



SHAMBA SHAPE UP SERIES 12

IMPACT OF VIEWING ON FARMERS' KNOWLEDGE, ATTITUDES AND PRACTICES



Survey Data: GeoPoll
Case Study Findings: GMaurich
Author: Vivien Marles
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1. EXECUTIVE SUMMARY

Shamba Shape Up (SSU) series 12 was broadcast nationally on Kenya's leading television channel, Citizen TV, between March and September 2022. The series was shot in a variety of locations in key agricultural areas and covered a range of topics; farm financing to livestock husbandry, nutrition and climate change adaptation. SSU aims to raise knowledge of good farming and nutrition practices, promote positive attitudes towards improved farming methods and ultimately change the ways in which farmers improve their production of crops and livestock, adopt healthy eating practices and adapt their practices to accommodate climate change.

SSU has been running continuously since 2010 and is Kenya's leading agricultural series. According to GeoPoll's Audience Measurement Survey, it is estimated that SSU 12 reached 4 million viewers (around 2 million viewers on Saturday and 2 million viewers on Sunday afternoons each week). This is an increase of around 300,000 viewers per episode over SSU 11. It is also important to note that the majority of viewers watched SSU with 1-5 other people, which **gives an estimated audience reached of over 9 million viewers**. Over the past ten years pre- and post-broadcast, Knowledge, Attitude and Practice (KAP) studies have been conducted for each series and the evidence is compelling in demonstrating SSU's impact in providing audiences with information they need to improve their farming practices.

To evaluate the impact of series 12 of *Shamba Shape Up*, two waves of data collection were conducted to track changes from a pre-broadcast baseline survey of non-viewers to SSU 12 and an endline survey among SSU 12 viewers and non/light viewers immediately once the series finished in September 2022. In addition to the pre-broadcast and post-broadcast study, iShamba data and case study findings from 30 respondents have also been integrated into this report to provide more depth to the quantitative data.

Shamba Shape Up remains the most popular television programme for farming information and television (as opposed to radio or social media) is the main point of contact with the series and its content. Loyalty to the series is high with around half of all viewers viewing on a regular weekly basis and the overall series audiences are growing. Viewers are more likely to watch television programmes on their own sets at home and watch television more frequently than non-viewers.

The key take-aways from SSU 12 which can be attributed to watching the series are:

- ◇ Improved financial literacy and budgeting
- ◇ Benefits of eating a balanced diet well understood and practiced
- ◇ Benefits of making hay and silage well understood, but not well practiced
- ◇ The take up of crop insurance remains low through lack of knowledge and awareness but intention to do so in the future is high
- ◇ Climate adaptation practices are increasing with observable benefits
- ◇ Considerable improvements in the use and benefits of solar energy for irrigation
- ◇ Intentions to purchase solar pumps are high
- ◇ Good practices with regards to handling agro-chemical products

2. INTRODUCTION

Shamba Shape Up (SSU) is East Africa's longest running agricultural television series, now into its 12th year of broadcasting information and advice on farming technologies and practices in Kenya. SSU uses an edutainment format and is based on 'make-overs' filmed on smallholder farms in Kenya. The aim of the series is to illustrate new methods and solutions and to give farmers advice to help them increase production and turn their farms into viable businesses. This latest series has also included content on climate change adaptation, financial literacy to support a change in attitudes towards male and female opportunities in farm management and decision-making and nutrition. SSU 12 was broadcast weekly between 5th March 2022 and 18th September 2022 on Citizen Television in both English (Saturdays 13.30 to 14.00) and Kiswahili (Sundays 13.30 to 14.00).

SSU is backed up by the direct farmer support service, [iShamba](#). This interactive system allows viewers to get more information about the various topics featured in the TV series and enables partners to communicate with interested individuals. The iShamba service disseminates relevant and timely agricultural information to farmers who have signed up to the service direct to their mobile phones. iShamba also has a call centre staffed with agricultural experts where farmers can SMS and/or call to get instant expert advice six days a week. Currently iShamba has over **510,000 subscribed users**. iShamba also oversees and services WhatsApp groups, in which up to 250 farmers are grouped together by region. The traffic generated through iShamba following the promotion of topics featured on SSU has been analysed and detailed in this report.

A pre-broadcast (baseline) and post-broadcast (endline) knowledge, attitudes and practices (KAP) survey was conducted to evaluate the impact of the series with the object of measuring the *effectiveness* of SSU's content in increasing knowledge and changing the attitudes and behaviours. In series 12, SSU covered 12 main topics in over 22 episodes including: farm financing, livestock management, insurance, climate adaptation practices, crop growing practices and dietary and nutrition practices.

In addition to the KAP study, 30 case studies were conducted. The aim was to document any stories of change for those farmers who have taken the knowledge they have learnt from watching the show and subsequently put it into practice and what the results have been. The sample consisted of farmers who have regularly watched Shamba Shape Up over the years - identified through the iShamba database. The sample was split across Marginal areas, Western Kenya and the Highlands - taking into account the following counties- Kajiado, Kakamega, Machakos, Meru, Nyandarua, Tharaka Nithi and Vihiga. Topics focused on financial education, crop insurance, conservation agriculture and climate adaptation practices. Each farmer took part in a 90 minute on-farm interview focusing on the key things they learnt, action taken and how these actions have impacted their households/individual well-being. All interviewees cultivated two acres of land on average. Female farmers made up 53% of the respondents and males made up 47% of the sample, with the Median age being 44 years. Relevant findings have been included throughout this report.

Research is required by Mediae and its partners and sponsors to assess ‘what has been successful’ and ‘what has been less successful’ in terms of raising awareness and improving knowledge, having a positive impact on attitudes and potentially changing behaviours and practices.

SSU is now in its 12th year in Kenya, and this latest series attracted considerable audiences of around 2 million people viewing both the English language episode as well as another 2 million people viewing the Swahili broadcasts on a weekly basis. A measure of the success of the series is that it has become almost impossible to find smallholder farmers in the relevant farming locations in Kenya who have not seen at least some of SSU since it first broadcast in 2010. In this study, the pre-broadcast sample is made up of smallholder farmers who have not seen any of SSU 12 but will have almost certainly seen earlier episodes of the series. The post-broadcast sample is made up of those who have seen SSU 12 on a regular and less regular basis – non-viewers and light viewers have been classified as non-viewers at the endline phase.

SSU 12’s partners and their topics of interest are in the table below

Partner	Topic
World Agroforestry Centre (ICRAF)	Calliandra
WomenConnect Challenge, USAID Content: Kenya Women Finance Trust (KWFT)	Financial Literacy
WomenConnect Challenge, USAID Content: Nutrition International and Kenya	Women and family Nutrition
CKL Africa Ltd.	Animal feed, health
Syngenta	Inputs, planting and agro-chemicals
Davis and Shirtliff	Solar pumps and water treatment
German Agency for International Cooperation (GIZ)	Solar irrigation
CLASP/ Efficiency for Access	Solar irrigation
International Livestock Research Institute (ILRI) Accelerating the Impact of CGIAR Climate Research for Africa (AICCRA)	Range land management
International Center for Tropical Agriculture (CIAT) Accelerating the Impact of CGIAR Climate Research for Africa (AICCRA)	Climate adaptation
University of Kassel Content: ACRE Africa	Crop insurance
PlantVillage	Integrated pest management

2.1 Research Methodology for KAP Survey Tool

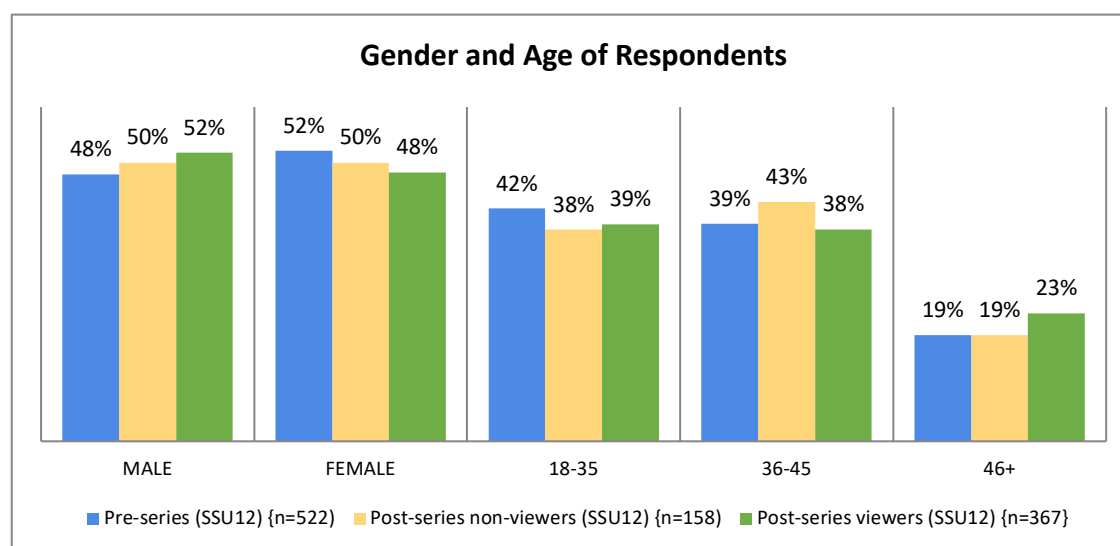
The Knowledge, Attitude and Practice (KAP) surveys for *Shamba Shape Up* Series 12 were conducted by GeoPoll, a third-party research agency based in Nairobi. The study took the form of a classic baseline and endline design to facilitate comparisons and attribute changes to the viewing of SSU 12, where possible. The baseline survey took place in March 2022 and the endline in September/October 2022. Each wave of the study utilised GeoPoll's computer aided telephone (CATI) data collection mode, whereby trained enumerators conduct an in-person interview via the telephone from a central, quality-controlled location. Before each wave of data collection, the team of enumerators attended a two-day training session and were fully briefed on the methodology, quota operations and the study instrument. The sample of smallholder farmers' telephone numbers was drawn from GeoPoll's database of smallholder farmers which has been built over time and carries basic demographic information, such as gender, age and location.

The data were analysed using SPSS and tests of significance (z-tests) were applied to the survey estimates. As a rule of thumb, differences of less than 6 percent on these sample sizes of 500 at each wave are not statistically significant and have been reported on as 'directional' differences only. For reporting and charting purposes, the pre-series 12 and post-series 12, viewers and non-viewers have been separated out.

2.2 Sample profiles by gender, age and location

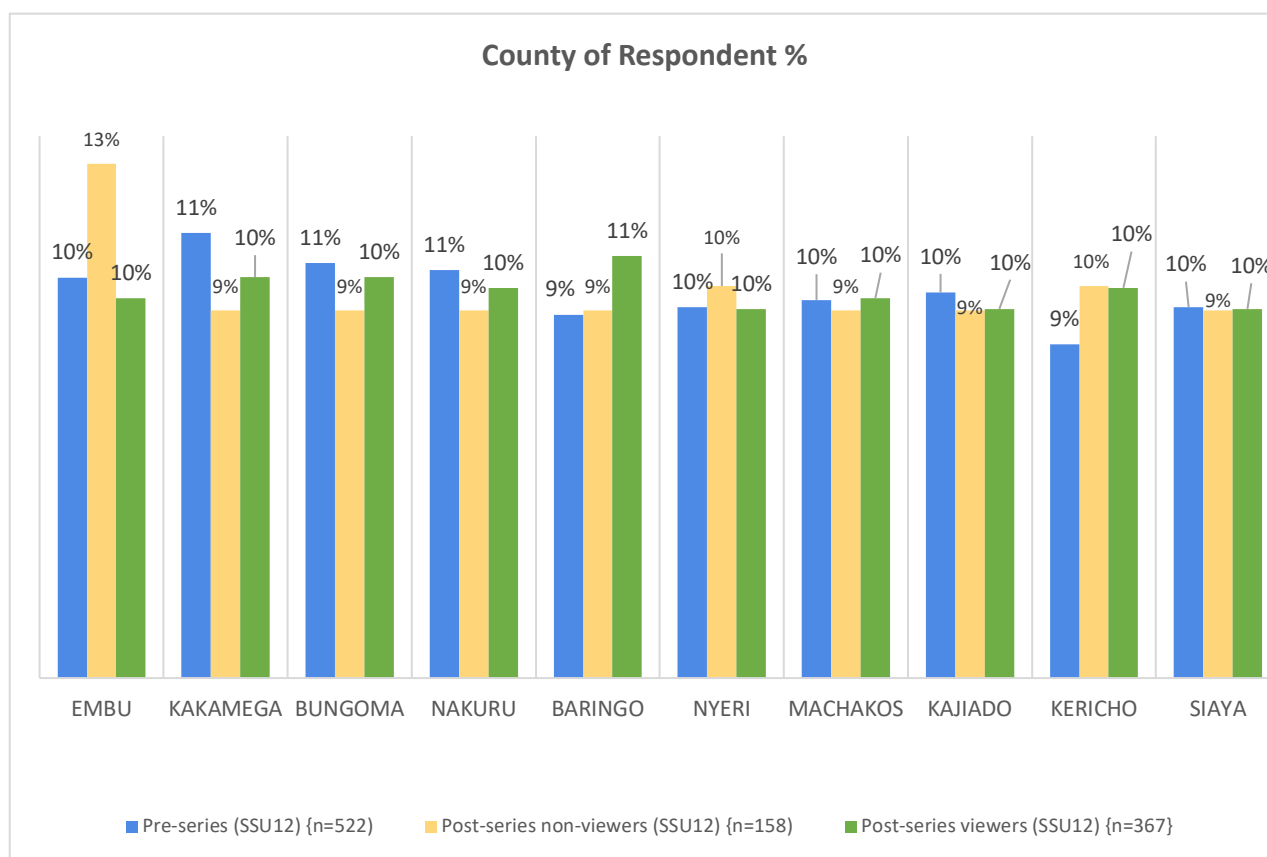
The pre and post broadcast samples were very well matched in terms of gender and age as shown in the chart below. Reflecting the profile of smallholder farmers in Kenya age was split as follows 18-35 at 40%, 36-45 at 40% and 46+ at 20%. The purpose of matching the sample profiles for the two waves of the study is to control for as many demographic variables as possible so that any observable pre and post changes in the data can be attributed to viewing rather than sample variability.

Chart 1: Sample profile: Gender and age



The samples were loosely controlled by location with the aim of achieving a good distribution across the counties. The counties are all well represented in both waves of the study.

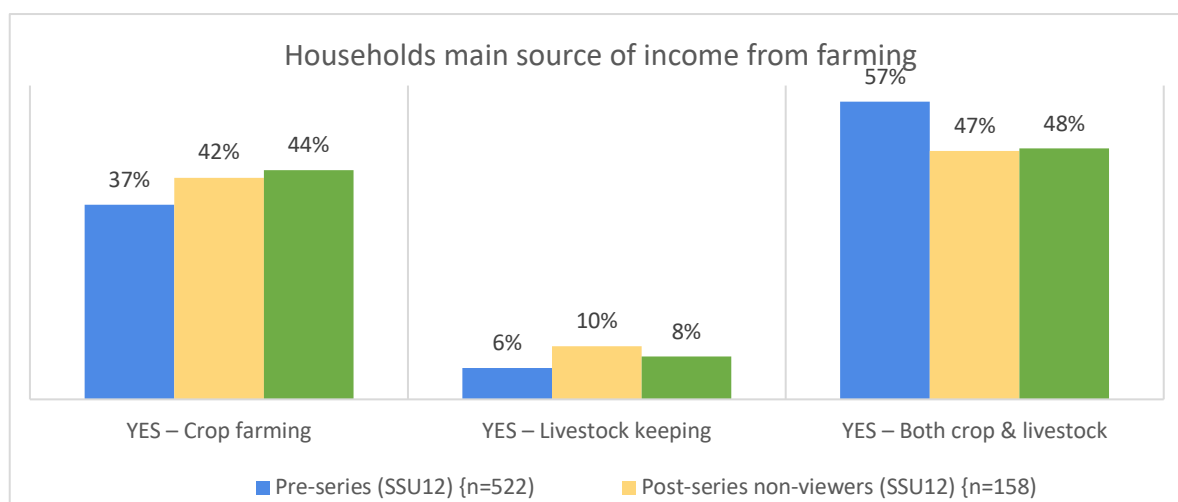
Chart 2: Sample profile: Location



2.3 Sample profiles by farming activities

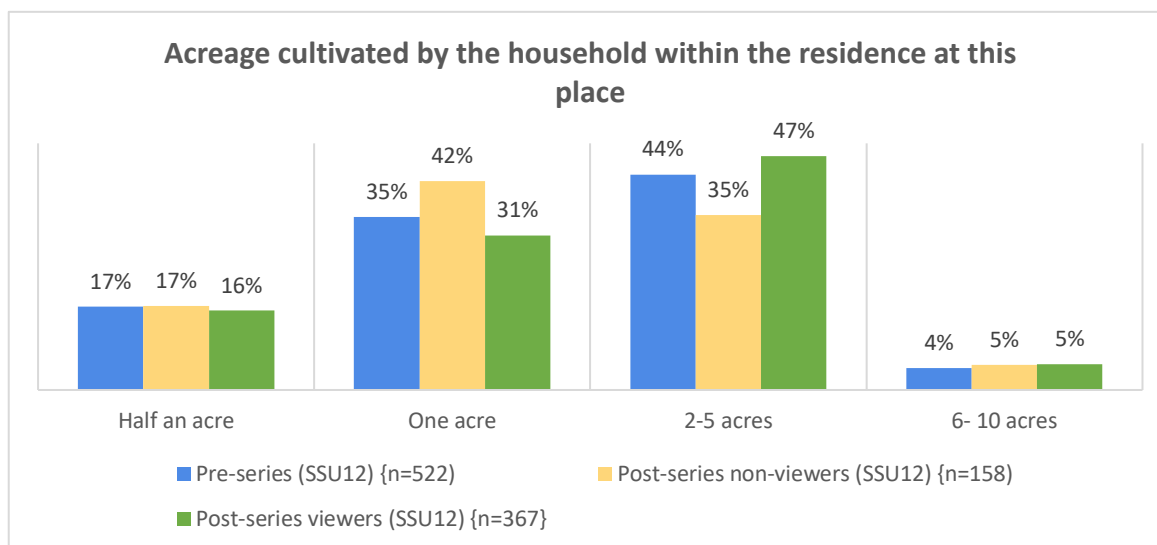
As with all the other SSU KAP survey samples, around half are mixed crop and livestock farmers, with around four in ten growing crops only. There was a slight difference in the profile of the farmers' main sources of income from farming between the two waves of the SSU 12 samples, but not sufficiently significant to make a difference in the findings. At the post-series stage, there were more solus crop farmers than at the pre-series stage where there were more mixed – crop and livestock farmers.

Chart 3: Sample profile by farming activities engaged in



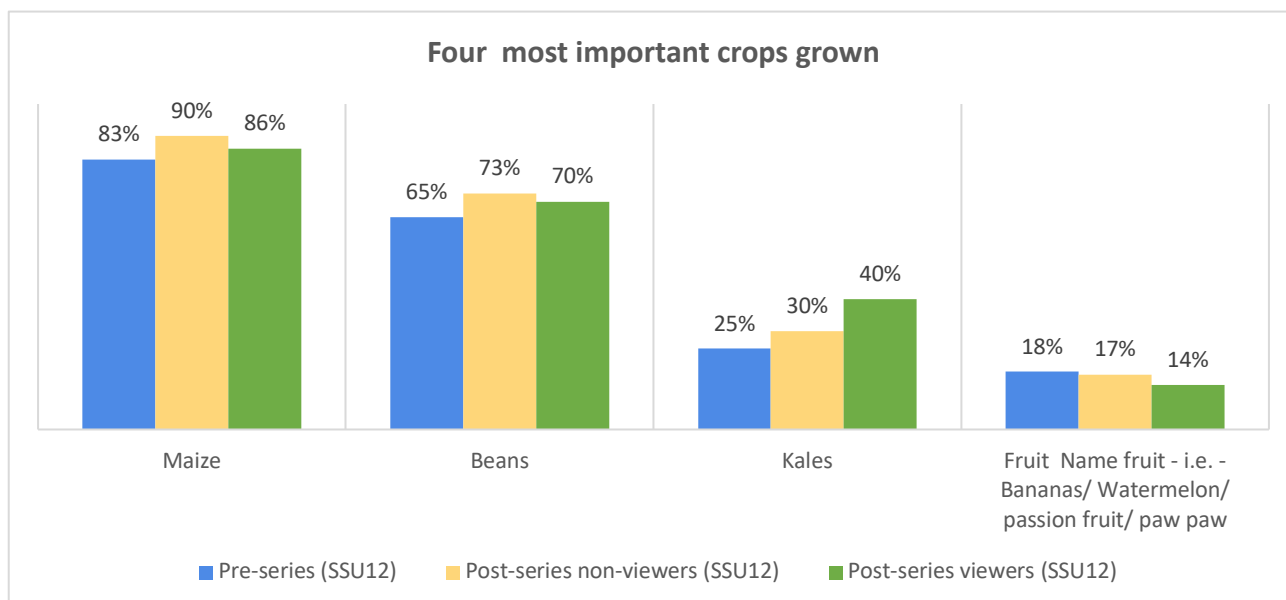
Most of the farmers in the study farm between one and five acres, with very few having smaller or larger acreages. This is a good representation of the profile of farmers in Kenya.

Chart 4: Sample profile by size of land cultivated



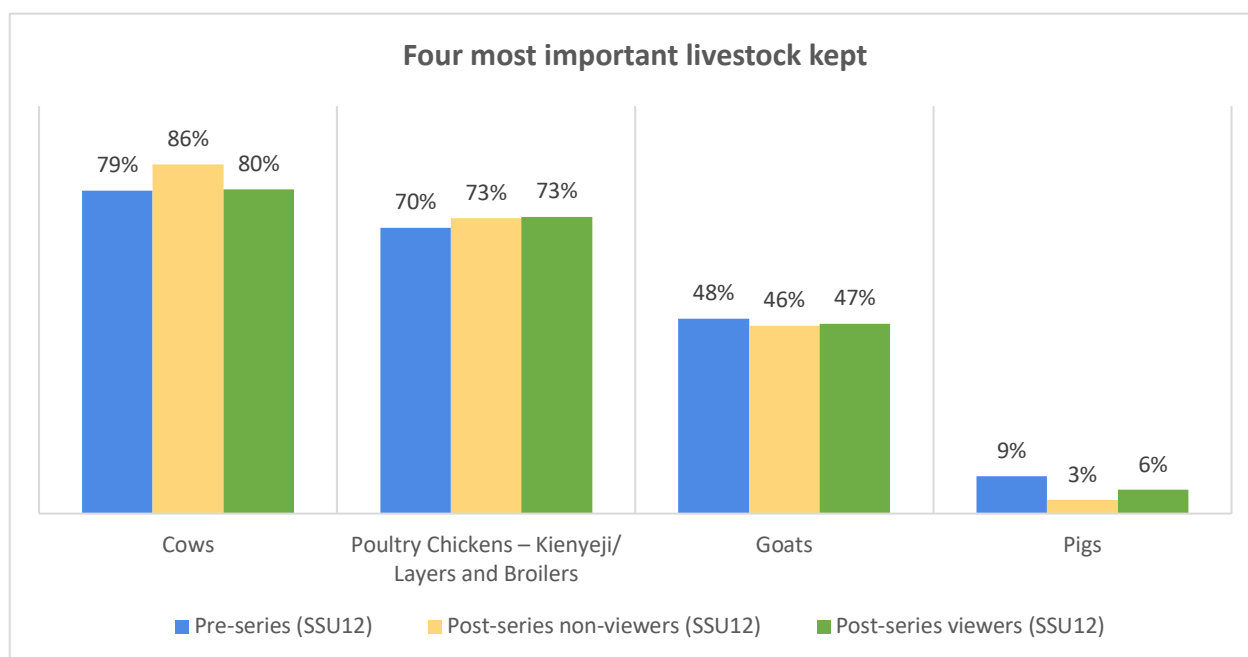
The chart below shows the high degree of consistency in the main crops grown by the post-broadcast samples of viewers and non-viewers. The very high proportion of 'other crops' grown are potatoes, cabbages, tomatoes, sweet potatoes, avocado, green grams and onions.

