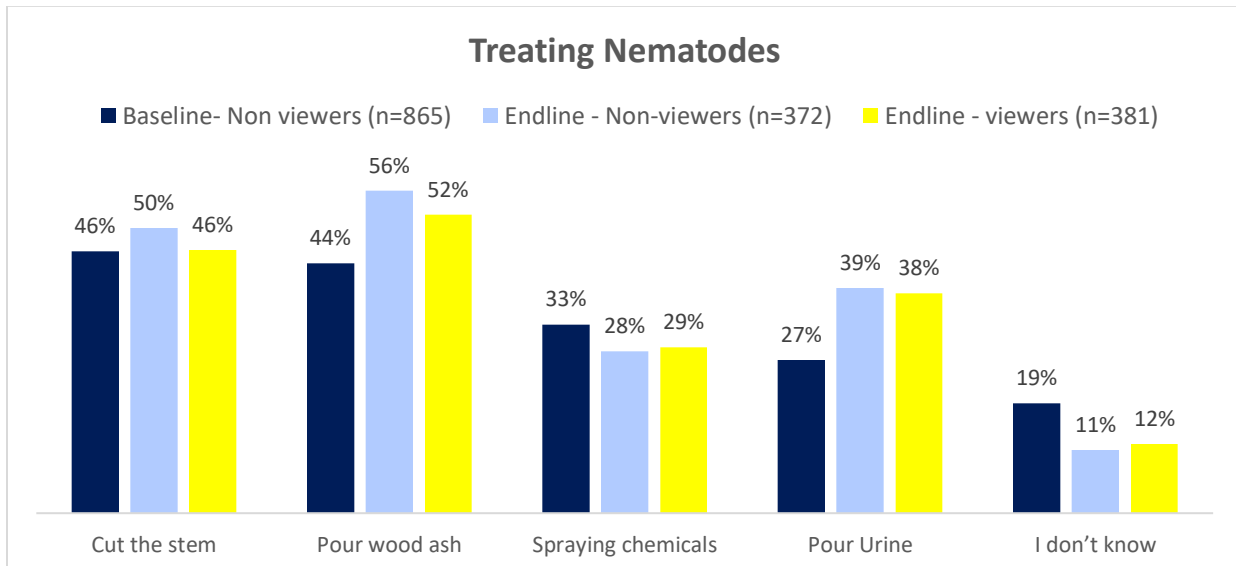
Recognition of the signs of nematodes among matooke farmers was also high, with around six in ten of all those surveyed recognising the changing colour of the leaves. However, there was a significant difference between the baseline and endline samples in the recognition of nematodes through the falling of banana fruits.

Chart 40: Signs of nematodes



Nematodes were treated by 'cutting the stem' and 'pouring on wood ash' (around 50% at both the baseline and the endline).

Chart 41: Methods used to treat nematodes



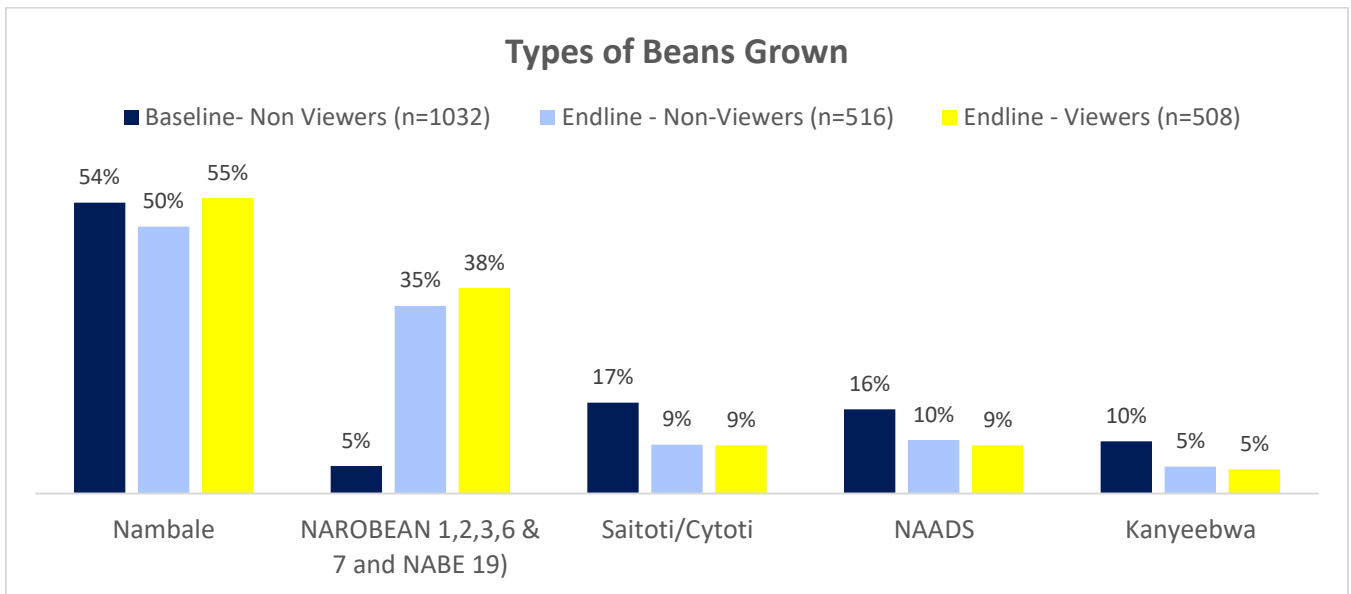
3.9. KEY FINDINGS: Beans

Key SSU (2) content	
• Beans	

3.9.1 Beans

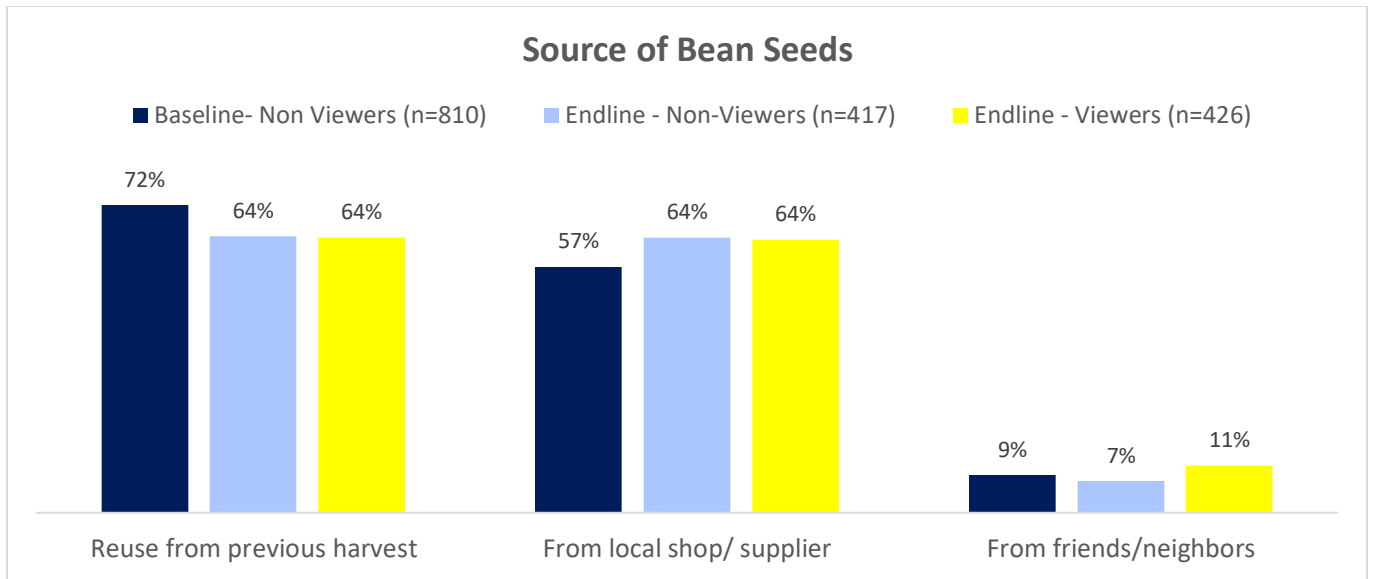
The chart below shows the main varieties of beans grown in the four districts covered by the study. The endline saw a considerable increase in the numbers of bean growers growing the Narobebean varieties and a decline in those growing Saitoti/ Cytoti.

Chart 42: Types of beans grown



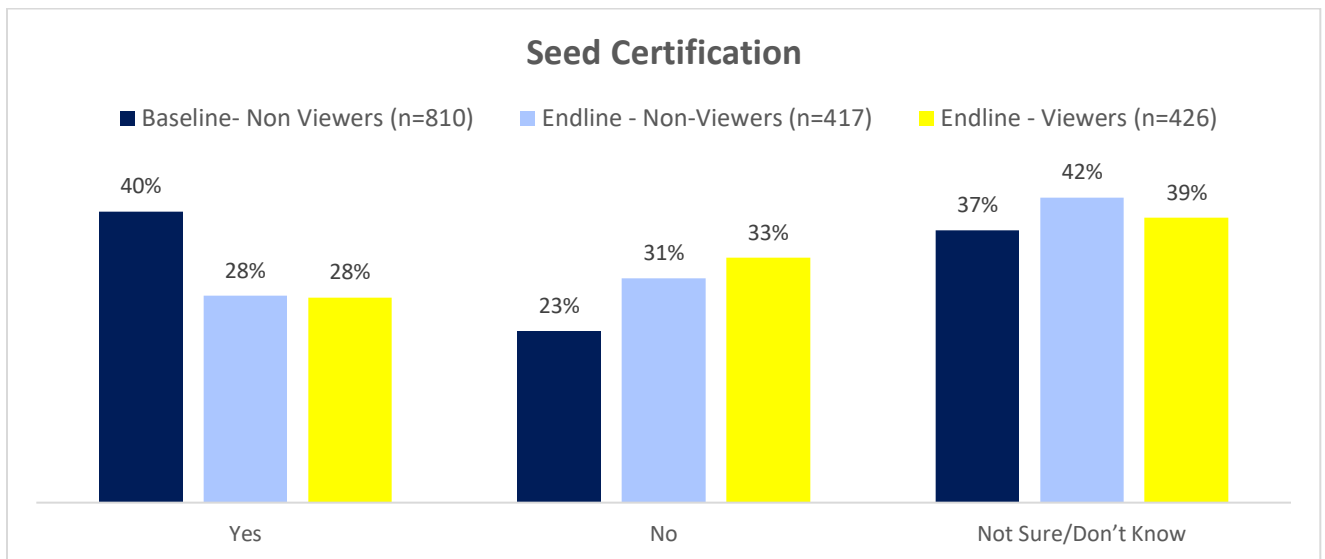
Most of those who grew beans (over six in ten) used bean seeds from a previous harvest or bought them from a local supplier. There were no differences in the sourcing of bean seeds/ plants between the baseline and endline samples or between SSU (2) viewers and non-viewers.

