Shamba Shape Up Series 5 - Kenya

Knowledge, Attitude and Practices Survey Report

November 2015

THE MEDIAE COMPANY

MEDIA FOR EDUCATION AND DEVELOPMENT

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Executive Summary

Series 5 was produced and broadcast across Kenya (Citizen TV), Uganda (Urban TV and Citizen TV) and Tanzania (ITV and Citizen TV). In Kenya, the TV program was accompanied by a weekly Swahili radio program on weekday evenings (Radio Citizen). The 2015 series saw more competent farmers in a variety of new locations – encouraging the audience to grow to the next level with the program, and making the show more aspirational.

The start of the series coincided with the poorly managed migration to digital broadcast in Kenya, which caused reductions in audience numbers. However, these quickly returned to pre-digital numbers, and now over 70% of Kenya's households have a set top box (Geopoll, 2015).

The series has been successful in providing audience with information they need to improve their farming practices. Farmers claim the program helped them to improve their chicken, maize, dairy, potato and other yields, making their incomes more secure and their farms more productive.

Social media is an important component of the program. Launching Tanzania and Uganda specific series in 2015 saw a huge increase in social media interaction from those two countries.

The launch of radio has also been successful, providing farmers with a good source of information on an already well used information source. The program is well rated by the audience, and there are already clear changes in KAP among radio listeners.

The TV and radio programs reach more women than men, and SSU is still the most useful source of information for its audience. This is because the information on the show is what is needed, asked for, learned and adopted the most every year.

There have been consistent increases in the number of people adopting new practices each series, and this series has seen some good uptake of series-specific information, such as Calliandra growing, NCD vaccination, soil conservation, financial literacy, agrochemicals and potato growing.

The dairy sector continues to see huge improvements amongst the audiences, with much better shed, health, hygiene and feed management amongst SSU audiences than non SSU. Dairy yields are consistently higher with SSU audiences, as are dairy incomes.

Maize yields are also consistently higher among SSU audiences, and post harvest losses are significantly lower for SSU audiences. It is therefore likely that SSU audiences will have more profitable farms than non SSU farmers.

Brand loyalty is still a feature of the program; audiences recognise and prefer to buy brands associated with the program. Moreover, audiences are more likely to buy inputs for their farms (i.e. invest more) than their non SSU counterparts.

The program, therefore, continues to be successful in its aims to give farmers the information they want and need to improve their productivity and become better farmers. The program's partners continue to use East Africa's most popular farming program to reach millions of people, cost effectively, with their useful and engaging messages.

Series 6 is under production and will broadcast in the 2016 long growing season. Series 7 will be produced in 2016 and early 2017, for broadcast in 2017.

Introduction

Shamba Shape Up (SSU), Mediae's agricultural reality TV show, has grown significantly since its inception in 2011.

Since the first series, which was shot and aired in Kenya on TV, the show is now shot and aired in Kenya, Uganda and Tanzania, with SMS backup systems and a radio version in Kenya.

Series 5, on whose impact this report focuses, was shot in Kenya, Uganda and Tanzania in 2014/15 and broadcast in 2015 across the three countries in English and Swahili.

Series 6, to be broadcast in 2016, has also been produced in all three countries.

The report also covers the impact of the first 6 months of the SSU radio broadcast, in Swahili on Radio Citizen every weekday evening.

This report summarises the findings from the pre and post broadcast KAP (knowledge, attitude and practices) surveys and the SMS data, gathered out across Kenya for the series' first broadcast run, March to September 2015.

Shamba Shape Up Series 5

Shamba Shape Up Series 5 was produced as a 6 month long (26 week) series to cover the entire growing season in one series. 16 episodes were shot in Kenya, 3 of them reviews, 5 episodes were shot in Uganda in the Kampala/Jinja region and 5 episodes in the Arusha/Mt Meru region in Tanzania. The series aired from March to September 2015, and is on repeat from September 2015 to March 2016.

Partners

Shamba Shape Up Series 5 sponsoring partners were:

CIAT	Lachlan @griculture	Syngenta EA
Cooper K Brands	Mea Fertilizer	TRAC iShamba
CropLife	Michigan State University	Ultravetis EA
d.light	Rockefeller Foundation	UNGA Farm Care EA
GALVmed	Secure Nutrition Group	USAID East Africa
ICRAF	SoilCares	iShamba

Other partners who appeared as 'experts' in the program include: RealImpact and TAPP (Nutrition), Hand in Hand East Africa (Financial literacy), Ministry of Agriculture Tanzania (post harvest maize, rice and maize production, young farmers), NARO Uganda (banana, bean, maize and sunflower production, sweet potato production), and Kuffel Creek Apple Nurseries Uganda (Apple production).

Content

Content covered in Shamba Shape Up Series 5 is as follows:

Sector	Content
Tomatoes	Pest and disease control, transplanting
Poultry	Biosecurity, supplementation, housing, feeding, disease control, Newcastle Disease vaccination
Dairy cattle	Housing, feeding, nutrition, disease control, drought tolerant fodder (Calliandra)
Agrochemicals	Safe use of chemicals, counterfeit chemicals, certification and registered agrodealers
Soil	Fertiliser, soil testing, visual soil deficiency symptoms, soil conservation, erosion control, land management
Maize	Post harvest quality control and storage, maize lethal necrosis, Striga resistant maize, planting spacing
Nutrition	Growing nutritious food, kitchen gardens, cooking for nutrition, vertical gardens
Potatoes	Improved potato growing techniques
Sunflower	Improved varieties and cropping
Financial literacy	Record keeping, budgeting, farm accounts
Solar lights	Solar savings, solar for health, new home systems of solar lights
Sweet potato	Planting and husbandry
Apples	Grafting, varieties, growing apples in the tropics
Mobile phones	Using mobile phones to send SMS, access internet and get information. iShamba information service
Gender	Women's groups for women's empowerment managing farm finances
Rice	Paddy growing and management

Regions/Locations

Shamba Shape Up Series 5 was filmed in the following areas:

Ololua	Mt Meru Tanzania	Bomet	Jinja Uganda
Machakos	Arusha Tanzania	Matasia	Iganga Uganda
Meru	Vihiga	Kisii	Homa Bay
Embu	Usa River Tanzania		

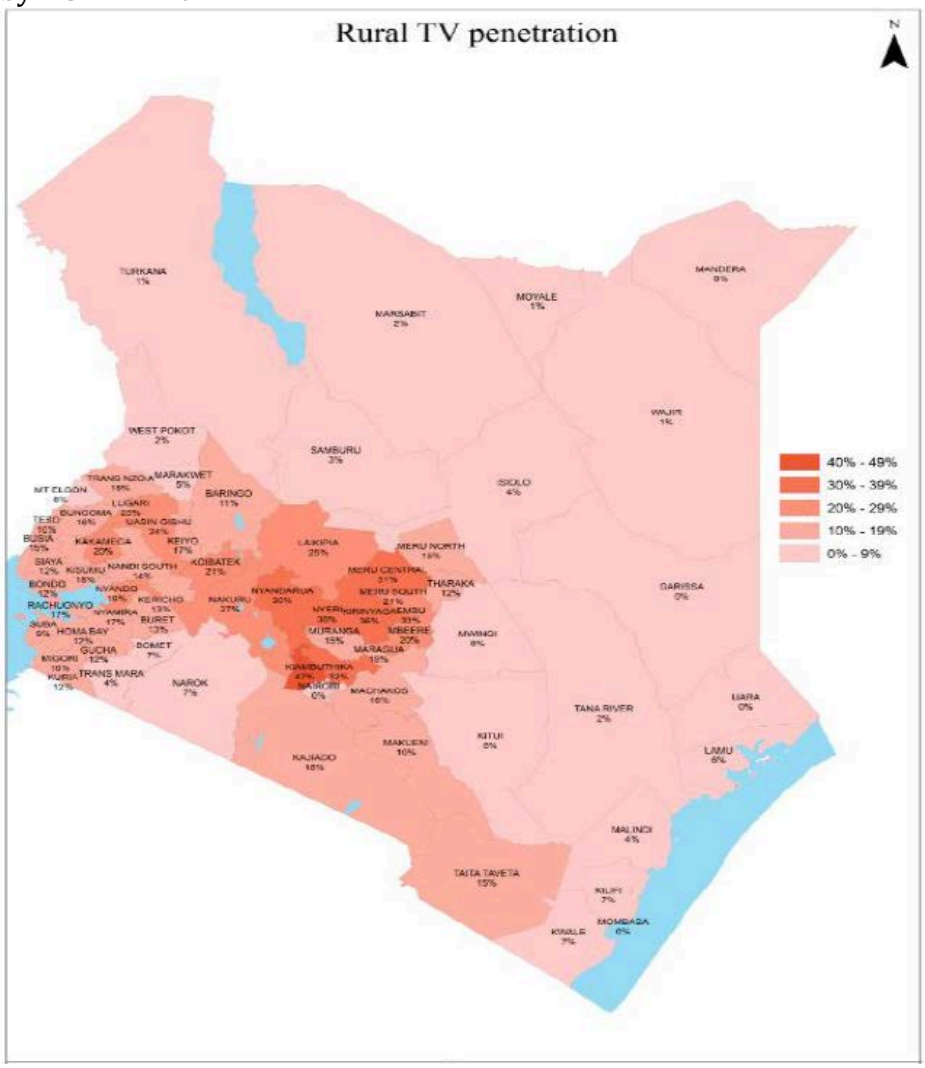
Broadcast areas

Shamba Shape Up Series 5 was broadcast in Kenya, Uganda, and Tanzania in 2015 and will be broadcast in Rwanda in 2016.

Broadcast day and time

Country	Broadcast	Other broadcast
Kenya	Citizen TV Saturday Sunday 1.30pm	Radio – Radio Citizen Monday-Friday 9.30pm
Tanzania	ITV Friday 7.30pm, Wednesday 9.30am	Citizen TV Kenya broadcast
Uganda	Urban TV Thursday 7pm	Citizen TV Kenya broadcast

The TV reach footprint in Kenya roughly correlates to the highly productive, productive and marginally productive agricultural areas of the country as illustrated in the rural reach map generated by ACAR in 2014:



Viewership data

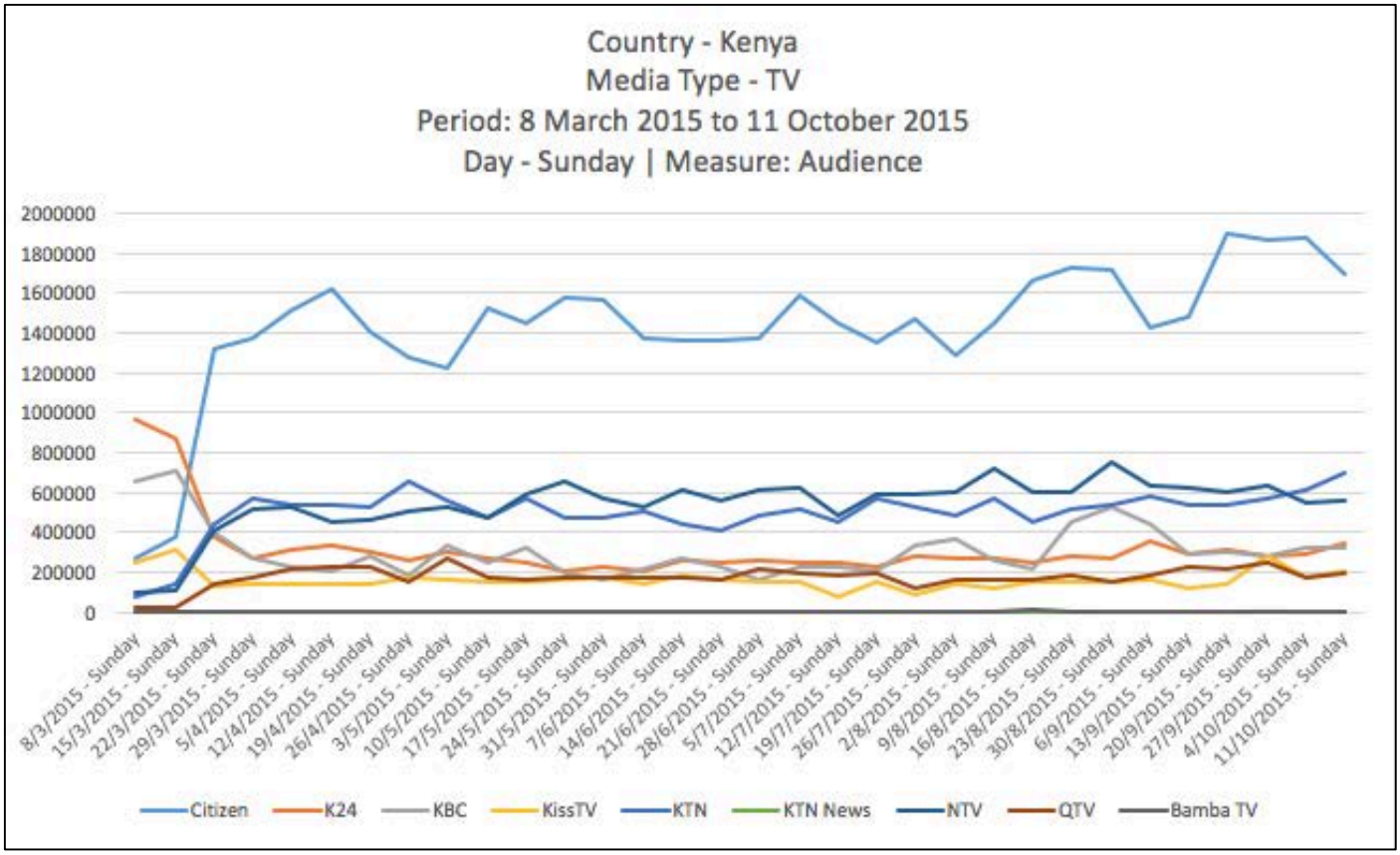
According to research data compiled by a consortium led by Reading University in Kenya, SSU is watched in 12.6% of households, including those without TV, in rural areas. This constitutes 38.9% of the total number of people who watch TV once a month.

This indicates that approximately 5 million people in Kenya watch SSU at least once a month.

43% of viewers watch TV outside their homes, and of those who have TV, 32.2% use solar to power their TV.

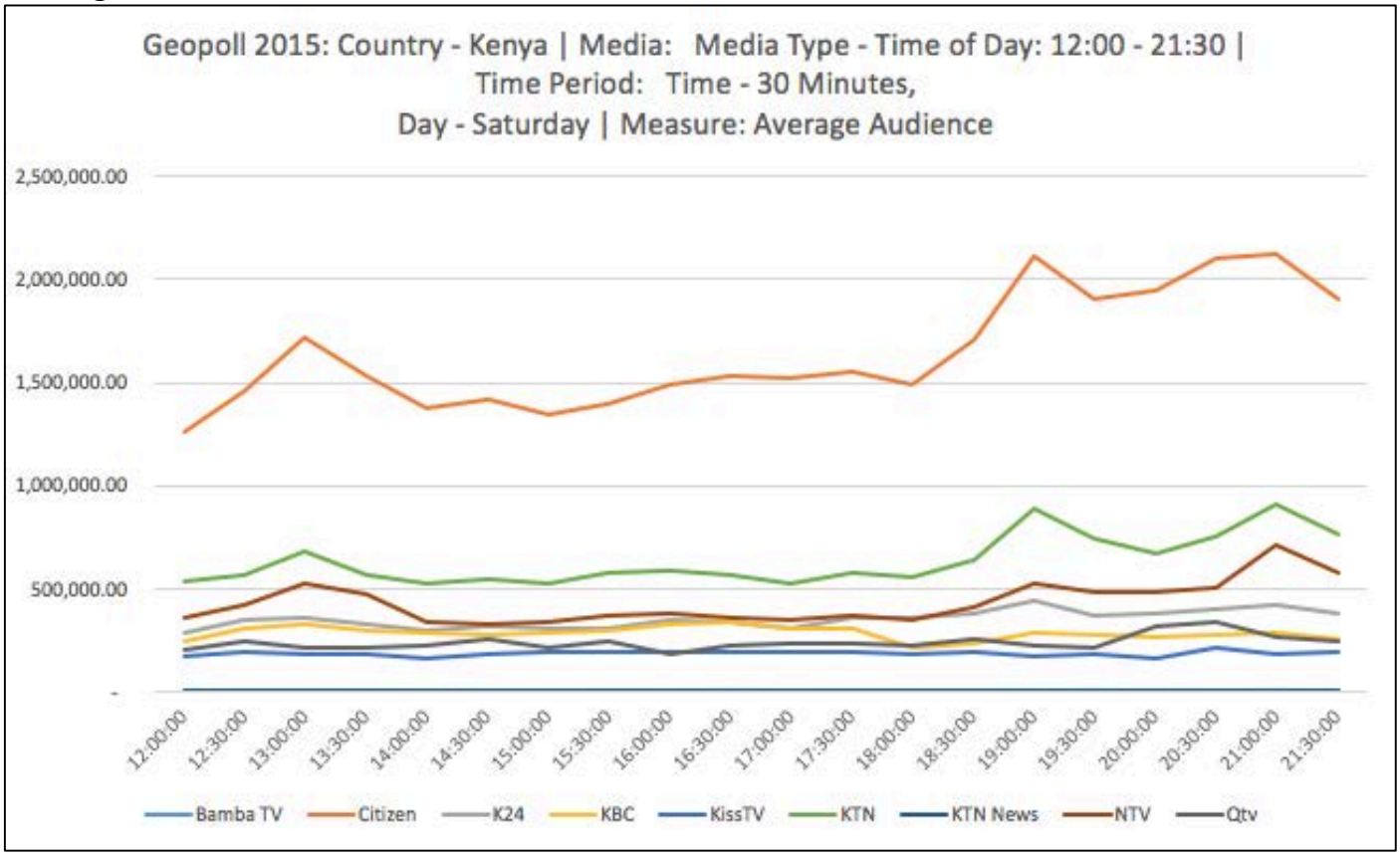
Data from Geopoll in 2015 (see charts below) show that the average audience at 1.30pm in Kenya on Saturday and Sunday between March and September 2015 was 1.5 million adults every week. This is a reduction from 2014 data. The reduced audience is due to the digital migration in Kenya, which occurred in February-March 2015 in a haphazard and uninformed manner.

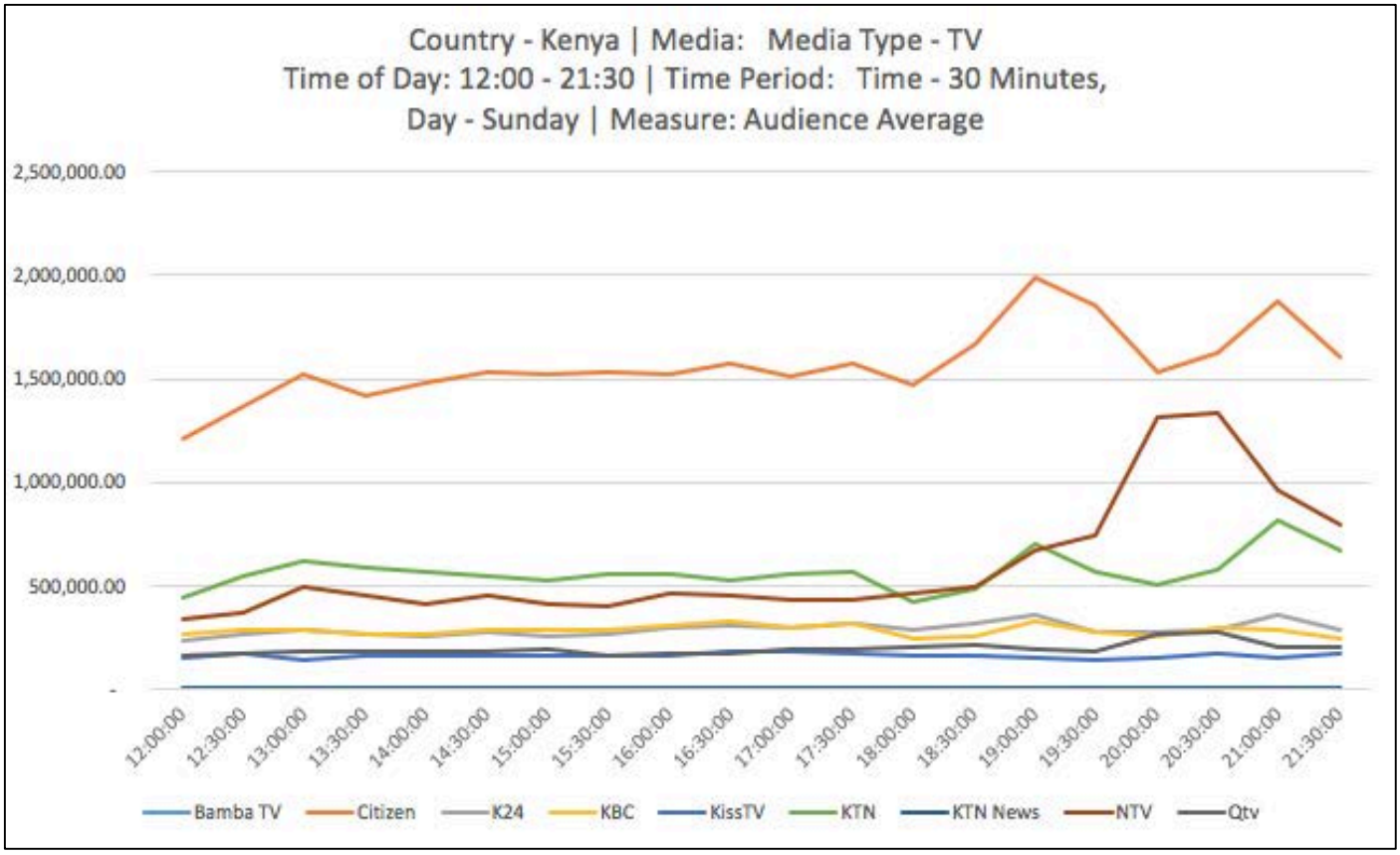
The impact on viewership of each channel is clearly illustrated in the chart below – note that K24 and KBC were the only channels available until 15 March 2015 excluding digital access (e.g. DSTV, Zuku customers). The drop-off of K24 and KBC once the other free-to-air channels returned is a good indication that audiences are loyal to the channels they prefer, and the content they want to watch.