Chart 5: Sample profile by crops grown



Among those who keep livestock, cows and chickens are dominant (around 80%) with relatively fewer keeping goats.

Chart 6: Sample profile by livestock kept



3. MAIN FINDINGS: TELEVISION VIEWING

3.1 Viewing Shamba Shape Up 12

GeoPoll's regular Audience Measurement Survey used by the broadcasting industry in Kenya, shows that SSU 12 attracted audiences of around 4 Million viewers (2 million viewers each week to its Saturday afternoon English broadcasts and around 2 million viewers to its Sunday afternoon broadcasts in Swahili). According to GeoPoll's audience measurement data, audiences to SSU 12 have increased by around 300,000 viewers per episode over SSU 11 which was broadcast in 2021. This research has found that *Shamba Shape Up* is a programme that people watch with others. Chart 12 highlights that 42% of respondents watched this season of SSU with 1-2 other people and 23% watched with 3-4 other people. A further 11% watched with 5 or more other people. **If we apply these findings to the regular Audience Measurement Survey figures we can estimate an audience reach of over 9 million viewers.**

Table 1: Summary of weekly viewership

Citizen TV Viewership March 2022 - September 2022 Saturday 1:30PM - 2:00PM	
Date	Average Audience
05 March 2022	1,437,000
02 April 2022	1,512,000
07 May 2022	1,929,000
04 June 2022	1,782,000
02 July 2022	1,335,000
20 August 2022	2,697,000
03 September 2022	1,776,000
*Weekly Average	1,781,143

Citizen TV Viewership March 2022 - September 2022 Sunday 1:30PM - 2:00PM	
Date	Average Audience
06 March 2022	1,392,000
20 March 2022	1,370,000
08 May 2022	2,033,000
05 June 2022	2,292,000
03 July 2022	1,949,000
21 August 2022	2,478,000
04 September 2022	1,807,000
*Weekly Average	1,903,000

**Calculations made to account for co-viewing, gives a total weekly reach of at least 9 million adults aged 16+.*

To be included in the KAP surveys, respondents had to have either in-home access to a working television or access to a neighbour's television set. The vast majority of series 12 viewers (over 90%) said that they had watched television in the seven days prior to interview on their own television set. Increasingly fewer numbers of SSU viewers are watching the series in public places or at neighbour's homes. To some extent, this increase in home ownership of television sets is due to increased electrification but it is also a reflection of people's desire to own a television set once they have power. Studies have shown that owning a television set is the main priority once they are connected to the grid.

Chart 7: Places where Shamba Shape Up 12 was viewed

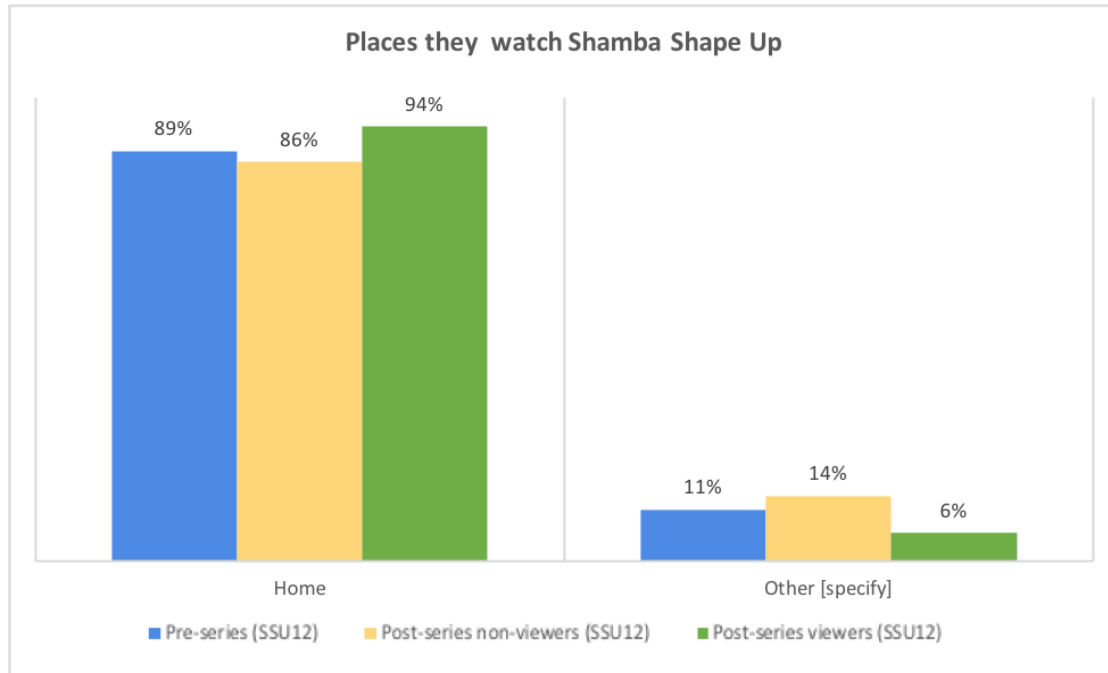


Chart 8: Audience Demographics – Age

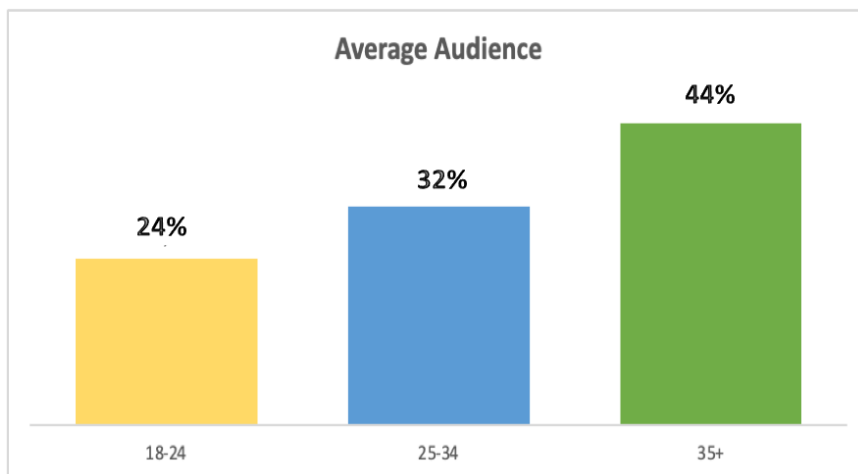
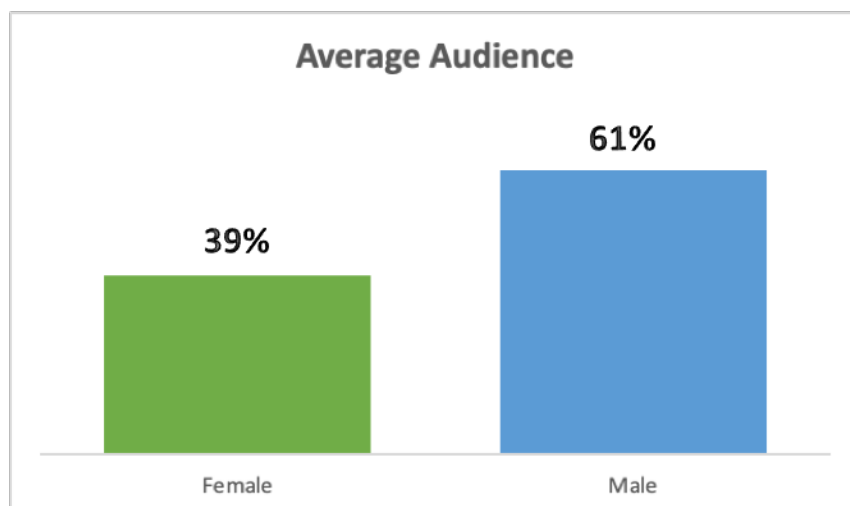


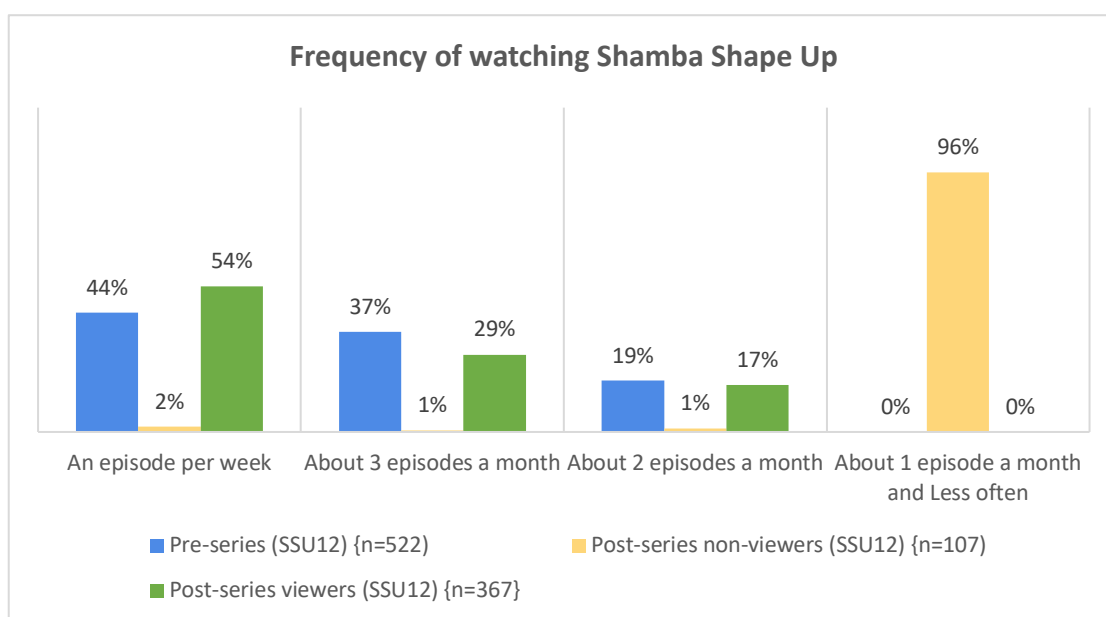
Chart 9: Audience Demographics – Gender



Viewership for SSU Series 12 consisted of 44% aged 35+, 32% in the 25-34 age bracket and 24% aged 18-24. Interestingly, men made up 61% of the audience, which is a shift from previous years, where viewership was slightly skewed towards female viewers.

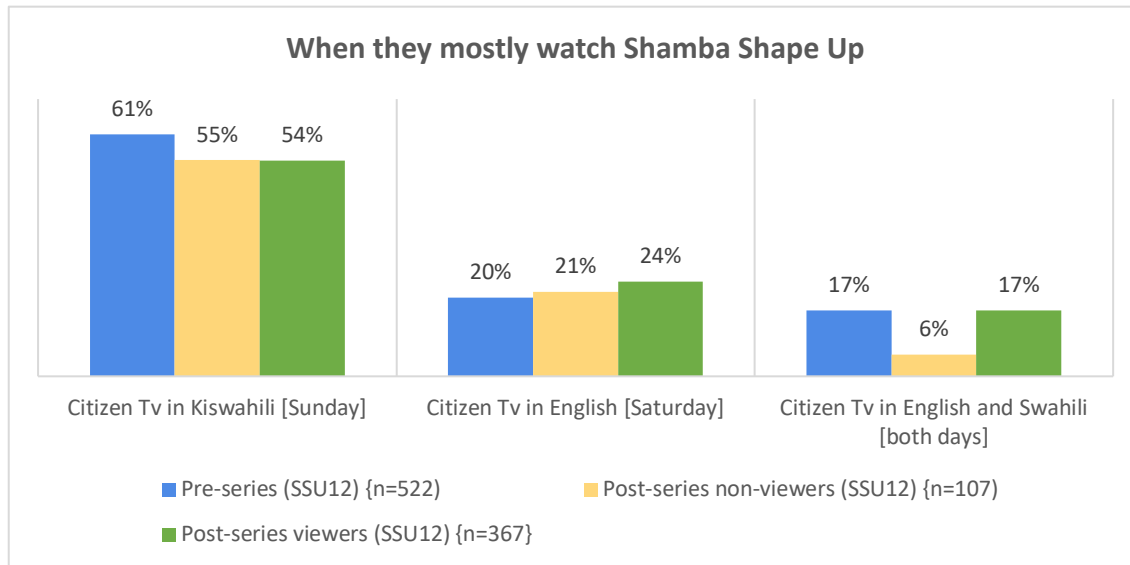
In order to qualify as a viewer, respondents had to have watched SSU 12 'more often than once a month'. The chart below illustrates that a small majority of the post-broadcast viewers (54%) said they watched every week, with a further 30% saying they watch around three episodes in a month. While these viewing estimates may not be completely accurate, they clearly indicate that SSU has a large and loyal following.

Chart 10: Frequency of watching Shamba Shape Up series 12



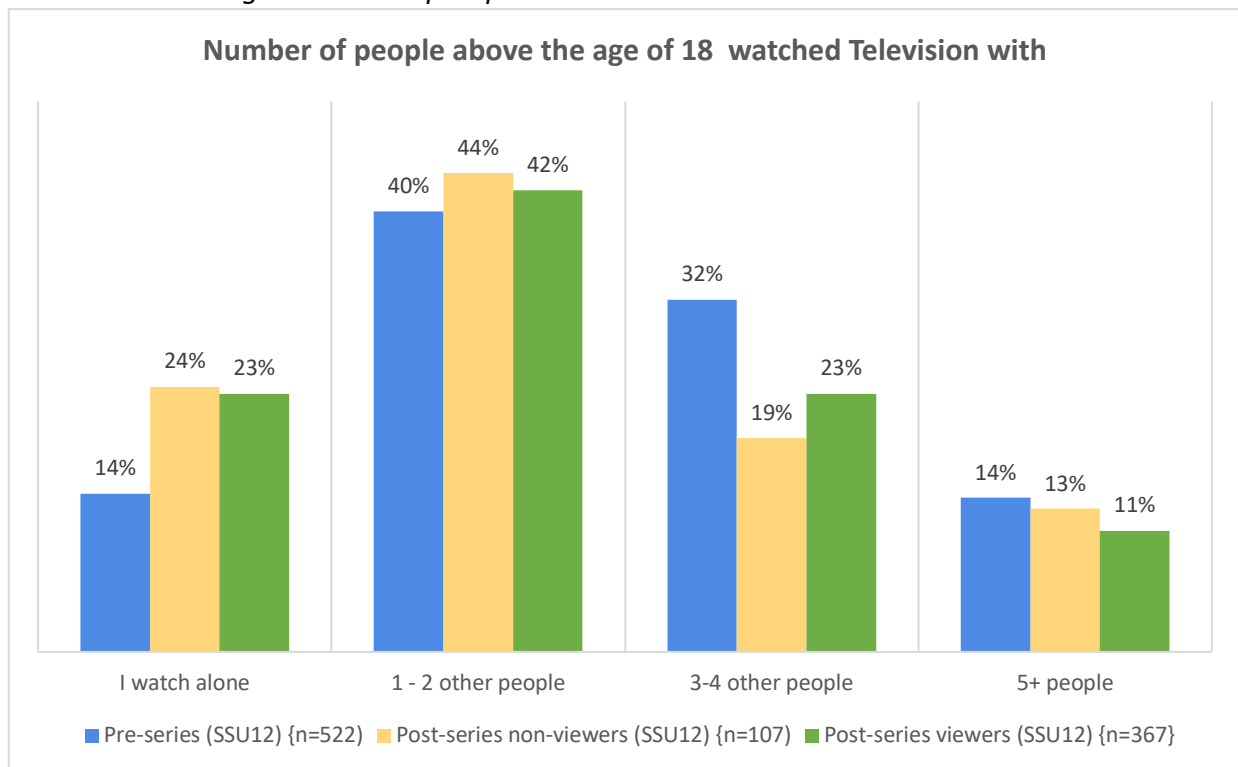
It is a strong measure of Mediae's success that a series in its twelfth year continues to attract such a sizeable and keen following. The most popular broadcast is the Sunday Kiswahili version (over half of viewers claim to tune in then – 54%), with 24% choosing to watch the Saturday English version. Some (17%) watch both versions. Interestingly, only a tiny minority said they watched it online, on their mobile phones.

Chart 11: Days they watch Shamba Shape Up



Shamba Shape Up is a programme that people watch with others and while the audience research methodology, which is based on individuals – not households, precludes adding in additional viewers, it is interesting that this is a series people enjoy watching together. Communication research studies show that content that is viewed by people watching together tends to be better remembered and more impactful than content watched alone. Advertisers, for example, are aware that their adverts are more impactful when seen by groups of people rather than by people watching alone. It is worth noting that around 80% of people watching *Shamba Shape Up* are watching with at least one other person.

Chart 12: Watching Shamba Shape Up with others



3.2 Usefulness of sources of agricultural information

There are striking differences in the perceived usefulness of different sources of agricultural information between SSU 12 viewers and non-SSU 12 viewers – but across the board television is cited as the most useful source for agricultural information. Radio, internet and friends and family are all on par with one another – but significantly behind television (television wins out by a factor of two to one). The chart below shows that *Shamba Shape Up* is the television series that farmers watch more than any other, with all the others attracting minority audiences. It is therefore important to bear in mind that when smallholder farmers are referring to television as their most useful source of information that they are predominantly referring to *Shamba Shape Up*.

Chart 13: Sources of agricultural information

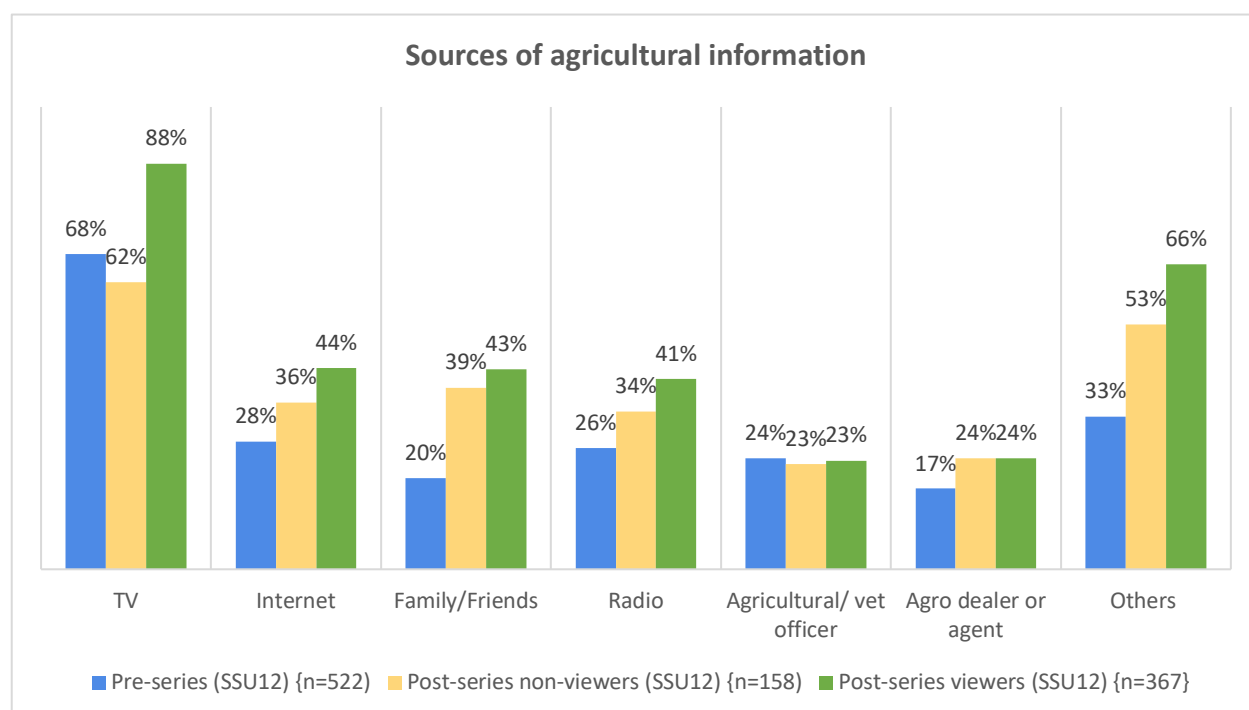
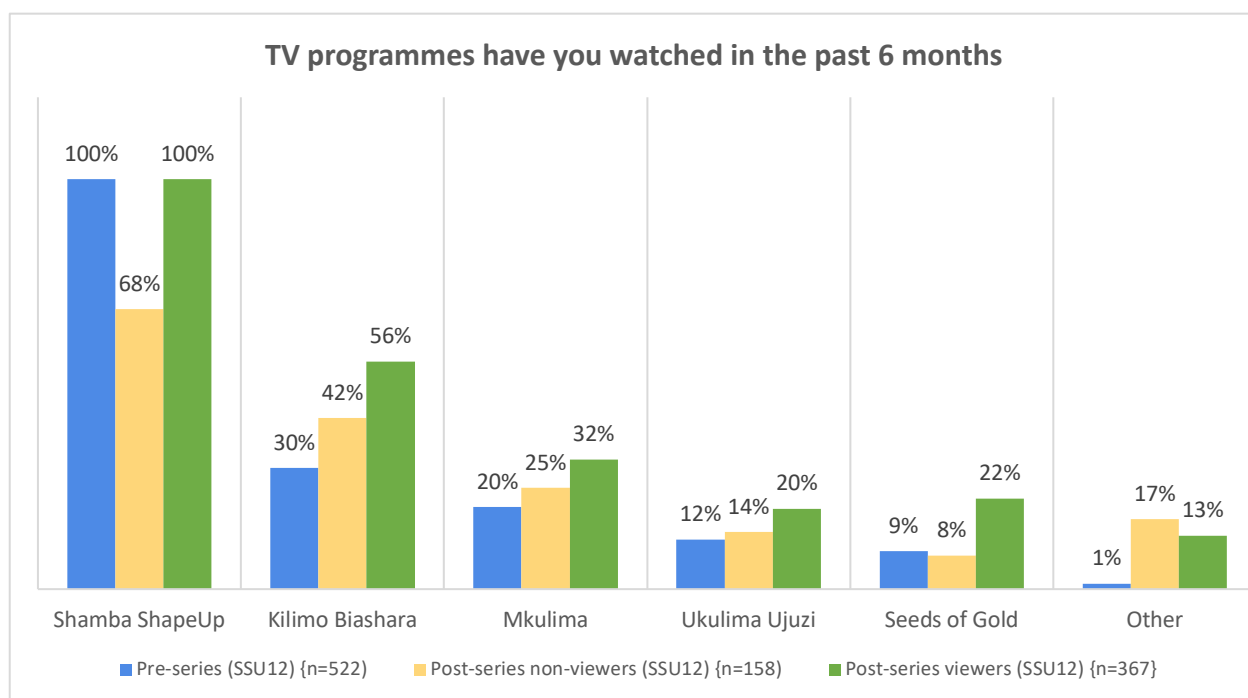


Chart 14: Viewing of farming television programmes



3.3 Additional channels of audience engagement

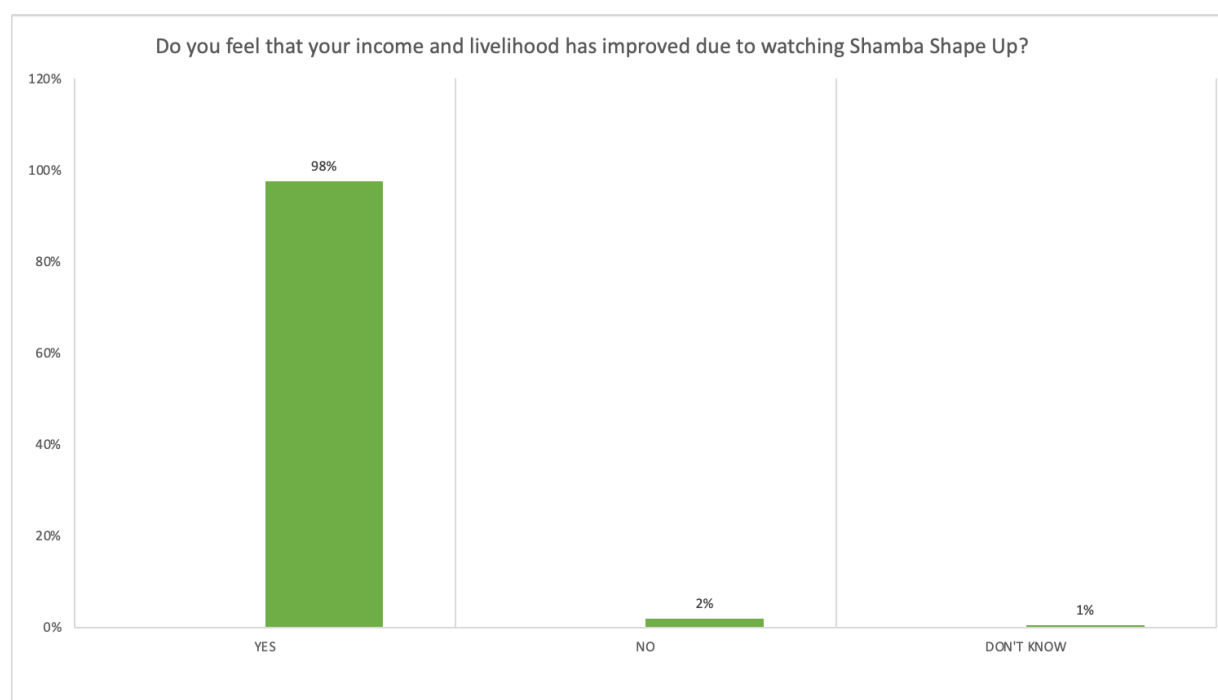
Shamba Shape Up viewers are encouraged to get in touch with the programme's free mobile backup system "iShamba". This farmer support platform allows viewers to follow up with the *Shamba Shape Up* team to receive further information on any of the aired topics and put their questions to a team trained agronomists using SMS, phone calls or WhatsApp. iShamba has a call centre staffed with agricultural experts where farmers can get instant expert advice six days a week. Traffic to iShamba resulting from SSU 12 is in Appendix 1.