Chart 43: Where They Get Bean Seeds



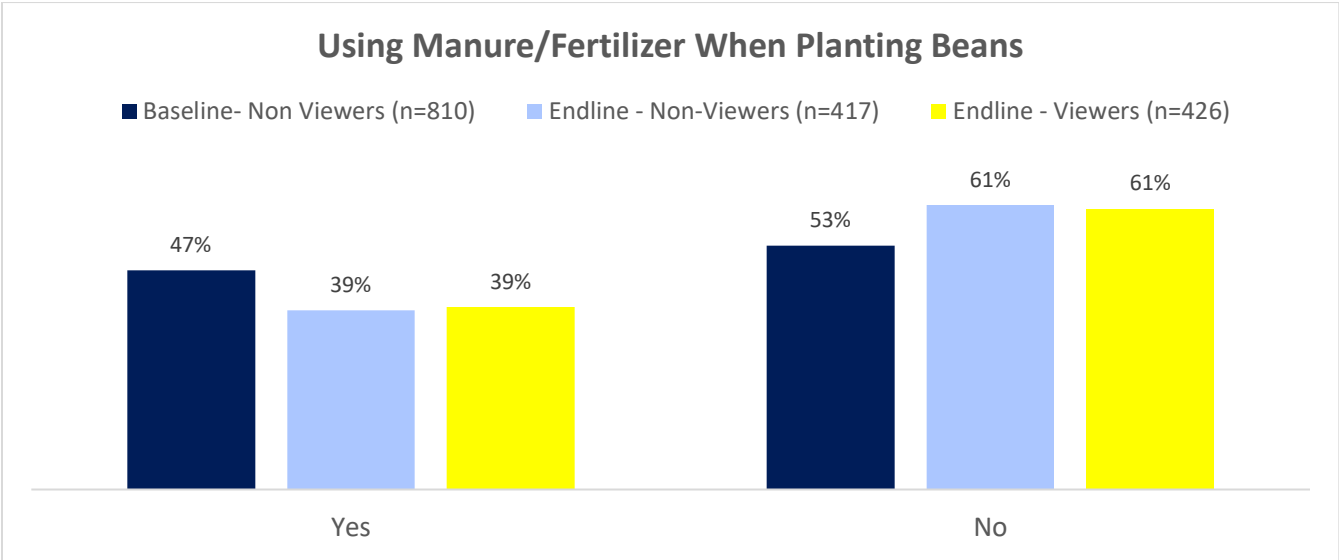
Interestingly, there was a significant decline in the use of purchased certified bean seeds between the baseline (40% used certified bean seeds) and the endline (28%). There was a notable lack of awareness of the status of the bean seeds they were using as illustrated by the bars on the right of the chart below.

Chart 44: Are The Bean Seeds Certified



There was a modest, but significant decline, in the use of fertilizer on bean plants between the baseline (47%) and endline (39%) bean growers.

Chart 45: Use Of Fertilizer/Manure on Bean Plants



Half of all bean growers who watched SSU (2) said they had learnt something new about growing beans from watching the series; half said they did not.

3.10. KEY FINDINGS: Soil Testing

Key SSU (2) content	
• Soil and water management	• Soil testing

Significantly more SSU (2) viewers said they knew what a soil test was (43%) than their non-viewing counterparts in both survey waves. However, the picture is not so clear when it comes to knowing specifically how a soil test works (Chart 46 below). The question about how a soil test works was asked only of those who said they knew what a soil test was so it is not a very good indication of what, if anything, can be attributed to viewing SSU (2).

Chart 46: Understanding Of What A Soil Test Is

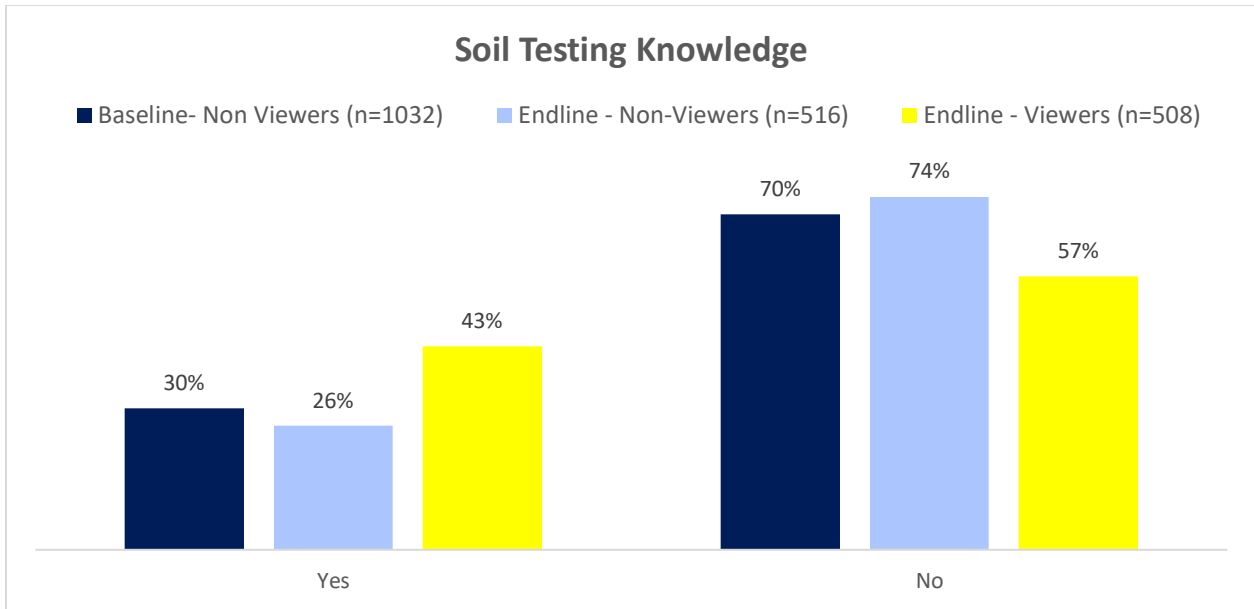
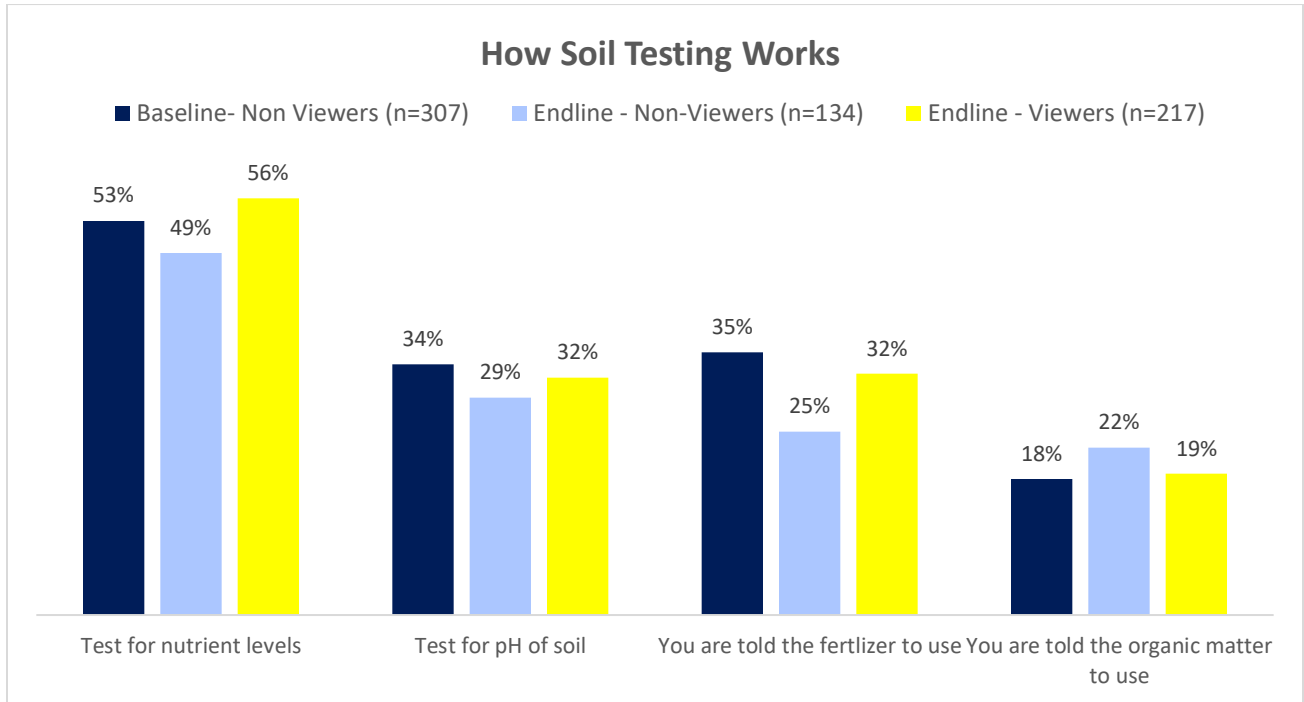