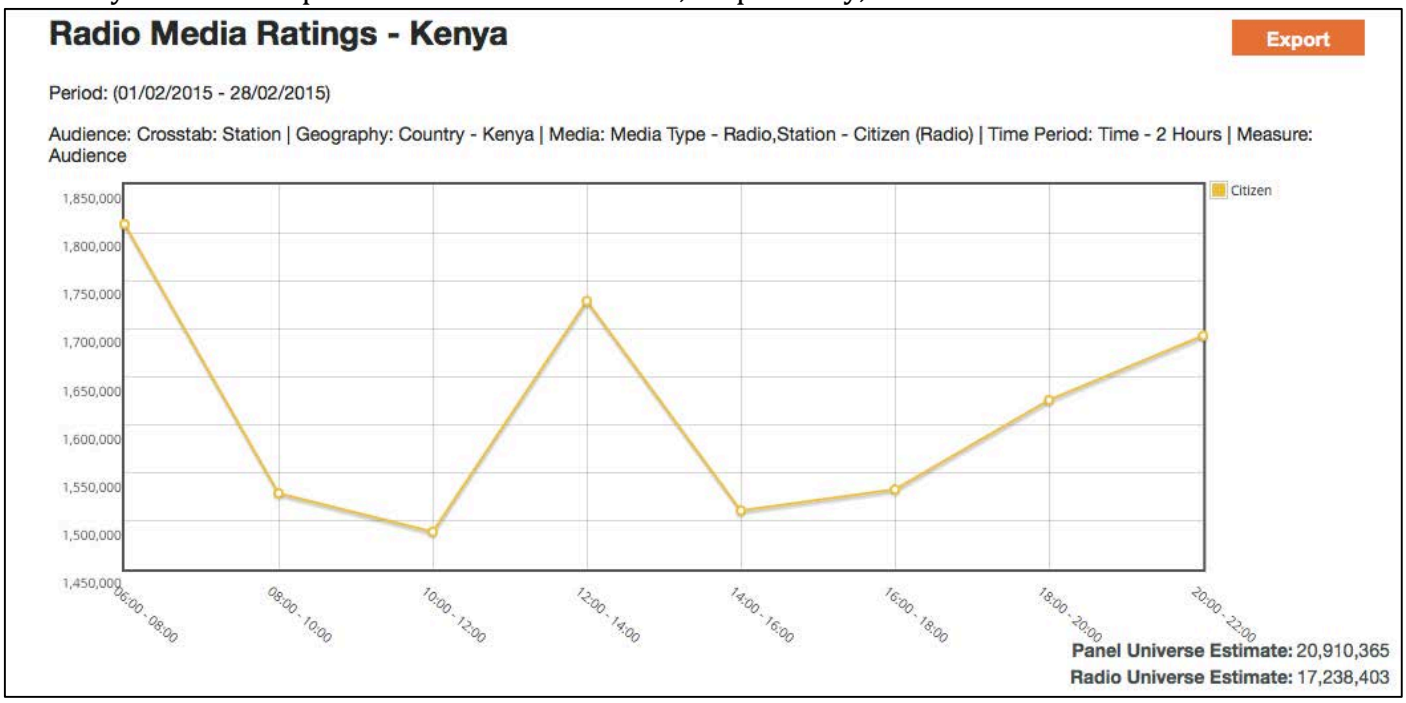
Looking at daily viewing habits we can see a spike in audience numbers during the time that SSU is on air.

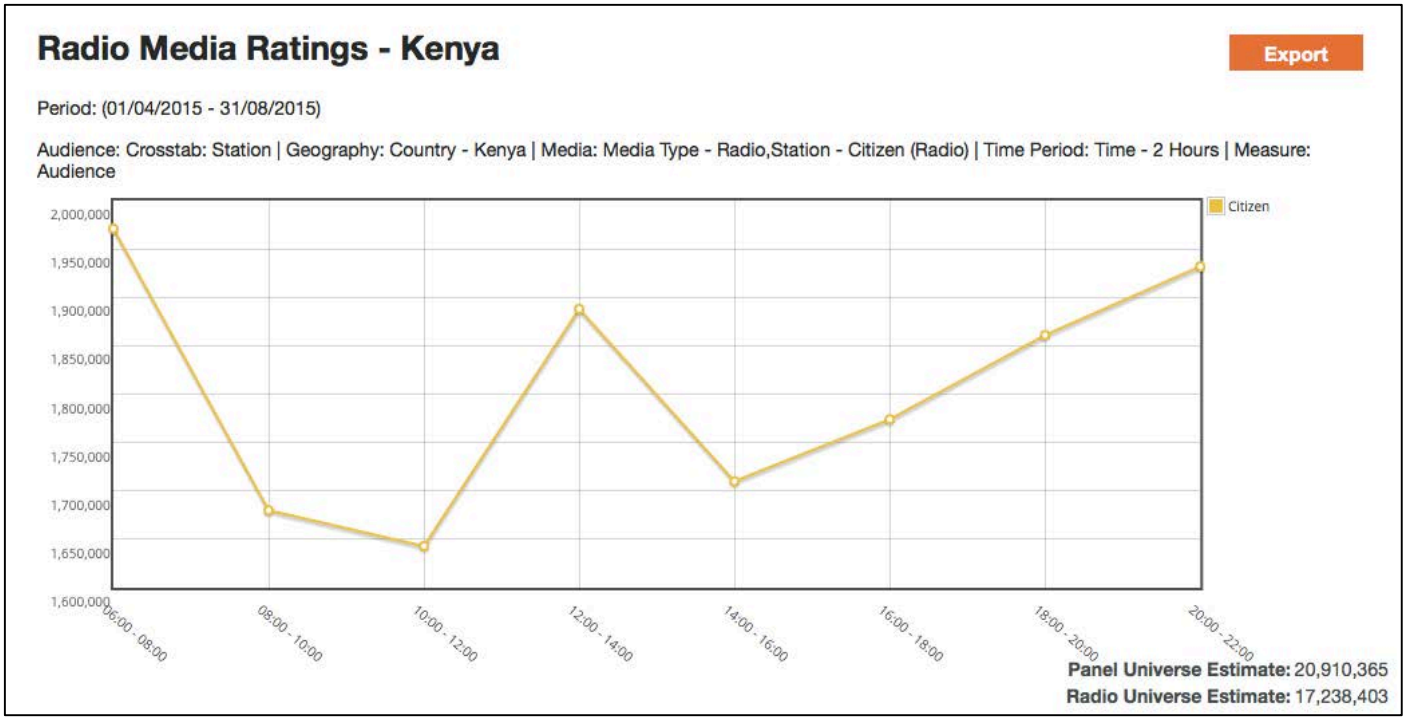
Note in the charts below for Kenya, the majority of TV viewers at any time are watching Citizen TV; furthermore, SSU at 1.30pm has twice the audience that any other station has at prime time in the evening.



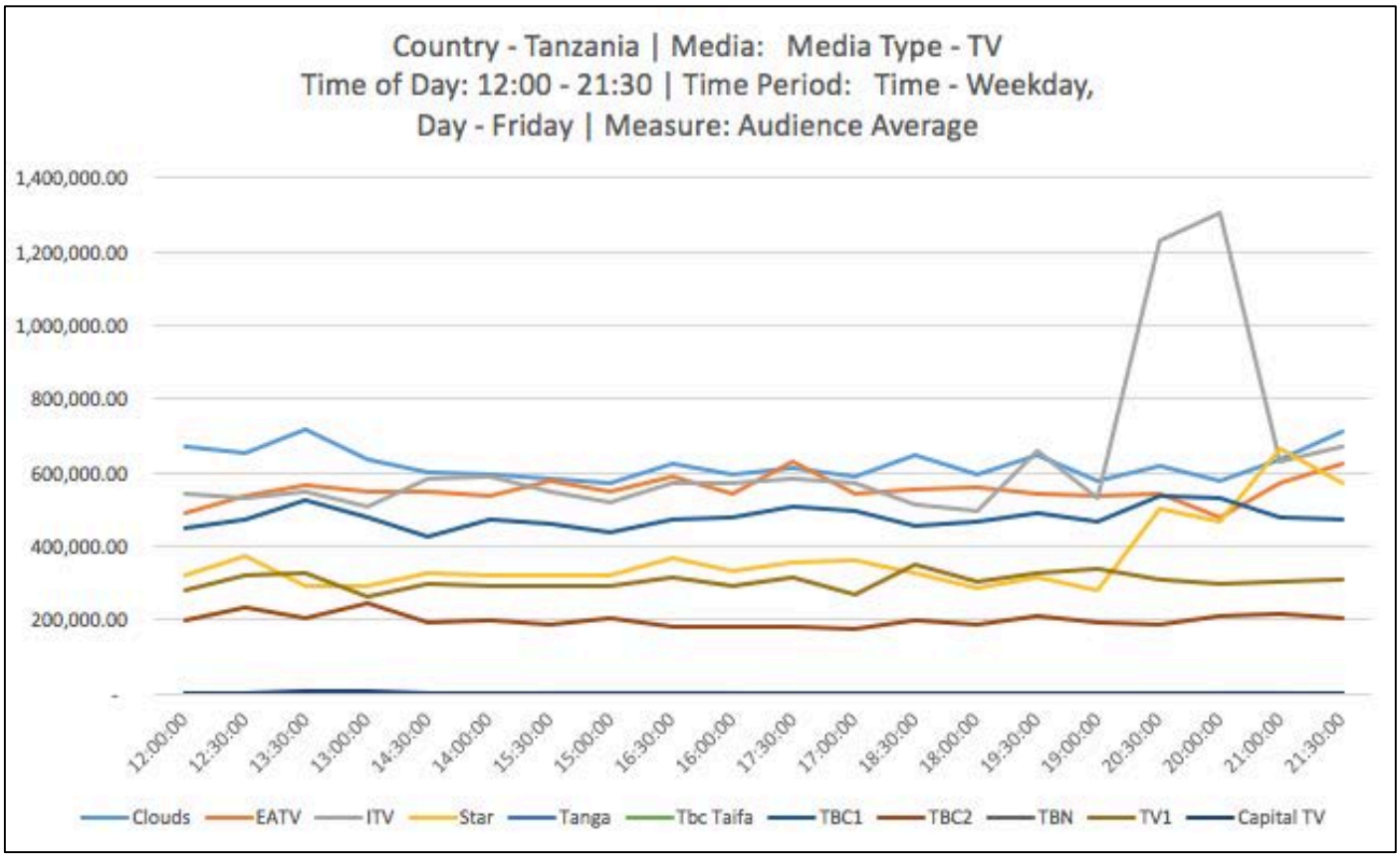


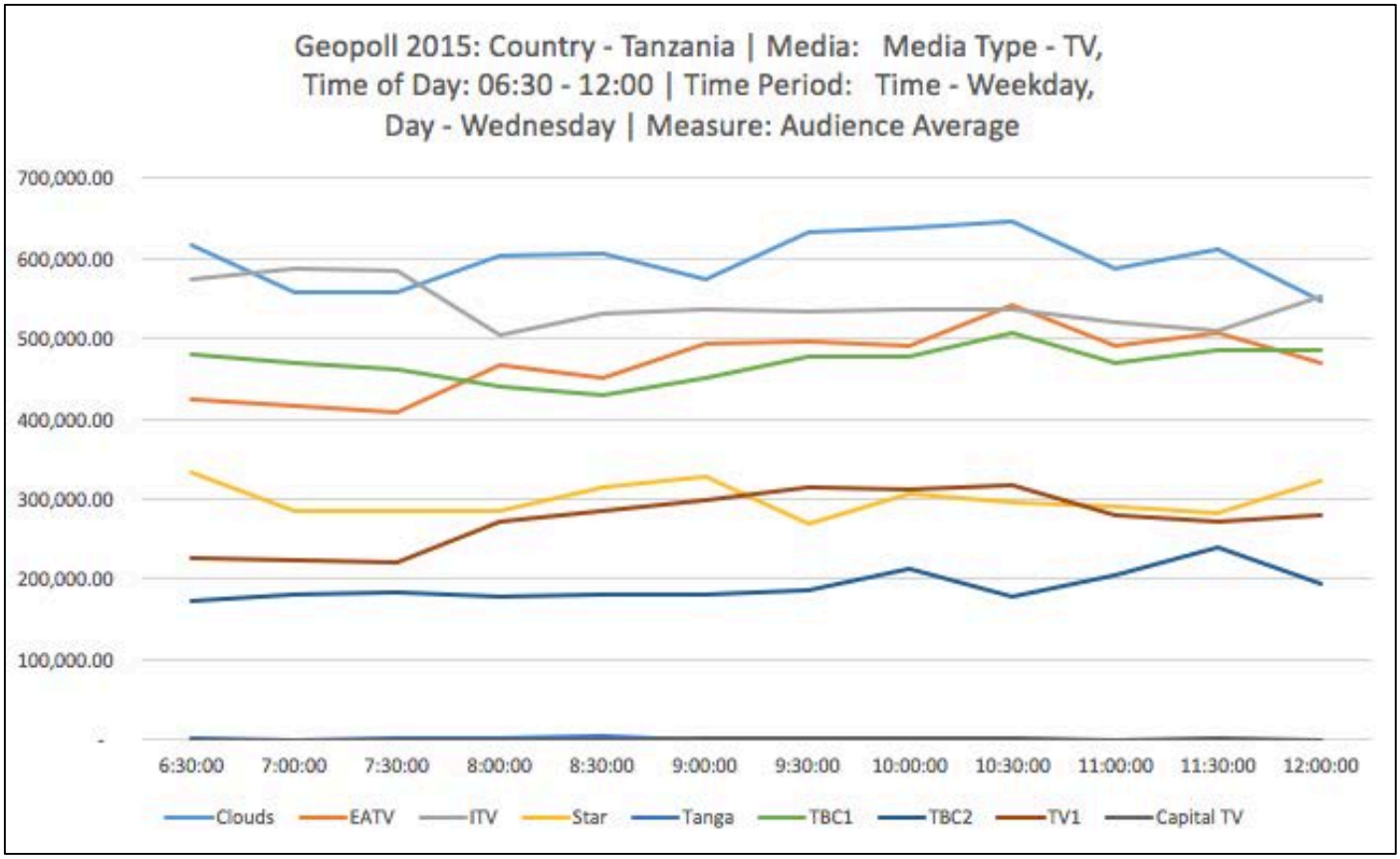
Kenya SSU Radio received an average of 1.95 million listeners every weekday evening by September 2015 – this had grown from 1.7 million when the program started in March 2015 – see end of February 2015 and September 2015 charts below, respectively, at the 20.00-22.00 time slot.



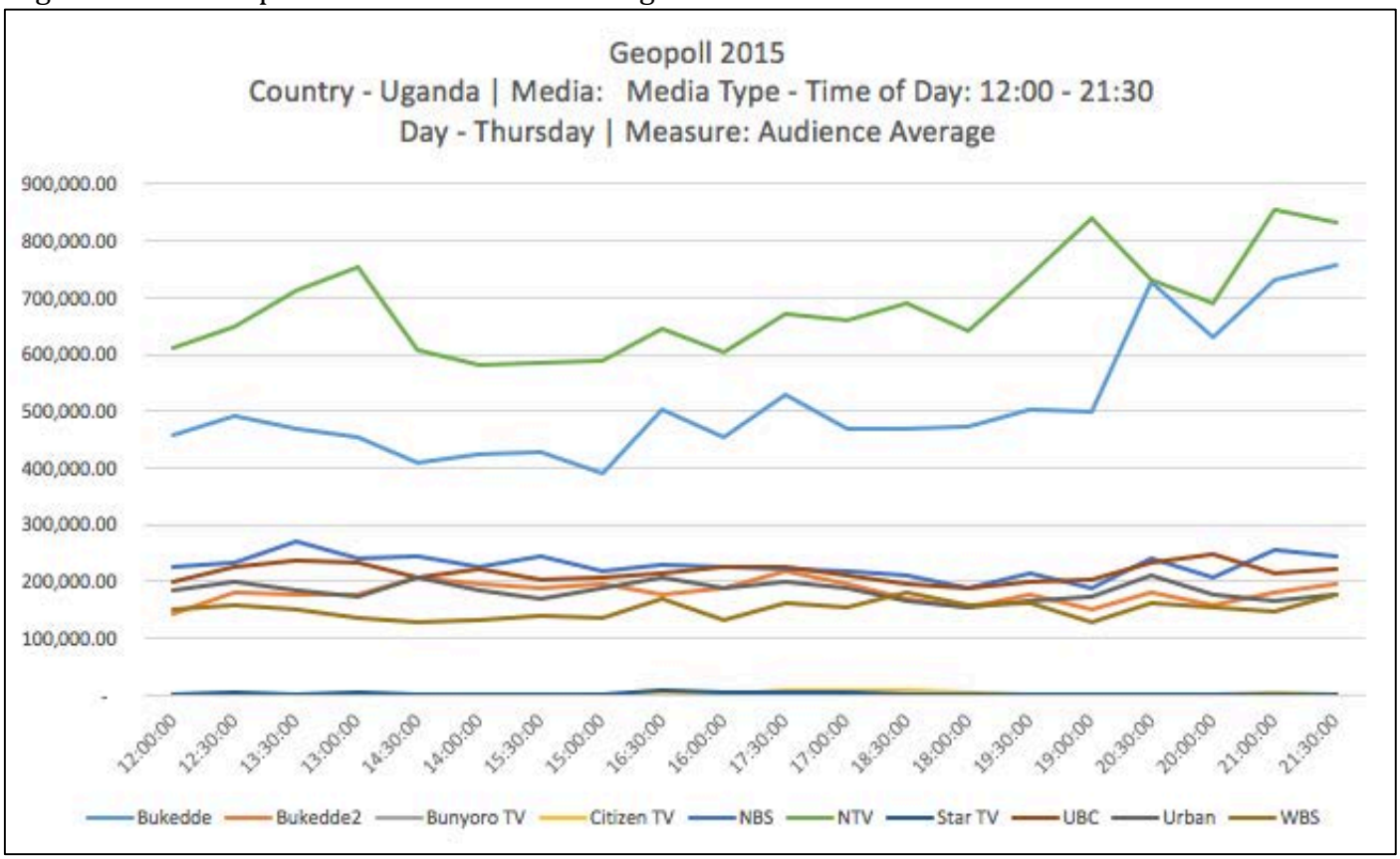


Tanzania data (TAMPS – Tanzania All Media Products Survey) indicates that approximately 3 million adult Tanzanians watch SSU at least once a month. SSU is aired on ITV on Friday evenings in Swahili and on Capital TV at the same time in English, and repeated on ITV on Wednesday mornings.
The Geopoll 2015 data for Tanzania shows an average combined weekly audience of 1.2 million adults (see charts below).





There is little data for Uganda viewership that is up to date; the viewership in Uganda is estimated at 1 million by KARF through the Citizen TV broadcast and Urban TV broadcast combined. SSU is actively seeking another local broadcaster in Uganda, however the program would need to be dubbed into Luganda to be accepted on either of the two largest broadcasters – Bukedde and NBS.

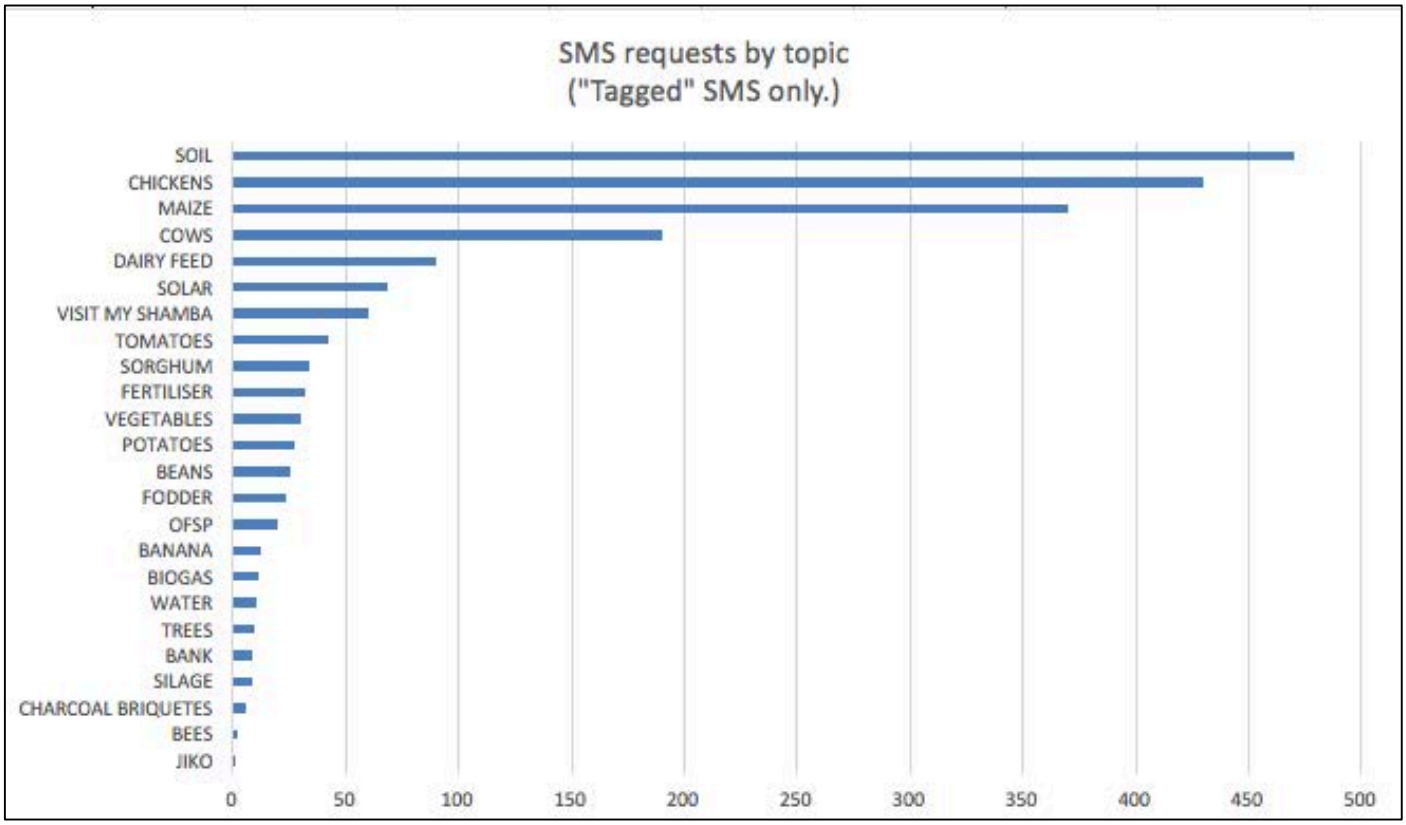


In total, therefore, the estimated SSU audience size is 9 million adults 18+.