In addition, audiences can download episodes of *Shamba Shape Up* through the programmes [website](#), or Mediae's YouTube channel [Africa Knowledge Zone](#). Since its launch in 2010 over 2 million people have re-watched SSU through this channel. *Shamba Shape Up*'s Facebook page has over 79,700 followers.

3.4 Impact on livelihood as a result of watching SSU

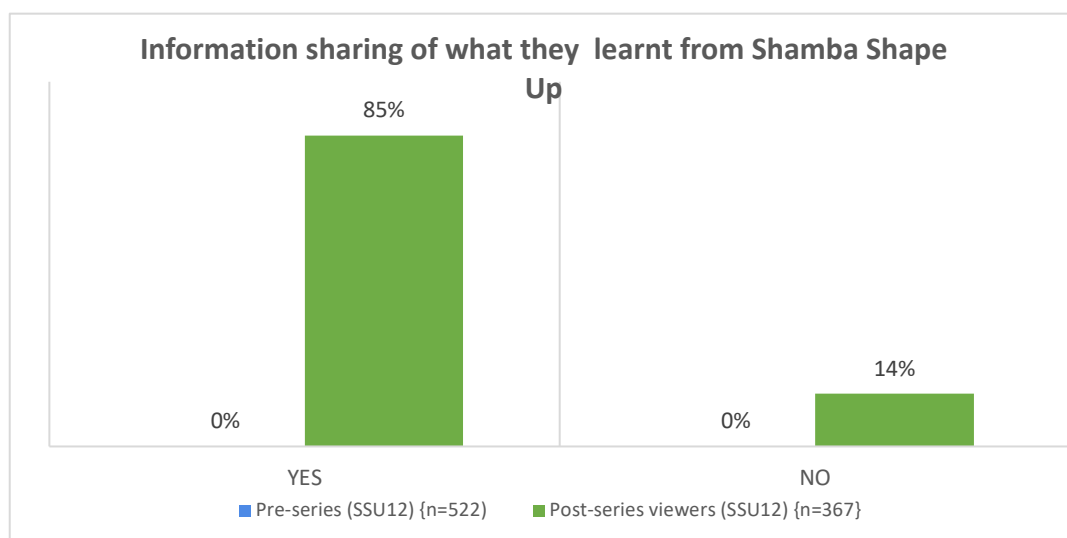
This question, which was asked for the first time in the endline survey for SSU 12 shows dramatic and compelling results, with 98% of viewers saying that their income and livelihood has improved due to watching *Shamba Shape Up*. It is rare to see such a universal finding in any survey.

Chart 15: Impact of watching Shamba Shape Up on Livelihoods



Of equal importance is that a large majority (85%) of viewers share the information they have learnt from SSU with other people thereby creating an important secondary audience for the information in the show. The extent of sharing is also an indication of the extent to which the content is relatable and relevant to the communities it is serving. Word of mouth and word of cell is a strong multiplier in the case of SSU.

Chart 16: Sharing information learnt from Shamba Shape Up



Case Study: Sharing information

The majority of interviewees share the information they have learnt on SSU with friends, family and neighbors and those holding leadership positions shared information from SSU more broadly within the community. Some viewers use social media to relay SSU messages to others.

"I have a page on Facebook where I show other farmers the different things I have learnt from SSU and applied on my farm or livestock. I also post different things on my WhatsApp status...."
(Male 42 Kakamega).

4. MAIN FINDINGS: FINANCIAL LITERACY

4.1 Decision-making and budgeting

It is encouraging to report that between 6 and 7 in 10 smallholder farmers are now making a budget to decide on how to spend the income from their farms. Encouraging *per se*, because it suggests that smallholder farmers are increasingly operating their farms as businesses and making decisions based on sound evidence of income and expenditure and encouraging because the post-series 12 estimates show significant improvements on the pre-series 12 estimates. Interestingly though, the women in the samples of non-SSU 12 viewers were somewhat more likely than their male non-viewing counterparts to make decisions based on a budget. Among the

viewers, males were slightly more likely to work from a budget than females (71% and 63%) respectively.

Case Study: Decision Making

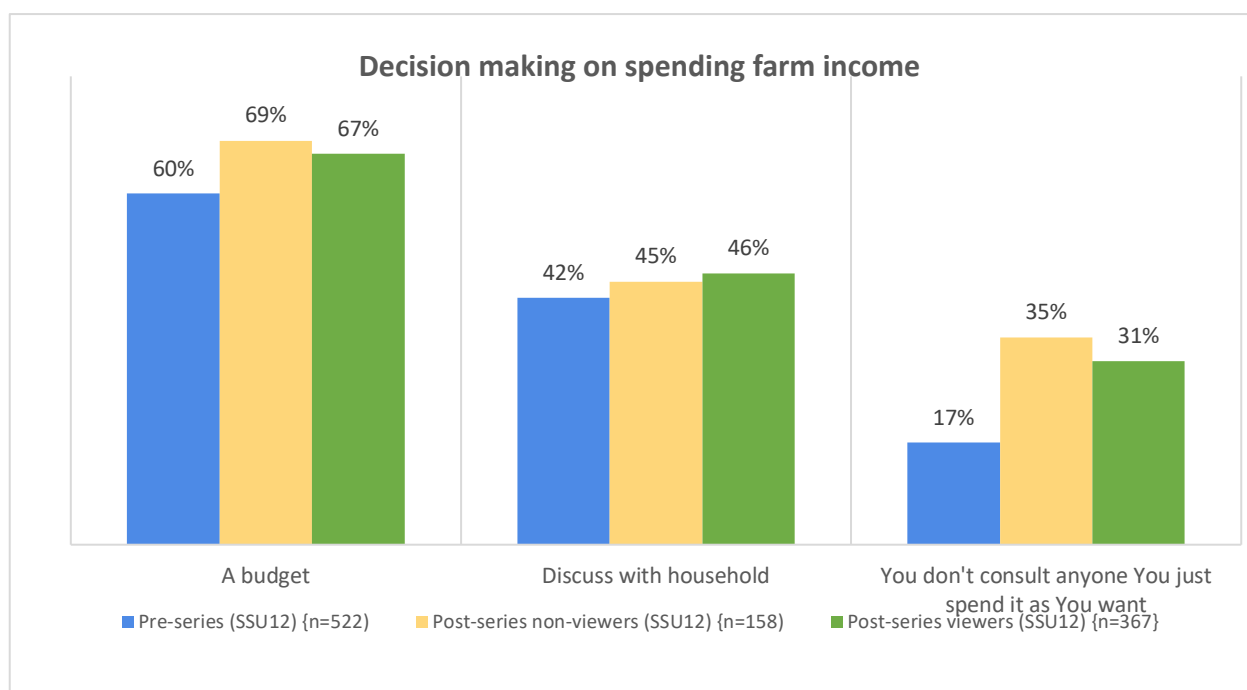
From the 30 case studies conducted we found that women did tend to be involved in financial decision - making; with decisions usually being made as a couple.

"We sit with my wife and make the decisions together. At the end of every season, we do a budget for the next season.... I do not have a bank account so I save my money in Mpesa. I have never had any issue saving. I do keep up to 100k in Mpesa as savings. My wife too doesn't have a bank account. Even before I registered for Mpesa I used to keep my money in the house. I simply feel safe with my money in Mpesa." (Male 51, Machakos)

Case Study: Budgeting

"Budgeting helps avoid unnecessary expenditure and encourages savings. It also helps me control unnecessary expenditures because when I am recording I write down everything and when in this process I regret some expenditures and It keeps me in check not to spend on unnecessary things." (Male 34, Kakamega)

Chart 17: Decision making on spending farm income



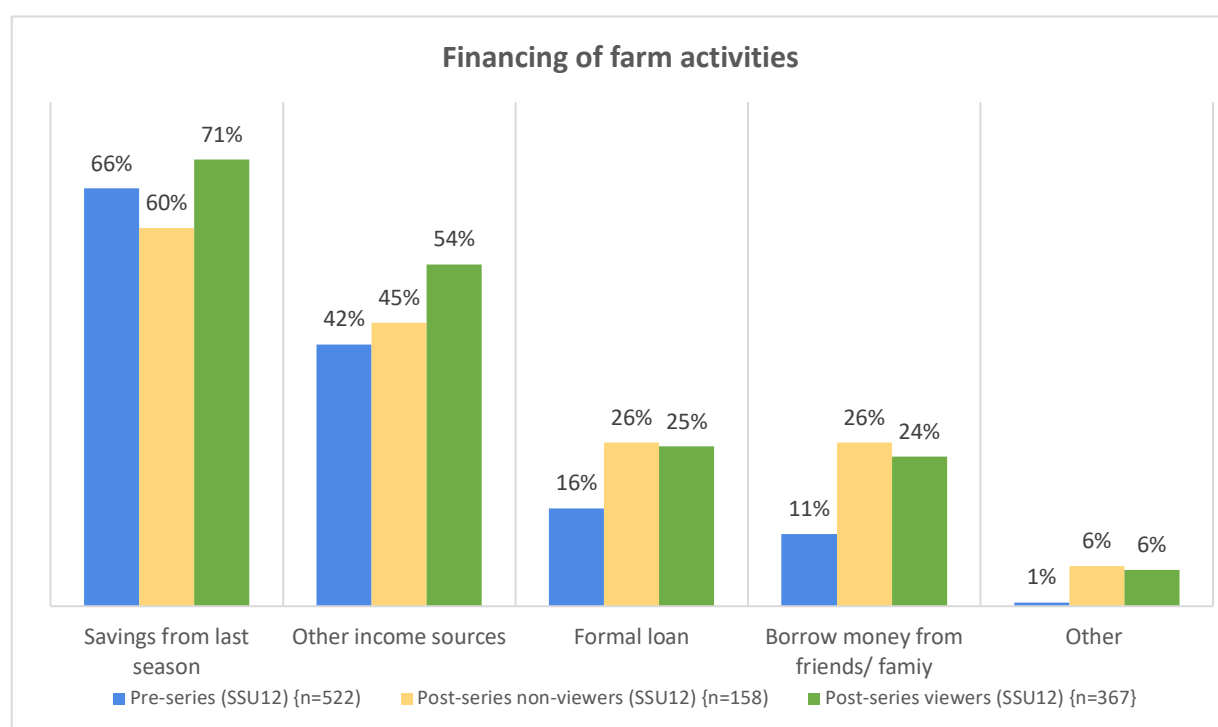
4.2 Financing farming activities

Most, around 70% say that they finance their farming activities from the income they derived from the previous season's earnings, or from other income sources. There is a noticeable difference between the SSU 12 viewers and non-viewers, with viewers considerably more likely to finance their activities from their own sources of income, rather than seek a loan or borrow from friends and family. The data indicate that there is increasing financial literacy and knowledge and practices with regards to farm financing with significant up-lifts in those who are budgeting and managing their finances in a more business-like way.

Case Study: Financing farming activities

It was also noted that farms featured in the case studies were mainly run from output sales and in some cases with supplementary income from casual work, remittances, or other employment.

Chart 18: Financing farm activities



In the early days of *Shamba Shape Up* there was resistance among smallholder farmers to open bank accounts based on a series of factors including: resistance of the banking sector to open such accounts, farmer suspicion of the banking sector and a lack of knowledge and awareness of the benefits of having a bank account. Twelve years later things have changed dramatically and now three quarters of small holder farmers are aware that having a bank account helps to save

money, two thirds know that having a bank account helps to build credit worthiness in the event that they might need to seek a loan and over half know that it helps to keep their money safe. In all cases, SSU 12 viewers were more knowledgeable than non-viewers, a good indication that

messages around managing money and finances are having a positive effect. In all cases women were as knowledgeable as their male counterparts. Interestingly, younger viewers and non-viewers were somewhat less aware of the benefits overall than were older viewers and non-viewers.

Case Study: Financing of farm activities

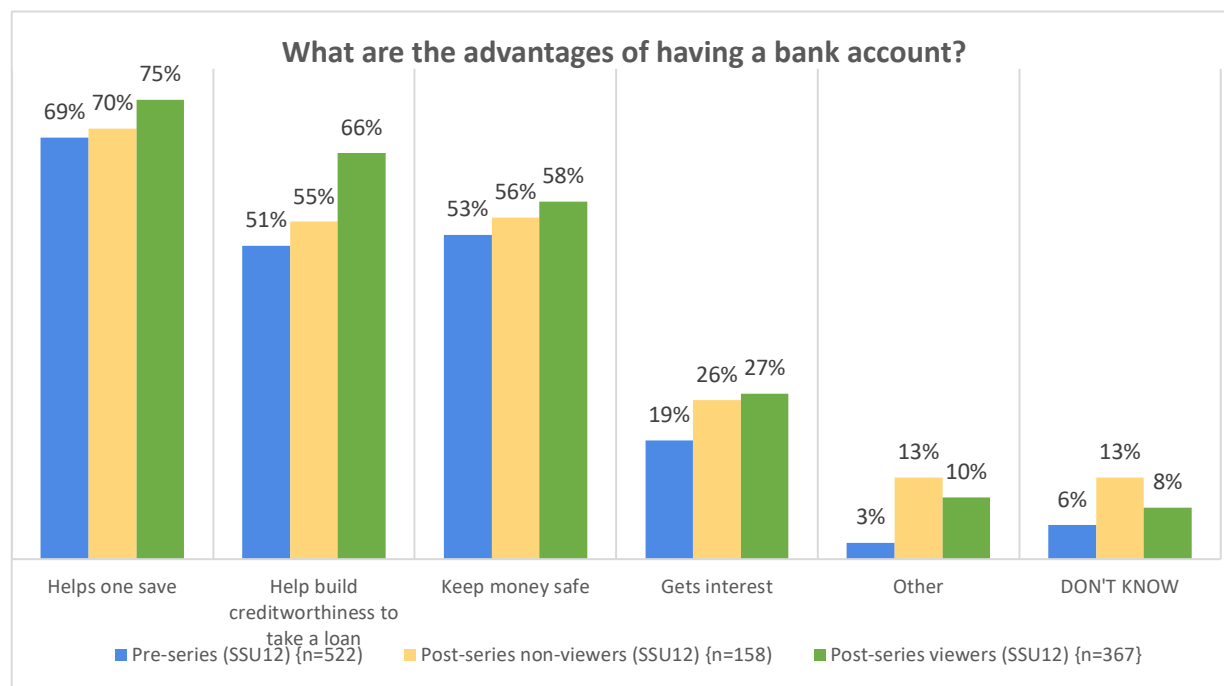
Some farmers took up savings for credit as a result of specific SSU episodes.

"I actually joined KWFT because of SSU. On one episode they brought this lady who talked about how to save with KWFT, and how they give farmers loans when their harvests were low and they need financing to prepare for the next season. I opened that account in 2017, and I have never regretted it because I do save some of the cash we get from the farm, which really helps us when we are short on cash". (Female 50, Meru).

SSU gave info on where to accessing credit

"I did my own research and found out that I needed 100,000 shillings to open up one. At that time I could only raise 50,000 shillings and that also was difficult because I had bills which I had to pay. I saw on SSU there are companies which can give you a loan and that's when I contacted one of the companies and they gave me a loan to start up my agrovet". (Female 31, Meru).

Chart 19: Awareness of advantages of having a bank account



iShamba Traffic: Financial Literacy

This proved to be a topic of considerable interest – generating over 3,050 questions. This was derived from both the episodes on financial literacy and in response to the 20 financial inclusion SMS's sent to all women on the iShamba platform as part of our partnership with WCC. The first SMS was sent to 67, 098 women, with the last SMS sent to 102, 002 women. This increase was due to the number of women signing up to the iShamba service during series 12.

Questions (around 44%) regarding farm records proved most popular with particular reference on how to get tools to carry this out. Loans (30%) and insurance (24%) also ensued traffic. The majority of questions were regarding how to take out a loan and how to access insurance cover.

5. MAIN FINDINGS: LIVESTOCK AND FODDER

5.1 Cattle

All 30 farmers interviewed for the case studies widely adopted the dairy practices promoted on SSU. Among case study respondents, the most impact was seen regarding increased milk yields, reduction in costs and improvement of the overall health of their cattle. Key practices promoted by the SSU programme including growing of improved fodder grasses such as Napier, panicum and Brachiaria and providing supplements to dairy cows were cited as boosting milk production.

Case Study: Dairy

Interestingly however, all 30 farmers interviewed widely adopted the dairy practices promoted on SSU and this is where they have seen most impact – not only with regards to increased milk yields but also as a form of reducing costs on the farm in general – along with the improvement of the overall health of their cattle.

One farmer noted how planting Napier grass, panicum and Brachiaria, meant using less feeds than previously. This farmer sited that planting fodder, using the CKL Africa Ltd supplement, KupaKula, along with other measures increased milk yield by 500% (Male 48, Meru).

Another respondent found that using supplements and salt licks doubled their milk yields (Female 46, Tharaka).

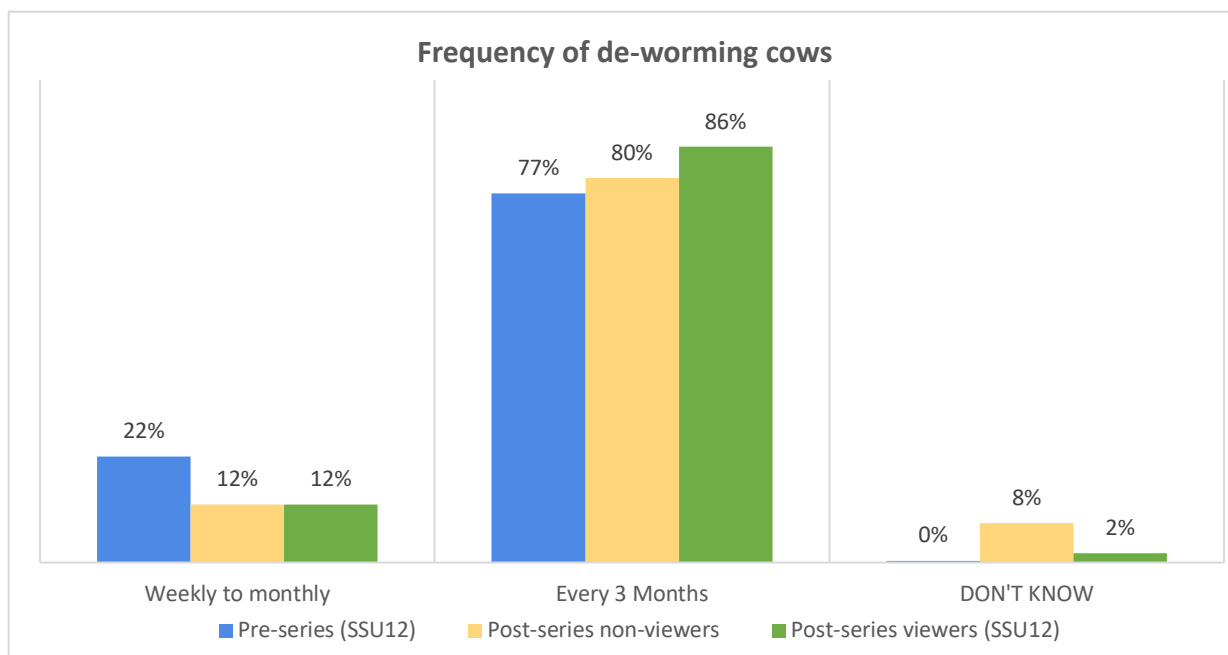
Changing from bone strengthening minerals to those of milk production minerals also contributed to doubling milk yields for another farmer (Male 38, Tharaka).

One farmer reduced the amount of green matter they were feeding their cows because they learnt on SSU that too much green matter can reduce the water intake of cattle. By reducing green matter, and mixing hay with Lucerne their yields increased from 3L to 30L per cow (Male 32, Nyandarua).