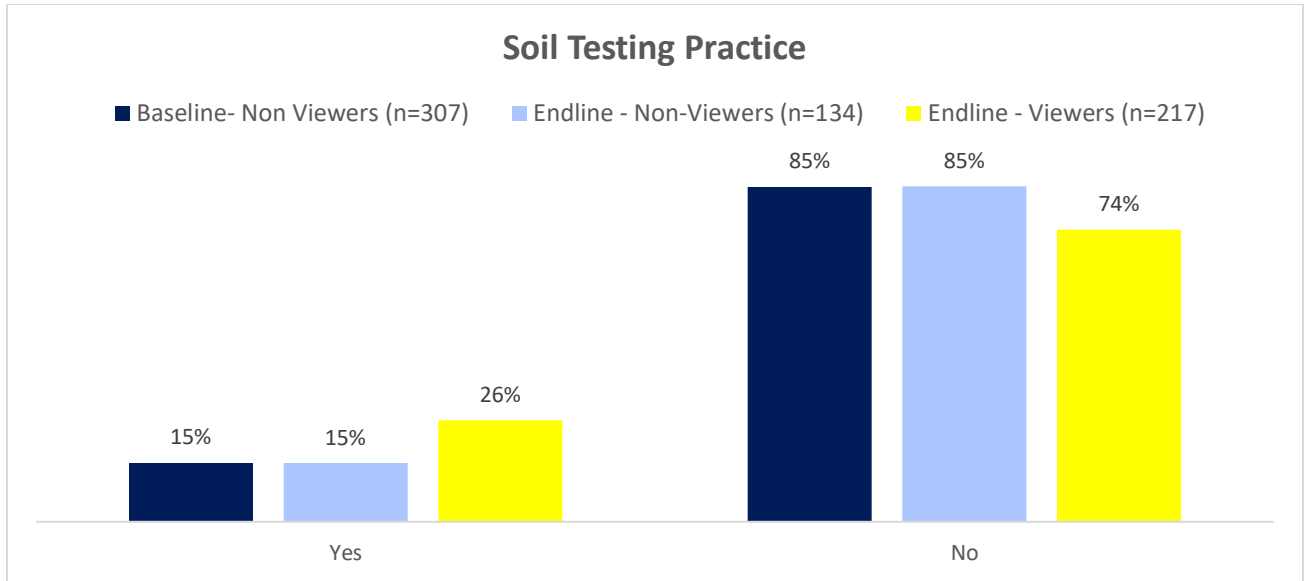
Chart 47: Awareness of how the soil tests works



However, there was evidence that viewing SSU (2) influenced more viewers (26%) than non-viewers (15%) to actually carry out a soil test. Given that the incidence of conducting soil tests among these types of smallholder farmers tends to be very low, this was a notable achievement of the series. However, there is still a very long way to go before small holder farmers carry our soil tests and that the benefits of so doing are considered greater than the barriers. The barriers were around a lack of knowledge (less so for viewers) and cost. With more coverage of these issues in the series it may be possible that the barriers could be slowly overcome and soil testing becomes an established practice.

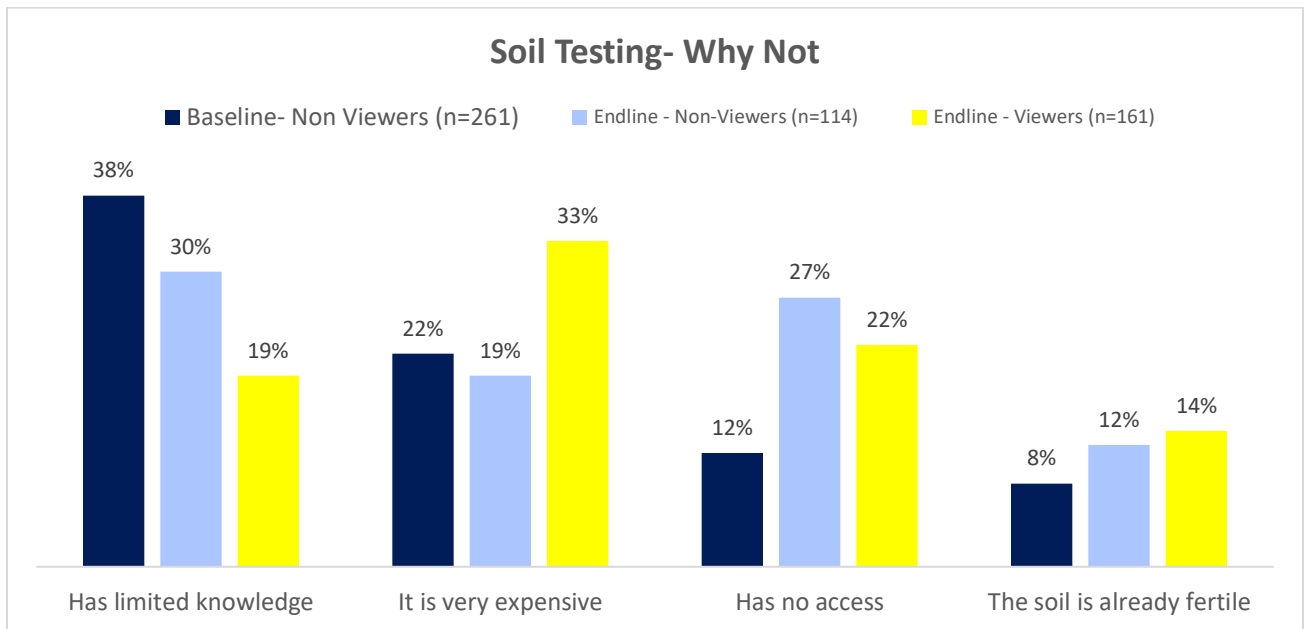
Chart xxxxx: Conducting a soil test

Chart 48: Conducting a Soil Test



XX

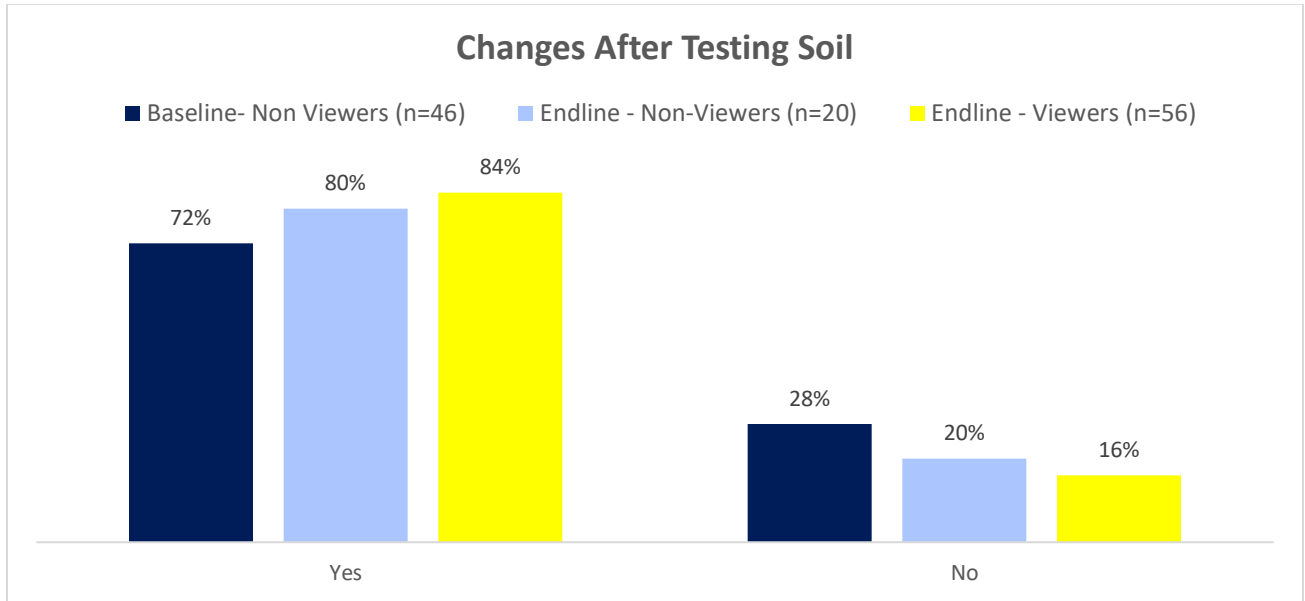
Chart 49: Reasons for not using soil test



The data presented in chart xxx below demonstrates a clear difference between the implementation of changes made as a result of conducting a soil test between SSU (2) viewers (84%)

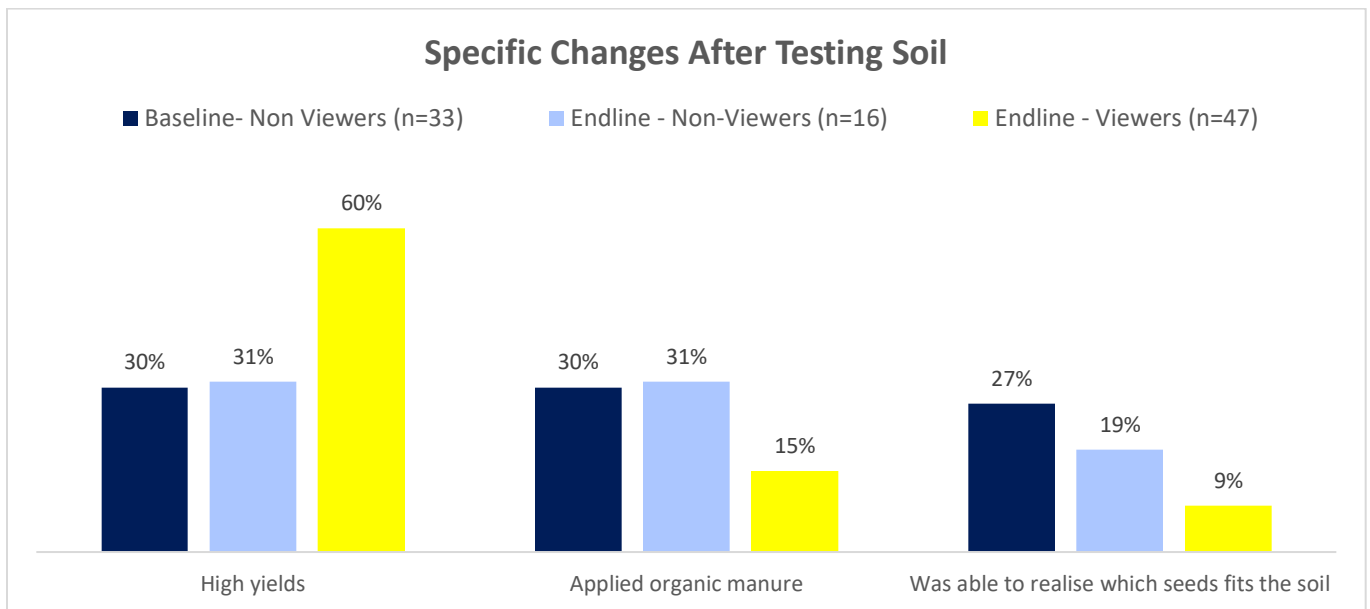
and baseline non-viewers (72%). This indicates that messages about the benefits of soil testing and ensuing changes have been acted upon by SSU (2) viewers.