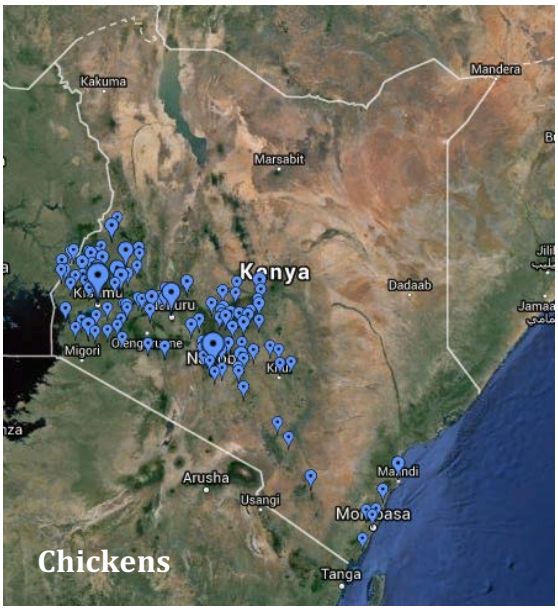
SMS database traffic

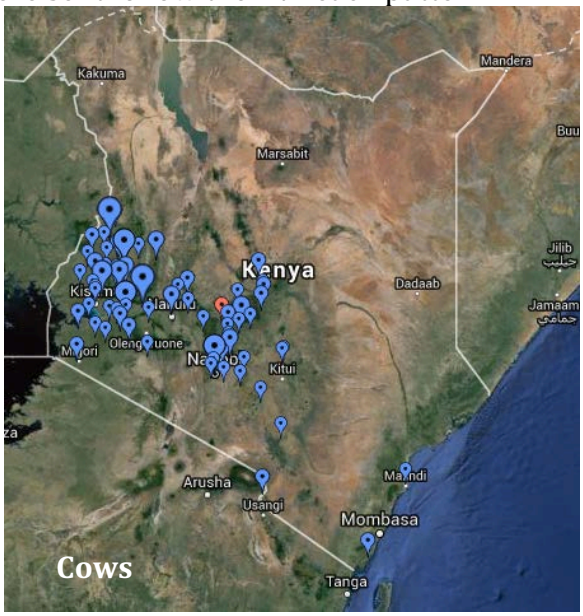
Series 5 received 12,104 SMS from 14th March 2015 to 10th October 2015, and will continue to receive SMS until the series re-run ends in March 2016. The number of SMS received were lower due to the digital migration/analogue switch off, and the ensuing confusion just as SSU Series 5 started to broadcast.
SSU Radio received 6,000 SMS in the same period.

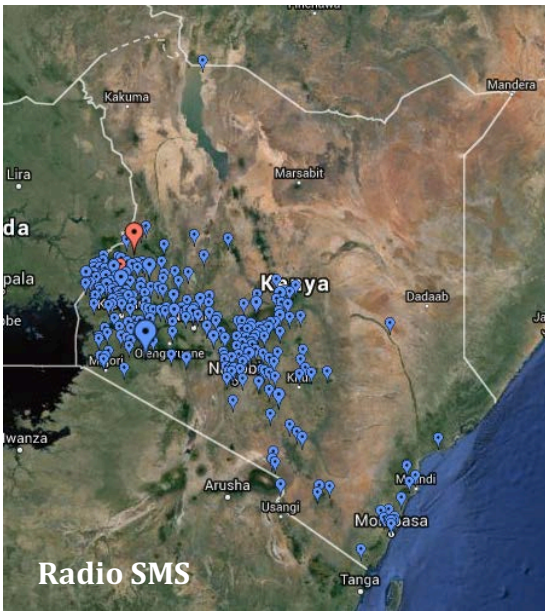
The most popular SMS request regarded chickens and cows – reflecting the level of interest from the audience, and the level of change by viewers (see impact section).
The chart below shows the distribution of tagged SMS, i.e. SMS regarding a specific topic request – e.g. if the sender writes 'Chicken' or 'Kuku' as opposed to asking for the leaflet for an episode (e.g. 'Farmer Lydia') or for all episodes (e.g. 'All' or 'Zote').

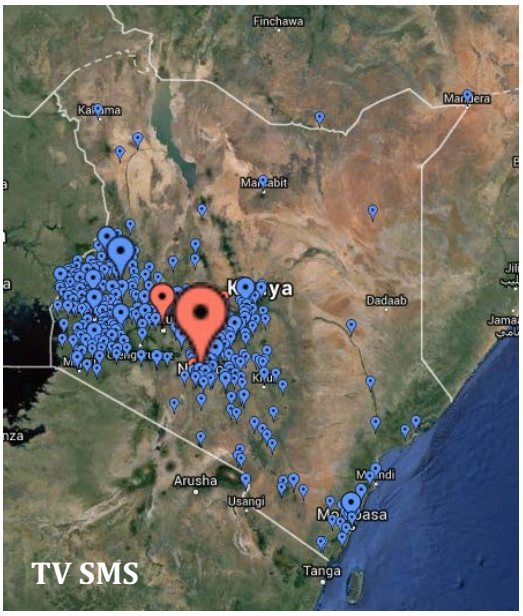


The area from which SMS about cows and chickens were sent follow the TV reach pattern.







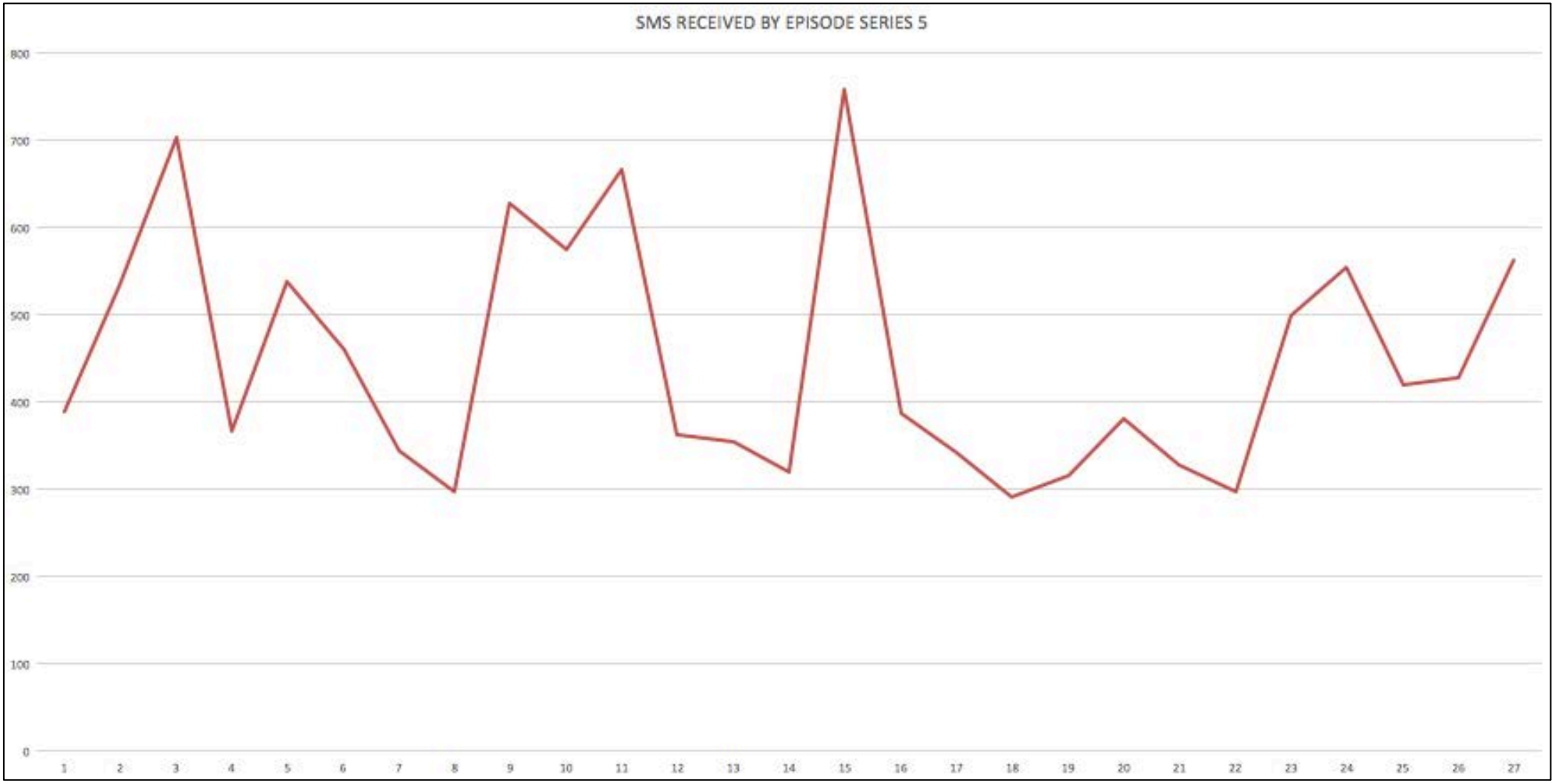


The footprint for SMS sent from radio listeners has a higher concentration in Trans Nzoia, Mau Narok than the TV SMS footprint, which is more highly concentrated in Central, Nairobi, and Nakuru.

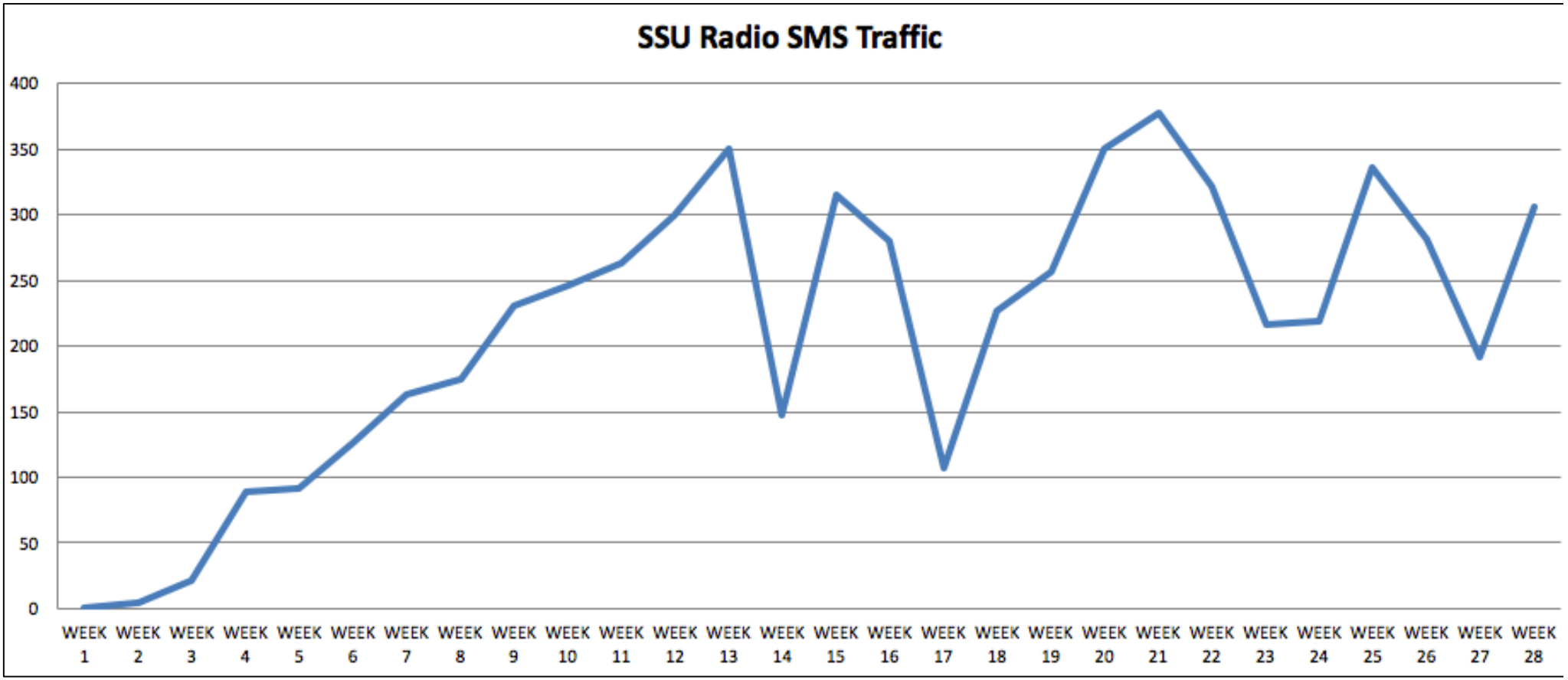
SMS received by episode - TV

The most popular episodes by SMS were

Lower SMS responses were received during President Obama's visit (25th & 26th July). Popular episodes were 3 (Ruth and Peter, Bomet, covering nutrition, cattle health, potatoes, soil testing and soil conservation), 11 (a revisit of successful farmers, showing successes in cattle, avoiding fake chemicals, soil testing and fodder for cattle- this was aired 3 times due to changes in TV Scheduling from when Sister Irene was beatified (23/5/15), and 15 (Leonard, Bomet, covering potatoes, chickens, financial planning and counterfeit chemicals).



SMS received by episode – Radio



The number of SMS received by radio grew steadily to an average of 300 per week by week 12 (June 2015). The lowest SMS point is the for the episod broadcast the week of Obama's visit.

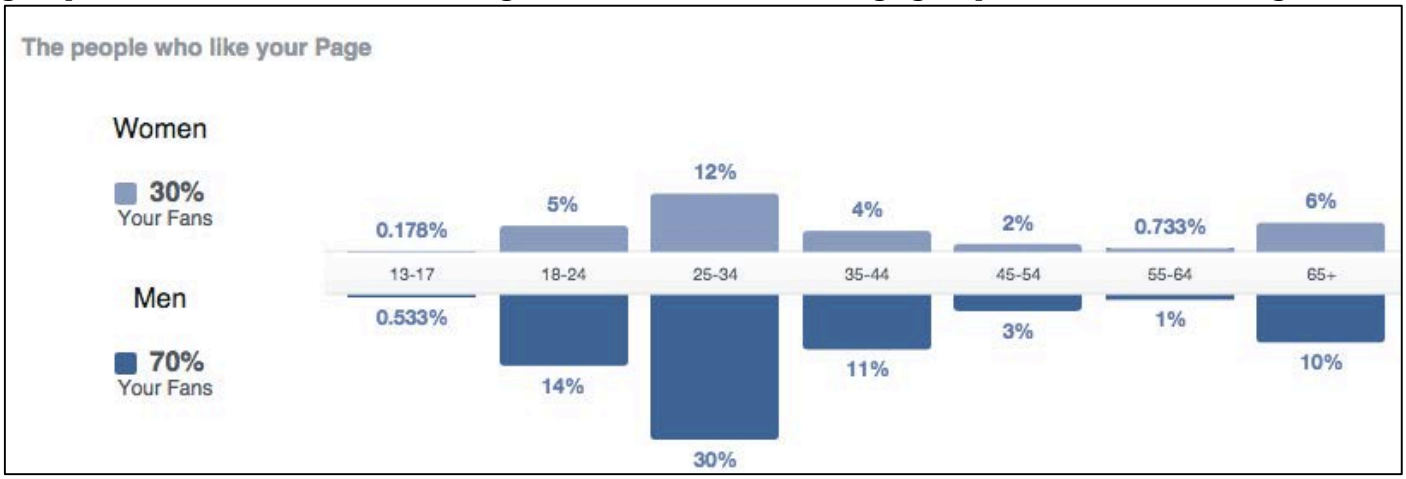
Social media/internet use

56% of Kenyans use the Internet. (www.kenyanbusinessreview.com) Facebook has a high use rate, and Shamba Shape Up has one of the largest dedicated agricultural Facebook pages in the region with 50,000 fans.

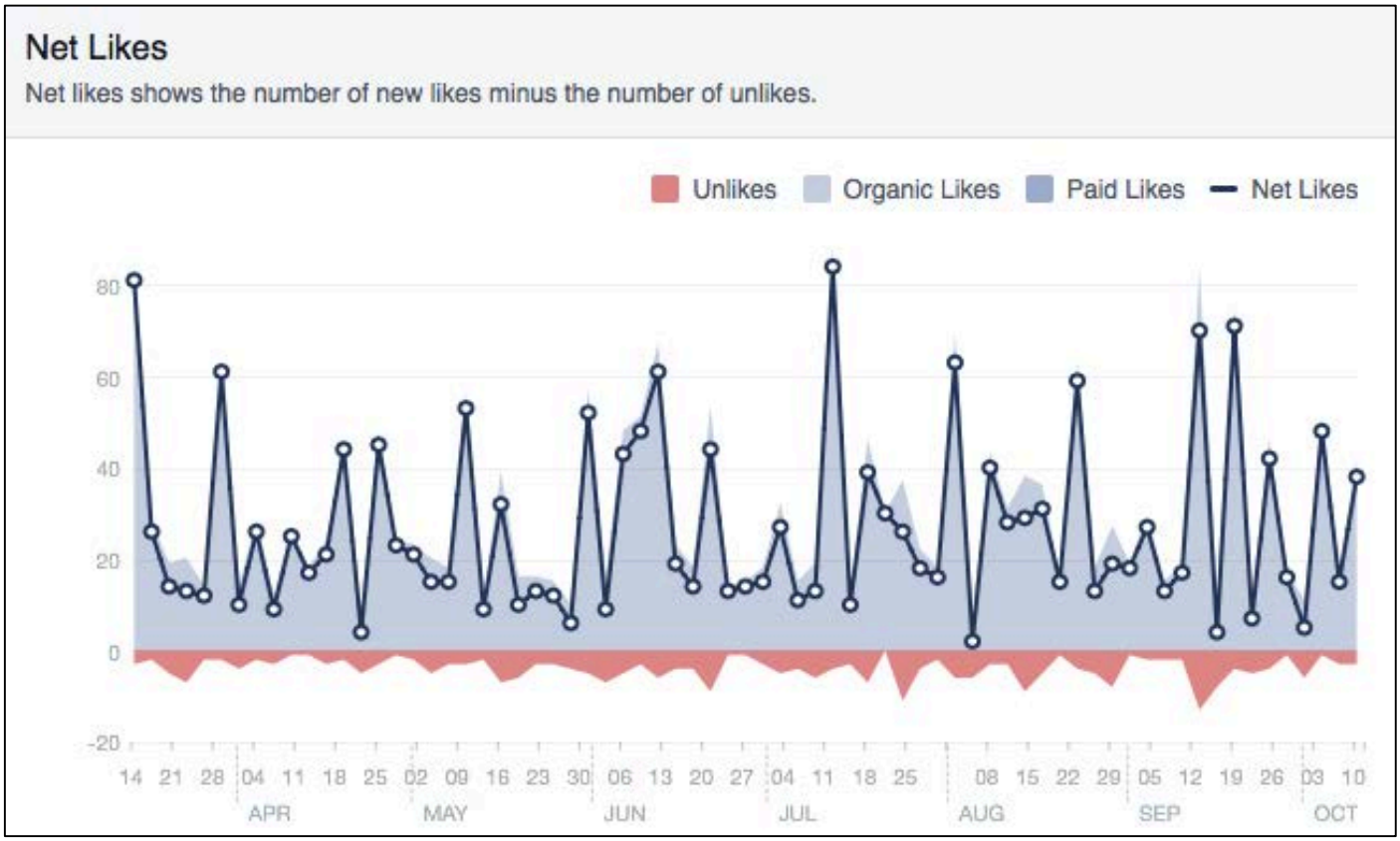
The page is used to interact with viewers, share information, hold competitions and for peer-to-peer information exchange.

Most fans are Kenyan (42,945, up 25% in a year), 4,071 are Tanzanian (278% increase in a year), and 1,091 Ugandan (95% increase from last year). USA ranks fourth (348), and UK fifth (132).

25-34 remains the most popular age bracket for Facebook. We have seen a slight decline in the 18-25 group and an increase in the 35-44 age bracket for males. 65+ age group remains the third highest.



Predictably, the highest Facebook traffic occurs on the weekend when the episodes air. The extended peaks in traffic are due to competitions held with partners of the program.



The Twitter account is used for interaction with current and potential partners, and has a following of over 5,000.

During Series 5, SSU ran a 'Tweetchat' -#TalkSoil - with partners from SoilCares, CIAT, WLE and Syngenta – this generated over 3.6 million 'impressions' and reached 300,000 people, with over 180 people contributing to the chat over a 2-hour period.

Over 820,000 hits have been recorded on the YouTube site, Africa Knowledge Zone. The site holds all of Mediae's programming; all SSU episodes are uploaded after broadcast for free access.