5.2 Deworming cows

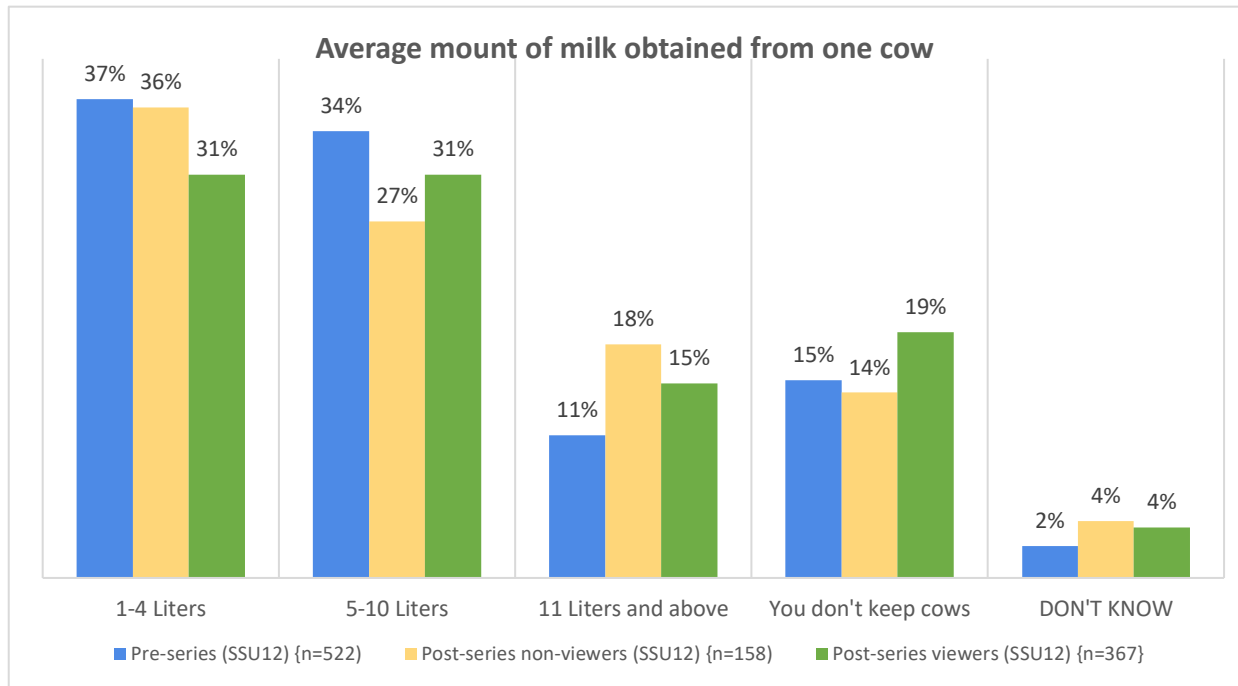
The vast majority of smallholder cattle farmers deworm their cows around every three months, which is what SSU has been promoting in series 12. It can therefore be assumed that practices about the frequency of deworming illustrated in SSU 12 have been followed by viewers. Although the numbers are relatively small, the data shows that there is a decline in very frequent deworming (weekly or monthly) among SSU 12 viewers. Such frequent de-worming only applies to cattle of 0-6 months in age.

Chart 20: Frequency of deworming cows



Among the respondents interviewed for the KAP on phone however, milk yields continue to be low over the years. Equal proportions (around a third) get between 1 and 4 litres per cow and between 5 and 10 litres per cow. Further research is needed to understand why despite an increased understanding of milk production practices, the general milk yield among Kenyan small holder farmers remains low.

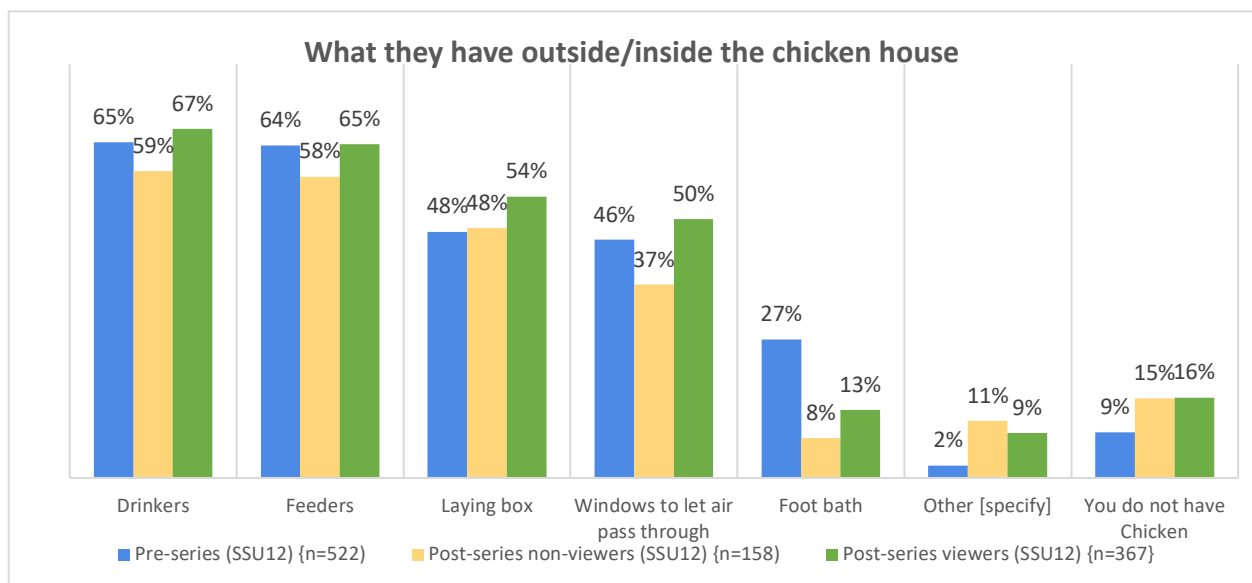
Chart 21: Milk yields



5.3 Chickens

Messages about healthy houses and housing items for chickens appear to have been well received and well-practiced over the years. The majority of chicken-keepers have drinkers, feeders and laying boxes in or round their chicken houses. Installing windows to let air pass through the chicken houses is more common among SSU 12 viewers than non-viewers and more common among the women who keep chickens than the men who do. The data in the chart below show a positive upward trend in improved housing for chickens among SSU 12 viewers

Chart 22: Items for chicken



5.4 Fodder

Hay and silage

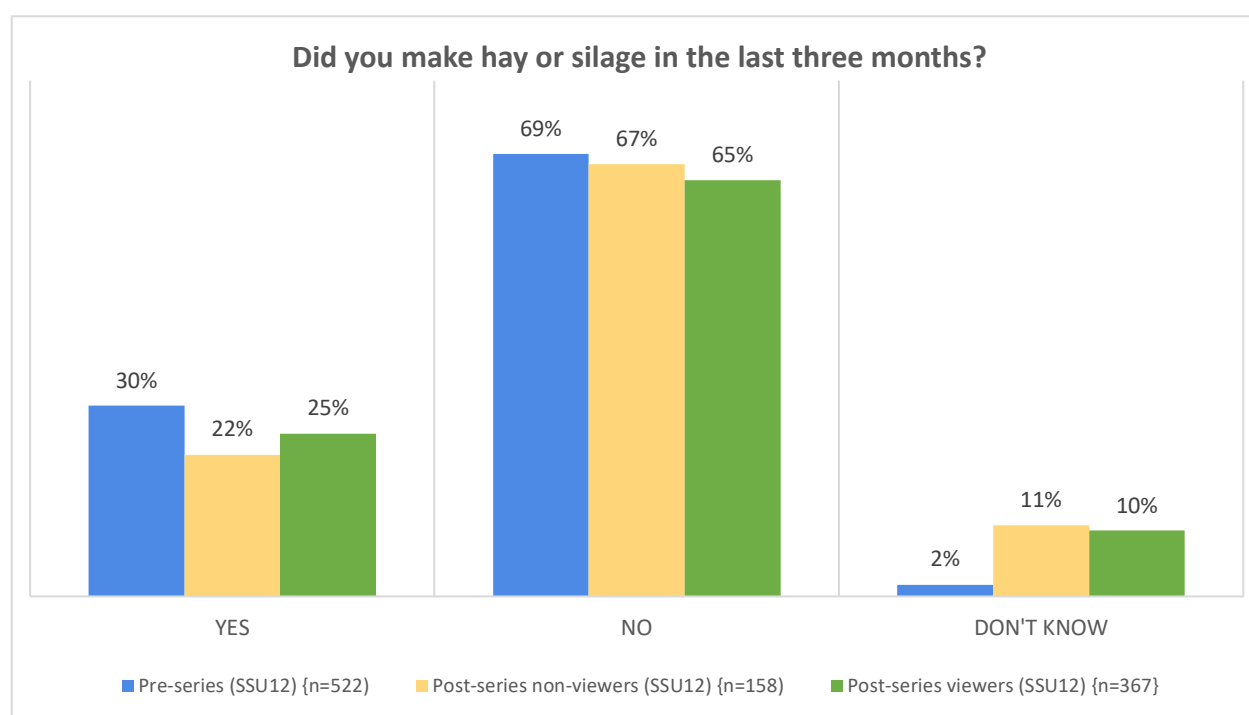
A slightly higher number of viewers say that they had made hay or silage in the past three months compared to and non-viewers. In general, however, three times more smallholder farmers in these surveys said they had not made any hay or silage in the past three months as said they had. This finding is surprising, considering the compelling results shown out of the Reading University et al. research in 2014, which showed that over 428,000 households in Kenya benefitted directly from Shamba Shape Up after adopting a new practice. Of those, the dairy farmers who adopted new practices created a net increase in the value of milk produced in Kenya of over US\$24 million. Working with CCAFS, SSU promoted the making of silage and hay so that dairy farmers would continue producing milk throughout the dry season when market prices increased.

Further research may be needed to understand as to why these figures are so low, given the widely research and proven positive impact of these fodder preservation methods.

Case Study: Silage and fodder

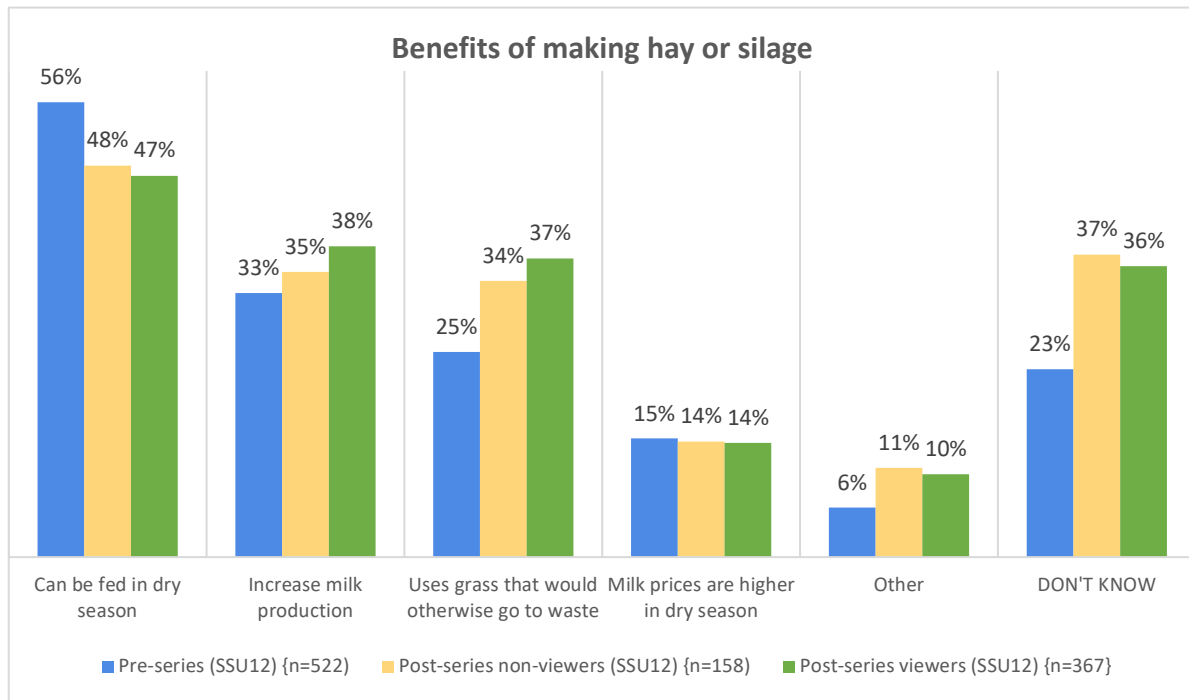
Those farmers who have made silage indicated that there were cost savings elsewhere on their farm. Making and storing silage, reduced one farmer's labour inputs from 3 to 1 (Male 42, Kakamega). One farmer has set aside one acre for growing fodder (maize and grasses). This has reduced the cost of buying green feed and has minimized the logistical challenges of organizing transport to purchase Napier and maize stalks. Feed costs for this farmer have been cut by 50% (Male 44, Kakamega).

Chart 23: Making hay or silage



The benefits of making silage or hay do seem to be well understood as illustrated in the chart below. The differences between the viewers and non-viewers are slight, but show an increase in understanding that home-made hay and silage can increase milk production and make use of grass that would otherwise go to waste. This may indicate the need for more information around how to make hay and silage or perhaps research in to why informed farmers are not taking up this advisory.

Chart 24: Benefits of making hay or silage



5.5 Calliandra

While levels of knowledge about growing and harvesting Calliandra remain rather low (9 in 10 respondents did not know how often to harvest the shrub), the episodes promoting Calliandra showed an interest among SSU audiences. The iShamba platform saw an interest in where to buy Calliandra seedlings following the broadcast episodes. This could indicate interest in planting of Calliandra shrubs, and suggest farmers do not know where to access the seedlings, posing a hinderance to uptake of the practice. Further research may be needed to understand why this low-cost fodder practice is not well understood and taken by farmers.

iShamba Traffic: Calliandra

Interestingly however, following the five features on Calliandra iShamba received a number of questions in relation to Calliandra and 57% of those questions were where to buy Calliandra seedlings. This demonstrates a clear intent to grow the crop. A further 11% of questions were directed at the benefits of growing Calliandra.

Chart 25: Harvesting Calliandra

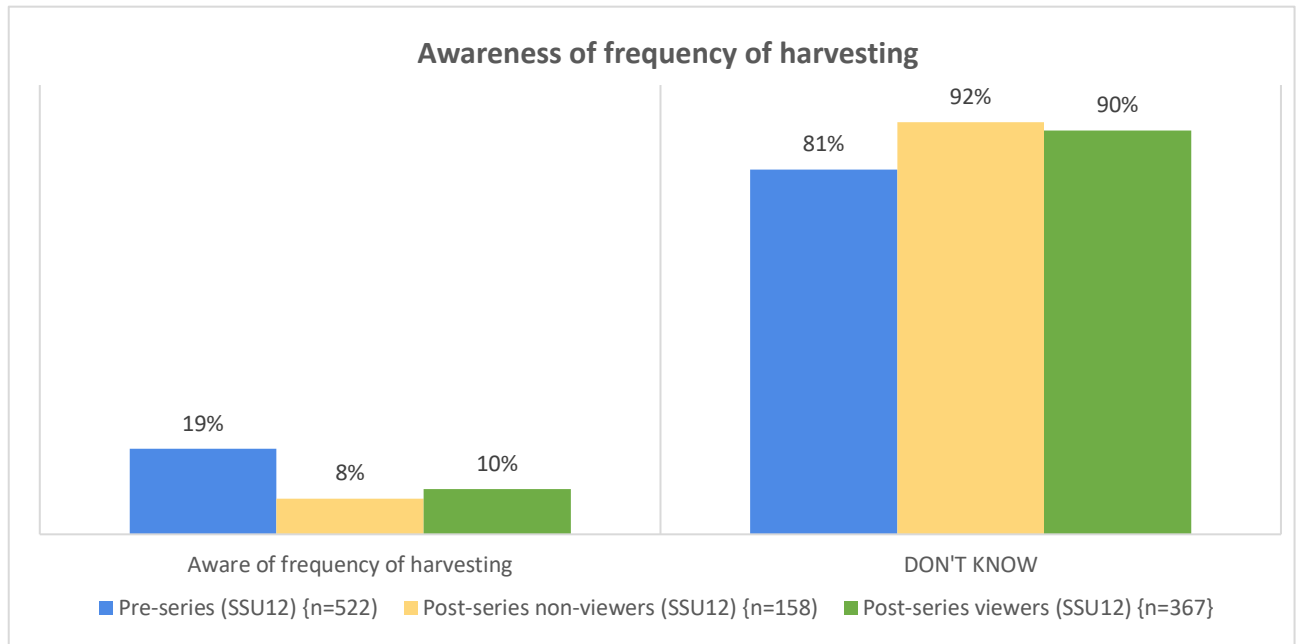
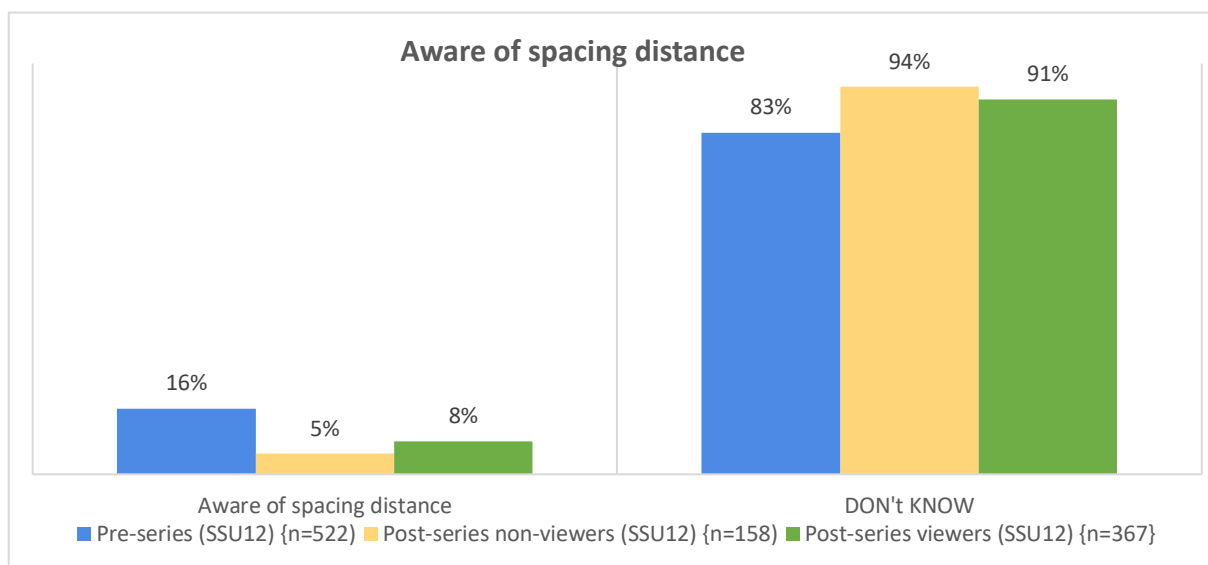


Chart 26: Spacing Calliandra

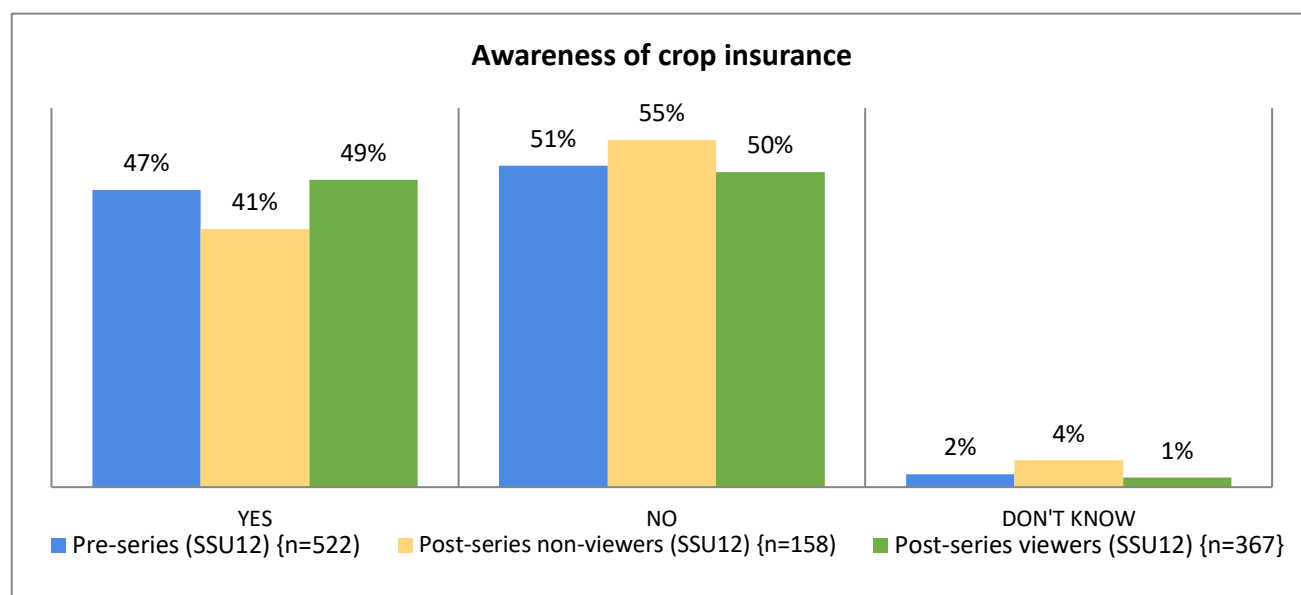


6. MAIN FINDINGS: CROP INSURANCE

6.1 Awareness and attitudes towards crop insurance

Awareness and attitudes towards crop insurance show a mixed picture – about half are aware of it (they have heard of it) and half are unaware. There is a marked difference between men and women – significantly fewer women have heard of crop insurance and there was no real difference between the pre-series non-viewing women (48%) and the post-series viewing women (44%).

Chart 27: Awareness of crop insurance



6.2 Farmers paying for crop insurance

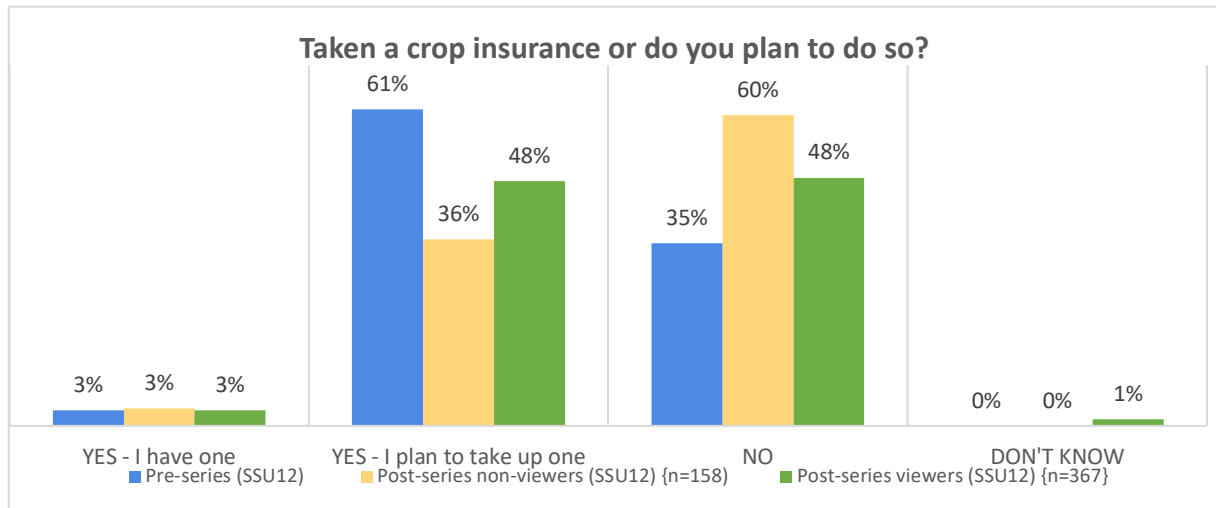
Very few smallholder crop farmers have crop insurance, but many express a willingness to take it out. Interestingly, an intention to take out crop insurance at some time in the future was higher among non-viewers than viewers and it is slightly higher among females than males.