Chart 50: Changes made after soil test



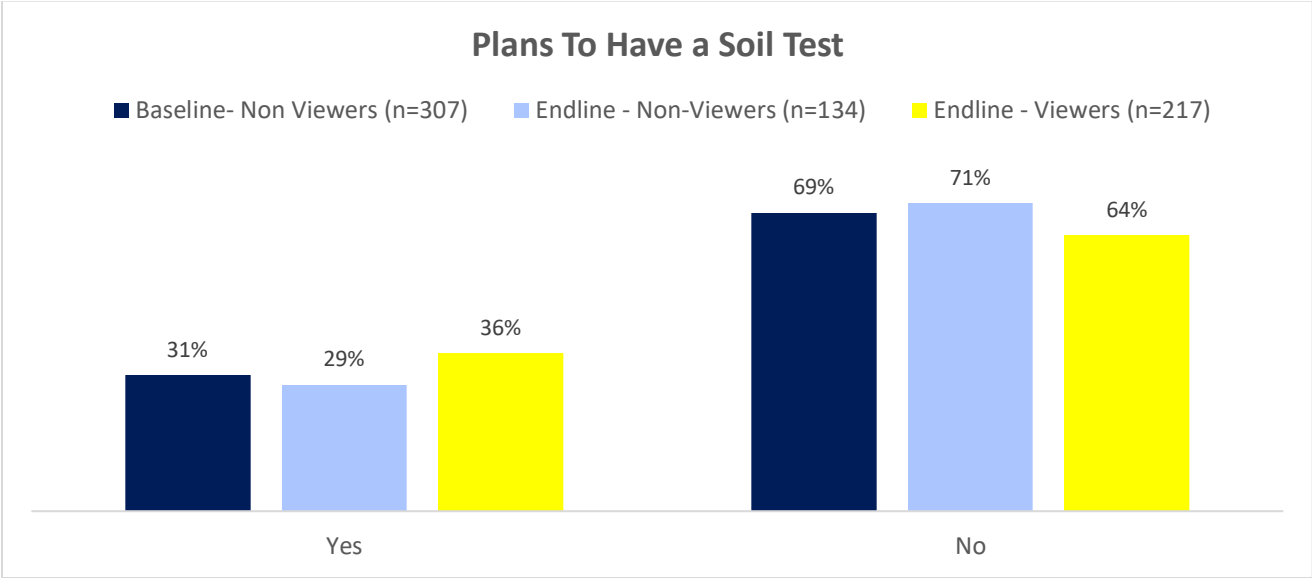
Very noticeably, SSU (2) viewers who conducted a soil test and made changes as a result observed higher yields (60%), this is a highly significant finding which can be attributed to watching SSU (2) and acting on the advice given.

chart 51: What specific changes did you make after your soil test results?



Around a third of viewers and non-viewers alike said that they were planning to conduct a soil test in the coming year – there was no real difference between SSU (2) viewers and non-viewers at either the baseline or the endline.

Chart 52: If Planning to Have a Soil Test Done Next Season



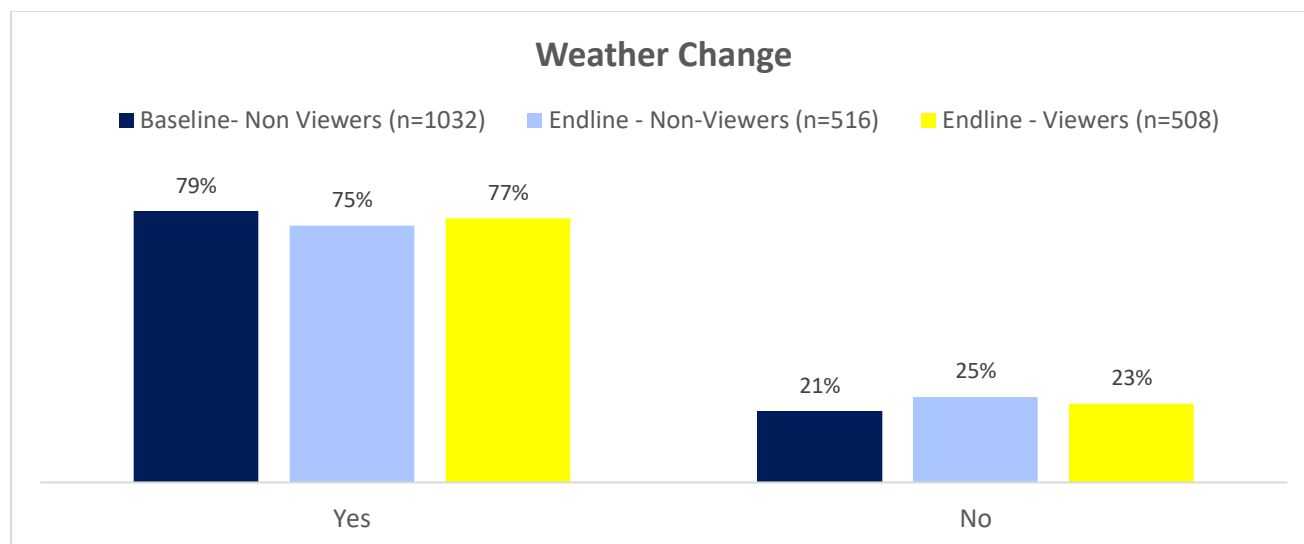
3.11. KEY FINDINGS: CLIMATE ADAPTATION

Key SSU (2) content	
<ul style="list-style-type: none"> • Soil and water management • Soil testing • Conservation practices i.e Mulching, crop rotation 	<ul style="list-style-type: none"> • Agroforestry • Drip irrigation

3.11.1 Adaptations made as a result of changes in the weather.

Around three quarters (75%) of the small holder farmers interviewed in March and September 2023 said that they had noticed that the weather had changed in their area and many said they had made changes to their farming practice as a result of the changing weather patterns.

Chart 53: If Weather Changed has Changed in the Area



Around a third said they had made changes to the way they sowed and planted their seeds. There was an uplift in this behaviour between the baseline (24%) and the endline (33%), but no difference at the endline between viewers and non-viewers. Fewer, at both survey waves, said they had made changes to the way they ploughed or prepared their land or made changes to the planting season.

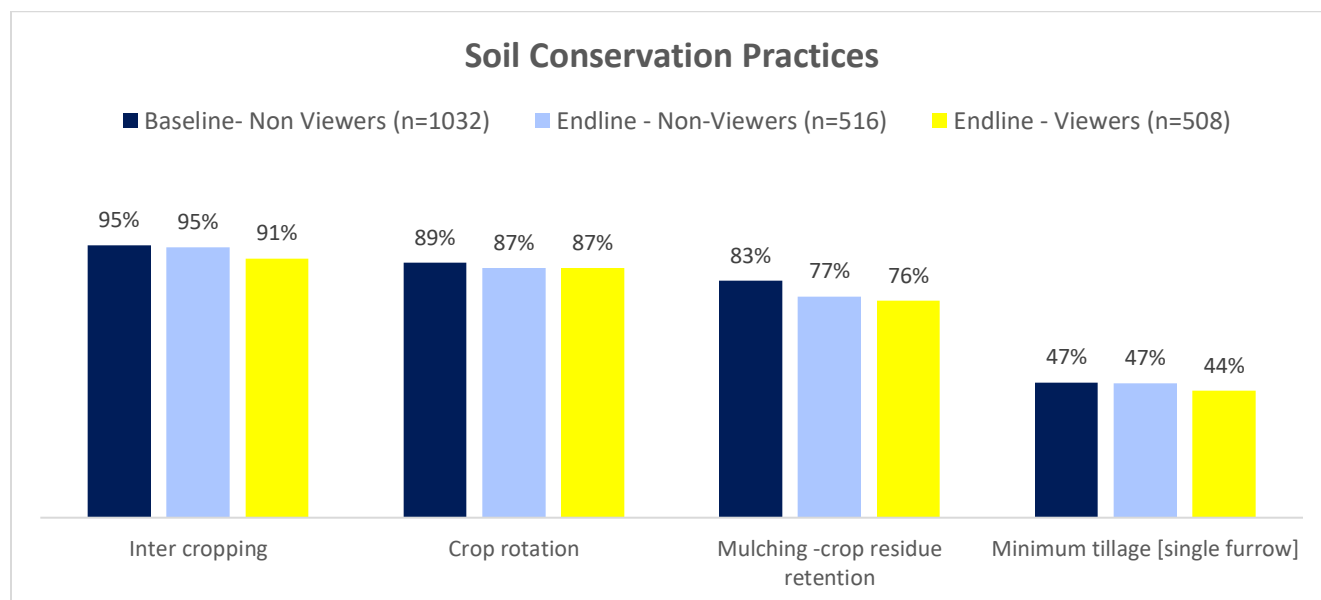
Table 3: Changes Made on the Farm Because of the Changing Weather

	Baseline- Non - Viewers (n=807)	Endline - Non- Viewers (n=391)	Endline - Viewers (n=391)

Sowing seeds/planting seeds	24%	32%	33%
Ploughing/preparing the garden	14%	11%	12%
Changed the planting season	7%	13%	13%
Watering of crops	8%	7%	10%
Mulching	4%	5%	6%
Weeding	4%	5%	5%
Applying fertilizers	5%	4%	5%
Planting trees	3%	4%	5%
Making water drainages to preserve water	3%	3%	2%
Spraying of crops	2%	1%	2%
Terracing	1%	3%	4%
None	28%	24%	16%