Research methodology – KAP study

The KAP (knowledge, attitudes and practices) field survey was conducted by Research Guide Africa pre-broadcast in March 2015, and post-broadcast in October 2015.

The surveys were conducted in Homa Bay, Kakamega, Kisii, Ngong/Matasia, Bomet, Machakos and Meru, with an even split of respondents in each location. 800 respondents were interviewed in total in each survey wave.

The sample was split between

1. those who own a TV and do not watch SSU nor listen to SSU radio (Non SSU),
2. those who own a TV and watch SSU (TV Viewer) and
3. those who have a radio and listen to SSU Radio (Radio Listener).

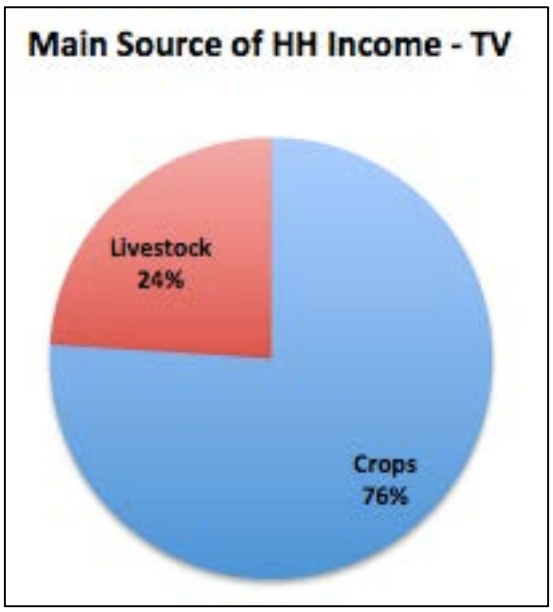
This would exclude a large proportion of viewers who watch out of home – which, according to the Reading University report, could be 43% of total viewership. This indicates that the next survey route needs to include those without TV in their homes, but who do watch TV.

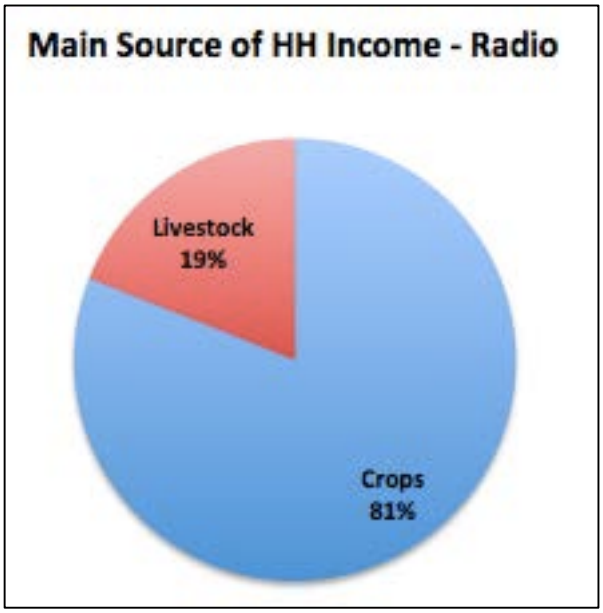
The survey sections covered are:

- Soil
- Dairy
- Poultry
- Maize
- Tomatoes
- Potatoes
- Apples
- Farm Chemicals
- Financial Literacy
- Solar Lights
- Nutrition
- Use of Mobile Phones

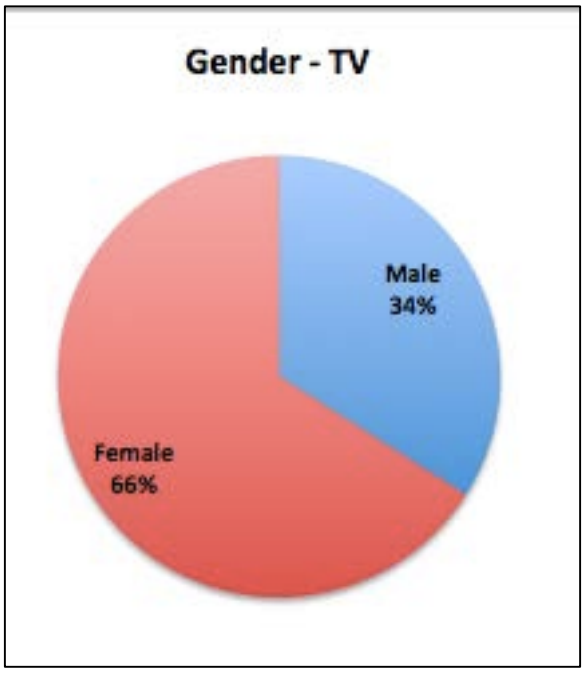
Viewer & Listener Demographics

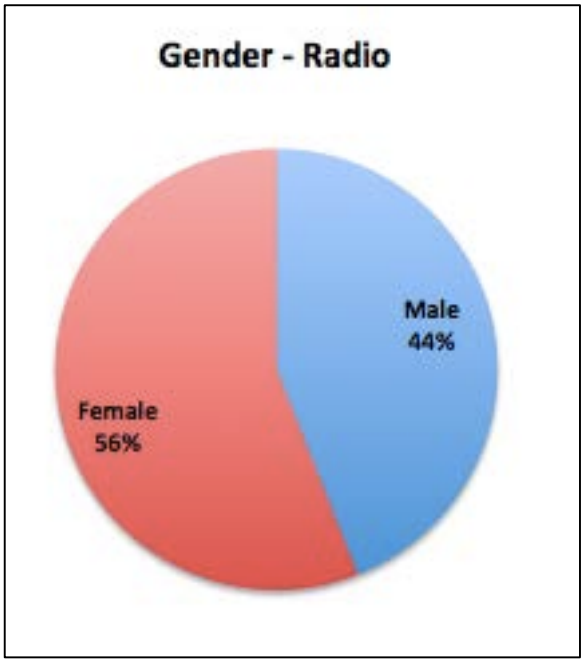
- Average land size cultivated for TV viewers: 1.76 acres
- Average land size cultivated for Radio listeners: 1.62 acres



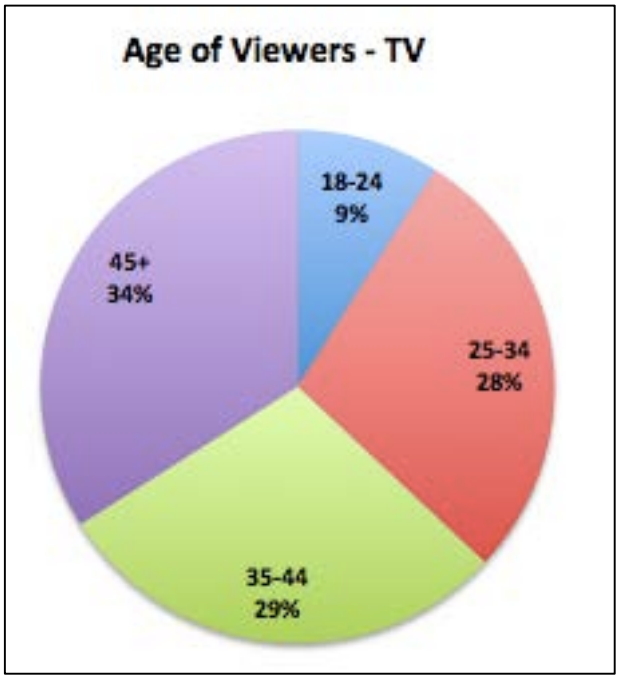


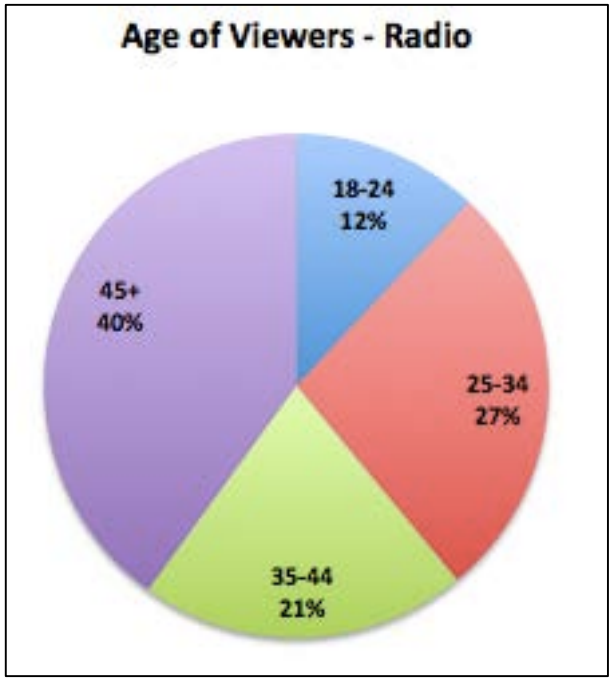
The majority rely on income from crops for their livelihoods – this is slightly higher for radio listeners than TV viewers.



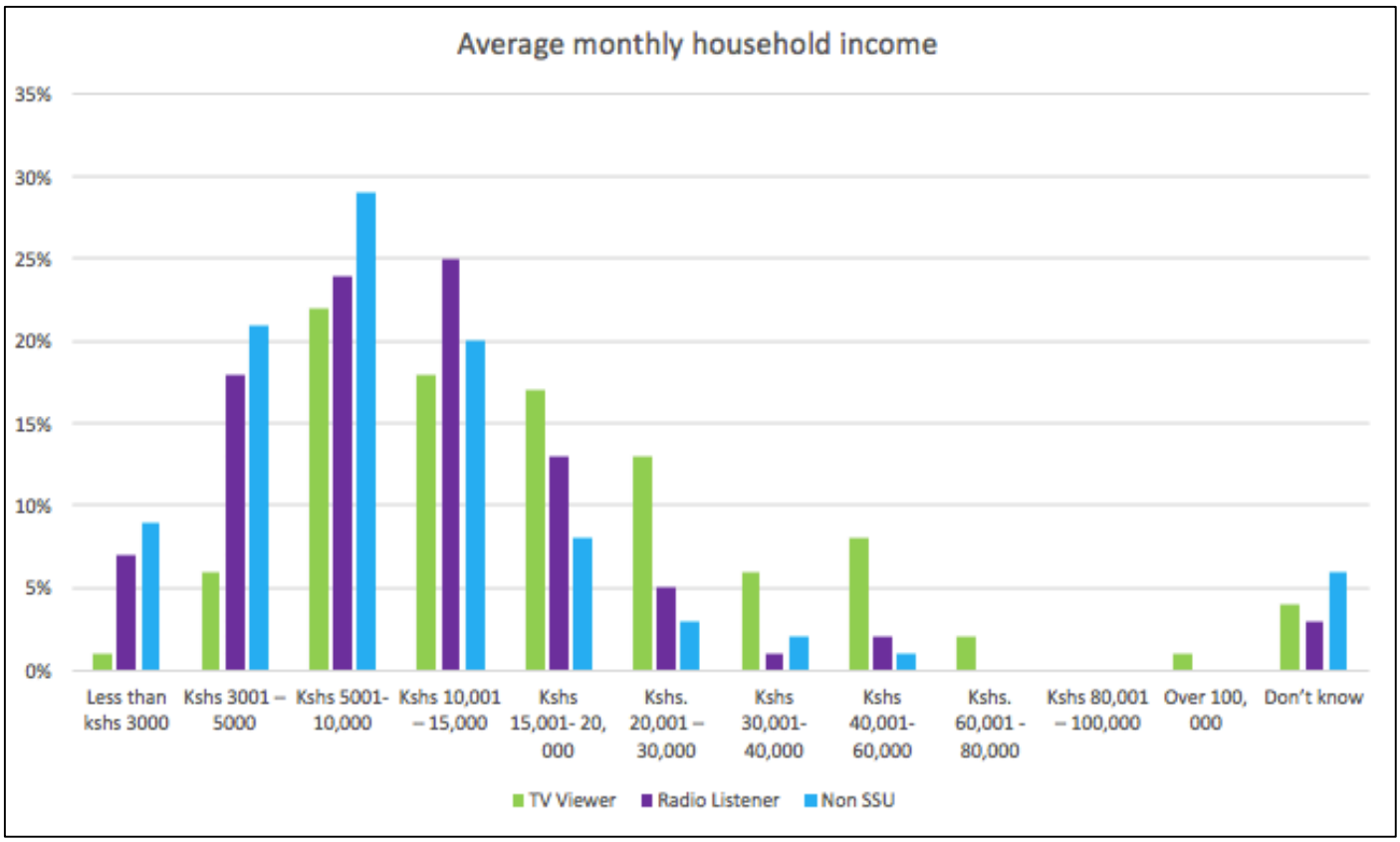


The program reaches more women than men. This is important, as women are generally excluded from traditional trainings and workshops. Furthermore, women accessing the programs directly reduces the problems associated with inaccurate transfer of knowledge, and allows them to make the decision to adopt the practices they wish to, based on the range of information they have received.



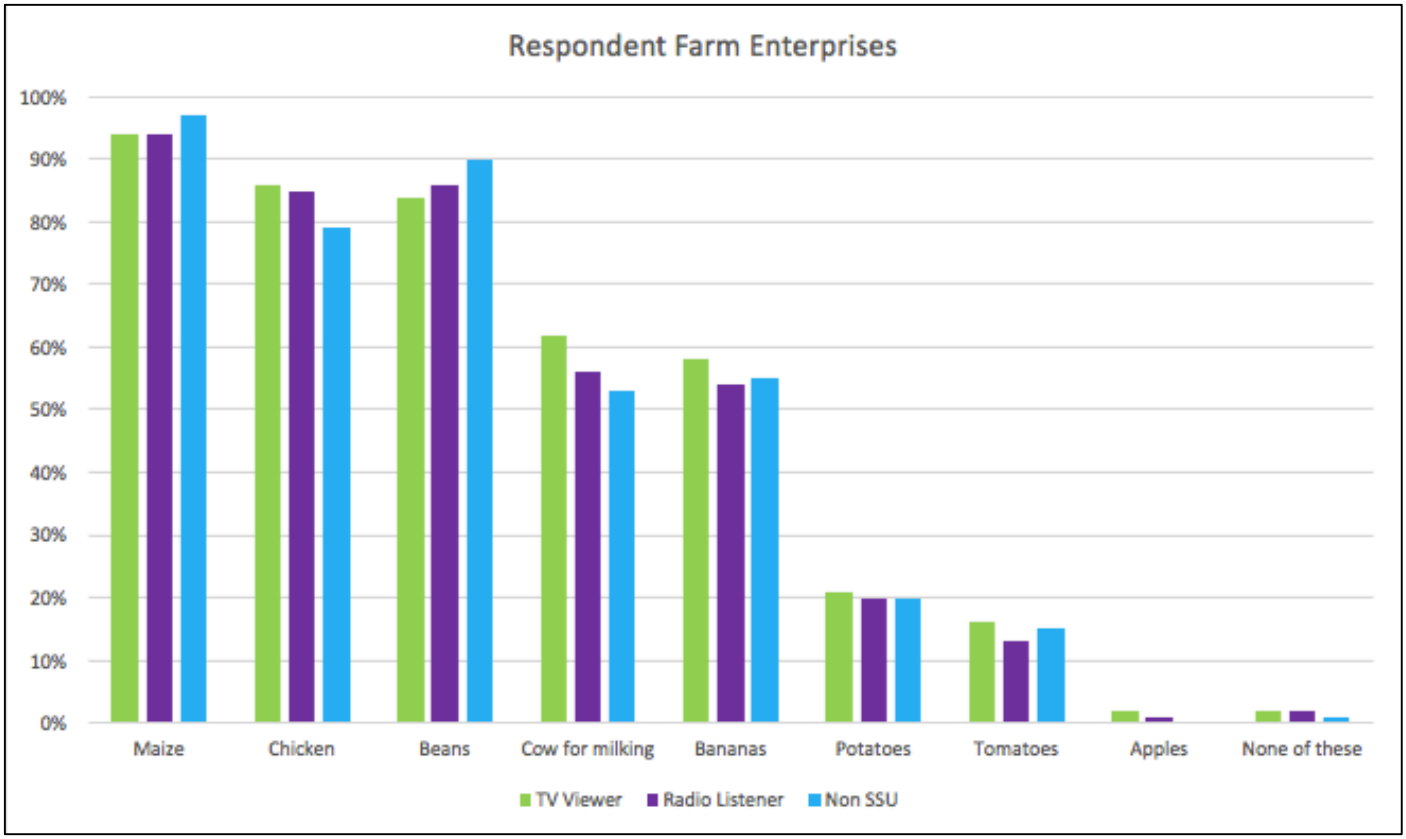


Viewers age groups are evenly split between the three largest farming age cohorts. More of the radio audience is older and younger than the TV audience.



Listener household income is lower than viewer household income, with most listeners falling between 3,000 and 15,000 Ksh per month for the household, against 5,000 to 30,000 Ksh for viewers. Non SSU respondents are also mostly between 3,000 and 15,000 Ksh per month.

Viewer income is higher than in 2014, when viewers fell mostly in the 3,000 to 15,000 Ksh range.

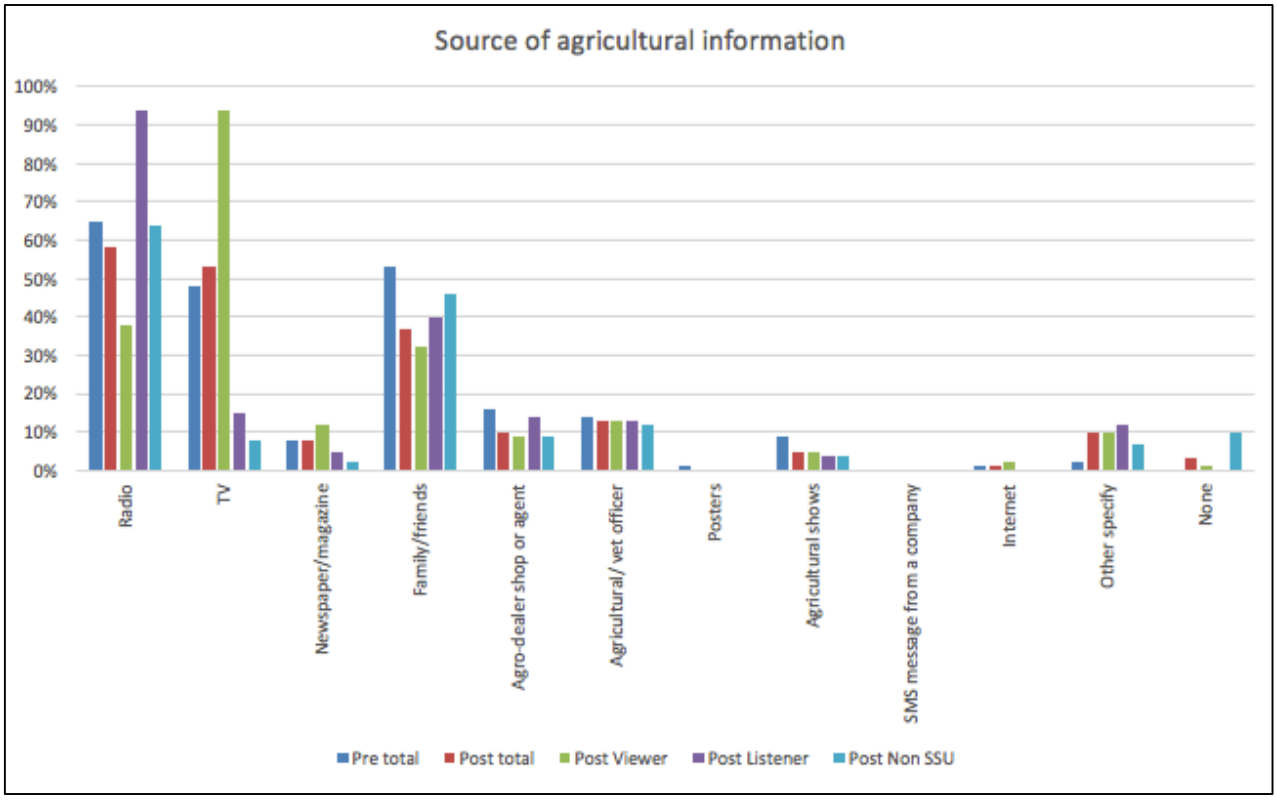


The range of crops and livestock kept are similar across the board, with the majority having maize, chickens and beans on their farms. More viewers have dairy cattle.

Sources of agricultural information

Respondents are sourcing their agricultural information from 3 main places: Radio, TV and Friends/Family, followed by agrodealers and agricultural officers/vets.

Very few get agricultural information from newspapers, magazines, posters, SMS, call centres, the Internet or agricultural shows. Internet has grown marginally over the period, and family/friends has dropped.