Resistance towards crop insurance is based on a lack of knowledge about what it is and what benefits there might be as well as the actual cost associated with taking out an insurance policy. Raising knowledge about how to get crop insurance, where from and the benefits may encourage more smallholder farmers to take it out. As things stand, they don't really see the advantages or think it's worth it.

iShamba Traffic: Insurance

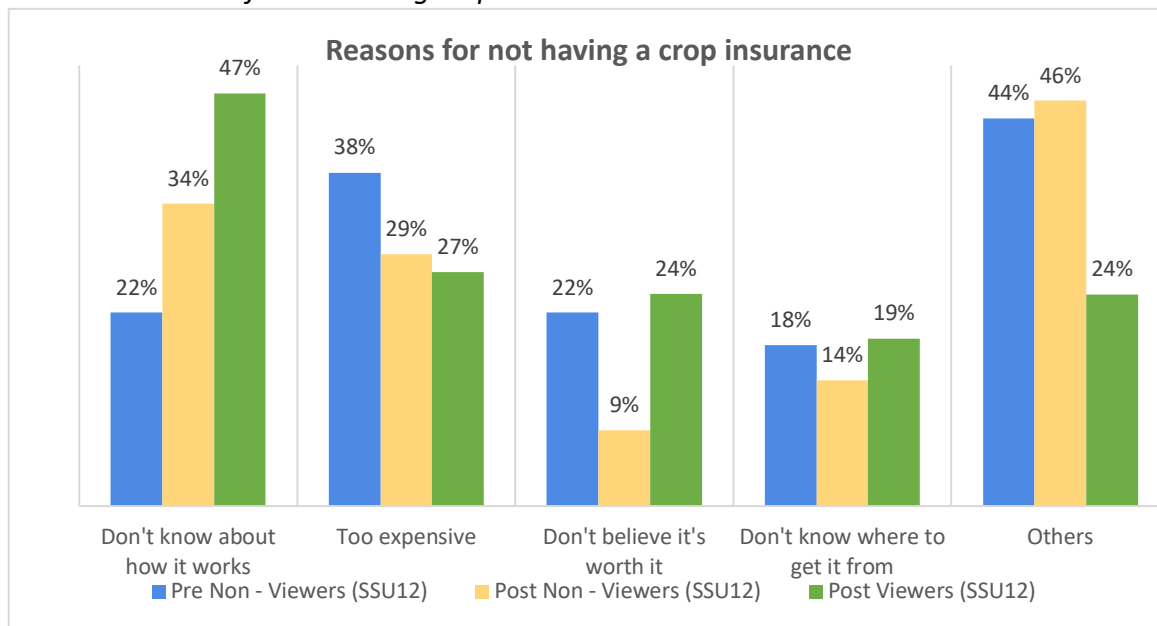
Following the episodes on insurance, iShamba received a total of **661** questions. This can be attributed in part to the bulk SMS iShamba sent to 98,000 farmers on crop insurance – generating **561** follow up questions. From this and the episodes, 95% of questions iShamba received were on Crop insurance, 4% were on Livestock insurance and the remaining 1% were general questions on insurance.

Chart 28: Having crop insurance



6.3 Farmers not paying for crop insurance

Chart 29: Reasons for not having crop insurance



Others: Don't trust you'll receive pay-out, never have a bad season, afraid of debts and also afraid of not getting returns from crops, lack of interest

Case Study: Insurance

Findings show that farmers tend to seek out information from acquaintances regarding insurance and this can act as a trigger to actually taking up insurance. Farmers have struggled to understand the compensation modalities of crop insurance and some have reported negative experiences with insurance companies.

One respondent suggested that as a minimum requirement insurance companies should compensate farmers in kind through seeds in cases of widespread loss/catastrophes.

"The only time I tried it, it did not work. I spend my money and did not get compensation for the loss. Since the drought affected the whole region, I felt they should have been considerate to compensate even if just for the seeds. (Female 66, Kajiado)"

Insurance does cause anxieties for some; hoping for a negative outcome to get compensated. *"They (insurance) came through GTZ, don't remember the name I paid for one season and stopped because I didn't feel like it was a necessary expense ... Having crop insurance did not give me any peace actually I kept hoping something would go wrong so that I don't loss my money..... I am at peace without it. I think it is safer/wiser to invest in equipment, methods and any other ideas you have to mitigate the effects of climate change than to put your money on insurance every other season." (Male 44, Kakamega)*

There were however positive mentions of using Acre Africa crop insurance stating that premiums are low e.g. Ksh. 200 per season and they have positioned it as a compensation for seeds as opposed to yields.

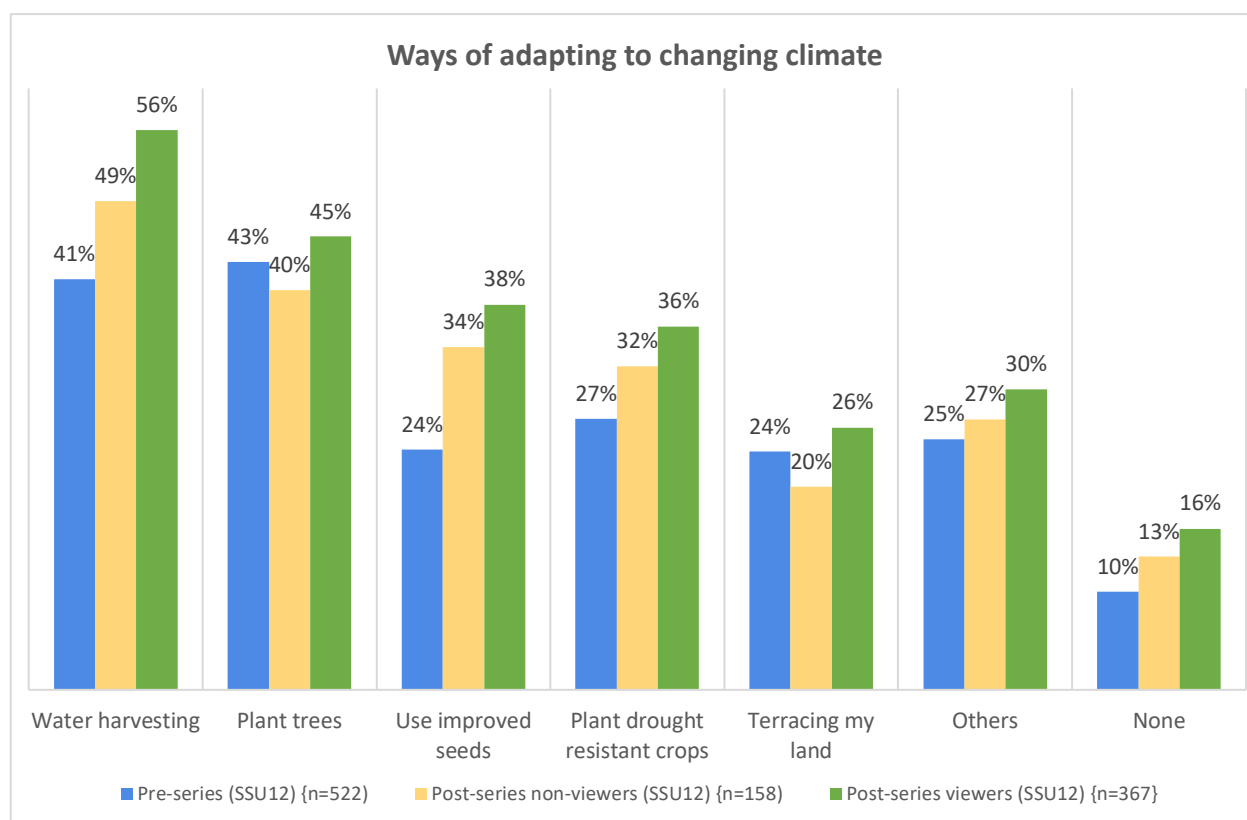
"I heard about crop insurance from a friend who was a champion in an organisation known as Acre Africa. She persuaded me to join the organisation so that I can learn more about the insurance. I started taking the crop insurance almost immediately after that. That was back in 2016. During that season, the rain was very little such that we did not have enough to even feed our family. Luckily, I was compensated for my losses... It gives a farmer the motivation to keep farming. It is like a way of saving in case of drought you are sure to get something back." (Female 51, Meru)

7. MAIN FINDINGS: CLIMATE CHANGE

7.1 Climate adaptation

The data in the chart below show how climate adaptation practices have been implemented by SSU 12 viewers and non-viewers and show consistent changes in practices and behaviours among viewers. The differences, in a relatively short space of time are impressive and clearly show how important SSU 12 messages are in informing these small holder farmers about the changes they can make to adapt to climate change – all of the practices recommended in SSU 12-from water harvesting to tree planting and using improved seeds show impressive gains among series viewers – and they are reflected across all of the demographic groups.

Chart 30: Climate adaptation practices

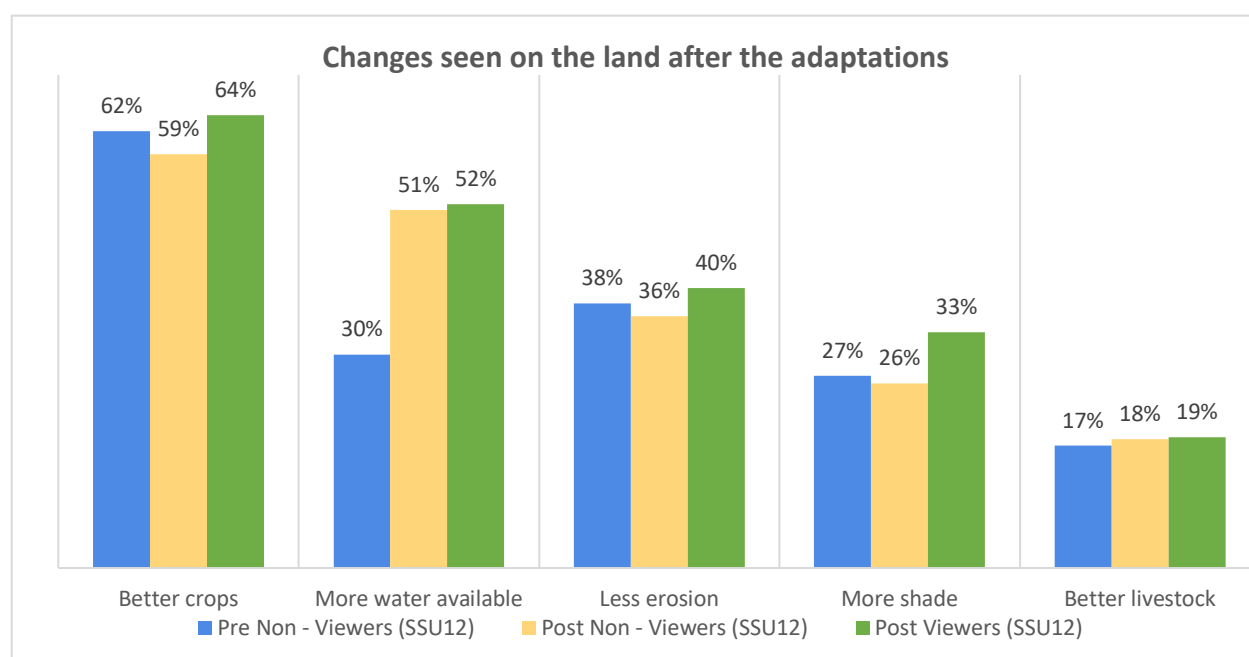


Others: Getting better livestock breed, Solar irrigation, Cover cropping, Crop rotation

7.2 Changes seen as a result of adaptation

Impressive, too, are the changes that smallholder farmers have seen as a result of the changes they have made in their climate adaptation practices in terms of better crops, more water, less soil erosion and more shade. The data are 'directionally' positive for SSU 12 and highlight the importance and benefits of climate change adaptation messages and examples. A look across the demographic groups shows no consistent patterns by age or gender – but a general uplift in the changes seen. It is important to underline the significance of these data in that they show that farmers are prepared to change their long-held practices and can see the real benefit of the changes they make.

Chart 31: Changes that have resulted from adapting to climate change



Case studies: Climate Adaptation

The farmers interviewed explained that they were adapting to the changing climate and variable weather in a variety of ways – from exploring more drought-resistant crops to practicing conservation agriculture and the results they are seeing over time are very encouraging with regards to increasing yields and reducing costs on the farm.

Minimal tilling tripled yields. *“The one very important thing I can say I learnt from Shamba Shape up is minimum tillage For example, when we till the entire land with a tractor or an ox plough, we are disturbing even areas we are not going to plant anything. When I learnt this, I stopped using the ox plough completely and focused on digging only where I intended to crop. I can say that I have seen a very big change since I started doing this. Of course, since I was already used to using the tractors and ox ploughs, I wasn't able to stop immediately, I did it gradually. I started noticing how big of a difference it makes sometime in 2020. I remember practicing minimum tillage for two seasons, and I harvested 2 bags more in one season, then it went up to 5 more bags the season after that. Now I can confidently say that even with our somehow harsh weather nowadays, I am able to harvest 8 more bags than I used to. Before I was harvesting up to 12 bags, and now I harvest up to 20 bags”. (Female 35, Meru)*

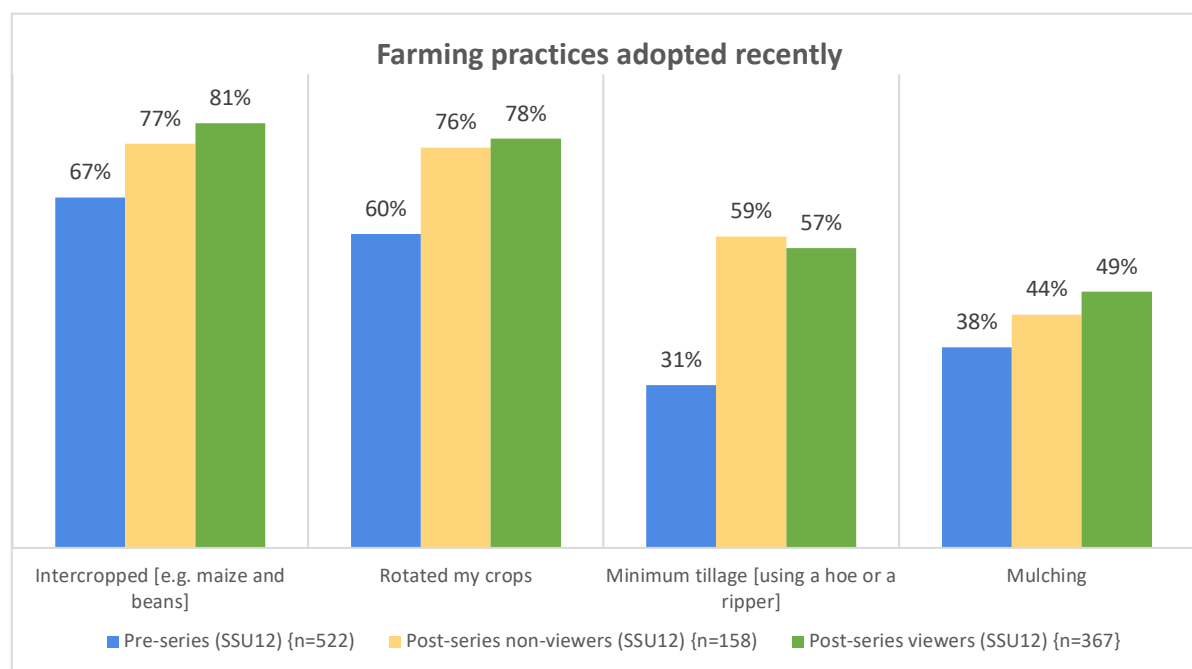
Ripping resulted in reduced power bills. *“After I learnt about the ripping method of farm preparation, we have been spending less water on irrigation. Initially, we would do it almost twice every day, but after I started practicing the ripping method, we only irrigate 4 times a week. The soil is able to retain moisture more... I have saved on electricity bills. Initially, I would spend up to 6K monthly, but these days I spend about 4000... initially, I used to spend about 4000 on weeding, but these days I only hire one person then they work together with the farm manager. Currently, the most I spend on weeding is 2000 per season since I pay the manager on a monthly basis. The workers usually assess the amount of weed before they charge you.* (Female 66, Kajiado)

Conservation agriculture has reduced labour costs. *“I reduced expenses from field preparation from 8500 per acre to 2500 (Ploughing 3500, furrowing 3000, Planting 2000). I have eliminated ploughing and furrowing; I buy selective herbicides @ 1500 and 1000 for planting. Before conservation, I would use 10 people for planting on one acre and pay them 200 shillings each but currently, I use 5 people for planting on one acre @ 200 shillings each.”* (Male 42, Kakamega)

7.3 Current Adoption of improved farming practices

Improved farming practices with regards to planting and rotating crops has also increased as a result of viewing SSU 12. The changes from the pre-series non-viewers to the post-series viewers show considerable changes in practices from intercropping to rotating crops and practicing minimum tillage (using a hoe or a ripper).

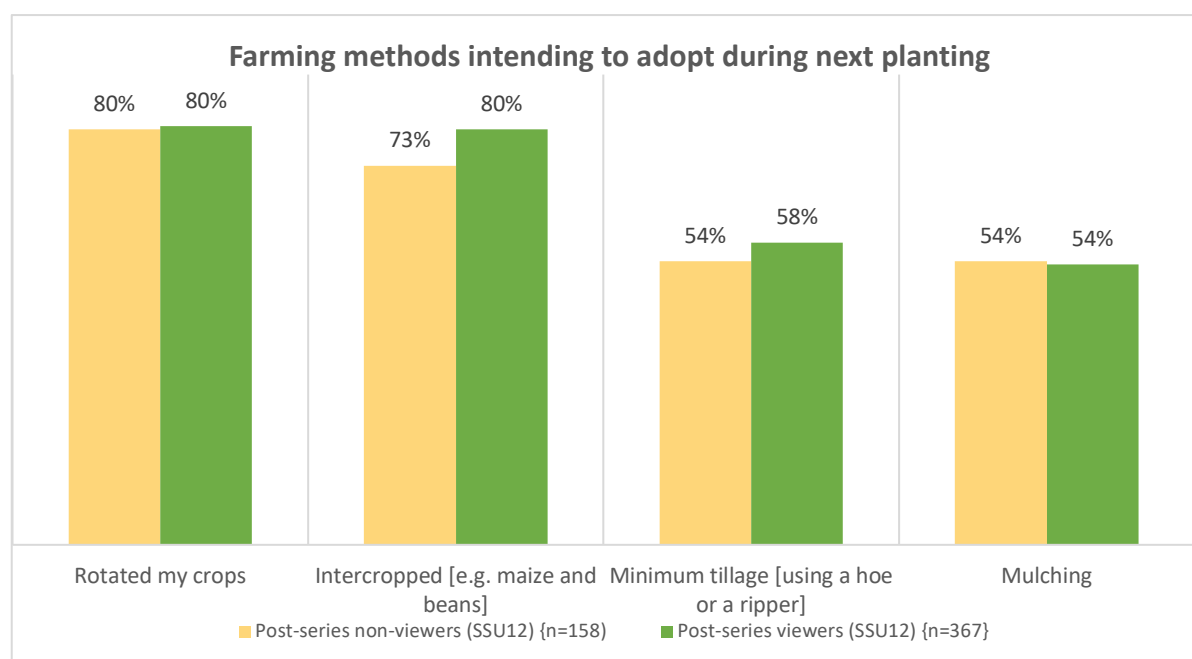
Chart 32: Current adoption of farming practices



7.4 Future adoption of improved farming practices

In the post-series wave of the study questions were asked about ‘future intentions’ with regards to the planting methods respondents were intending to adopt for the next planting season. The chart below shows the data for post-series non-viewers and post-series viewers. It is very interesting to note that as many as 8 in 10 said they would practice crop rotation during the next planting season. The main difference observed between the viewing and non-viewing groups is that of ‘intercropping’ maize and beans plants, with a small increase among viewers who said they intend to use ‘minimum tillage’ practices.

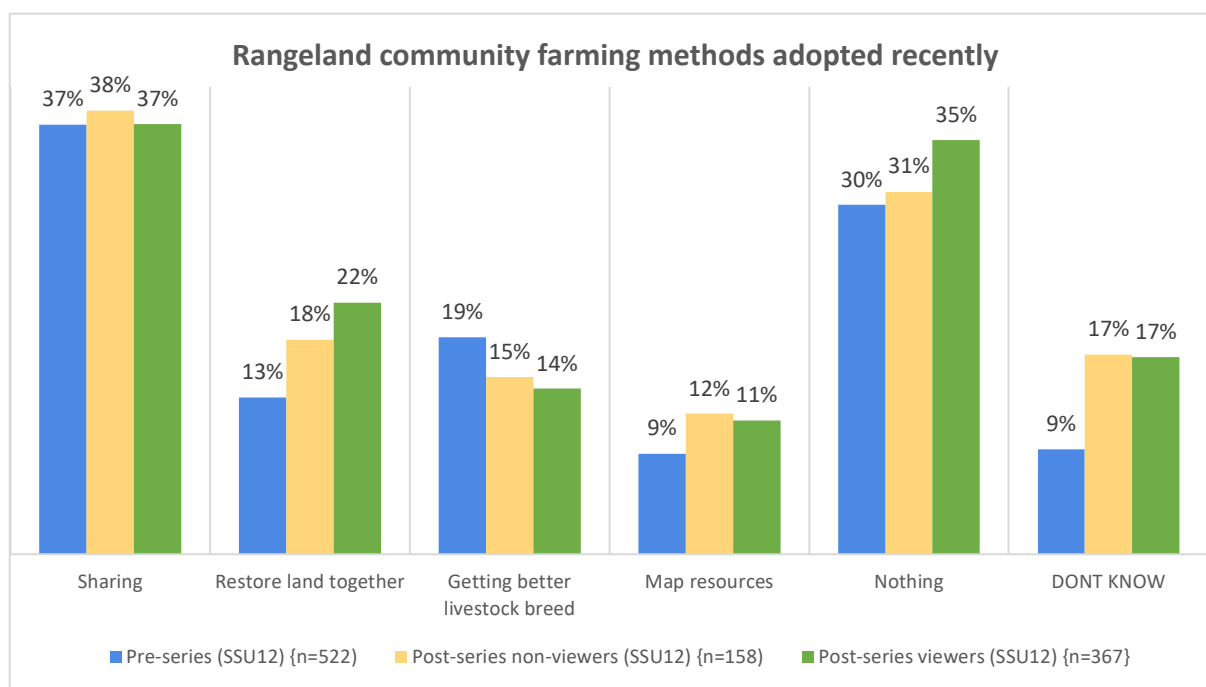
Chart 33: Intentions to adopt the new farming methods



7.5 Adoption of rangeland community practices and farming methods

Rangeland community practices and farming methods recently adopted show that more is needed to be done. There is a fair amount of ‘doing nothing’ and no real evidence of the series having had impact on the practices and behaviours of viewers in these targeted communities. The episodes carried out on this topic, were typically carried out with very marginal persons, who were likely not engaging with television as their main source of agricultural information. It may be of interest to share these episodes with communities in the rangeland in a much more targeted manner, as this could be part of these reason for the low adoption of these practices.