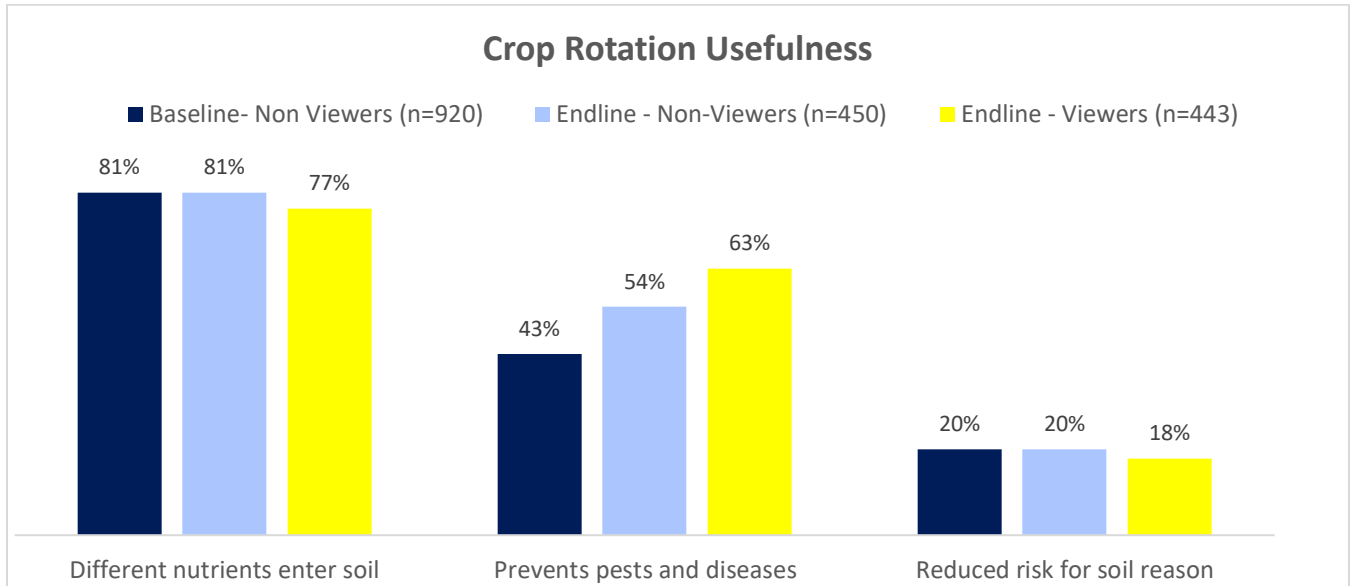
Awareness levels of a number of soil conservation practices were consistently very high across all sample groups. Around 90% had heard of intercropping and crop rotation, with fewer but still over three quarters who claimed to have heard of Mulching. Awareness of minimum tillage was much lower at just under 50%.

Chart 54: Soil Conservation Practices Heard of



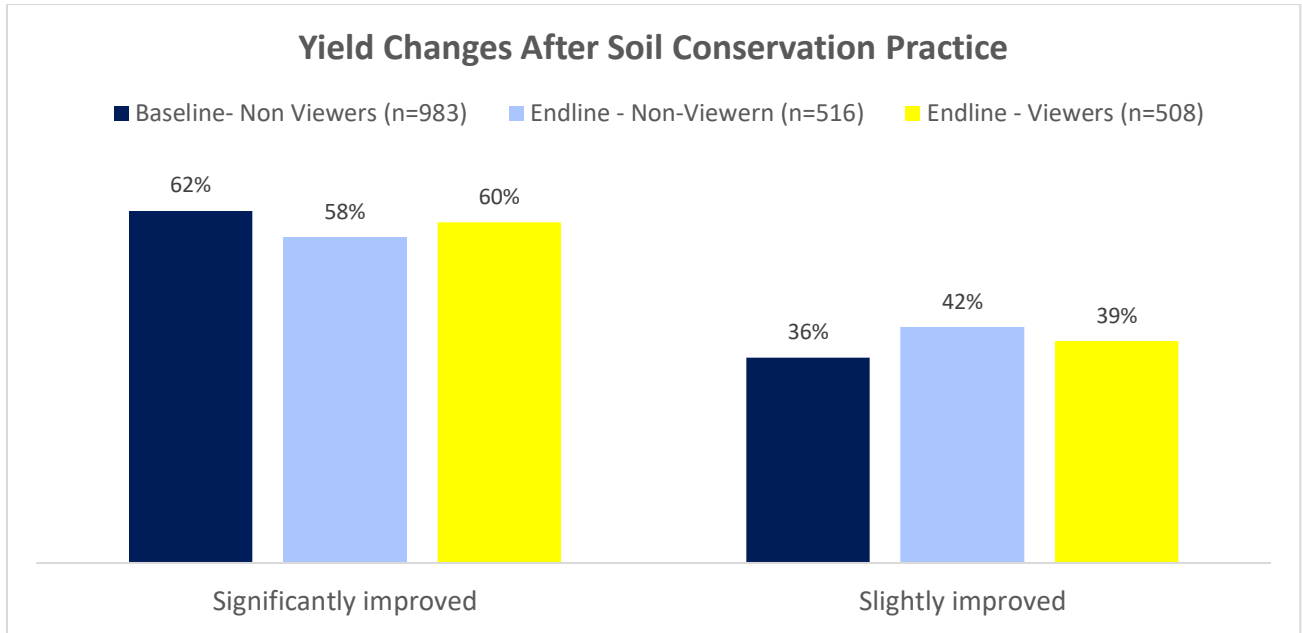
Most small holder farmers understood that crop rotation was useful to allow for different nutrients to enter the soil, there was a marked uplift in knowledge among SSU (2) viewers that it also prevented pests and disease.

Chart 55: Why Crop Rotation is Useful



The surveys provided solid evidence that farmers saw a significant increase in their yields after practicing soil conservation. This is a powerful finding to support continued messaging around changes to soil practice, sowing and planting to adapt to the changing weather patterns.

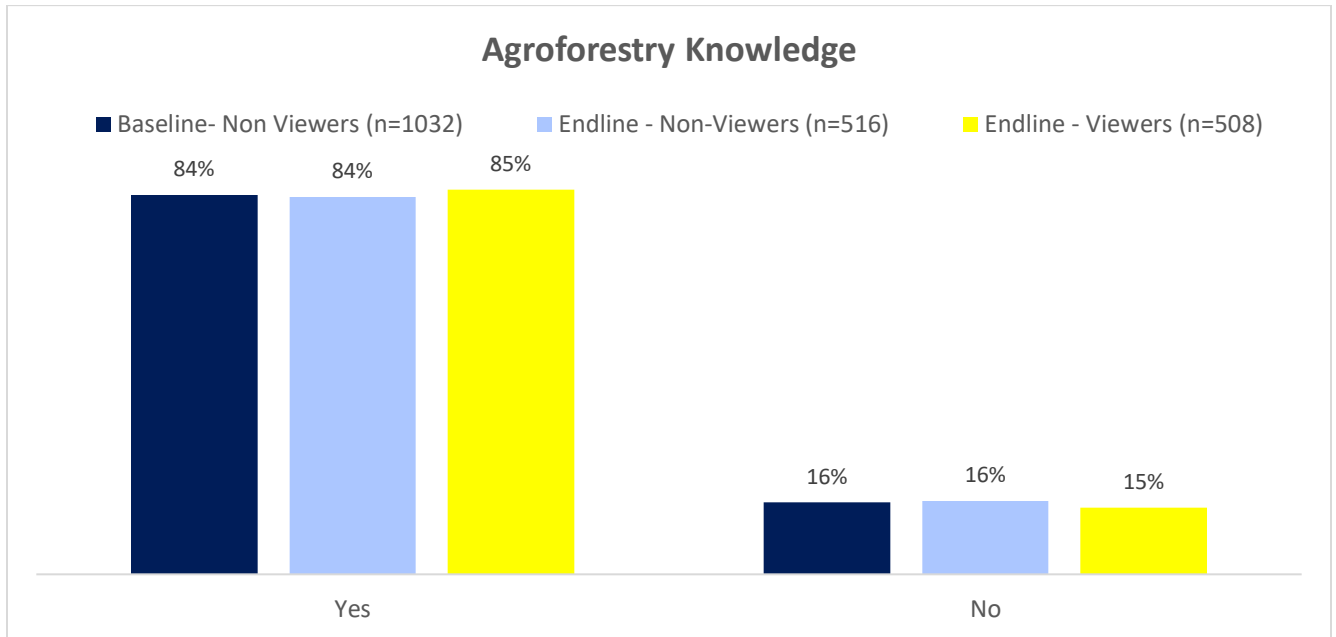
Chart 56: If Used Any Soil Conservation Practices, How Was The Yield



3.11.2 Knowledge of Agro-forestry

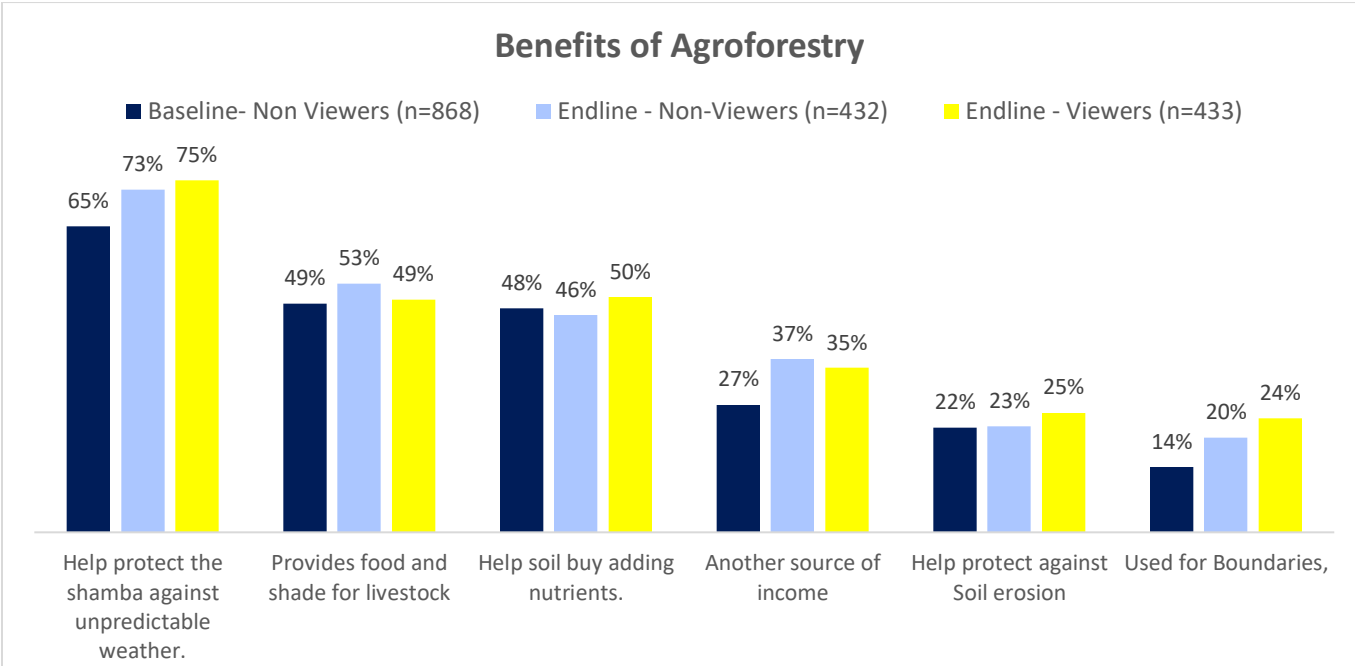
Levels of awareness of agroforestry among all the sampled groups was very high, at over 80% among SSU (2) viewers and non-viewers alike.