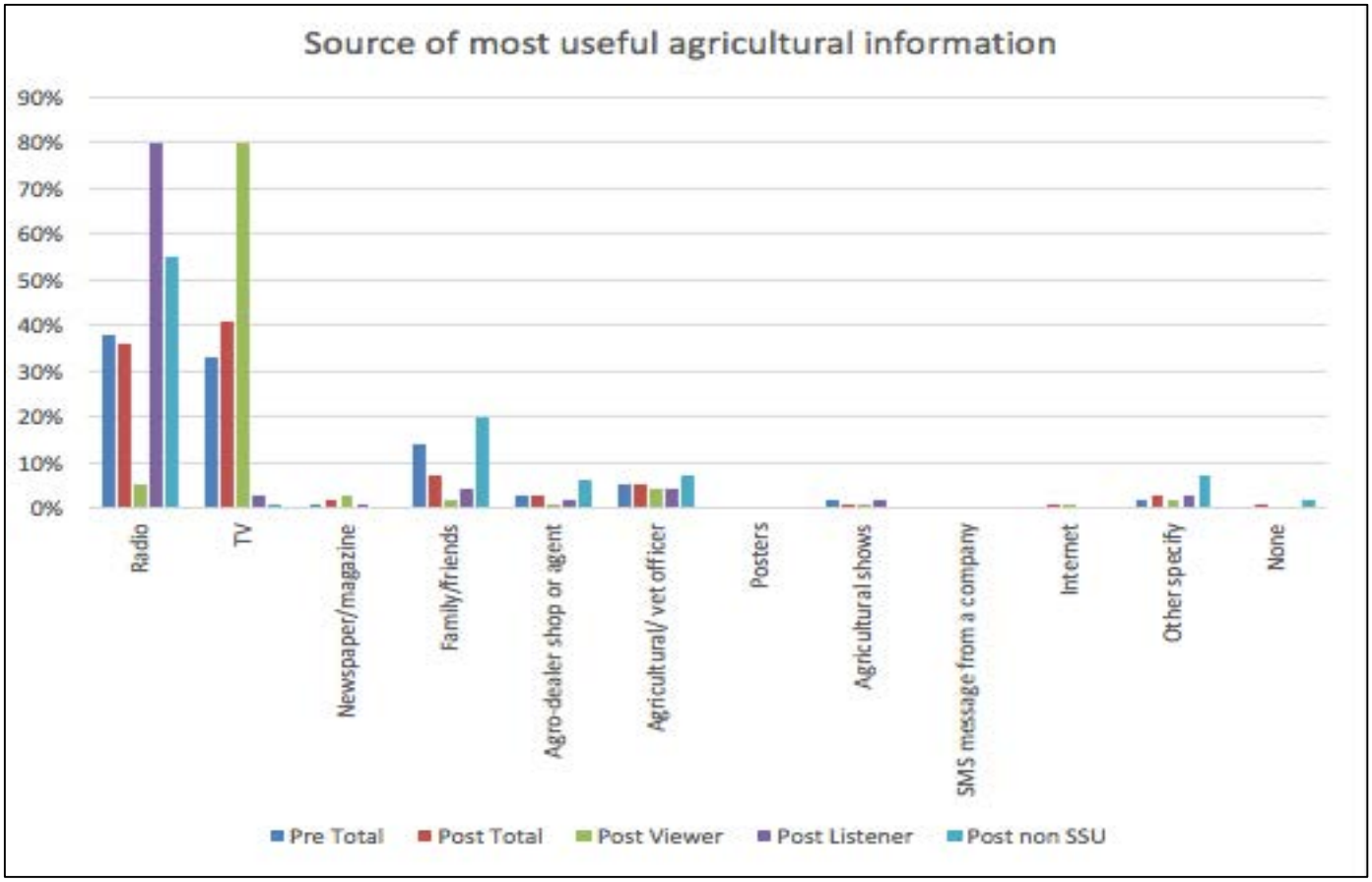


Viewers of SSU find TV the *most useful source* of agricultural information, followed at a distance by Radio and then agri/vet officers.

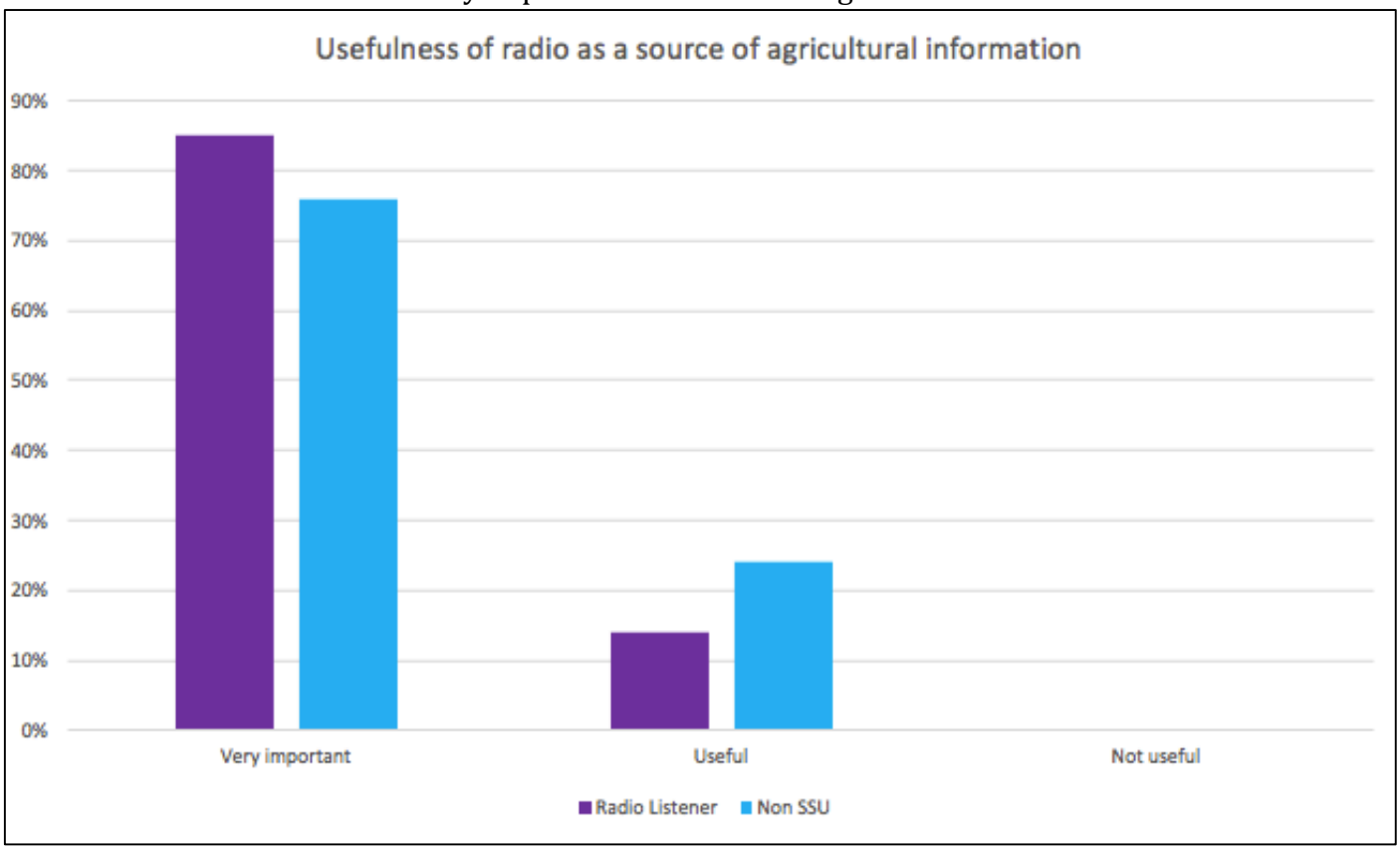
Listeners of SSU find Radio the most useful source of agricultural information, followed at a distance by family and friends, and agri/vet officers.

Those who do not watch or listen to SSU have a significantly different information sourcing pattern – first Radio, then at a higher level family and friends, followed by agri/vet officer and the agrodealers. Interestingly, the *usefulness* of friends and family is very low, though many do use them as a source of information (compare usefulness chart, below, to source chart, above).

The audio-visual media are therefore very important in terms of supplying *useful* agricultural information to farmers.



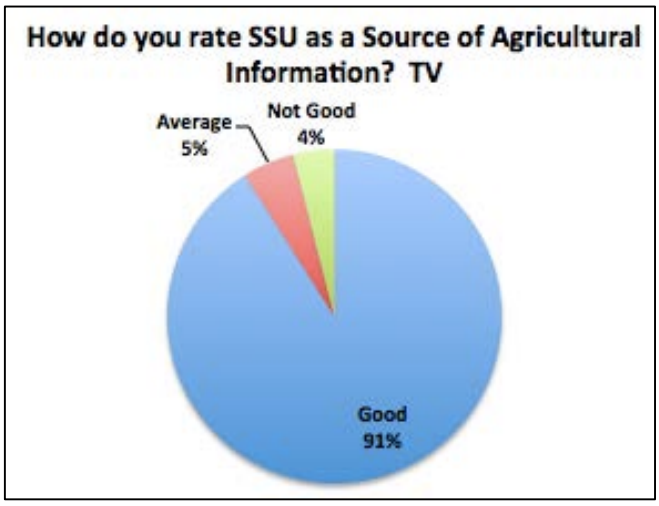
SSU Radio listeners rate Radio very important as a source of agricultural information for them:

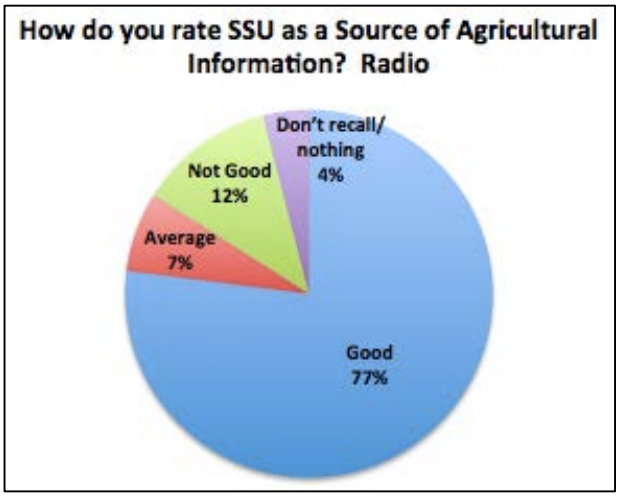


Impact – changes in Knowledge, Attitude and Practice (KAP)

Attitude to Shamba Shape Up

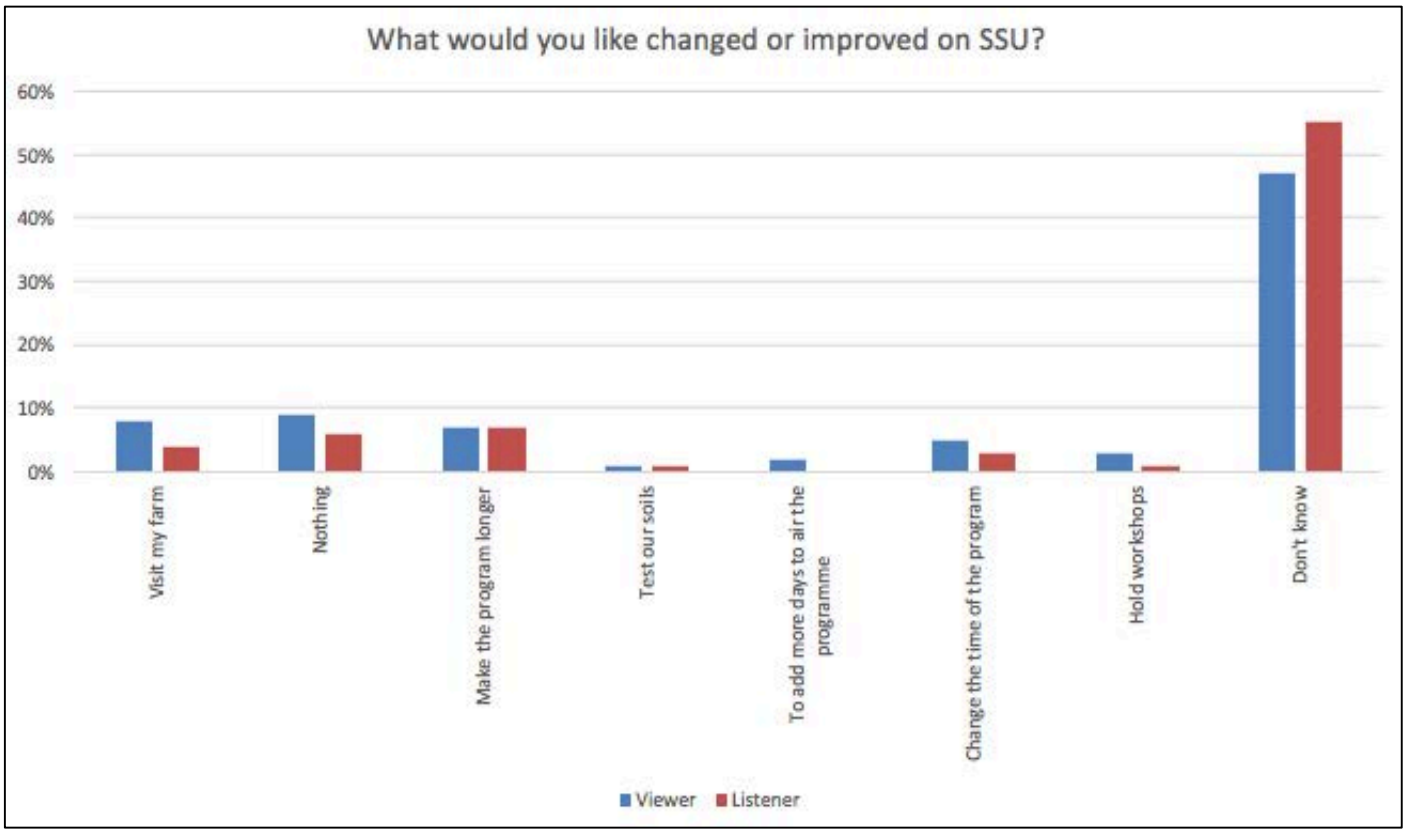
In order for SSU to be successful, viewers must rate the program highly – entertainment for education can only be effective if users return by choice. In this regard the program has been successful:



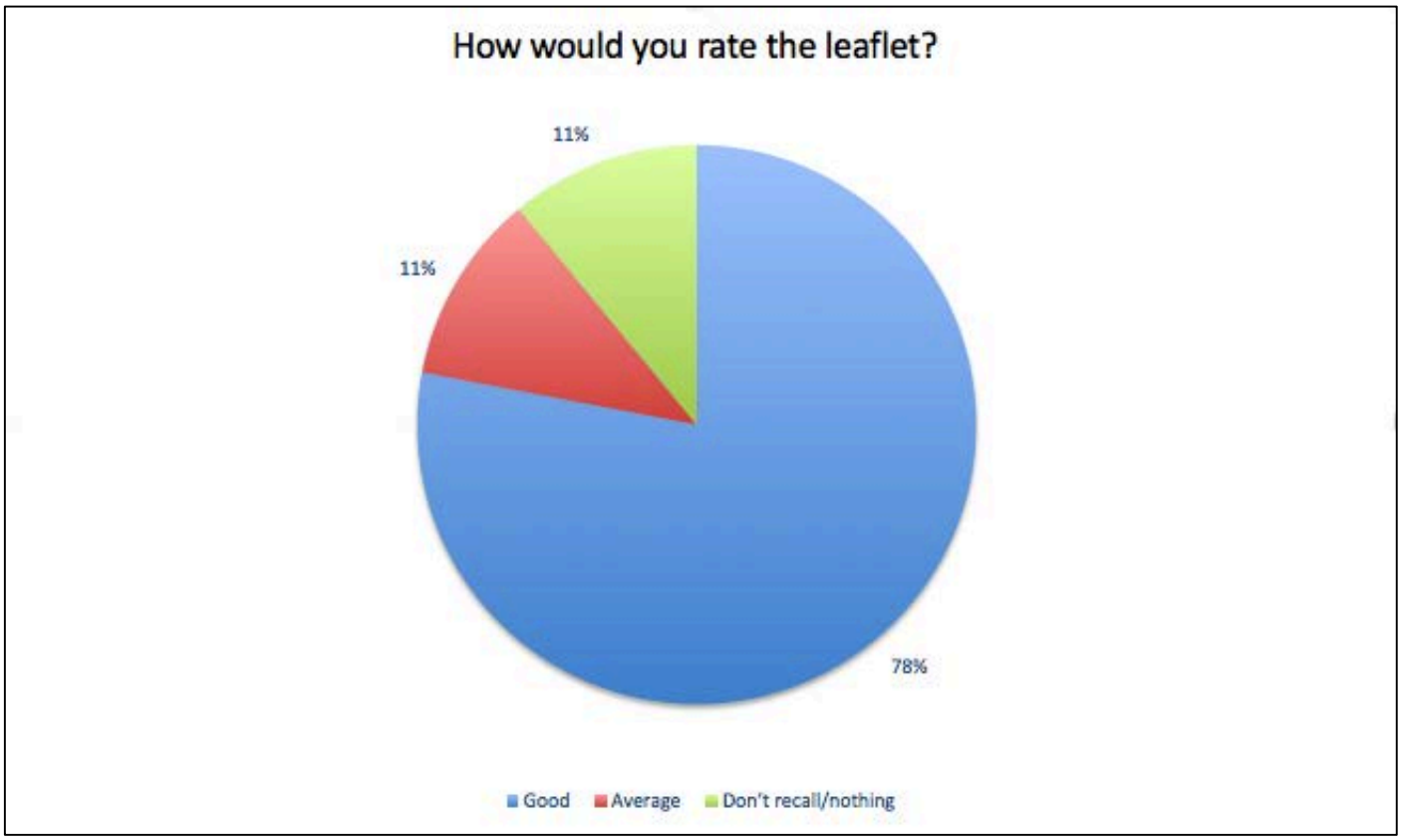


The TV audience rate the program more highly than the radio audience. This may be due to the nature of radio lacking the capacity for visual demonstrations and graphics.
Furthermore, the radio program is in it's first series, so the format and program are less well known than the TV program is to its audience. There is, however, always room for improvement.

When asked what they want to improve, the majority want the time of the program changed (this varies from "move to the morning" to "move to a weekday") or the show made longer. As usual, 'Visit my farm' is a popular request!

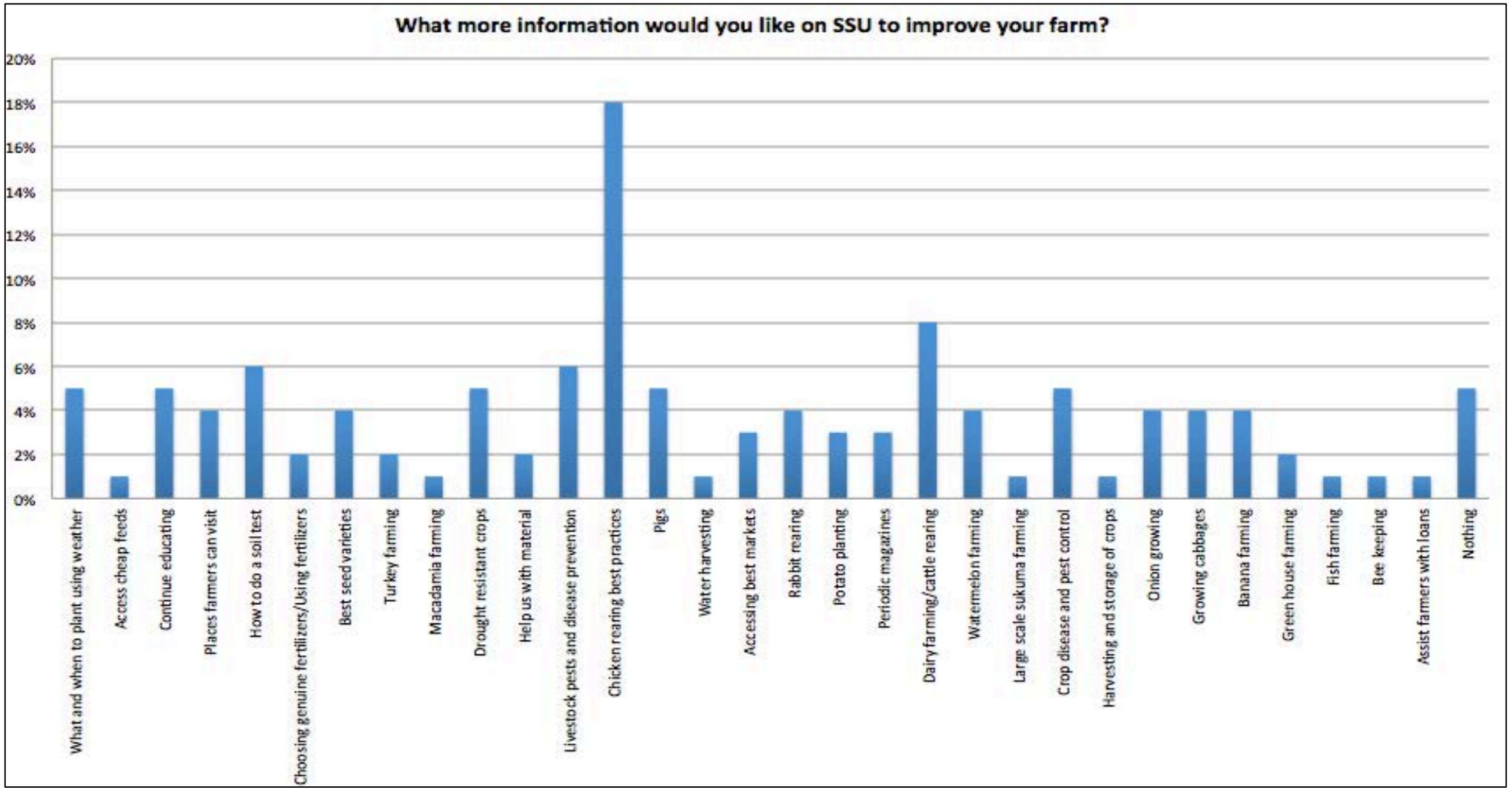


An average of 5% of viewers and 2% of listeners sent an SMS to SSU asking for a leaflet. This correlates with the SMS database.
Those who did get leaflets rate them well:



Information requested from Shamba Shape Up

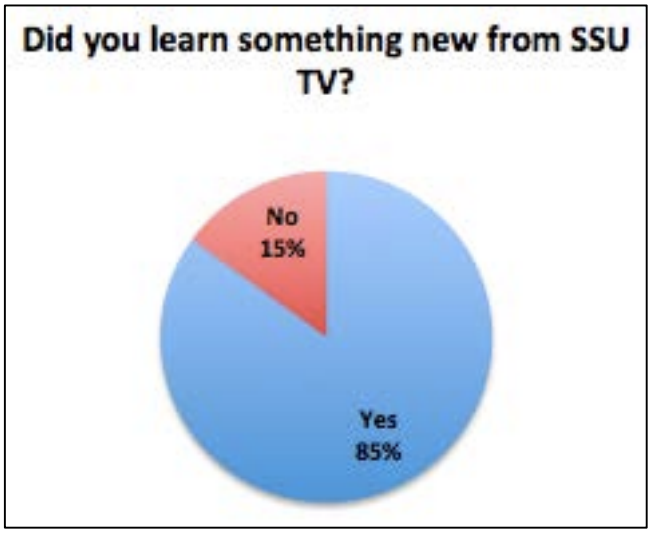
SSU content is informed by research. One source is this KAP survey where viewers are asked what more information they want from SSU. The most frequently requested topics are poultry, dairy, pest/disease control and soil testing. The first two reflect the level of demand in the SMS requests, the level of learning and the practices that farmers adopt.