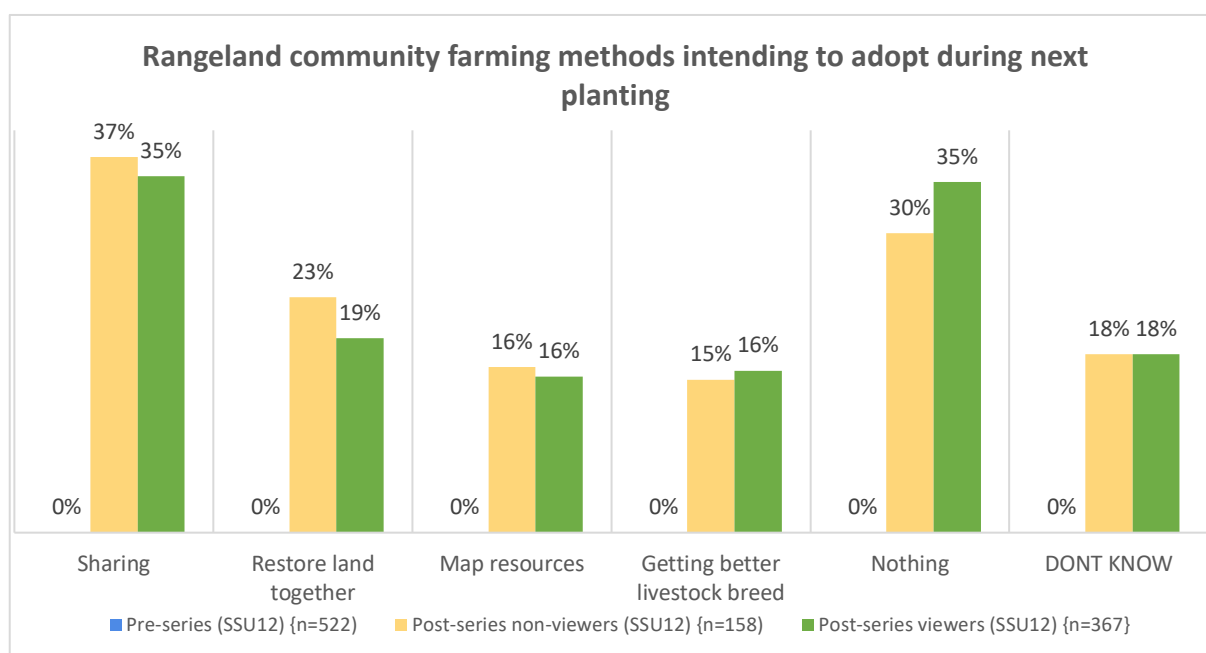
Chart 34: Recently adopted rangeland community practices and farming methods



7.6 Future of rangeland community practices and farming methods

Future intentions with regards to rangeland community farming methods were also somewhat low and illustrate that more messages and the benefits of making changes need to be covered in future series, or indeed, need to harness a more targeted approach to reach these communities. This finding is perhaps unsurprising given that it is the first time SSU had promoted rangeland community practices and the complexity of the topic.

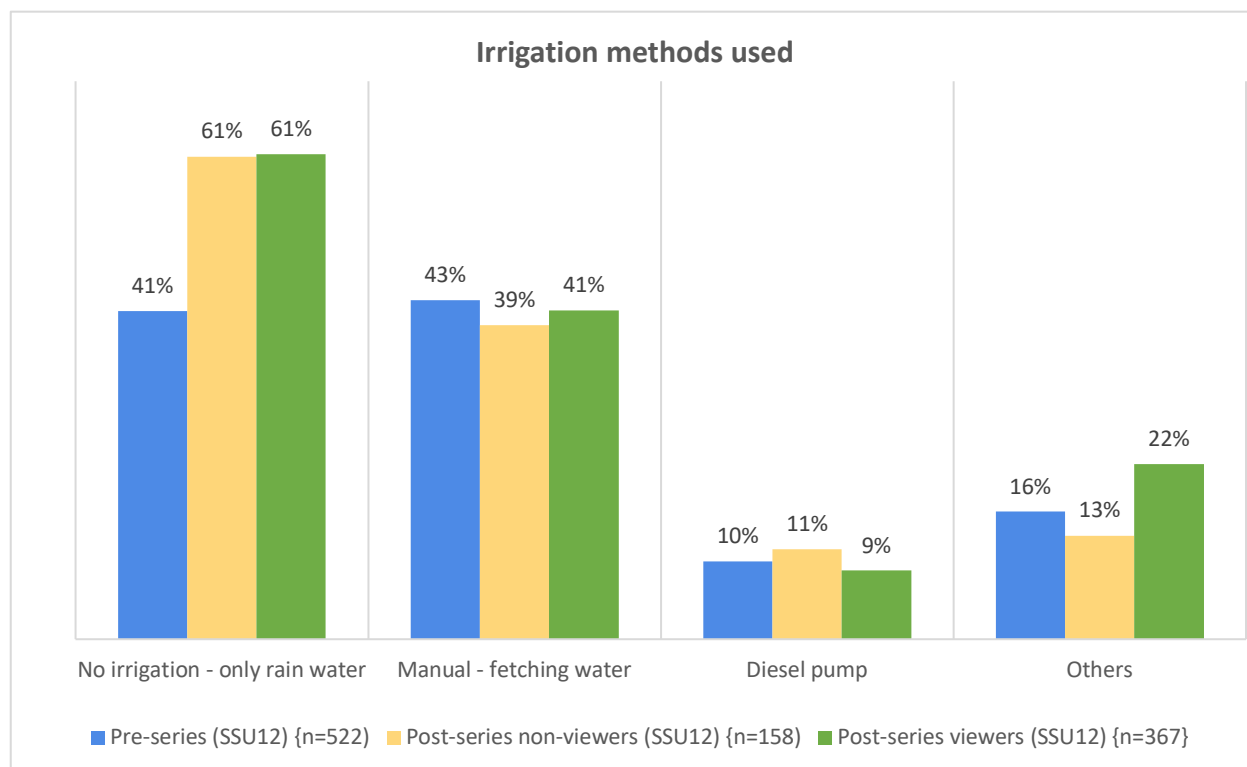
Chart 35: Future intentions with rangeland community farming methods



7.7 Crop irrigation practices

Crop irrigation methods have produced some interesting data because of the very significant post/pre series increase in the use of rain water only for crop irrigation. Around 4 in 10 manually collect water for irrigation purposes and only 1 in 10 use some form of pumping method.

Chart 36: Crop irrigation methods and practices



Others: Electric pump, Solar powered pump, canals, drips, horse pipe.

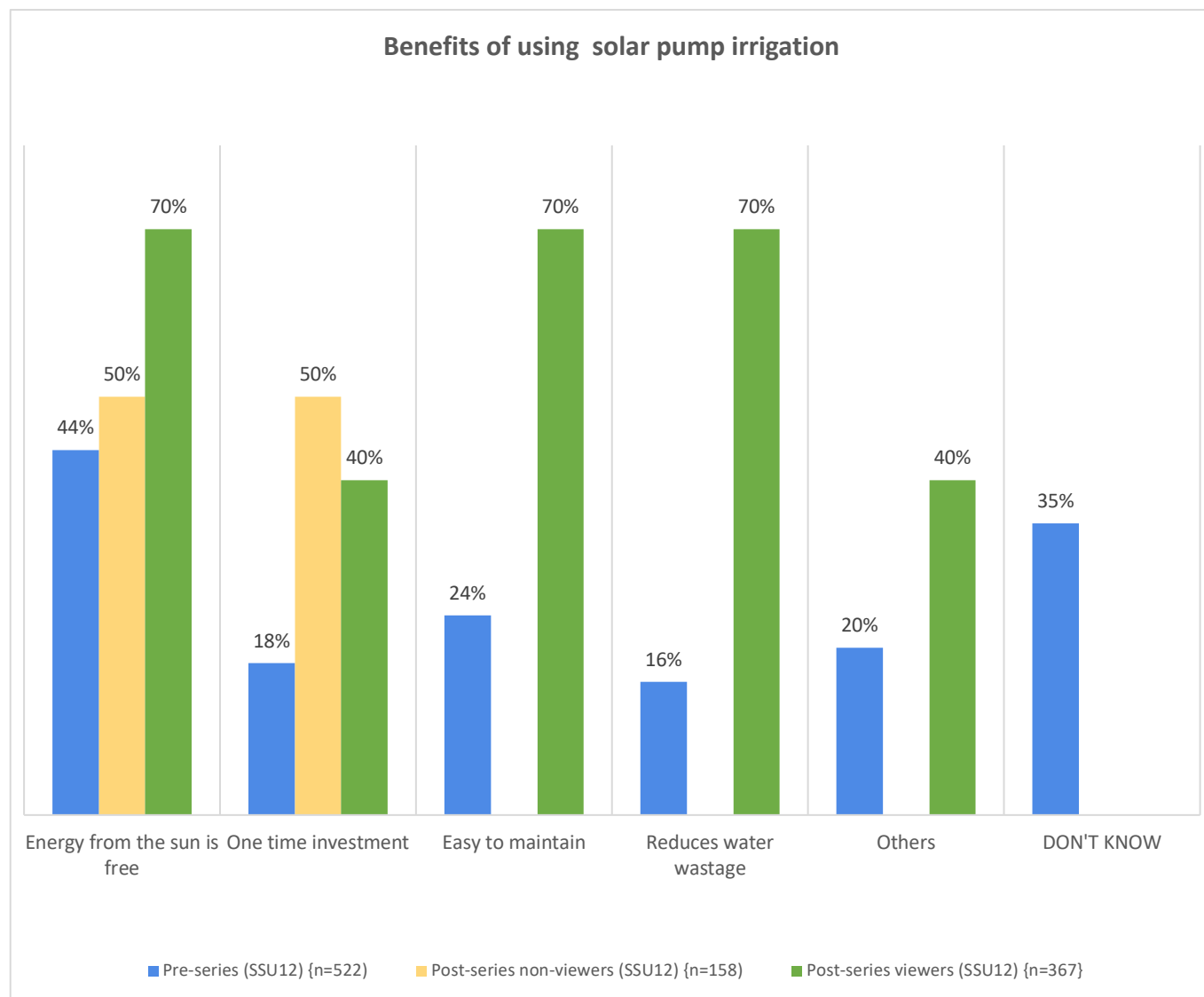
iShamba: Solar powered irrigation systems

Sustainable farming practices through setting up solar powered irrigation systems generated a fair amount of interest on iShamba with 58% of questions focusing on where to source water pumps and how to install them and a further 24% on setting up drip lines and drip irrigation systems. This indicates these farmers have intent to implement these practices as a result of watching the show.

7.8 Solar energy to pump water for irrigation

The benefits of using solar energy to pump water for irrigation purposes showed dramatic pre and post series increases. Messages in the series about free energy from the sun, ease of maintenance, reducing water wastage had a significant impact on series 12 viewers.

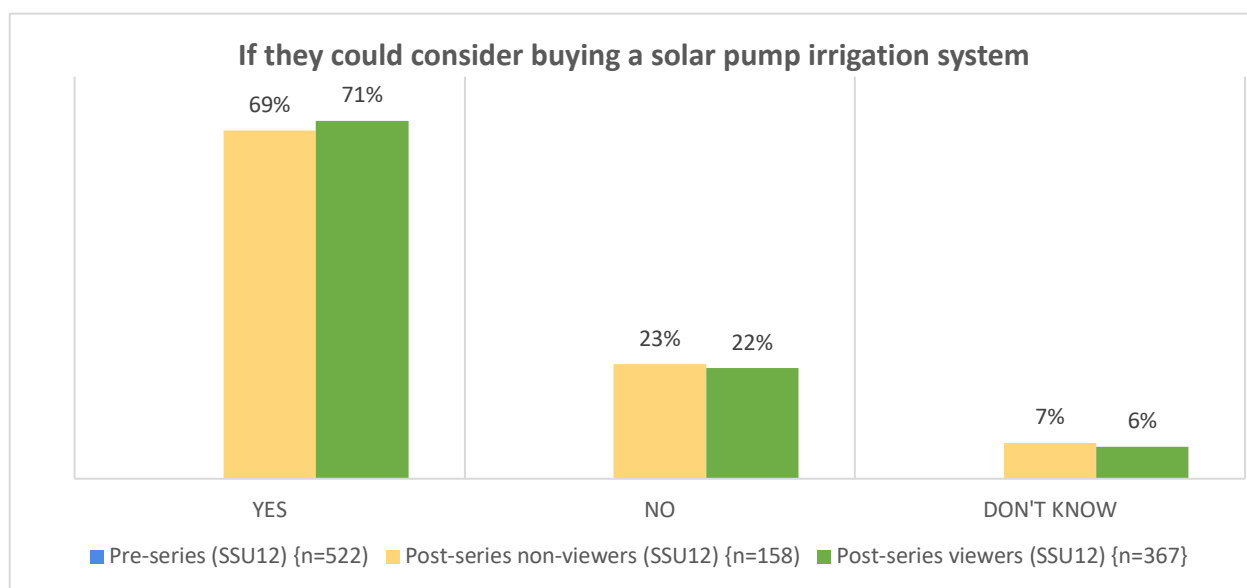
Chart 37: Using solar energy to pump water for irrigation



Others: Clean energy, cheap, economical

As a result of which 7 in 10 smallholder farmers would consider buying a solar pump irrigation system in future. It will be interesting to see if the sales of solar pumps have increased as a result of the series 12 and the very positive reception of the messages about the value and impact of using solar pumps for irrigation.

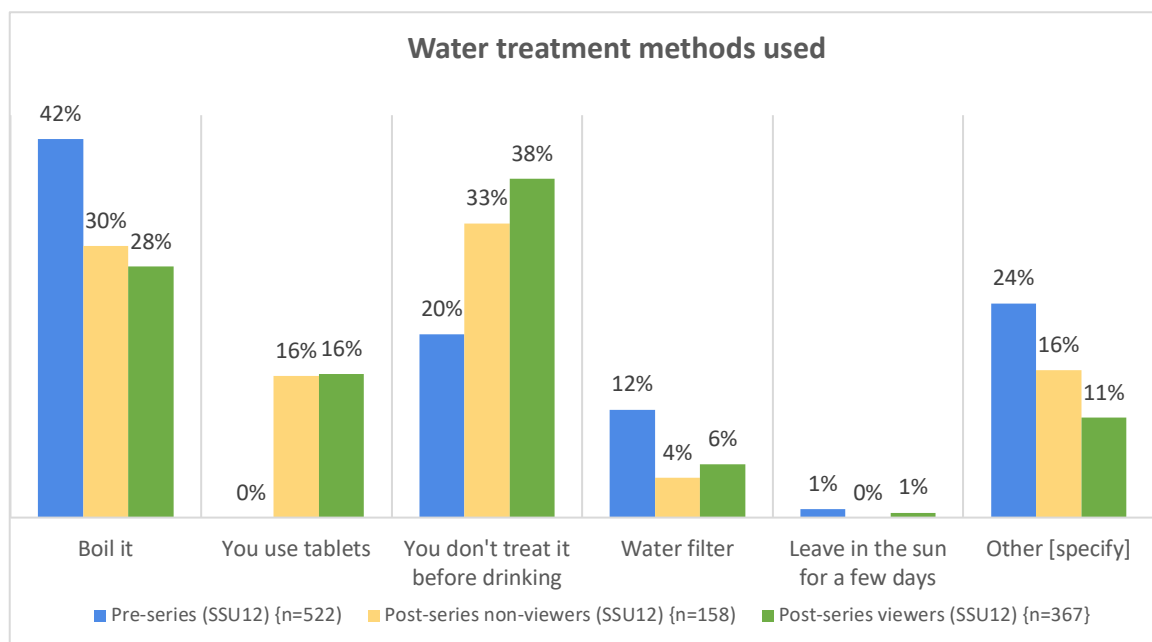
Chart 38: Buying a solar pump irrigation system in future



7.9 Water treatment methods

There was a noticeable decrease in the numbers of smallholder farmers who said they treated water by boiling it after series 12 was broadcast and a significant increase in those saying they did nothing at all to treat drinking water. The option of using water treatment tablets was not given during the Pre-KAP study, which is why the chart shows a rise from 0% before the series was to 16% after broadcast.

Chart 39: Treating drinking water



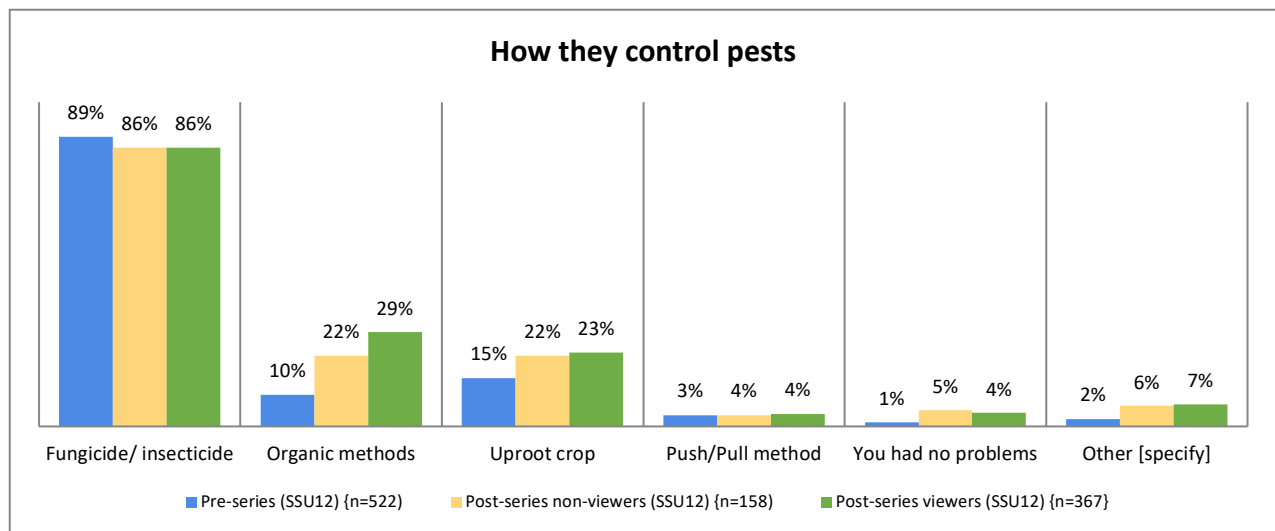
Others: You use tablets, water filter, leave in the sun for a few days, chlorine, filter using a sieve

8. MAIN FINDINGS: CROP GROWING PRACTICES

8.1 Pest control methods used

The most common method used for pest control is that of using fungicides and insecticides – 8 in 10 farmers use this method. However, the series still seemed to have an effect on educating farmers about alternative methods, namely those of using organic methods and uprooting crops. Yet, there is still very low awareness of the push-pull method for pest control.

Chart 40: Method used for pest control

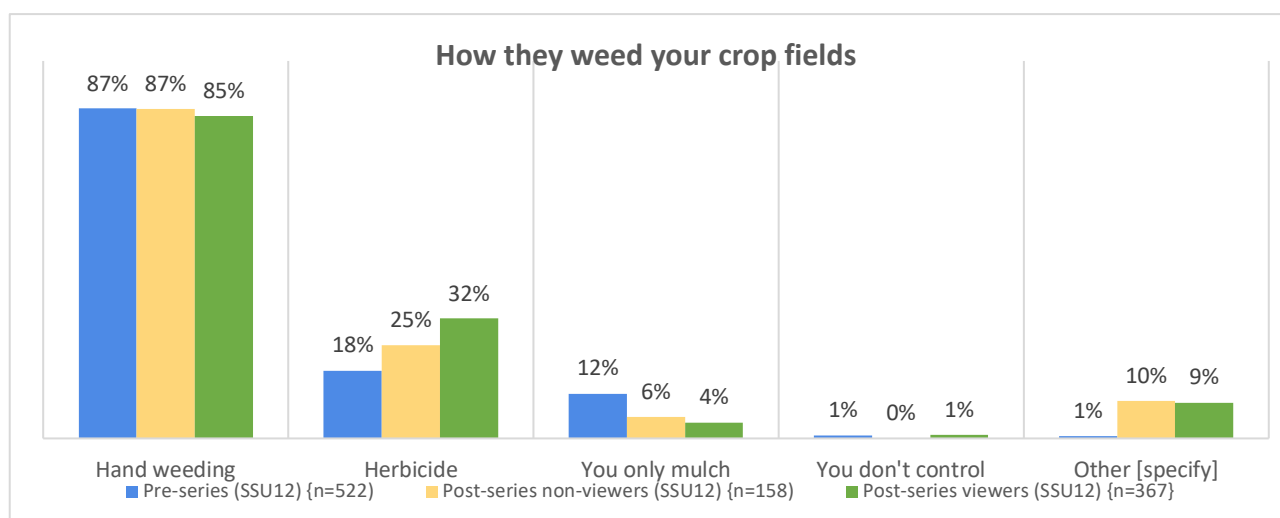


Others: Organic methods uproot crops, ash, crop rotation, early planting, inter cropping, put soil on top of maize crops.

8.2 Crop weeding practices

Crop weeding is still very much a manual activity (85%). However, there is a clear indication of an increase in using herbicides among viewers compared to non-viewers (7% difference, and a 16% increase compared to pre-broadcast).