Chart 57: Awareness Of Agroforestry; Planting Trees, Shrubs, Palms etc on the Same Land they Grow Crops and Rear Livestock.



On the other hand, awareness of the benefits of agroforestry in helping to protect the shamba against unpredictable weather were significantly greater among SSU (2) viewers than non-viewers. The other benefits of agroforestry covered in the surveys showed no difference in awareness between the viewing and non-viewing sample groups

Chart 58: The Benefits of Agroforestry



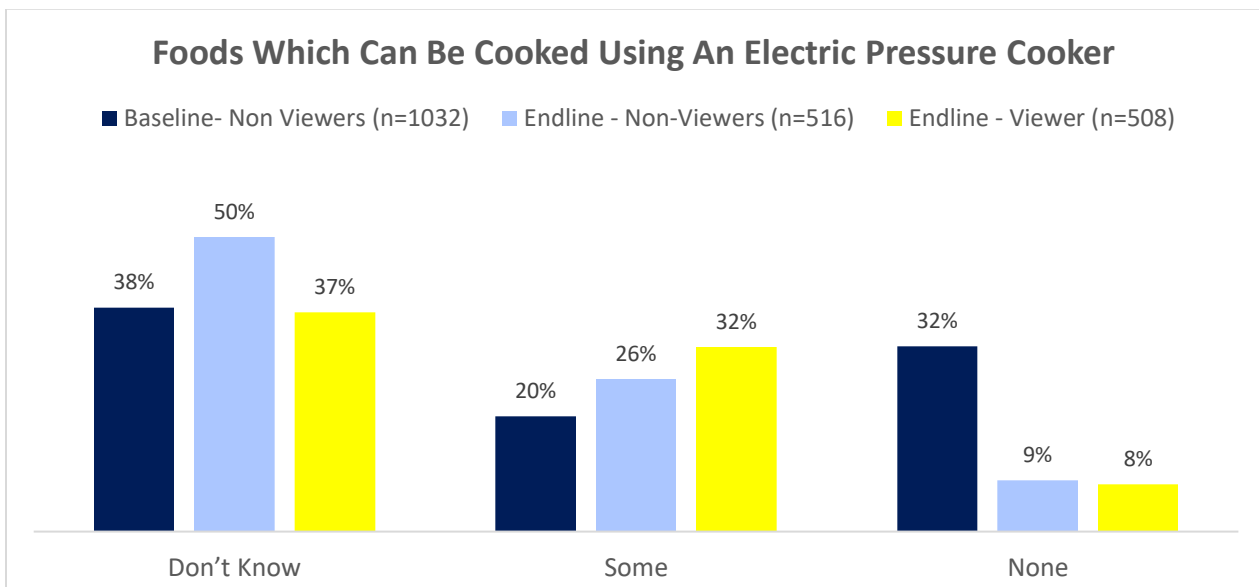
3.12. KEY FINDINGS: Cooking Methods

Key SSU (2) content	
<ul style="list-style-type: none"> • Cooking with Electric pressure cooker is safe. • How to cook common staples on an EPC 	<ul style="list-style-type: none"> • Using an EPC is fast, easy, safe and cost effective.

3.12.1 Knowledge about cooking using an electric pressure cooker.

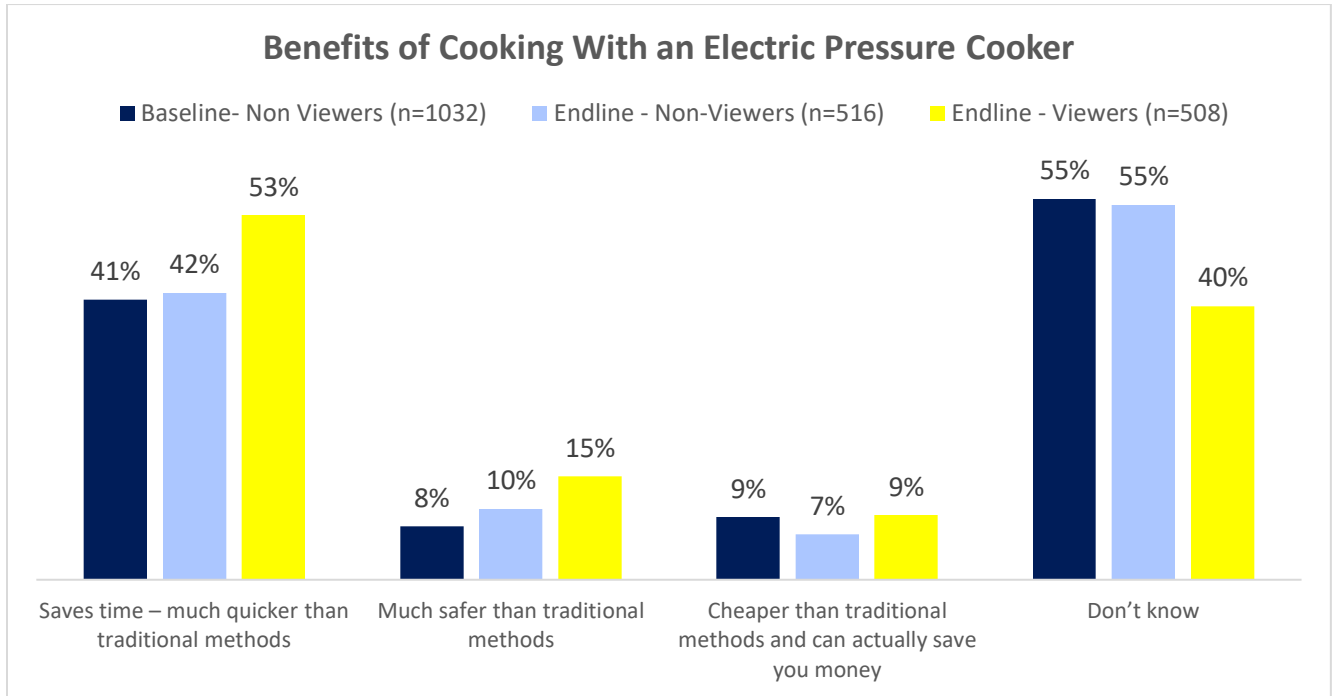
Overall levels of knowledge about the types of food that can be cooked in an electric pressure cooker were low, but as the chart below illustrates SSU (2) viewers were somewhat more knowledgeable than their non-viewing counterparts.

Chart 59: Foods in the home that can be cooked in an electric pressure cooker



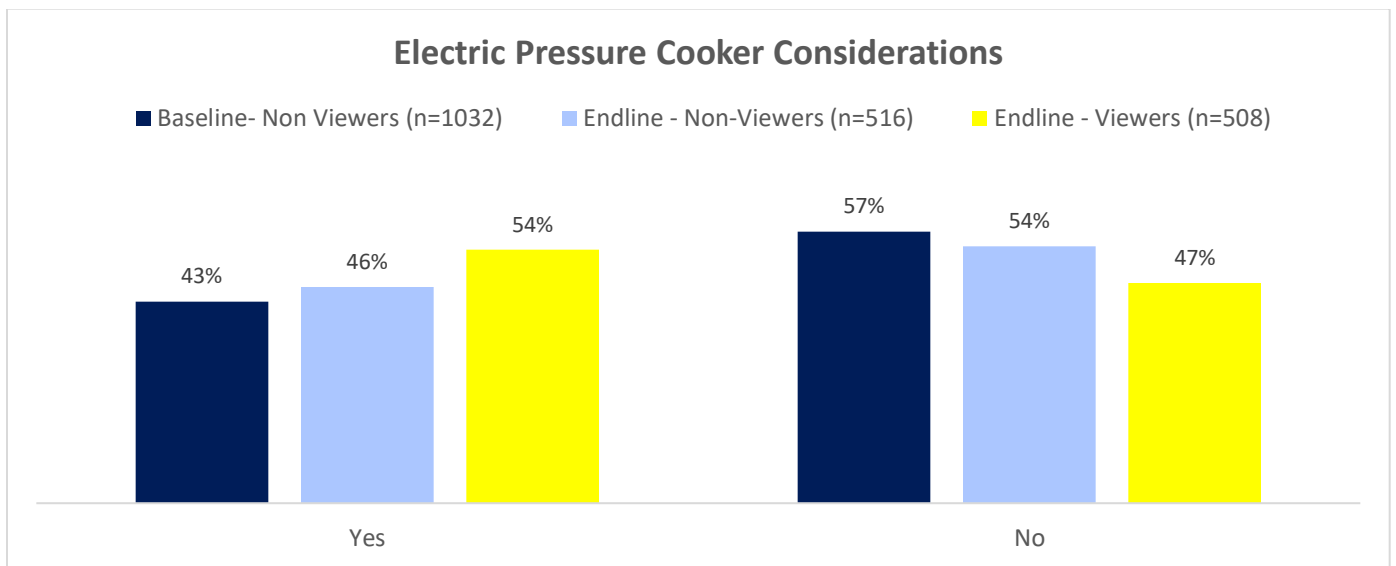
By contrast, however, the benefits of using an electric pressure cooker as a time saving device were known by around four in ten non-viewers and over 50% of viewers – a significantly higher proportion. The level of ‘don’t know’ on the right-hand side of the chart below serves to illustrate that SSU (2) was effective in conveying many of the benefits of cooking with an electric pressure cooker.