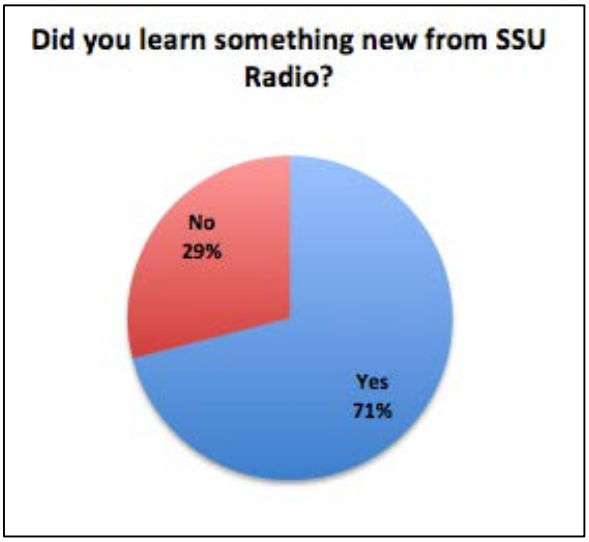


Impact – changes in Knowledge, Attitude and Practice (KAP)

Knowledge - Learning

The program aims to change the audience's knowledge, attitudes and practices by providing them with easily understood, practical ways to improve their farming and their livelihoods.
The surveys measure changes in KAP by asking what the respondents know, think and do.



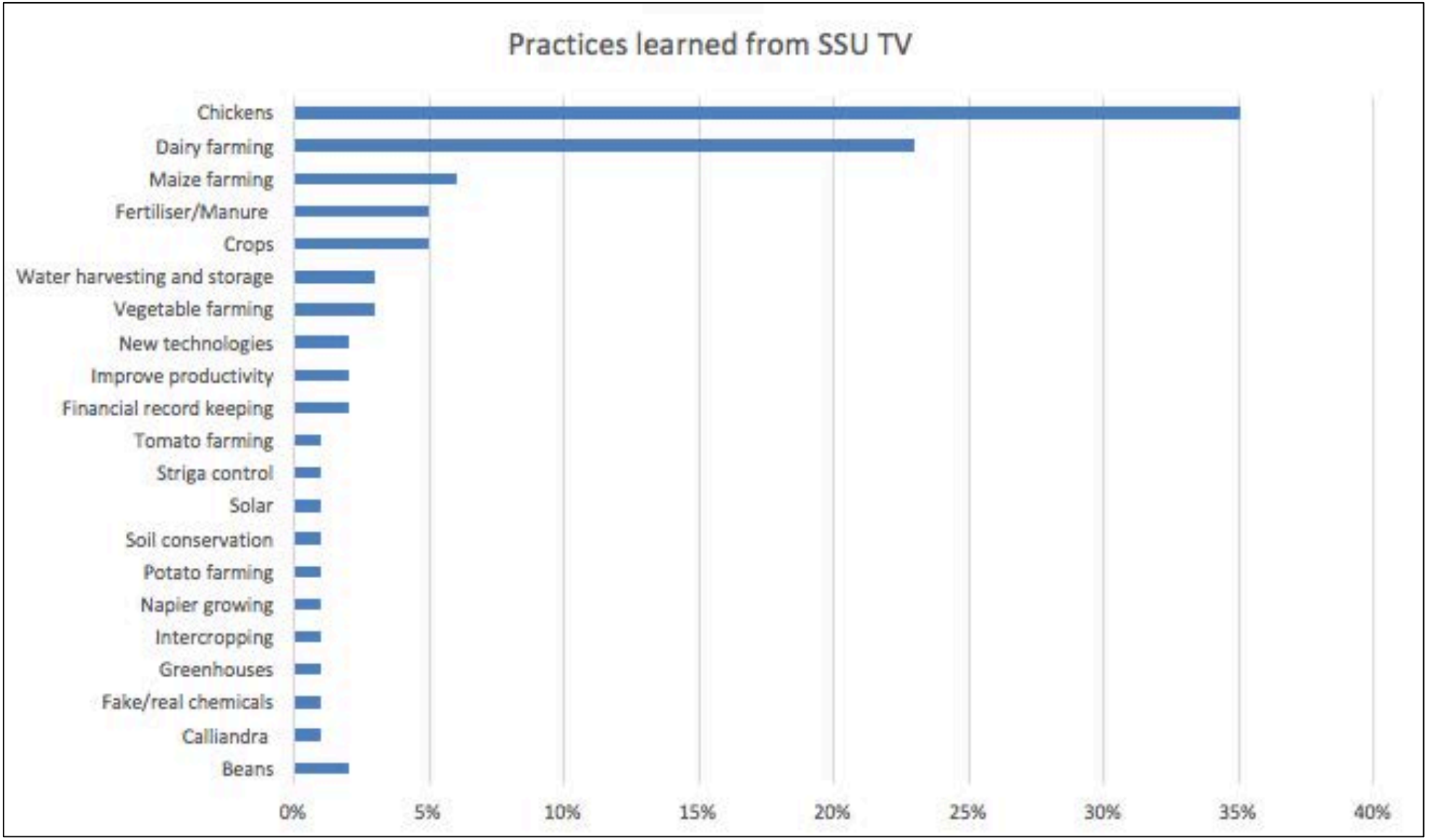


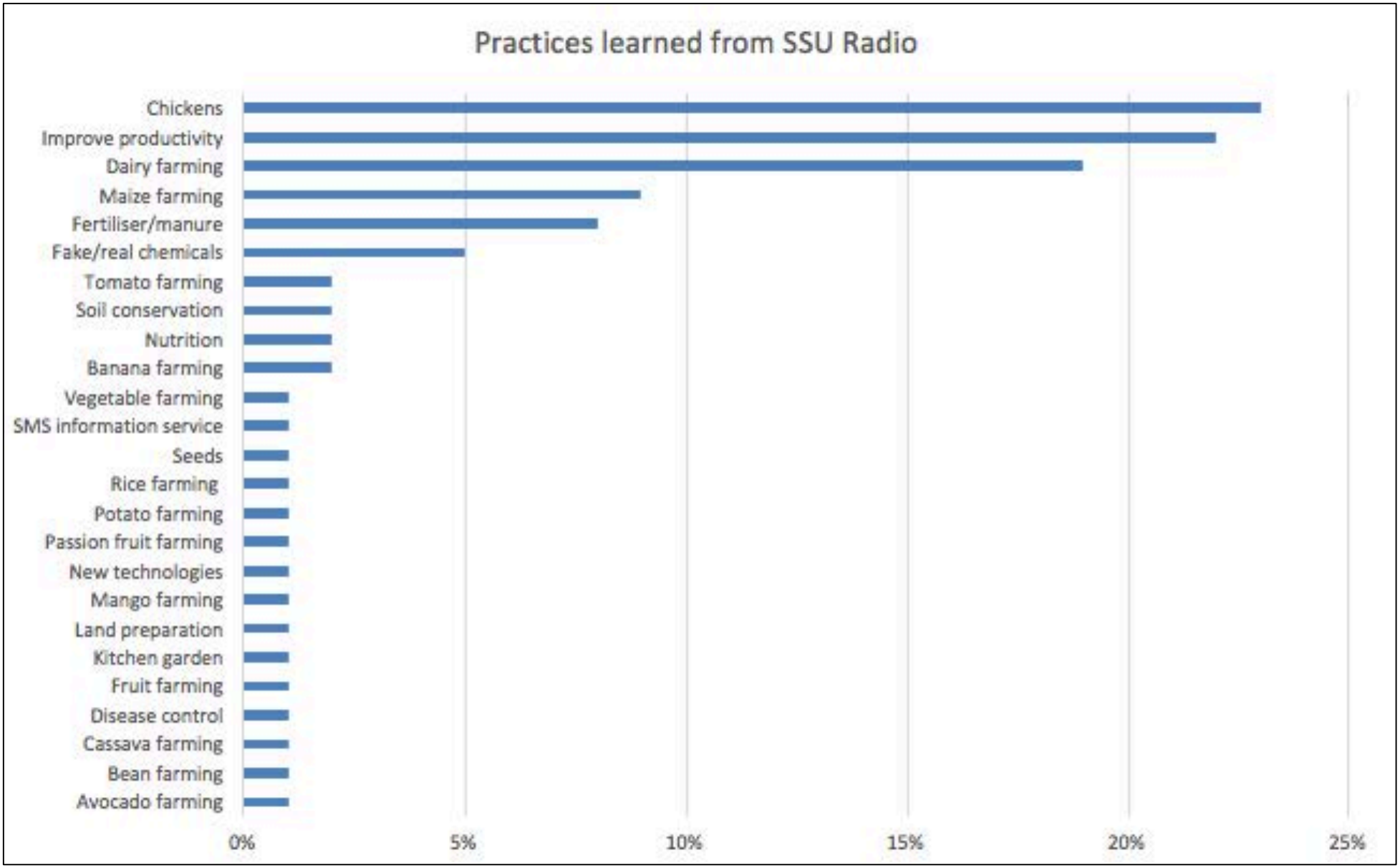
Rates of learning something new (i.e. something the viewer did not know before) are high. If we estimate a 5 million TV audience in Kenya alone, this can translate roughly to 4.25 million people learning something new in 2015 from the TV program. Concerning radio listeners, 1.49m people learnt something new from the program (71% of a 2.1m audience – Geopoll, 2015)

The next, important, step is that those who learn then apply their new knowledge to their farming. This can be tracked through what practices they changed as a result of watching the program.

As expected, the frequency of learning is highest in the most popular topics.

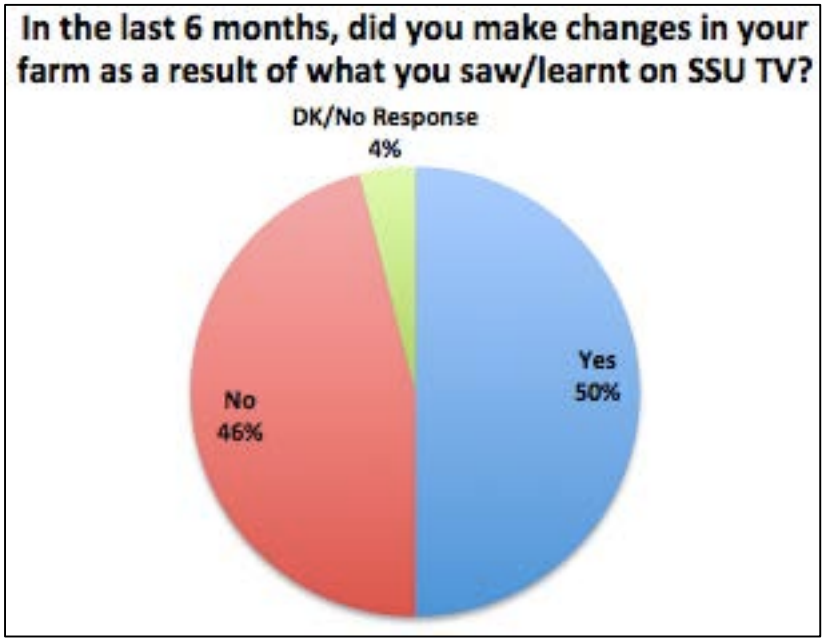
For TV viewers this was chickens, & cattle with a noticeable uptake of information on use of fertilizer/manure and maize farming. There was also a need for information on how to build a Chicken House.
For Radio listeners, this was Chicken, Crops, Fertiliser/Manure, Maize & Cattle.


Practices learned from SSU TV
Chickens
Dairy farming
Maize farming
Fertiliser/Manure
Crops
Water harvesting and storage
Vegetable farming
New technologies
Improve productivity
Financial record keeping
Tomato farming
Striga control
Solar
Soil conservation
Potato farming
Napier growing
Intercropping
Greenhouses
Fake/real chemicals
Calliandra
Beans
0%
5%
10%
15%
20%
25%
30%
35%
40%


Practices learned from SSU Radio
Chickens
Improve productivity
Dairy farming
Maize farming
Fertiliser/manure
Fake/real chemicals
Tomato farming
Soil conservation
Nutrition
Banana farming
Vegetable farming
SMS information service
Seeds
Rice farming
Potato farming
Passion fruit farming
New technologies
Mango farming
Land preparation
Kitchen garden
Fruit farming
Disease control
Cassava farming
Bean farming
Avocado farming
0%
5%
10%
15%
20%
25%

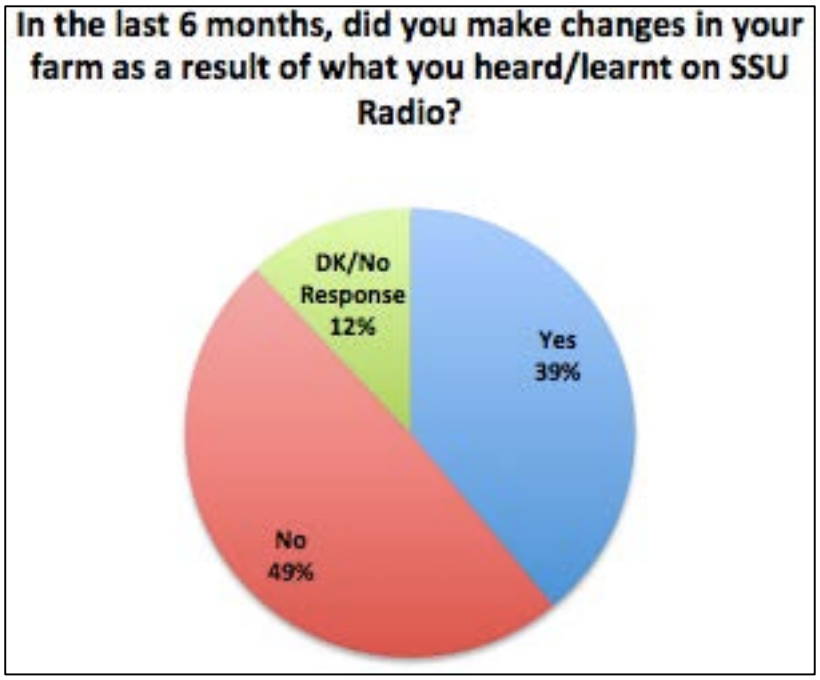
Impact – changes in Knowledge, Attitude and Practice (KAP)

Practice – behaviour

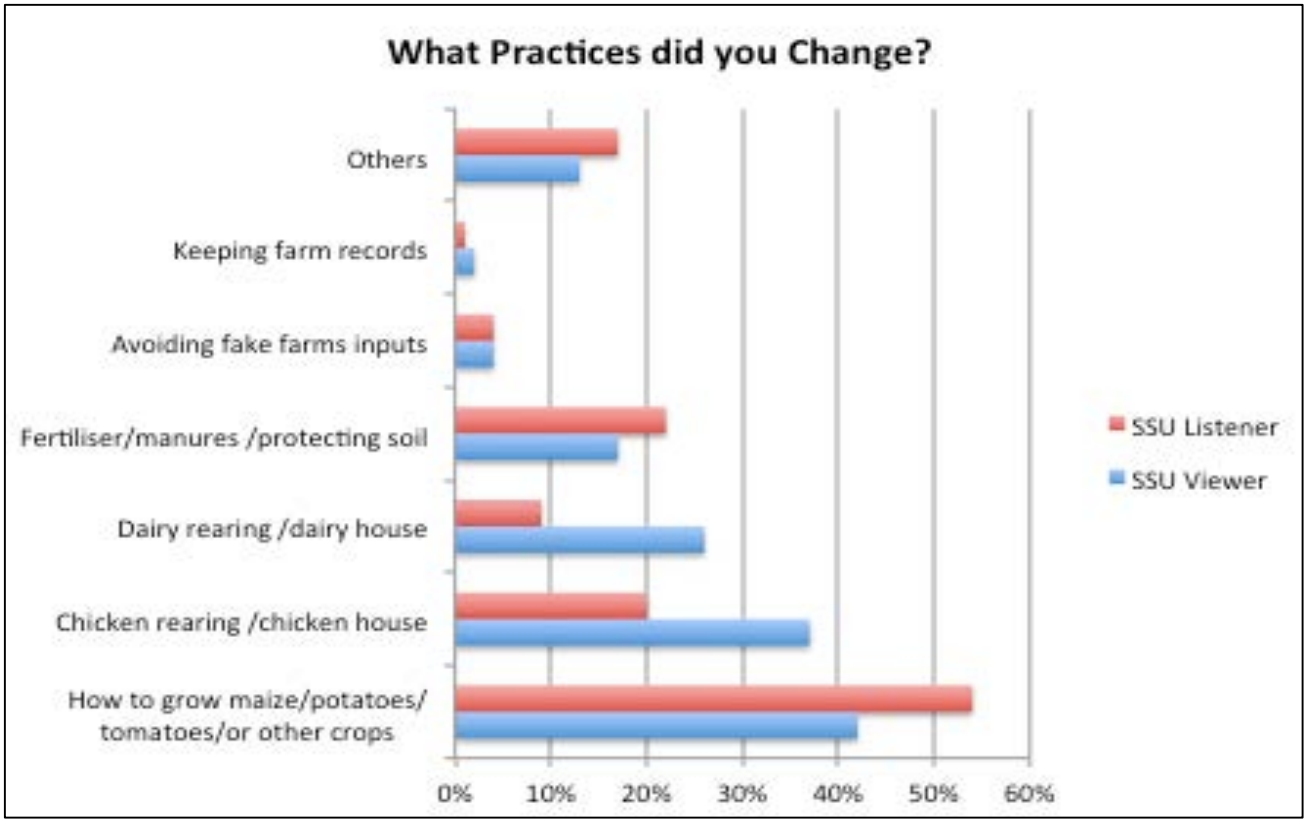


50% of viewers made a change – which can be estimated to be equal to 4.5 million people affected across the region. This rate of change has grown since the 36% rate in Series 1 (2012), and 45% rate in Series 2, 3 (2013) and 4 (2014).

The rate of change in iShamba subscribers is 60% which shows the benefit of a customised approach.



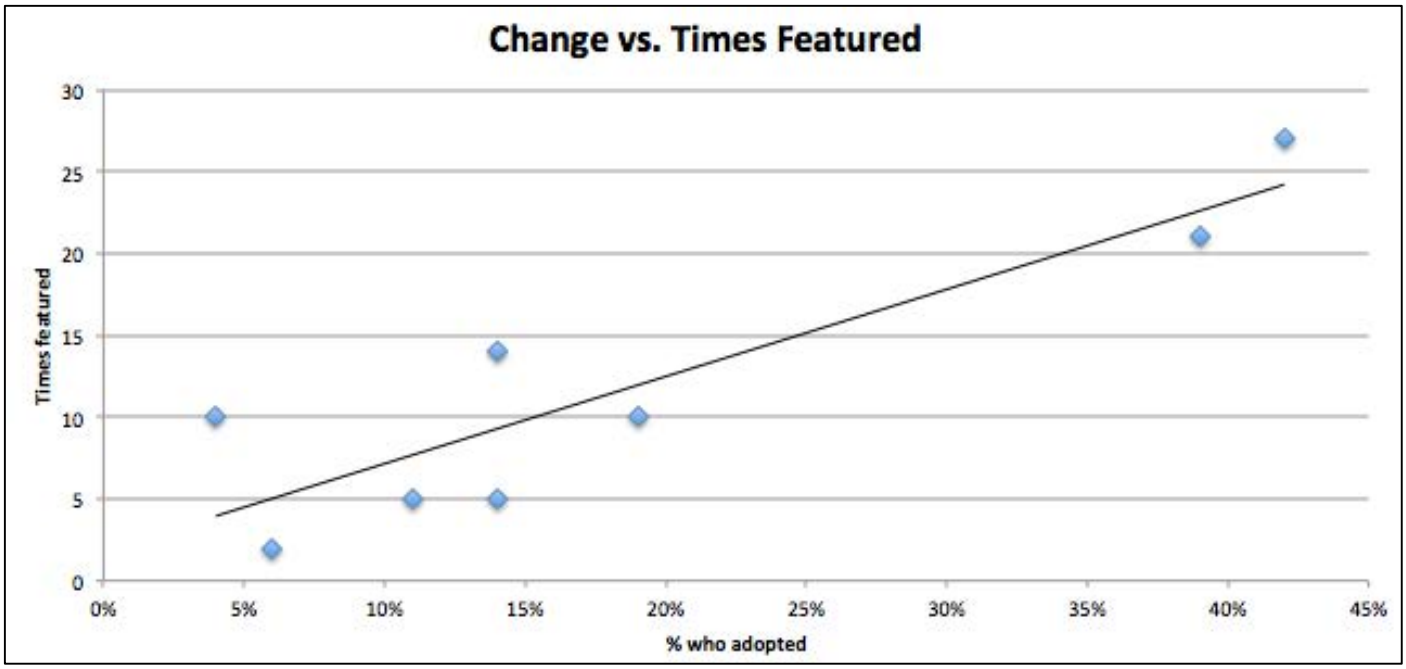
39% of radio listeners made a change – which can be estimated to be equal to 800,000 people (Kenya only).
This rate of change is similar to SSU TV Series 1, showing it is congruous with the launch of this type of program.