Chart 41: Crop weeding practices



Others: Herbicide, you only mulch, digging using equipment like jembe, hoes

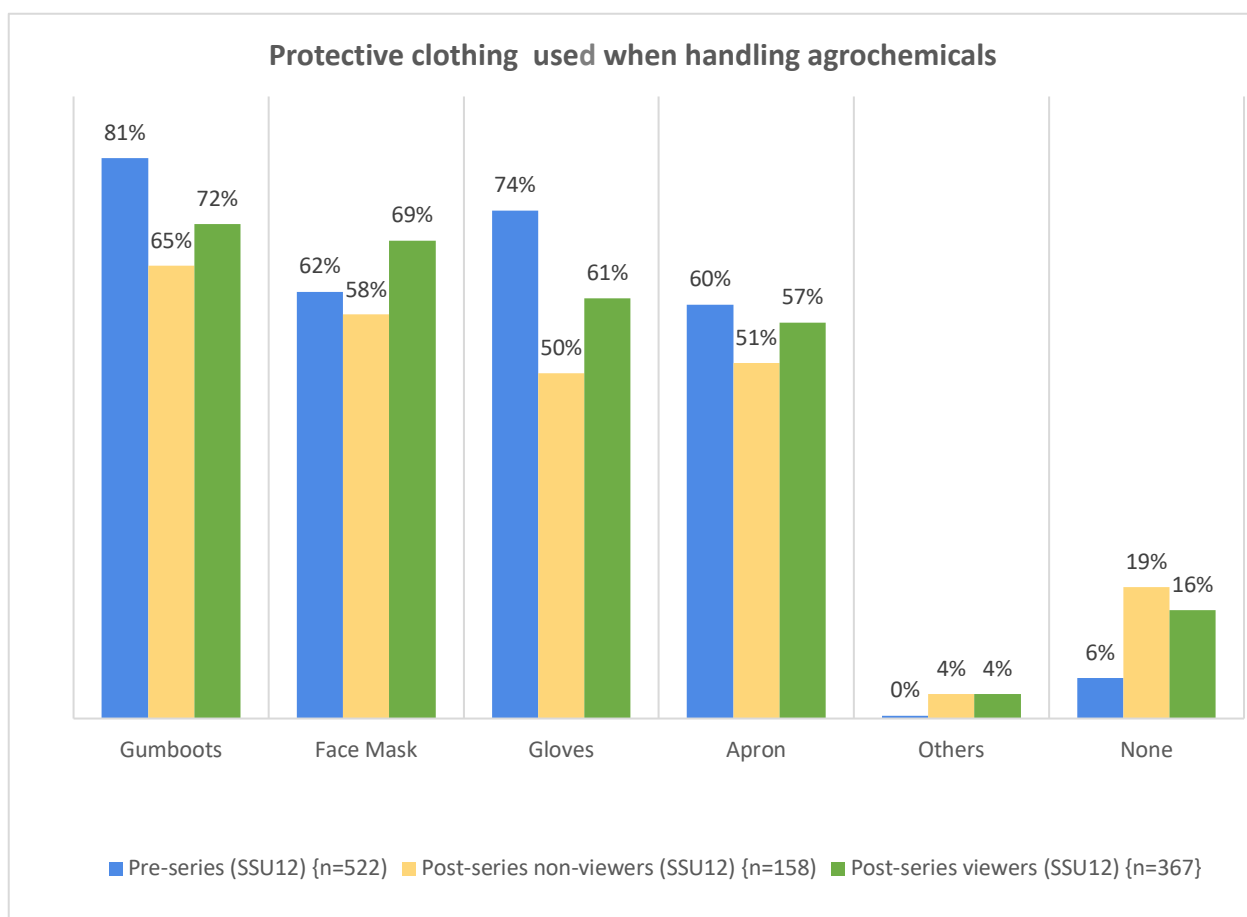
iShamba Traffic: Inputs – crop management

iShamba received a considerable amount of questions on crop management, with 41% of those questions directed at insecticides. Fungicides also attracted considerable interest with 37% of questions focused on this area. We can therefore assume that farmers are perhaps willing to change their practices around pest control.

8.3 Handling agrochemicals

Good practice around the handling of agrochemicals seems well established. Most use gumboots, face masks, gloves and aprons. There is evidence to suggest that viewing the series made any difference to these practices. There was little observable difference in practice between males and females, but some differences between older and younger farmers – older farmers were somewhat less likely to wear gumboots or wear facemasks that were their younger counterparts.

Chart 42: Handling of agrochemicals



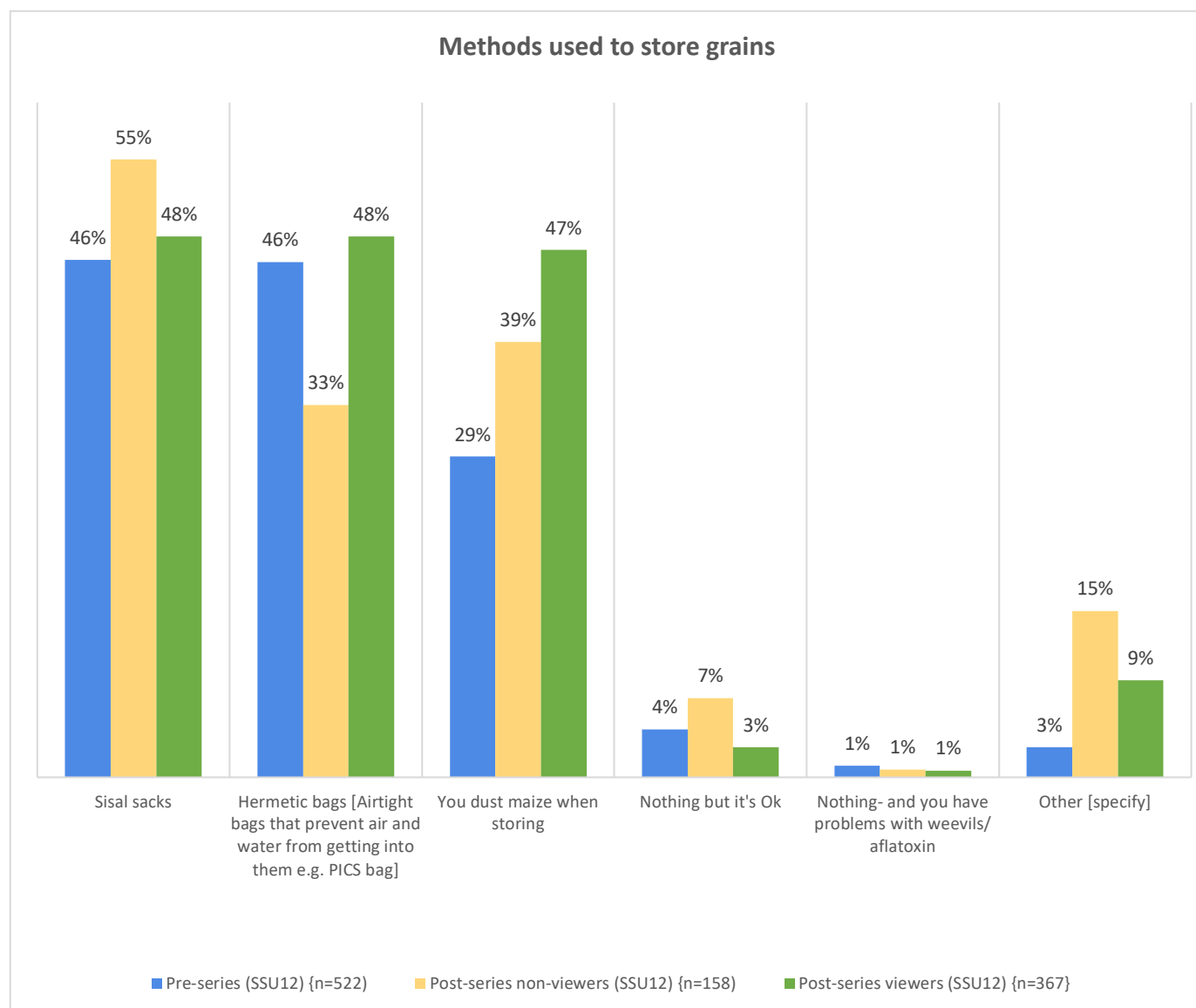
Others: Trousers to that cover full legs, goggles, coat/jacket, helmet.

8.4 Storing grain

Around half of these farmers stored their grain in sisal sacks or hermetic bags. There was a significant difference in this practice between viewers and non-viewers of SSU 12, with viewers

15% more likely to use the promoted hermetically sealed bags. There was also considerable difference between viewers and non-viewers in the practice of dusting the maize in preparation for storage – especially among females who had viewed the series (44% said they did this at the baseline rising to 50% at the end line). This is an indication that Shamba Shape Up viewers are more concerned with storage practices that will reduce loss of their grains.

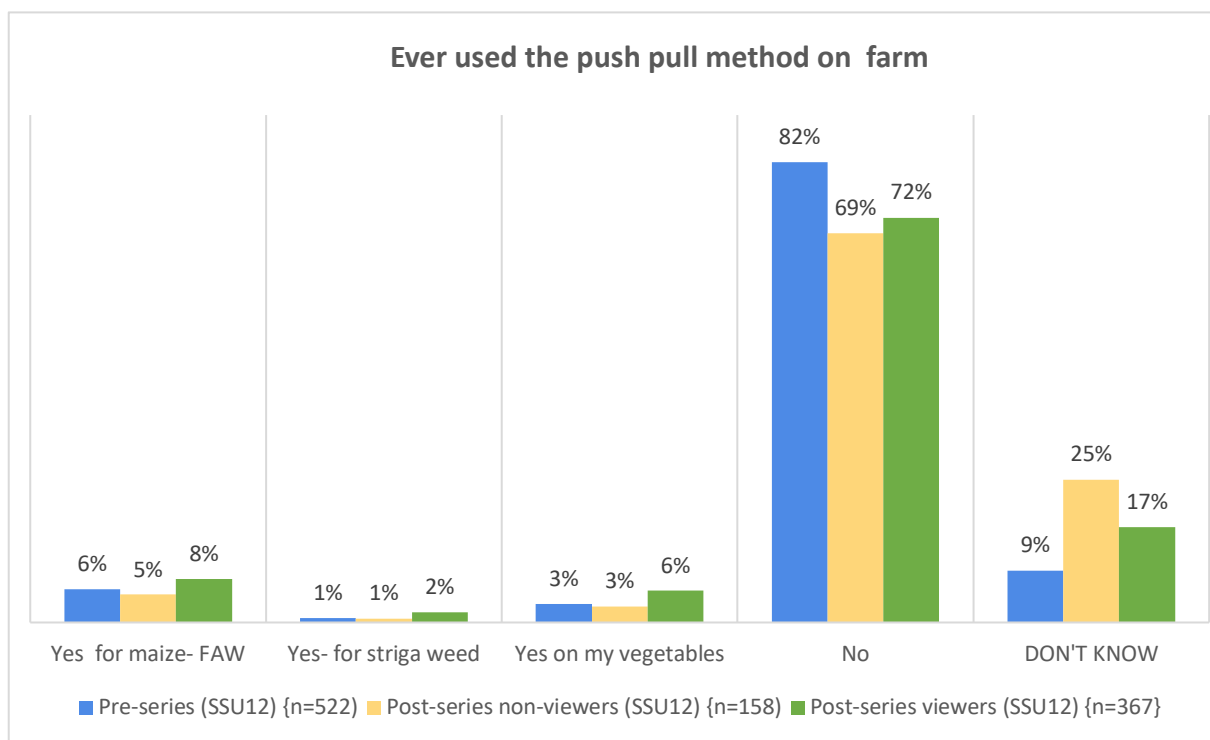
Chart 43: Storing grains



8.5 Using the push/pull method

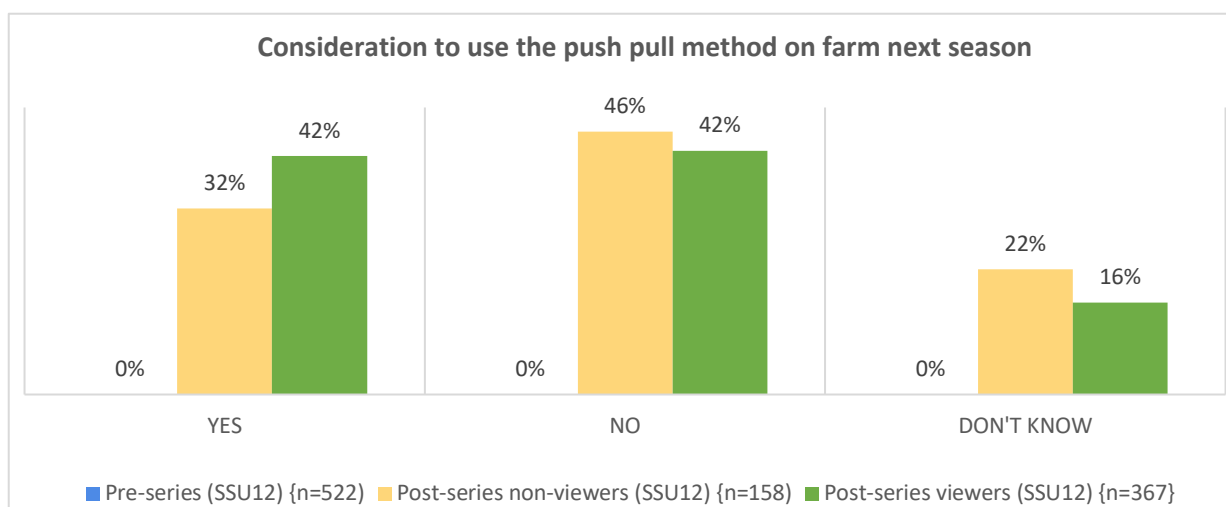
The data shows that using the push pull method is not a practice that farmers use. Albeit being a commonly promoted topic, the series appears to have had little impact on increasing use of push pull to control either fall army worm or weed control. Further research may be needed to understand why this low cost, and effective practice is not taken up more widely by farmers.

Chart 44: Using push and pull method



However, there is some indication that series 12 viewers may consider using the push/pull method on their farms next season – women were slightly more prepared to give it a go than their male counterparts (45% vs 39%).

Chart 45: Using Push and Pull method in future



9 HOUSEHOLD ISSUES

9.1 Equal Opportunities

At the endline, we asked a series of statements to explore small holder farmers' attitudes towards equal opportunities using a 5 point agree/ disagree scale.

Responses, in the form of levels of 'agreement' with each statement show positive attitudes towards issues of equal opportunities in terms of equal rights and leadership. Across all the statements women were more likely than men to 'strongly agree' (over 60% women 'strongly agreed' compared with around 40% men). Older men – aged 36+ held more positive views about equal opportunities than did their younger counterparts.

Chart 46: Extent to which respondents agree or disagree that;

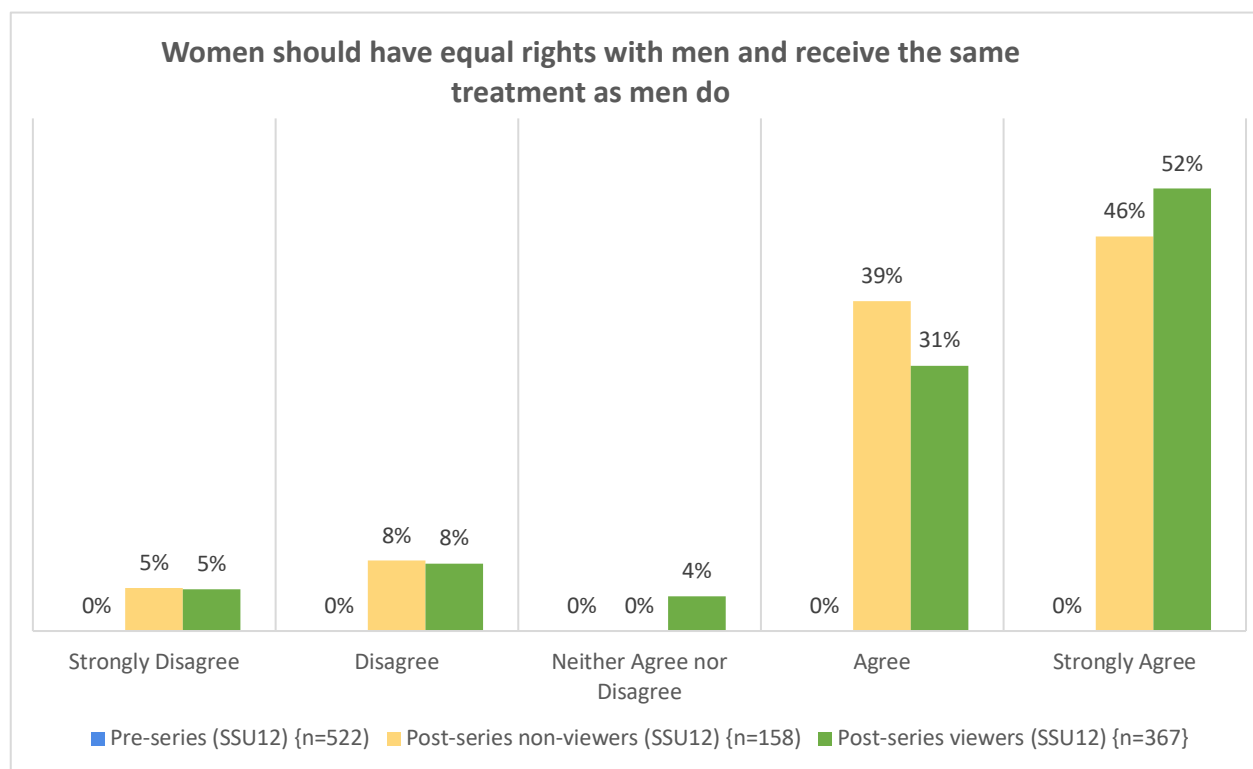


Chart 47: Extent to which respondents agree or disagree that;

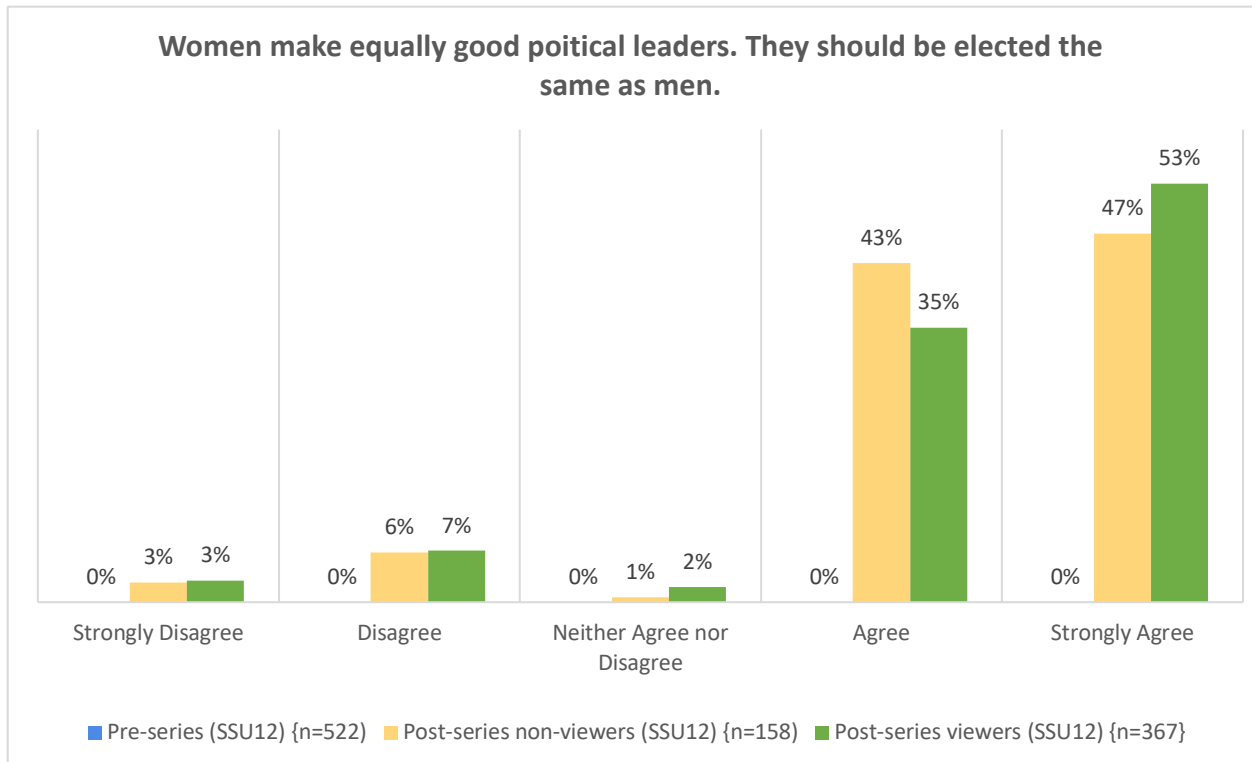
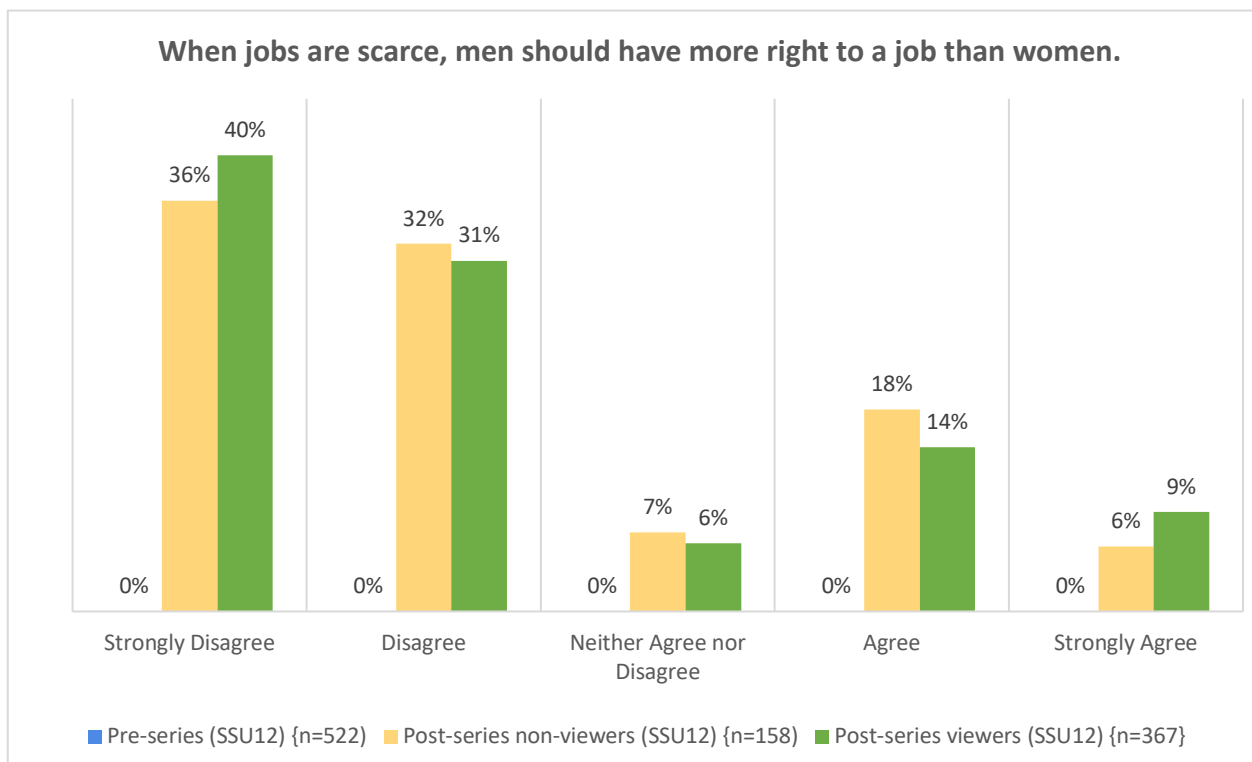