Chart 60: The Benefits of Cooking With An Electric Pressure Cooker



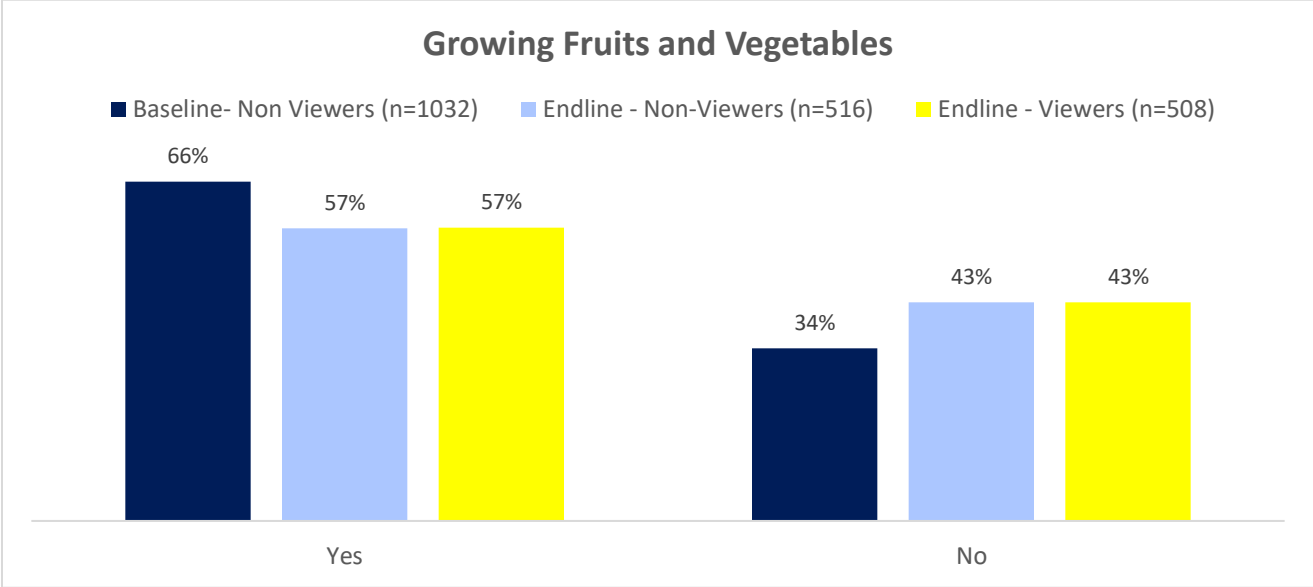
The evidence is also suggestive that SSU (2) moved the needle in terms of ‘consideration to purchase’ an electric pressure cooker from a base level of 43% to 54% among viewers.

Chart 61: Consideration to Purchase an Electric Pressure Cooker



A nutrition-related question showed that two-thirds of the baseline sample of small holder farmers said they grew some fruit and vegetables on their land, but that this was somewhat lower among endline viewers and non-viewers (57%)

Chart 62: Growing any Fruit or Vegetables on Your Plot of Land



The most popular fruits and vegetables grown were Nakati (around 50%), Dodo/ buga (between 30% and 40%), eggplants, mango and Jackfruit. The vast majority (over 80%) own the land that they use for growing these fruits and vegetables and would consider growing fruit and vegetables on the land in the future.

3.13. KEY FINDINGS: VIEWERS' OPINIONS OF SSU (2)

3.13.1 Most useful topics in the series

At the end of the endline survey, viewers were asked a series of questions to give their feedback on the second series of SSU. The most useful topics were considered as:

- Coffee growing and maintenance (36%)
- Banana growing (22%)
- Modern farming methods (16%)
- Livestock farming (12%)

All the other topics covered were considered most useful by fewer than 10% of viewers. These included: piggery, poultry keeping and pest and disease control.

A very encouraging 79% of viewers said they had made changes to their shamba and farming practices as a result of watching the series and around 70% felt that these changes had resulted in better incomes.

Chart 63: If Made Any Changes to the Farm Because of Something They Have Learnt on Shamba Shape Up

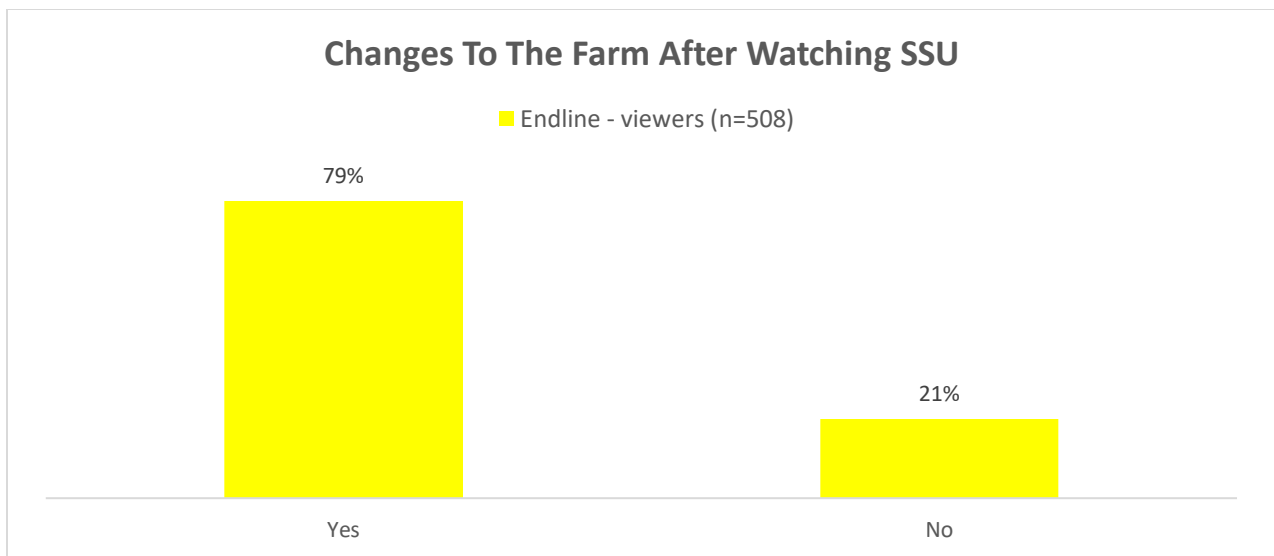
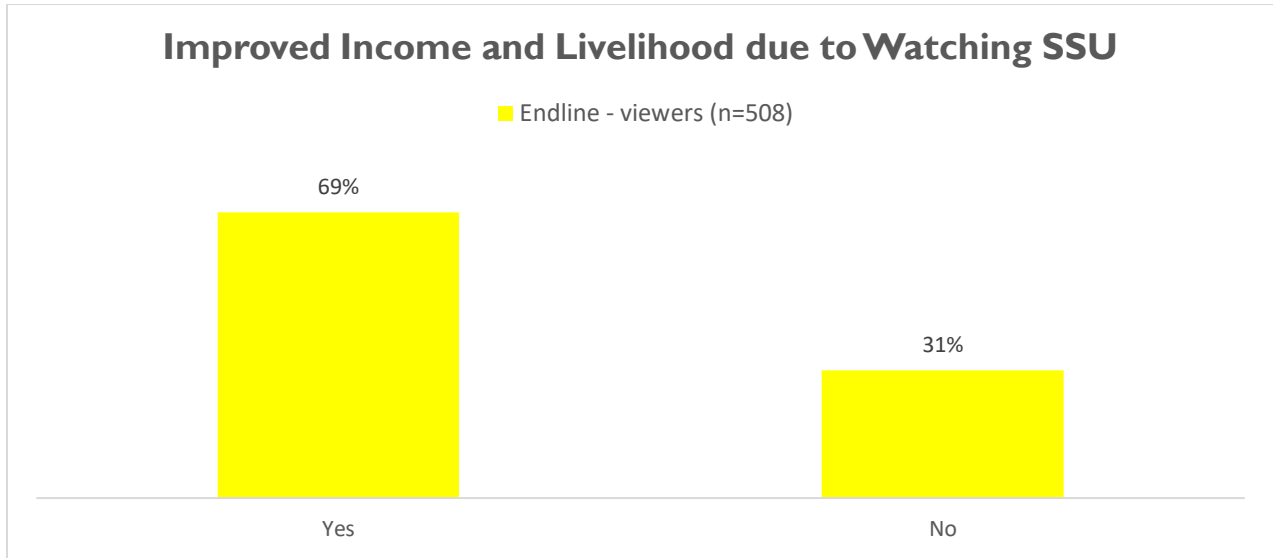
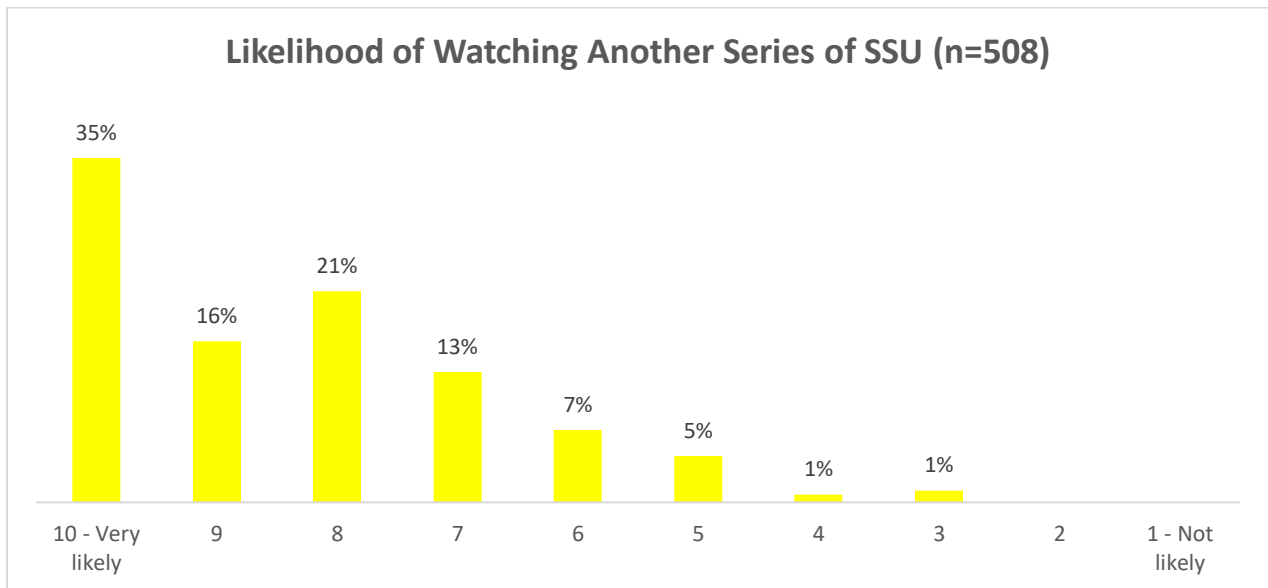


Chart 64: If Their Income And Livelihoods Has Improved Due to Watching Shamba Shape Up



Just over half (51%) of viewers said they were very likely to watch another series – they scored either 9 or 10 on a ten-point scale of ‘likelihood to watch another series’ and most would recommend the series to other people. The series rating scores underline the popularity and value of the series and is encouraging for future series.