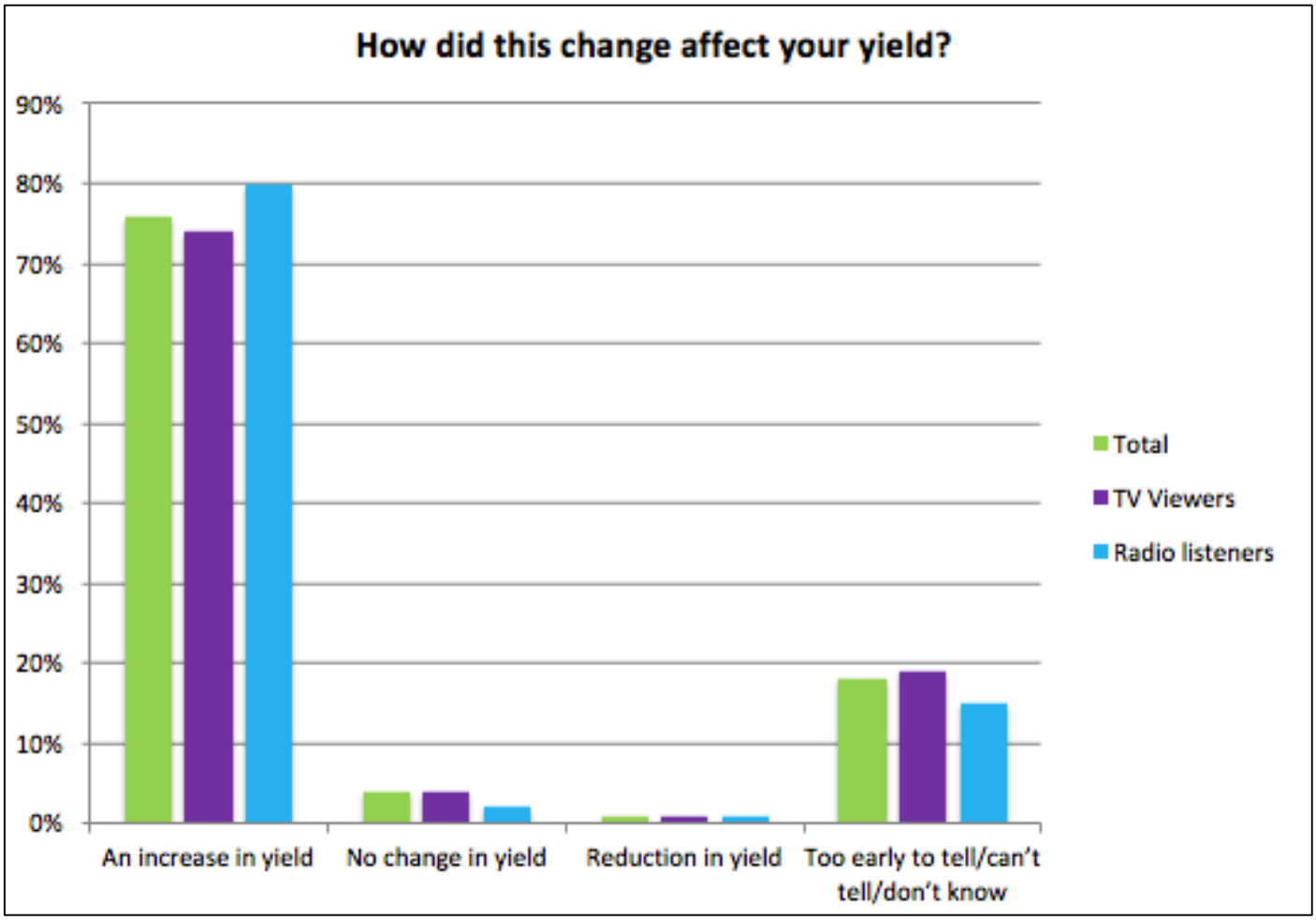
Highest rates of change were seen in crop growing, poultry and dairy. This is a similar pattern as for Series 1, 2 and 3 where the most changes were in chickens and cattle.

In the category 'Other Specify', the activities changed include planting Napier, crop rotation, spacing during planting, rainwater harvesting, how to store maize and planting Calliandra.

Rates of change reflect, as expected, rates of learning. Interestingly, the level of change for each activity roughly correlates to (a) the frequency the topic is requested by viewers and (b) the number of times the topic features on the program.



Impact – value implications – monetary and food security



The positive changes to yield can translate into increased income or food supply for households adopting new practices or behaviours. We can therefore conclude that average viewer & listener income increases as a result of the program, as compared to non SSU farmers.

Impact on KAP by sector

Soil fertility

Testing

Soil testing is a practice which SSU has been recommending for 5 series. However, the rate of adoption remains low, despite using different formats for encouraging viewers to test their soil. The most influential remains the calculation of the cost of a soil test vs. the increased income received from improved harvests.
The program encouraged farmers to test their soil using mobile laboratories and demonstrated how to take a sample, and why soil testing is important; 20% more viewers and listeners know what a soil test is compared to non SSU viewers/listeners.

6% more viewers than non-viewers have tested their soil, however very few farmers are getting their soil tested.

The main reasons for not testing soil, in order of precedence, are:

1. Do not know where to take it for testing
2. No Value
3. Cost/Distance

42% of non-viewers against 53% of viewers know where to take soil for testing – the majority cite KARI, followed by Daktari wa Udongo & Crop Nutrition. There has been a 7% increase in the number of viewers who know where to take soil for testing.

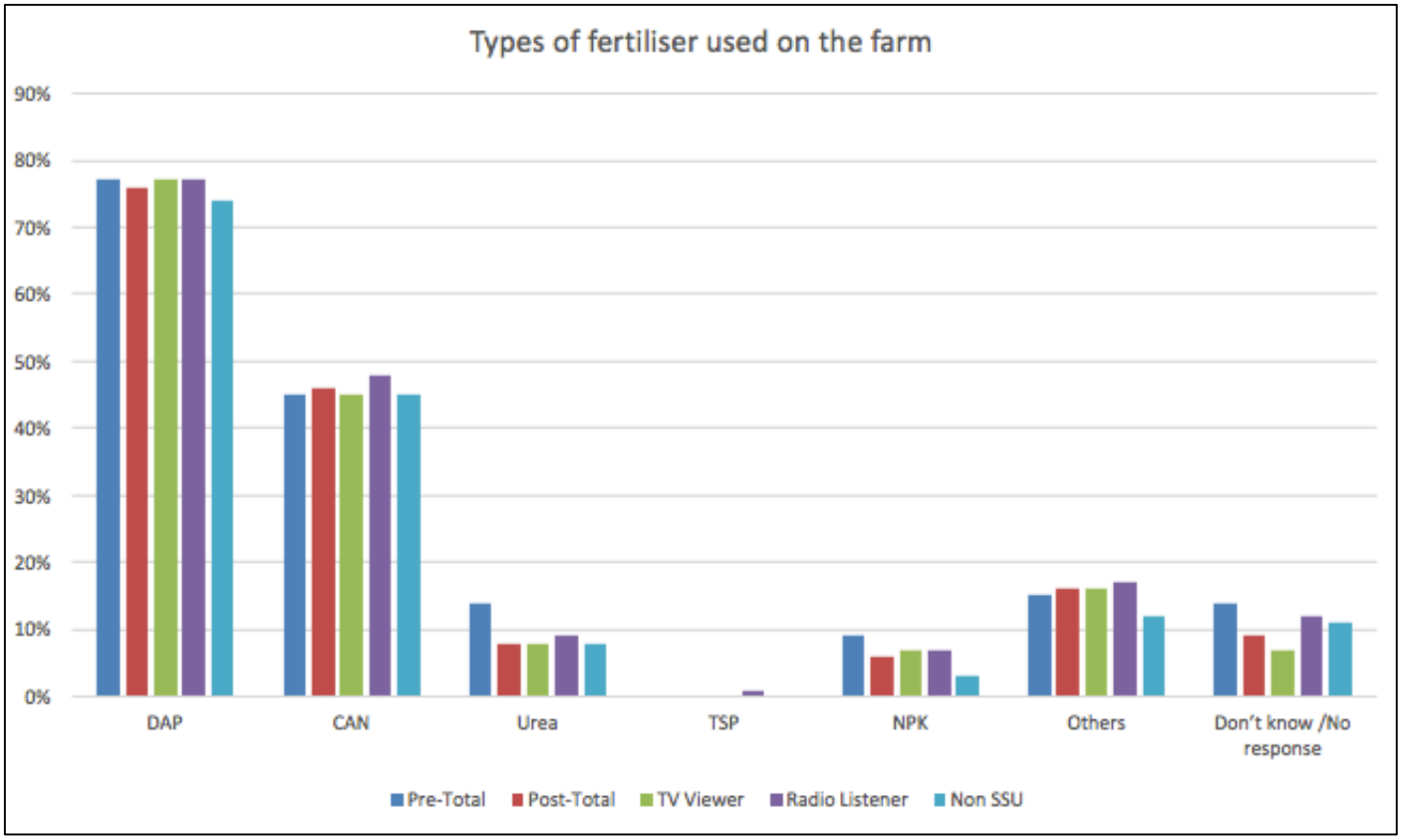
After testing their soils, 36% of viewers changed the type of chemical fertiliser applied. Only 20% of radio listeners changed the type of chemical fertiliser applied suggesting that there is an advantage to visual images of the soil when improving it.

82% of viewers who made a change following their soil test said it had resulted in an increase in yield.

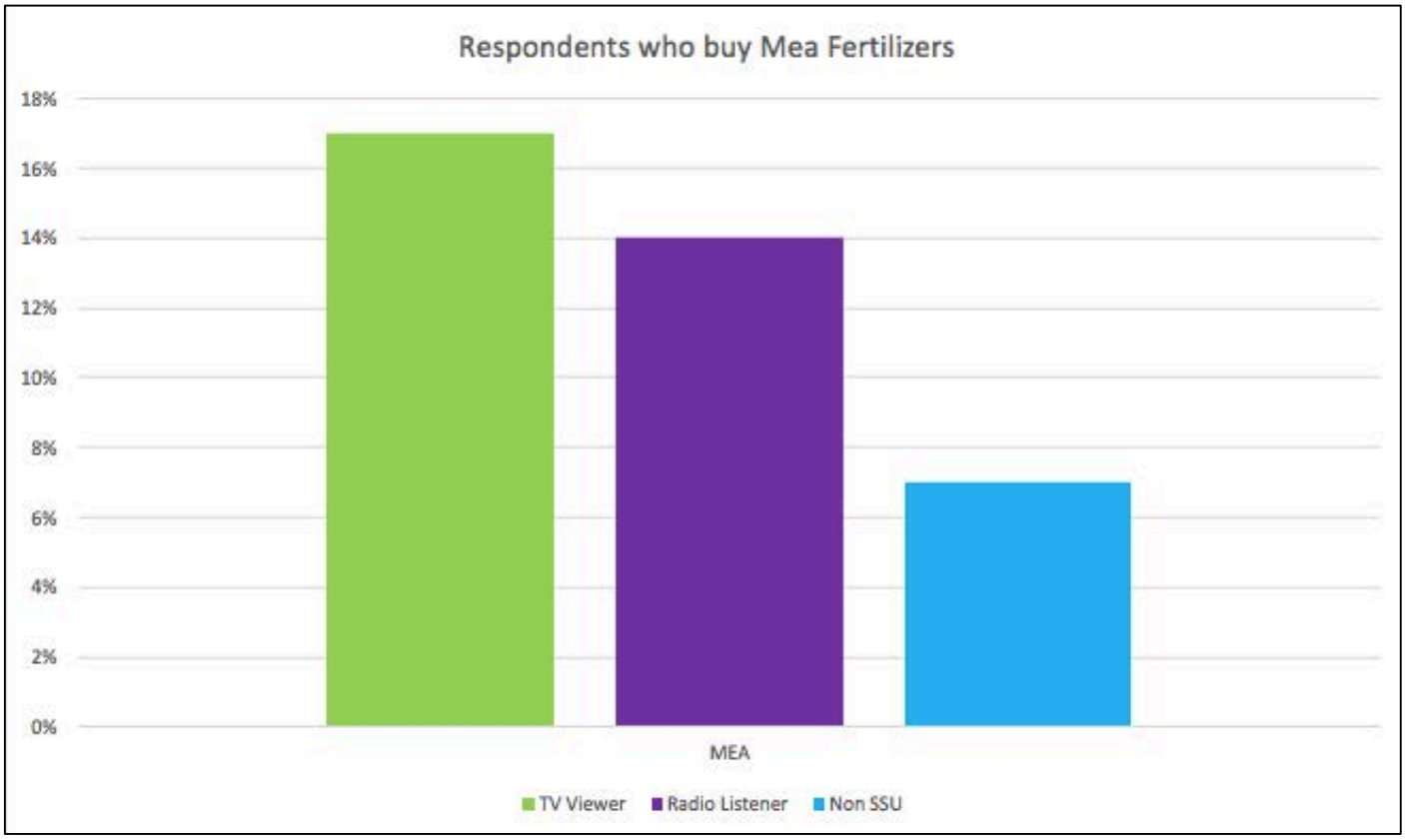
Using fertiliser

DAP is used by the majority of farmers, despite not knowing the acidity or nutrient requirements of their soil. This causes huge problems with farmers' soil fertility, as repetitive use of DAP is not beneficial to the soil. The program recommended non acidifying fertilisers, and using the fertiliser recommended in the soil test, rather than using DAP every season.

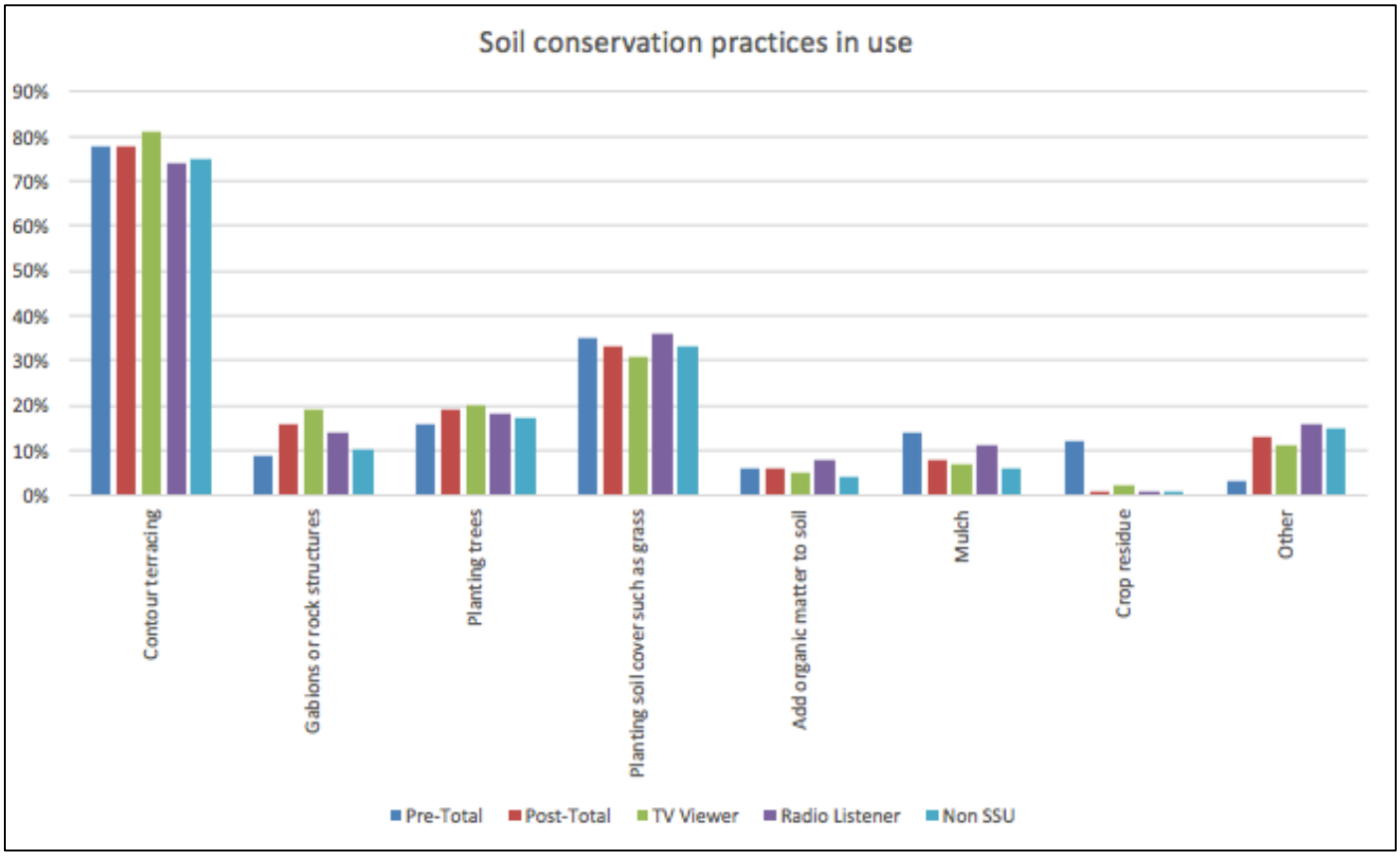
72% of viewers and listeners used fertiliser last season with the majority using DAP followed by CAN. Slightly more viewers and listeners use NPK, which may be because the program encourages its audience to use NPK and other non acidifying fertilisers.



At planting, 61% put fertiliser with the seed in the hole with no manure while 14% mixed fertiliser with manure/compost and put it in the hole with the seed.
For brand awareness, when asked which brands they know, respondents generally cited the type of fertiliser (DAP, CAN) instead of a brand. However, Mea Fertilizers was the highest cited brand at 16% of viewers & listeners (against 7% non viewers).

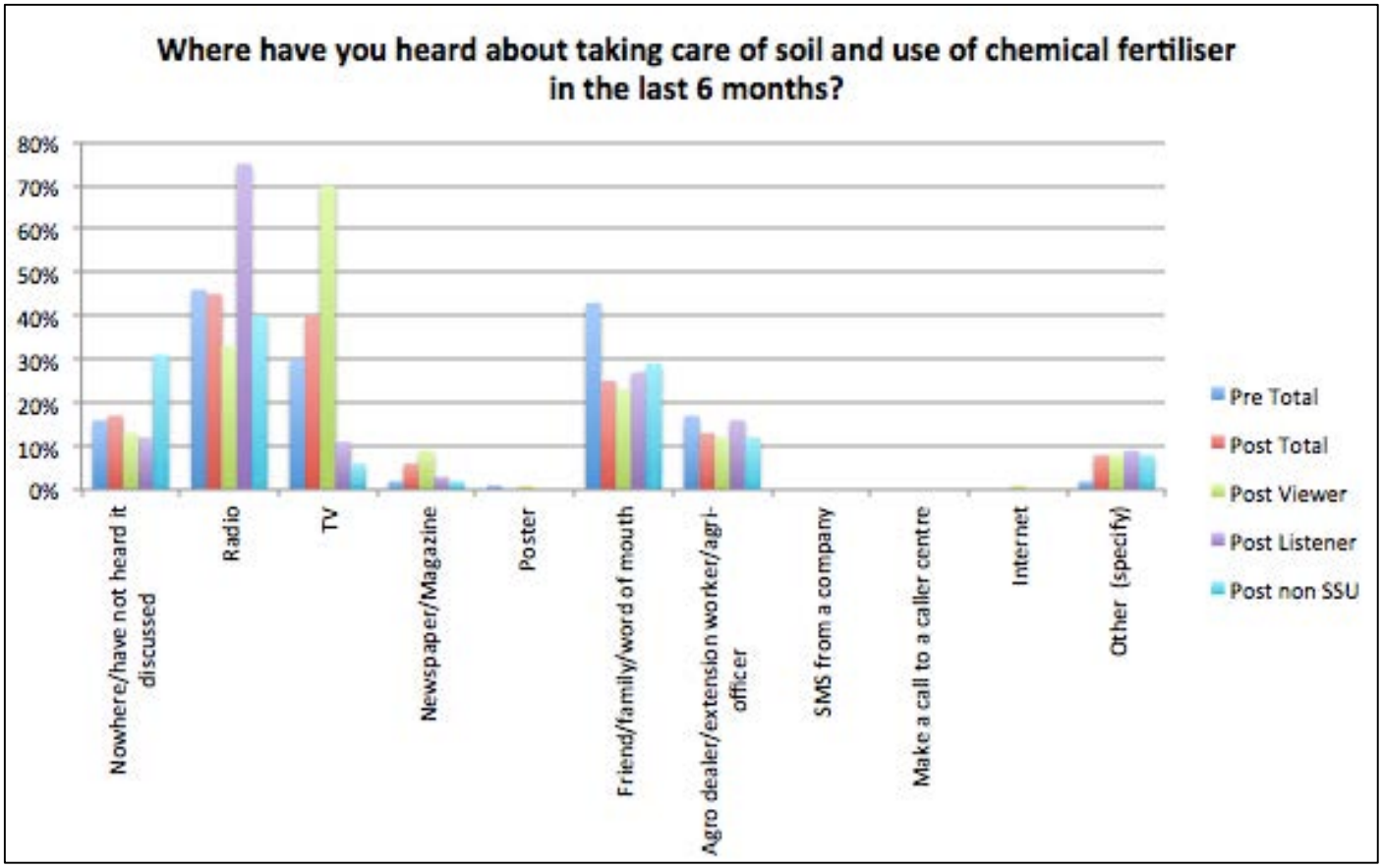


The program encouraged improved land management including composting, mulching, terracing and reducing soil erosion. 81% of viewers had implemented contour terracing against 75% of non viewers or listeners.