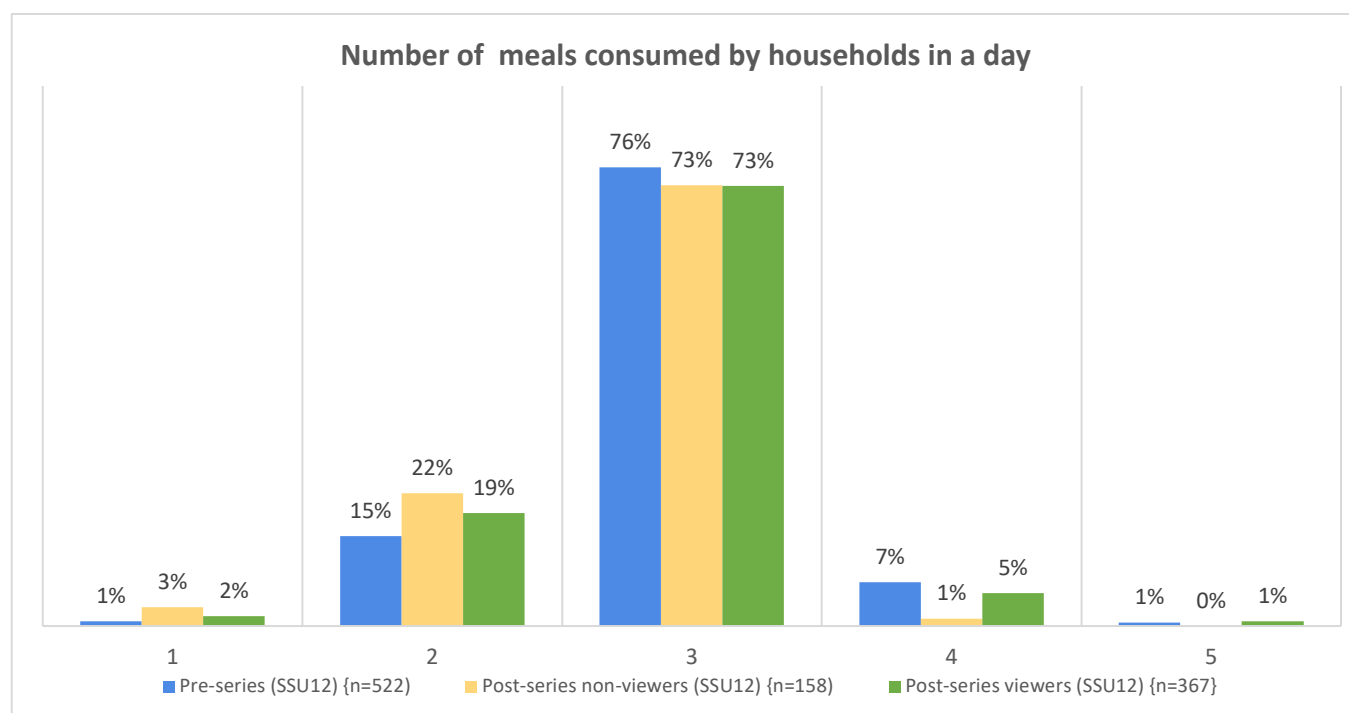
Chart 48: Extent to which respondents agree or disagree that;



9.2 Nutrition - Eating a balanced diet

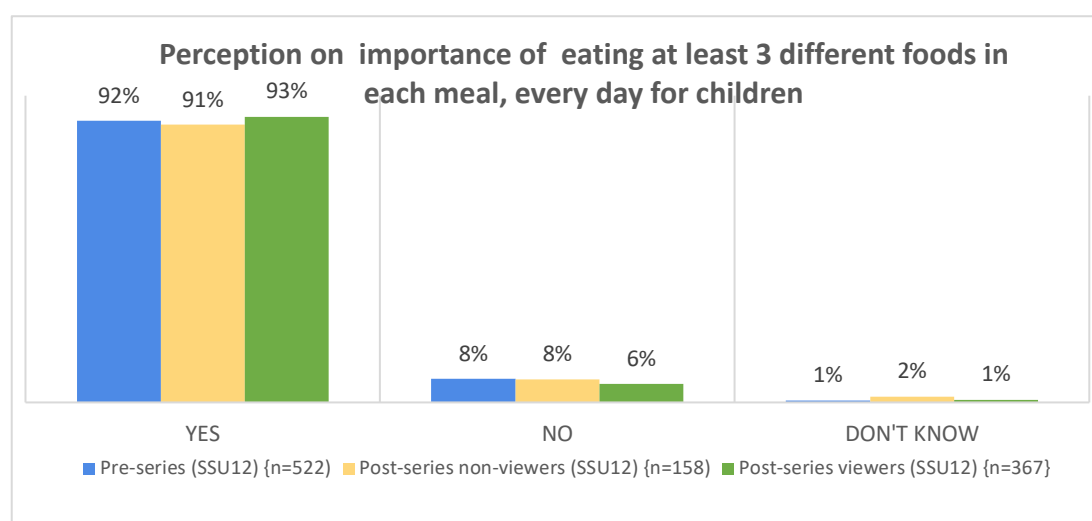
Three quarters of the interviewed smallholder farmers say that they eat three meals a day – with the remainder eating two – there were no observable differences by demographic group. Over 90% at each of the survey waves thought that it was important for their children to eat at least three different food types in each meal. Although these numbers are extremely high – suggesting an almost universal endorsement, women were slightly more likely to think that children eating three food types in each meal (95%) was important than were their male counterparts (90%).

Chart 49: Number of meals consumed by households in a day



9.3 Balanced diet for children

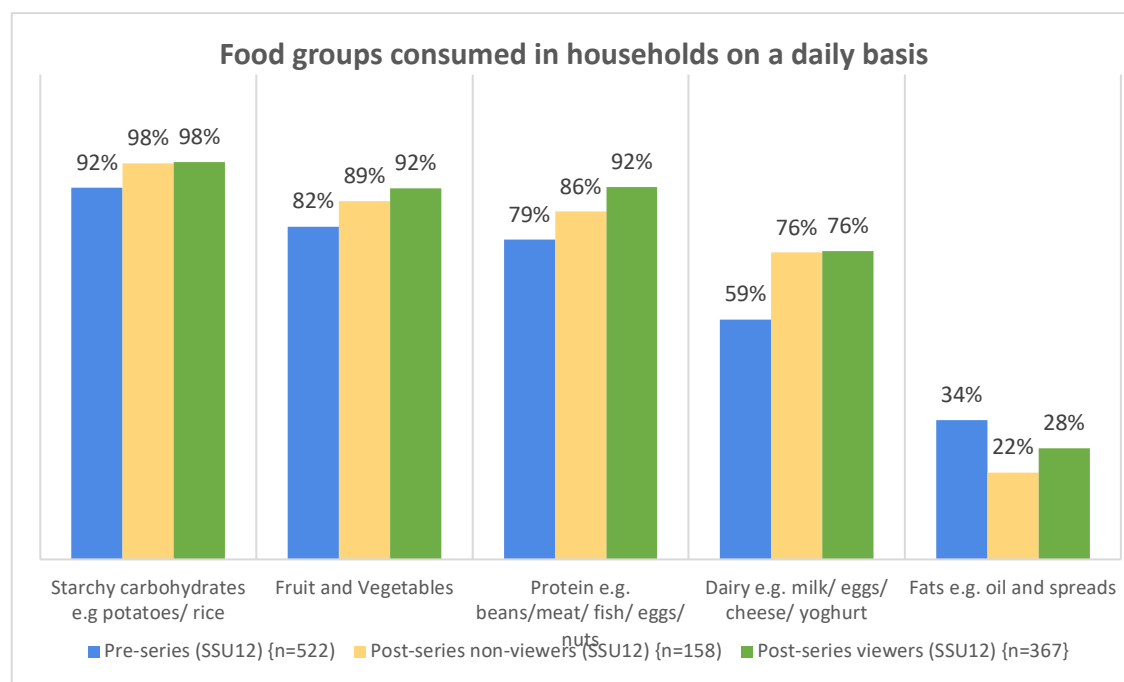
Chart 50: Importance of eating balanced meals for children



9.4 Daily food consumption

Most smallholder farmer households eat carbohydrates, such as rice and potatoes, on a daily basis as well as protein and fruit and vegetables. Daily consumption of dairy is somewhat less common, but there is evidence of it growing (from around 60% of pre-SSU 12 sample to over three-quarters of SSU 12 viewers). Fats, oils and spreads are consumed by a minority of households on a daily basis – only around three in ten.

Chart 51: Daily food consumption in the households



10 CONCLUSIONS

To conclude there is no doubt that Shamba Shape Up is having a positive impact on the livelihoods of those who watch the show and is an important provider of clear actionable information. It is important to note that there is also a growing secondary audience created by the multiplier effect of those viewers who are sharing the programme content with non-viewers as done so by 85% of KAP study respondents.

Improved financial literacy and budgeting was a topic demonstrating considerable interest to viewers and highlighted some positive findings - with viewers having more of an understanding as to the advantages of having a bank account and are more likely to finance their activities from their own sources of income, rather than seek a loan or borrow from friends and family. Topics focusing on livestock and fodder which have been practiced by case study respondents have seen most impact with regards to increased milk yields, improved health of cattle and also a reduction in costs on the farm. The benefits of making hay and silage have been well understood and the

nature of the questions directed through the iShamba call centre demonstrate intent to act on the information provided in the show.

Climate adaptation practices are increasing with observable benefits and also of note are the considerable improvements in the use and benefits of solar energy for irrigation, with intent to purchase solar pumps being high.

Series 12 has had an effect on educating farmers about crop growing practices - particularly alternative methods for pest control, namely those of using organic methods and uprooting crops. There has also been some indication that series 12 viewers may consider using the push/pull method on their farms next season.

Smallholder farmers are naturally slow to change and somewhat risk-averse and it is perhaps unsurprising that the take up of crop insurance remains low however intention to do so in the future has been highlighted by viewers. The continued promotion of this topic will be required to build knowledge and awareness in this area.

ANNEX 1: Weekly Viewing Figures (GeoPoll)

Citizen TV Viewership March 2022 - September 2022 Saturday 1:30PM - 2:00PM	
Date	Average Audience
05 March 2022	1,437,000
19 March 2022	1,166,000
02 April 2022	1,512,000
09 April 2022	845,000
16 April 2022	1,727,000
07 May 2022	1,929,000
14 May 2022	1,839,000
21 May 2022	1,878,000
28 May 2022	2,675,000
04 June 2022	1,782,000
11 June 2022	1,841,000
18 June 2022	2,007,000
25 June 2022	1,366,000
02 July 2022	1,335,000
16 July 2022	2,191,000
23 July 2022	1,952,000
30 July 2022	2,542,000
20 August 2022	2,697,000
27 August 2022	2,078,000
03 September 2022	1,776,000
10 September 2022	1,941,000
17 September 2022	1,941,000
24 September 2022	1,365,000
*Weekly Average	1,818,348

Citizen TV Viewership March 2022 - September 2022 Sunday 1:30PM - 2:00PM	
Date	Average Audience
06 March 2022	1,392,000
13 March 2022	1,437,000
20 March 2022	1,370,000
27 March 2022	1,232,000
03 April 2022	1,661,000
10 April 2022	1,918,000
17 April 2022	1,840,000
24 April 2022	2,615,000
01 May 2022	2,025,000
08 May 2022	2,033,000
22 May 2022	2,185,000
29 May 2022	2,127,000
05 June 2022	2,292,000
12 June 2022	1,752,000
19 June 2022	1,704,000
26 June 2022	1,874,000
03 July 2022	1,949,000
10 July 2022	1,702,000
17 July 2022	2,335,000
24 July 2022	1,984,000
31 July 2022	2,428,000
21 August 2022	2,478,000
28 August 2022	2,314,000
04 September 2022	1,807,000
11 September 2022	1,520,000
18 September 2022	1,461,000
25 September 2022	1,852,000
*Weekly Average	1,899,519

**Calculations made to account for co-viewing, gives a total weekly reach of at least 9 million adults aged 16+.*

ANNEX 2: iShamba Traffic

SSU 12: Broadcast and Audience Traffic Overview – Financial Literacy

Financial Literacy				
Episode	Broadcast date	Promo SMS <i>*sent to farmers before the broadcast*</i>	Incoming queries	
			SMS questions	WhatsApp questions
1	05/03/2022		3	0
2	12/03/2022 26/03/2022(Re-air)	Shamba Shape Up NEW series is here! Watch Citizen TV on Sat & Sun(1PM) to learn how to save so you can take loans for farming and more. Send queries to 21606	112	0
3	19/03/2022		11	0
4	02/04/2022	Shamba Shape Up is in Embu! This Sat & Sun at 1:30PM on Citizen TV, we teach farmers how to save & buy a cow , set up a nursery & more. SMS questions to 21606.	13	0
5	09/04/2022		3	0
6	16/04/2022	Join Shamba Shape Up on Citizen TV this Sat & Sun(1:30PM) to learn how to control Fall Armyworm, get insurance for your crops & much more.SMS questions to 21606	47	0
7	23/04/2022 30/04/2022(Re-Air)	Shamba Shape Up is in Bungoma!This weekend on Citizen TV(1:30PM) we teach you how to control Pests & Diseases in Maize, get Crop insurance & more.SMS us on 21606	40	0
8	07/05/2022		87	0
9	14/05/2022 22/05/2022 (Re-Air)		175	0
10	11/06/2022		289	5
11	18/06/2022		19	0
12	25/06/2022	Shamba Shape Up is in Kajiado! Join us this Sat & Sun on CITIZEN TV 1:30pm to learn on how to finance your farm , maintain drip lines, good nutrition & much more	54	1
13	02/07/2022	Shamba Shape Up is in Baringo! Watch CITIZEN TV (Sat & Sun 1:30pm) to learn how to prevent diseases in your livestock, savings & more. SMS questions to 21606	34	0
14	23/07/2022		531	0
15	20/08/2022		25	1
16	27/08/2022	Join Shamba Shape up this weekend to learn how to improve production in cows,store your cereals after harvest & get finances for farming .SMS questions to 21606	79	0
17	03/09/2022		18	0
18	10/09/2022	This weekend on Shamba Shape Up we learn how to control Striga weed on maize, make your own organic fertilizer & get funds for farming . SMS questions to 21606	109	0

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
1	Farm records	1363	0
2	Loans	905	7
3	Insurance	730	0
4	Budget	20	0
5	Business plan	20	0
6	Savings	14	0
Totals		3052	7
Grand Total		3059	

SSU 12: Broadcast and Audience Traffic Overview – Feed Conservation

Feed Conservation & Rangeland Management						
Episode	Topic	Broadcast date	Promo SMS <i>*sent to farmers before the broadcast*</i>	No of farmers who received SMS	Incoming queries	
					SMS questions	WhatsApp questions
1	Feed conservation (Hay)	09/04/2022	Watch Shamba Shape Up this Sat & Sun (1:30 PM, Citizen Tv) to learn about Climate Smart Agriculture, water treatment, how to make hay & more. SMS questions to 21606	52,402	19	7
2	Resource mapping & Pasture Management	14/05/2022			9	0
	Re- Air episode 2	22/05/2022			3	2
3		04/06/2022			2	1
4	Feed Conservation(Silage)	11/06/2022			1	0
5	Women in rangelands	18/06/2022			2	0
6	Livestock replacement	10/07/2022			17	3
		16/07/2022			3	0
7	Pasture Management	30/07/2022	Watch Shamba Shape up this weekend to get tips on how you can conserve fodder so that you have feeds throughout & set up solar irrigation. SMS questions to 21606	21,656	10	3
8	Manure management	20/08/2022			23	0

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
1	Establishing fodder	14	4
2	Manure	37	0
3	Hay making	8	1
4	Silage making	29	10
5	Pasture management	1	1
Totals		89	16
Grand Total			105

SSU 12: Broadcast and Audience Traffic Overview – Insurance

Insurance					
Episode	Broadcast date	Promo SMS <i>*sent to farmers before the broadcast*</i>	No of farmers who received SMS	Incoming queries	
				SMS questions	WhatsApp questions
1	16/04/2022	Join Shamba Shape Up on Citizen TV this Sat & Sun(1:30PM) to learn how to control Fall Armyworm, get insurance for your crops & much more.SMS questions to 21606	17,193	8	2
2	23/04/2022	Shamba Shape Up is in Bungoma!This weekend on Citizen TV(1:30PM) we teach you how to control Pests & Diseases in Maize, get Crop insurance & more.SMS us on 21606	62,496	20	0
	30/04/2022(Re-Air Ep 2)			5	0
3	09/07/2022			5	0
	16/07/2022(Re-Air Ep3)			0	0
4	03/09/2022	Watch Shamba Shape Up this weekend to know how to grow Calliandra for your livestock, importance of crop insurance & benefits of Push pull.SMS questions to 21606	3, 383	25	1

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
2	Crop insurance	624	2
3	General questions	28	0
4	Livestock insurance	6	1
Totals		658	3
Grand Total			661

SSU 12: Broadcast and Audience Traffic Overview – Solar pumps and water treatment

Solar Pumps and Water Treatment							
Episode	Topic	Broadcast date	Promo SMS *sent to farmers before the broadcast*	Counties SMS was sent to	No of farmers who received SMS	Incoming queries	
						SMS questions	WhatsApp questions
1	Water Treatment	9th & 10th April	Watch Shamba Shape Up this Sat & Sun (1:30 PM, Citizen TV) to learn about Climate Smart Agriculture, water treatment , how to make hay & more. SMS questions to 21606	Machakos, Nairobi Kiambu, Kajado Makueni, Kitui	52405	13	0
2	Solar instalation	07th & 8th May	Watch Shamba Shape Up this weekend (1:30PM, Citizen TV) to learn how to manage your potatoes, set up a Solar Pump irrigation system & more. SMS questions to 21606.	Nakuru, Nyandarua Meru, Uasin Gishu, Kiambu Potatoo farmers all remaining counties	87997	55	0
3	Drip irrigation	28th & 29th May	This weekend we shape up a school! Join us on Citizen TV (1:30PM) to learn how to increase milk production, set up drip irrigation & more. SMS questions to 21606	Dairy farmers in all counties	95596	80	0
4	Solar instalation	30th & 31st July	Watch Shamba Shape up this weekend to get tips on how you can conserve fodder so that you have feeds throughout & set up solar irrigation . SMS questions to 21606	Kajiado, Narok Samburu, Isiolo Turkana, Marsabit Baringo	21656	30	2

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
1	Water Treatment	13	0
2	Water pump	104	1
3	Drip lines & Drip irrigation	43	1
4	Solar Panels	16	0
5	General questions on management	2	0
Totals		178	2
Grand Total			180

SSU 12: Broadcast and Audience Traffic Overview – Crop management

Crop Management				
Episode	Broadcast date	Promo SMS <i>*sent to farmers before the broadcast*</i>	Incoming queries	
			SMS questions	WhatsApp questions
1	05/03/2022		45	2
2	19/03/2022	Watch Shamba Shape Up this weekend(1:30 PM) on Citizen TV to learn how to grow fodder for Dairy cows, manage Kienyeji chicken & more. SMS any questions to 21606	12	1
3	02/04/2022	Shamba Shape Up is in Embu! This Sat & Sun at 1:30PM on Citizen TV, we teach farmers how to save & buy a cow, set up a nursery & more. SMS questions to 21606.	9	1
4	16/04/2022	Join Shamba Shape Up on Citizen TV this Sat & Sun(1:30PM) to learn how to control Fall Armyworm , get insurance for your crops & much more.SMS questions to 21606	31	2
5	07/05/2022	Watch Shamba Shape Up this weekend(1:30PM,Citizen TV) to learn how to manage your potatoes , set up a Solar Pump irrigation system & more.SMS questions to 21606.	501	0
6	20/08/2022		15	3
9	27/08/2022	Join Shamba Shape up this weekend to learn how to improve production in cows, store your cereals after harvest & get finances for farming.SMS questions to 21606	29	0

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
2	Insecticides	266	3
1	Fungicides	241	0
3	Herbicides	96	3
4	Seed varieties	23	0
5	General questions	14	3
6	Nematicides	2	0
Totals		642	9
Grand Total		651	

SSU 12: Broadcast and Audience Traffic Overview – Calliandra

Calliandra						
Episode	Topic	Broadcast date	Promo SMS <i>*sent to farmers before the broadcast*</i>	No of farmers who received SMS	Incoming queries	
					SMS questions	WhatsApp questions
1	Calliandra management	12th & 13th March			3	1
2	Nursery	19th, 20th March	Watch Shamba Shape Up this weekend(1:30 PM) on Citizen TV to learn how to grow fodder for Dairy cows , manage Kienyeji chicken & more. SMS any questions to 21606	149,439	12	7
3	Calliandra management	11th, 12th June			5	1
4	Harvest & Feeding Calliandra	3rd & 4th September	Watch Shamba Shape Up this weekend to know how to grow Calliandra for your livestock , importance of crop insurance & benefits of Push pull. SMS questions to 21606	3,383	20	0
5	Nursery	10th & 11th September			7	0

Overview of Questions			
No.	Topic	SMS questions	WhatsApp questions
1	Calliandra seedlings	28	4
2	What Calliandra is	13	1
3	Benefits of Calliandra	4	2
4	Calliandra planting	2	2
Totals		47	9
Grand Total			56

ANNEX 3: iShamba Call Center Traffic: WCC Financial Inclusion SMSes

iShamba CRM Platform SMS Questions				
No.	Date sent	SMS(Sent to all female farmers)	No. of Women SMS was sent to	Topic
1	12/04/2022	Access to financial services, increases productivity of women's agribusinesses. In the coming weeks we will take you through financial services available to you	67098	Intro to Financial Inclusion
2	06/05/2022	Before you start a farm business, think through it, research and have a business plan. It may take time, but you will have a better business and higher profits.	97644	Business Plan
3	13/05/2022	Make a business plan for your farm business. It will show your goals, how the business is doing, what needs to be done at a time and help you to get a loan.	97644	Business Plan
4	18/05/2022	With the budget from your business plan, you will know if you can afford to start a business or need to take a loan, if you do not have enough money.	97382	Budget
5	23/05/2022	Make a rolling budget before taking a loan. You will know what is needed at every production stage & help you avoid huge loans that can affect farm productivity.	97188	Budget
6	26/05/2022	Here is an online budgeting tool to help you draw a budget for your farm. https://budgetmkononi.com/en/budgeting/ . Click the link to learn more. SMS us on 21606	97191	Budget
7	06/06/2022	A farmer can borrow or get a loan from formal lending institutions like KWFT. You will need your phone number, copy of ID & a passport photo to open an account.	97227	Where to get a Loan
8	10/06/2022	When you borrow money from the bank, the bank will charge you a percentage of your loan called an interest. Choose a loan with low interest rate.	97227	Interest
9	14/06/2022	Apart from banks, you can join informal institutions like Chama. You only need to be introduced by a trusted member, vetted by members and pay admission fee.	97211	Informal lending institutions(Chama)
10	21/06/2022	You can borrow money from Chamas (table banking, merry-go-round). You only need to make weekly or monthly deposits. Their interest is low but no security is given	97220	Informal lending institutions(Chama)
11	30/06/2022	Plan your finances to know the best thing to do. You will know the costs you need now and in the future. Also, monitor money coming in and money going out.	97220	Planning finances
12	08/07/2022	It is important to have more than one farm business. If one business fails, you do not lose everything. Keep chickens, grow vegetables and have a dairy cow.	97277	Planning finances
13	13/07/2022	Find markets for your produce before you decide to start. If you wait & look for markets after you harvest, you may get high storage charges or poor price offers	97396	Markets
15	18/07/2022	Get insurance by paying a small amount of money so that you are compensated if crops fail or livestock dies. To know more on Insurance, SMS INSURANCE to 21606	97991	Insurance
16	08/08/2022	Keep a Balance Sheet to know how money was used in your farm. Make 2 columns and on one, enter money in & on the other write money you spent. The 2 must balance.	100428	Record keeping
17	18/08/2022	To know if your farm is making profits or losses, keep a record of all costs and sales. For a record keeping tool, SMS the word Farm Records to 21606.	104541	Record keeping
18	31/08/2022	Use profit from the farm business to expand, venture in new areas, buy needed tools or save. Savings helps you when there is an emergency in your farm or household	101954	Savings
19	16/09/2022	Save about 10% of your profit, to start or expand your farm business in future. Keep your money safe in the Bank. You may earn interest & be able to get a loan.	101947	Savings
20	24/09/2022	Keep money in a Savings or Current Account. Savings account earn interest after 1 year. Current account will not earn interest but you can access money anytime.	102002	Savings