Chart 65: Likelihood of watching another series of SSU



Around half of all viewers (51%) found the series ‘very enjoyable’ (scoring nine or ten on the ten point scale) and just over six in ten (64%) found it ‘very useful’. These data point to a very

promising future for the series in terms of increasing viewing and changing the attitudes and behaviors of small holder farmers in Uganda.

Chart 66: Shamba Shape Up Enjoyability Score

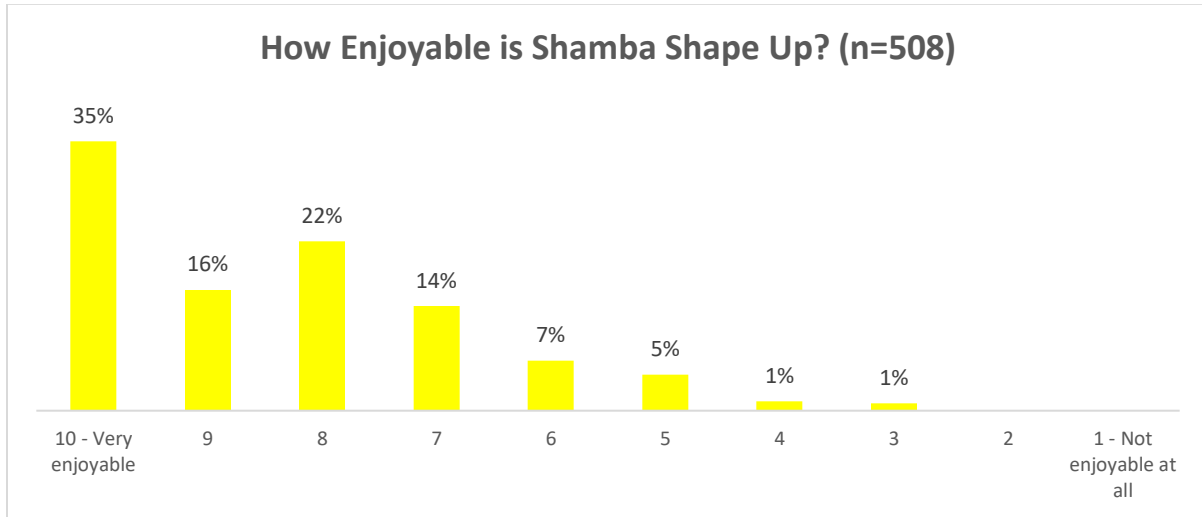
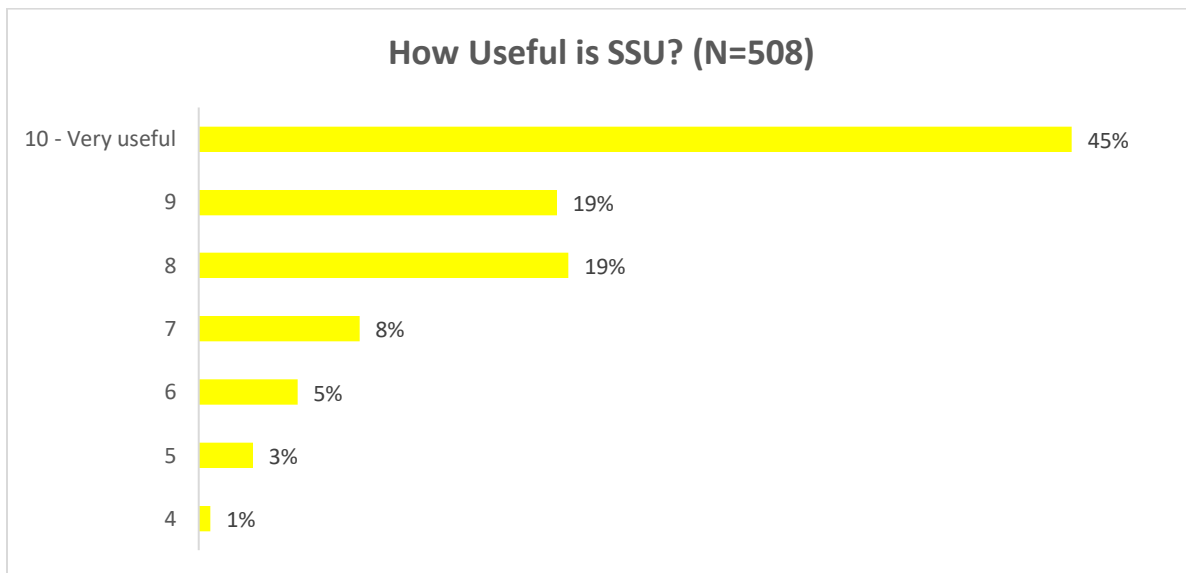
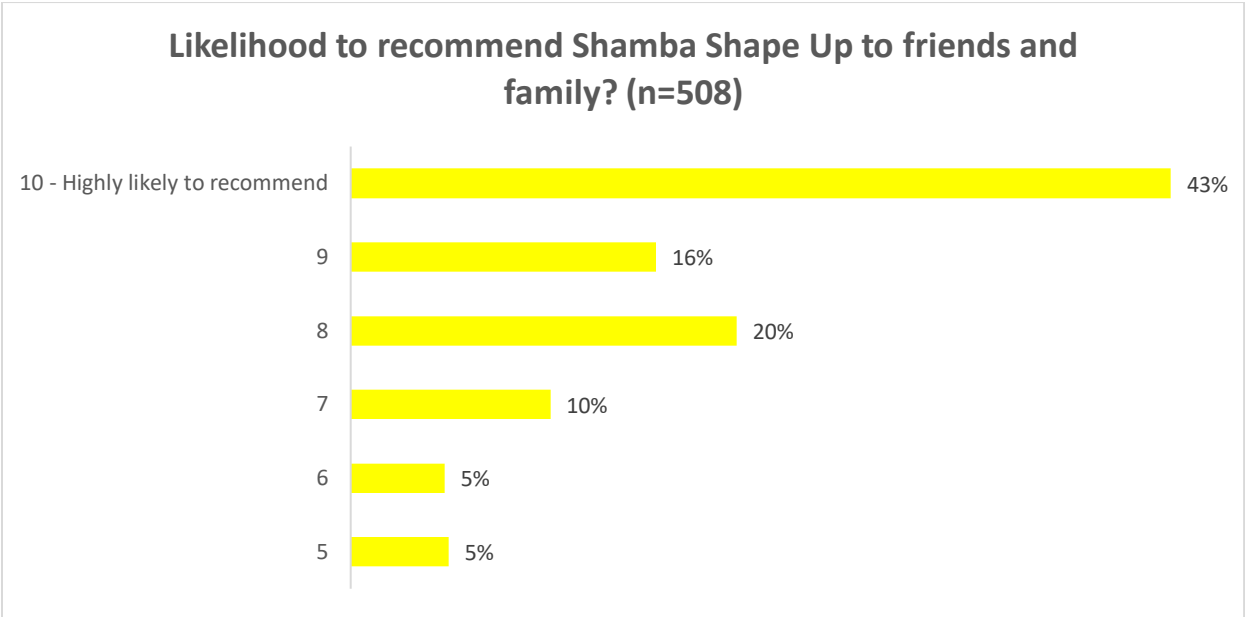


Chart 67: Shamba Shape Up Usefulness Score



Further, six in ten viewers said they would recommend the series to their friends and family.

Chart 68: Likelihood to Reccomend Shamba Shape Up Usefulness



5.0 ANNEXES

5.1 Annex 1: A list of SSU 2 Uganda partners in Uganda

1. PARTNERS MEDIAE WORKED WITH IN SERIES 2 INCLUDE

DIV has supported Mediae Company's expansion into the new market of Uganda, where they produced two series. These series were broadcast during the primary growing seasons in Uganda in both 2022 and 2023. The funding allowed us to bring in partners at a subsidized cost, showcasing the impact of reaching a large audience. These partners are now interested in future collaborations and are willing to invest.

Furthermore, the DIV funding has facilitated research for the program using a randomized controlled trial (RCT). This trial examines both the direct and indirect effects of Shamba Shape Up. The research aims to understand how the knowledge gained from the program is disseminated among audiences and its influence on farmer behaviour and yields. The research findings reveal that:

We collaborated with Uganda Government bodies including the National Agricultural Research Organization (NARO) and the Ministry of Agriculture, Animal Industry & Fisheries (MAAIF).

NARO for Mukono ZARDI and Buginyanya ZARDI, as well as the South Eastern Agro Ecological Zone (SEAEZ) – Buginyanya Zonal Agricultural Research and Development Institute, known as BugiZARDI

Organization	Type	Content
USAID (Development Innovation Ventures)	Government	Overall climate change focus and
IPA	Commercial	Data collection for RCT
Kenchic	Commercial	Poultry
NASECO	Commercial	Drought resistant seed varieties
JABBA	Commercial	Soil testing
Café Africa	Commercial	Coffee, drought resistant varieties, agronomic practices,
National Agricultural Research Organization - NARO	Research	Agronomic practices in different value chain – Matooke, Maize, beans, Orange fleshed sweet potatoes, Fruits, Vegetables
Ministry of Agriculture, Animal Industry & Fisheries (MAAIF):	Research	Financial inclusion / Good Agronomic practices
Modern Energy for Cooking (MECS)	Research	Clean cooking promoting Electric pressure cooker
CIAT – Rwanda	Research	Climate literacy and planting beans

5.2 Annex 2: Technical report of the methodology

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5.3 Annex 3: A full technical report

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Annex 4: Insight Photos



Beans

Pigs

Chicken

Maize

Organic Farming

Bananas

Mayega Tom is practicing Black Sold
farming which is used as organic
and proteins mixed in animal
for chicken, he said its impor

Coffe