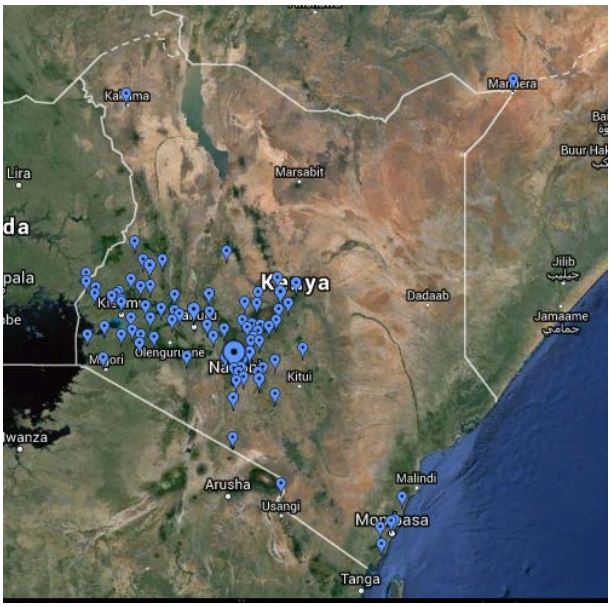


33% of viewers and listeners let a plot lay fallow at times and 86% of these viewers and listeners understand that it helps the soil recover.

While 77% of all respondents partake in intercropping, 28% of viewers understand that it benefits the soil with nitrogen while 21% of non viewers and listeners understand this. The majority intercrop with beans. A few intercrop with cowpeas (5%) and potato (4%).



SMS traffic



Soil SMS correlate to agrarian areas of the country, with some outliers in marginal areas which have electricity.

Dairy

With one of the highest rates of change, and as a source of cash income, the dairy/livestock sector is an important portion of the program. The series tackled animal nutrition (feeding, supplementation and minerals), disease management and parasite control, as well as improved housing and animal management.

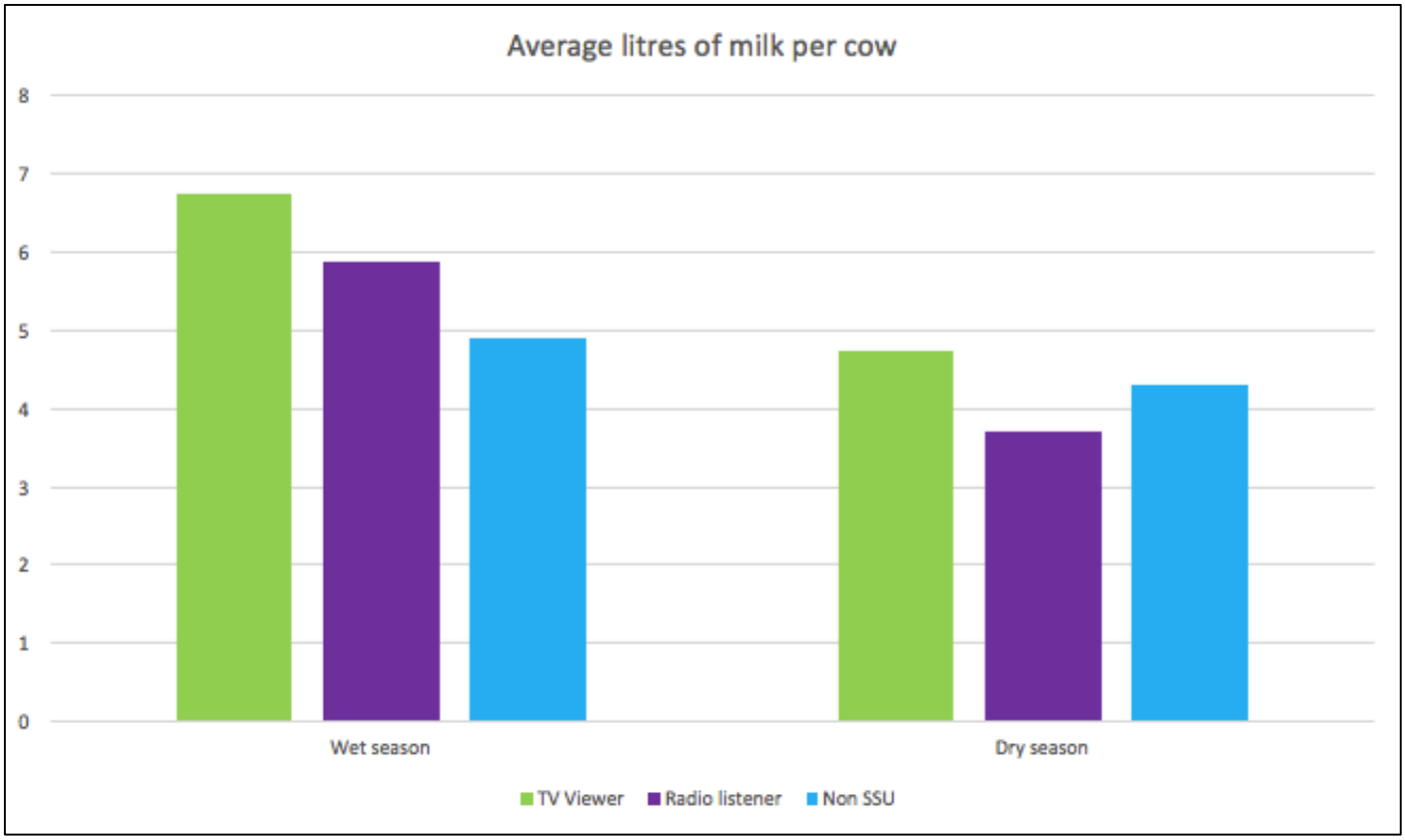
In 2014, Reading University estimated that the impact of SSU on the dairy sector in Kenya was a total value of US$24 million, through increased milk production.

Other implications are that viewers/listeners are more likely to spend more money on inputs for their cattle (such as better feed and supplements), generating increased revenue for input suppliers. 60% of viewers, 52% of listeners and 51% of non SSU respondents have milking cows.

The average number of cattle for any household is 2 – milking 1.4 in the dry season and 1.7 in the wet season on average.

Production

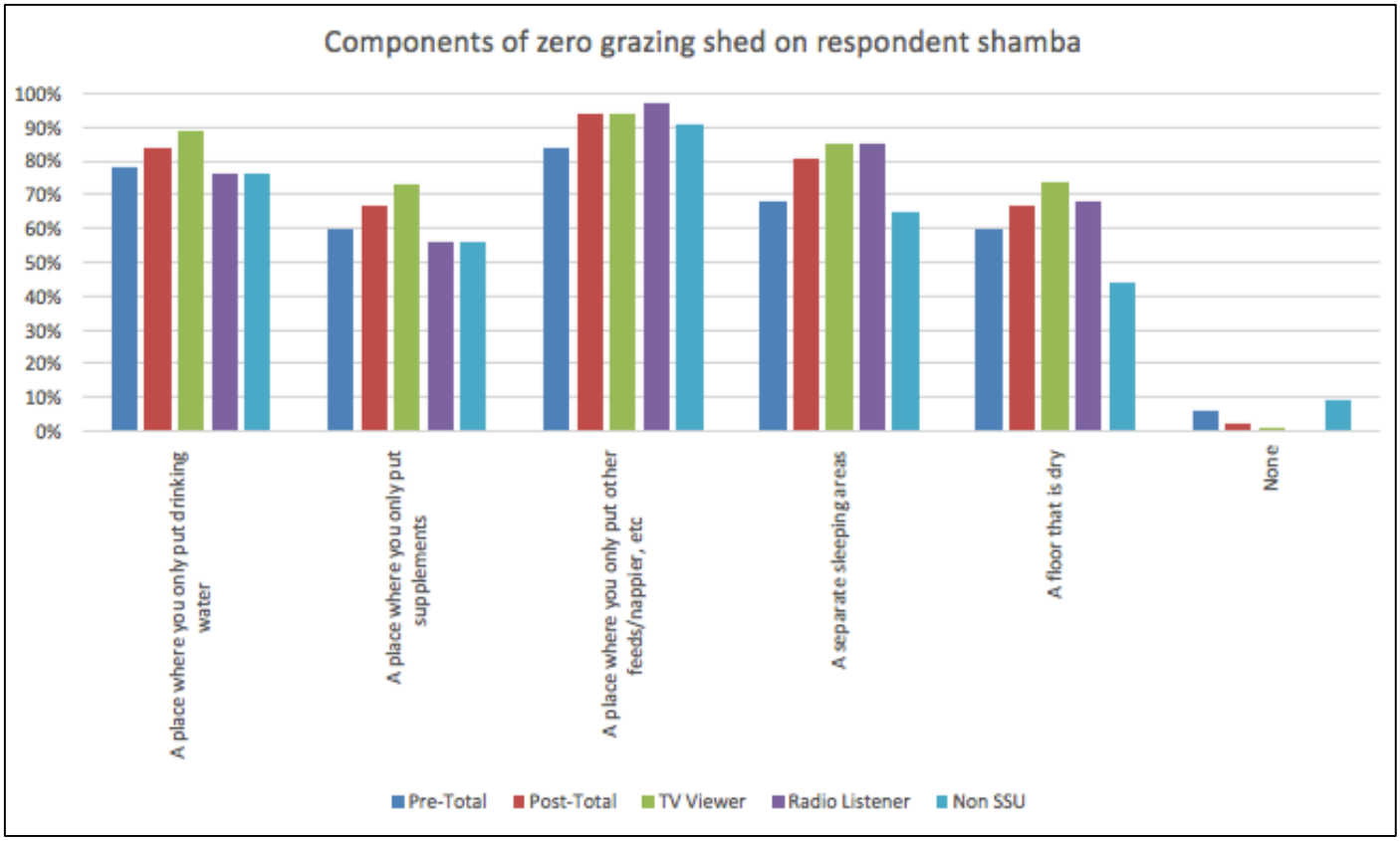
Viewers have consistently higher yields than listeners, who also have higher wet season yields per cow than non SSU respondents. The difference in production per cow is 2 litres in the wet season – correlating, at a milk price of 35Ksh, to 70Ksh per day or 2,100Ksh per month – a good margin in income for households earning between 3,000 and 15,000Ksh per month.



Housing

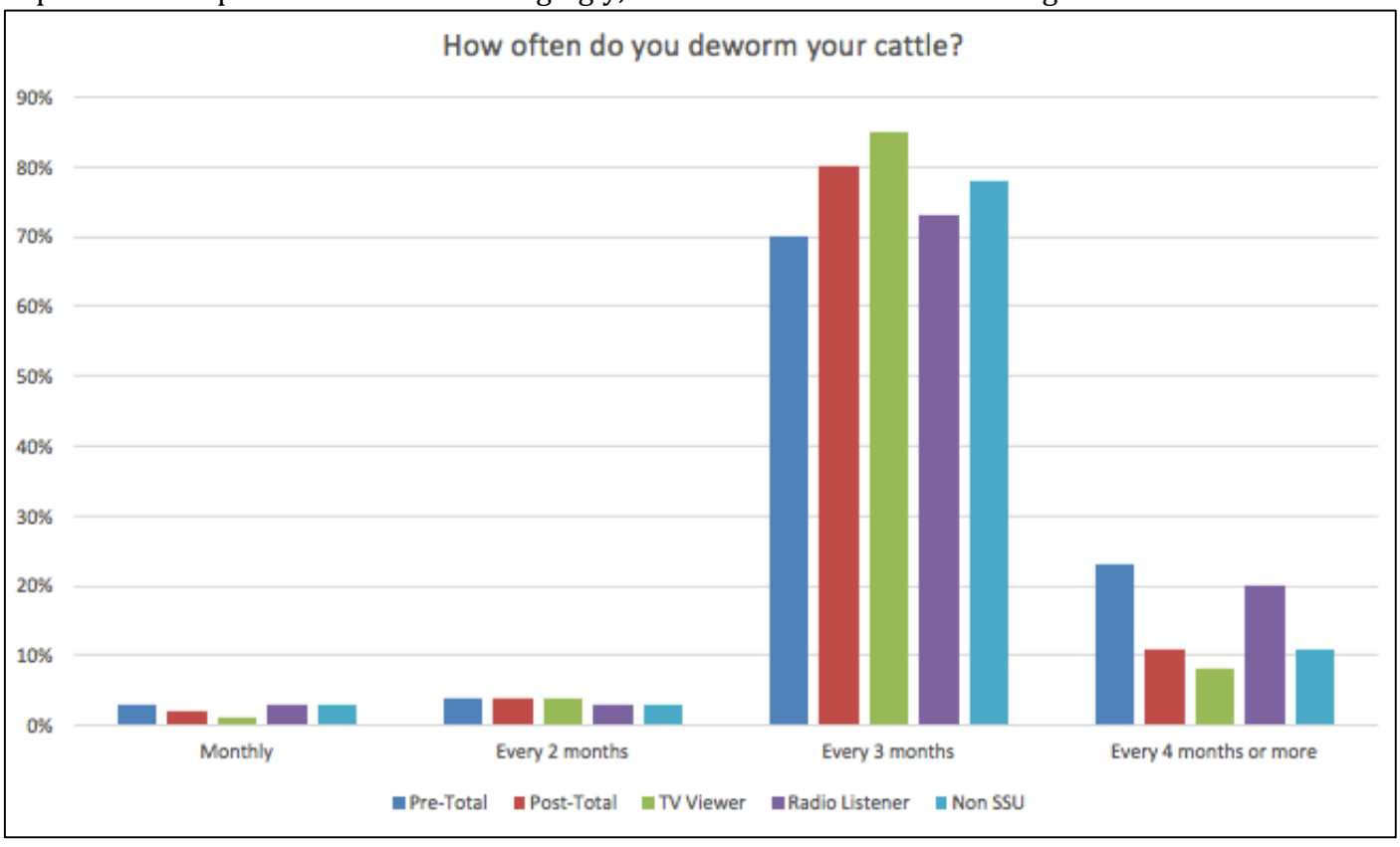
47% of viewers zero-graze their cattle, and keep them in a shed/house full time, versus 32% of listeners and 31% of non SSU respondents.

The requirements of a zero grazing shed are: separate feed, water and supplement troughs, dry floors, sleeping area and a roof. Of these, viewers are 10-20% more likely to provide all the requirements, than non SSU respondents. Listeners are also showing improvements in having dry floors and feed troughs, though not separate as for viewers.



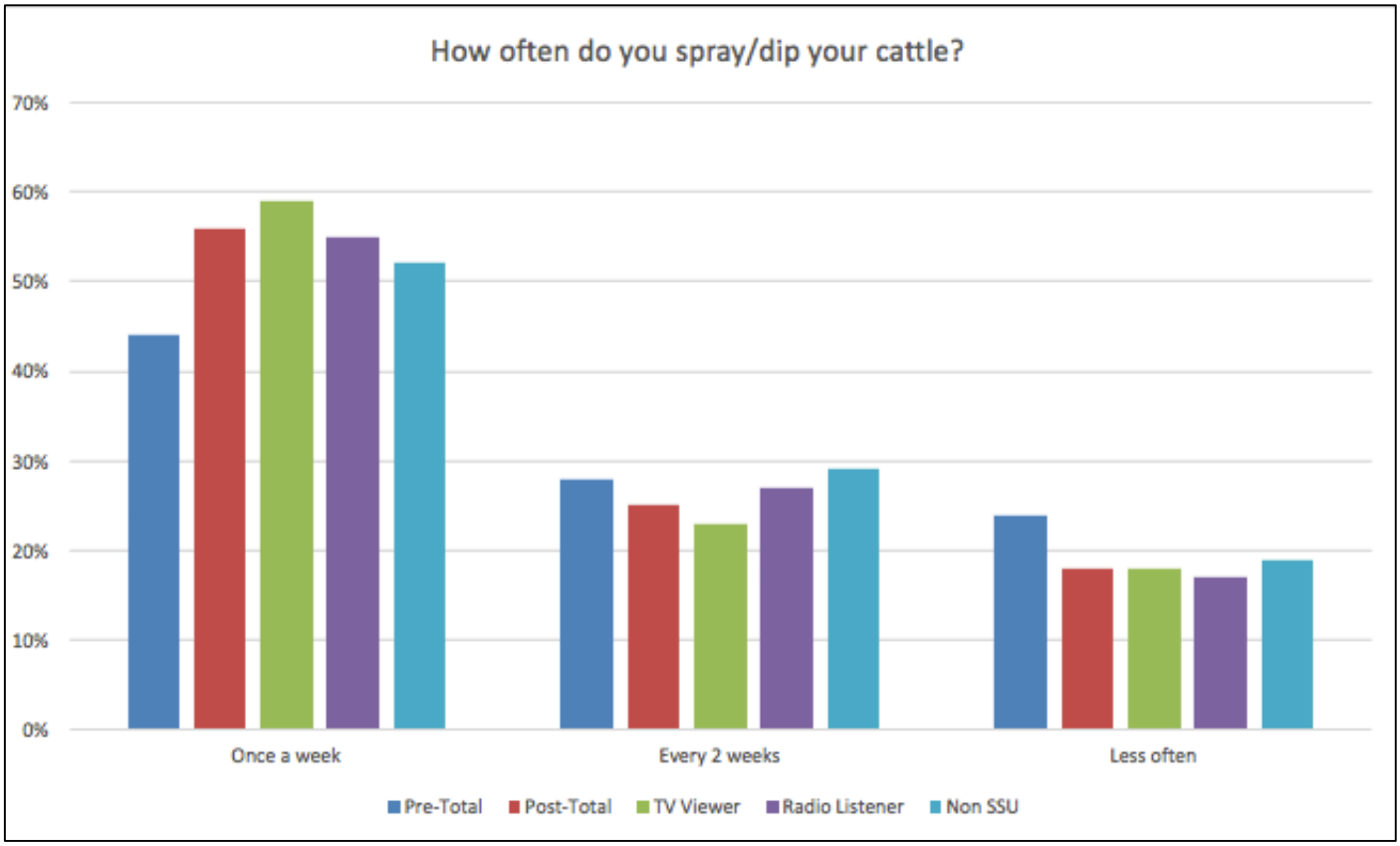
Health and diseases

All are aware of ticks and worms in cattle and over 80% of all respondents deworm their cattle. However, viewers are more likely to deworm at 3 month intervals as recommended; this has improved since pre-broadcast. Encouragingly, the number who deworm is high across the board.

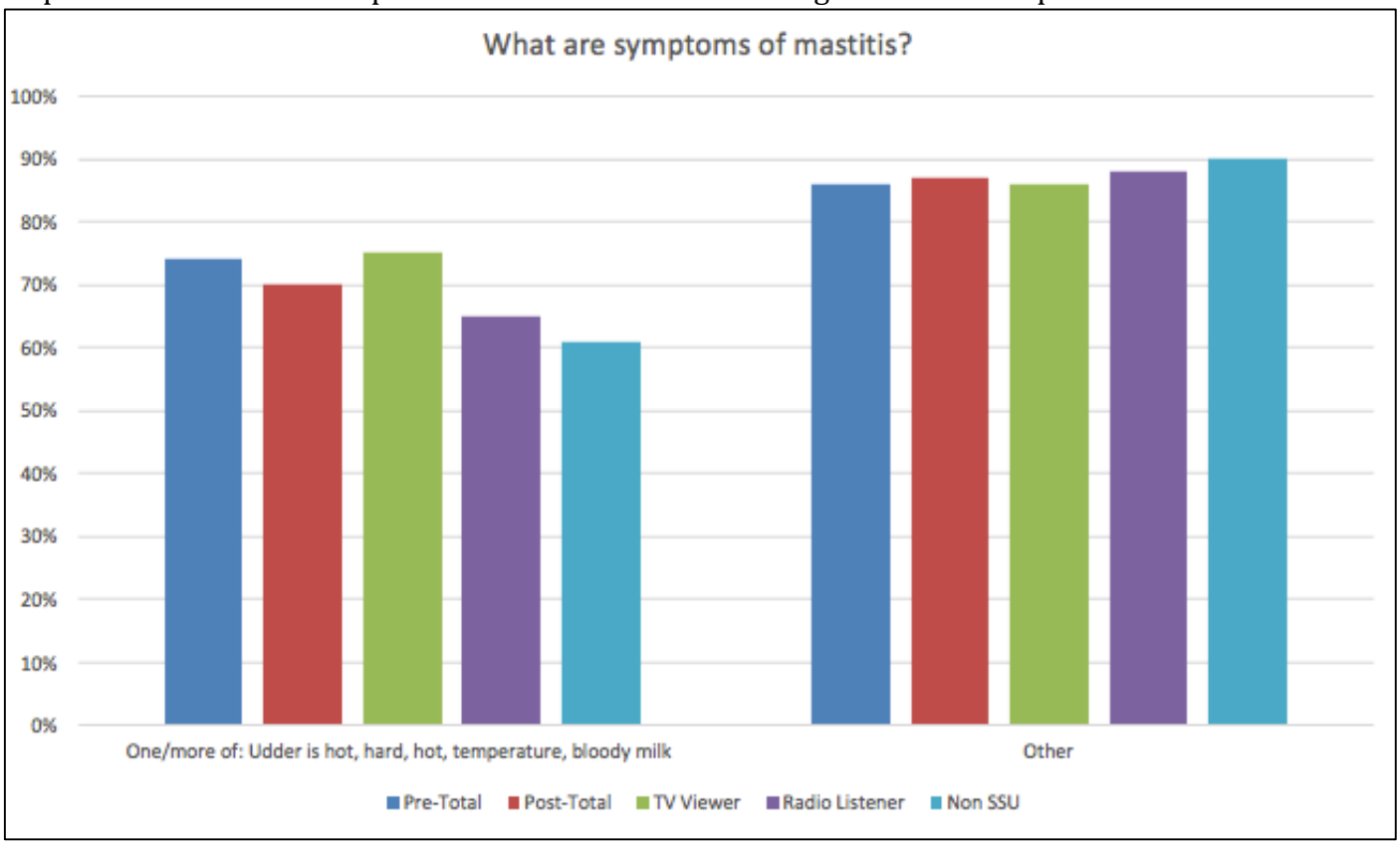


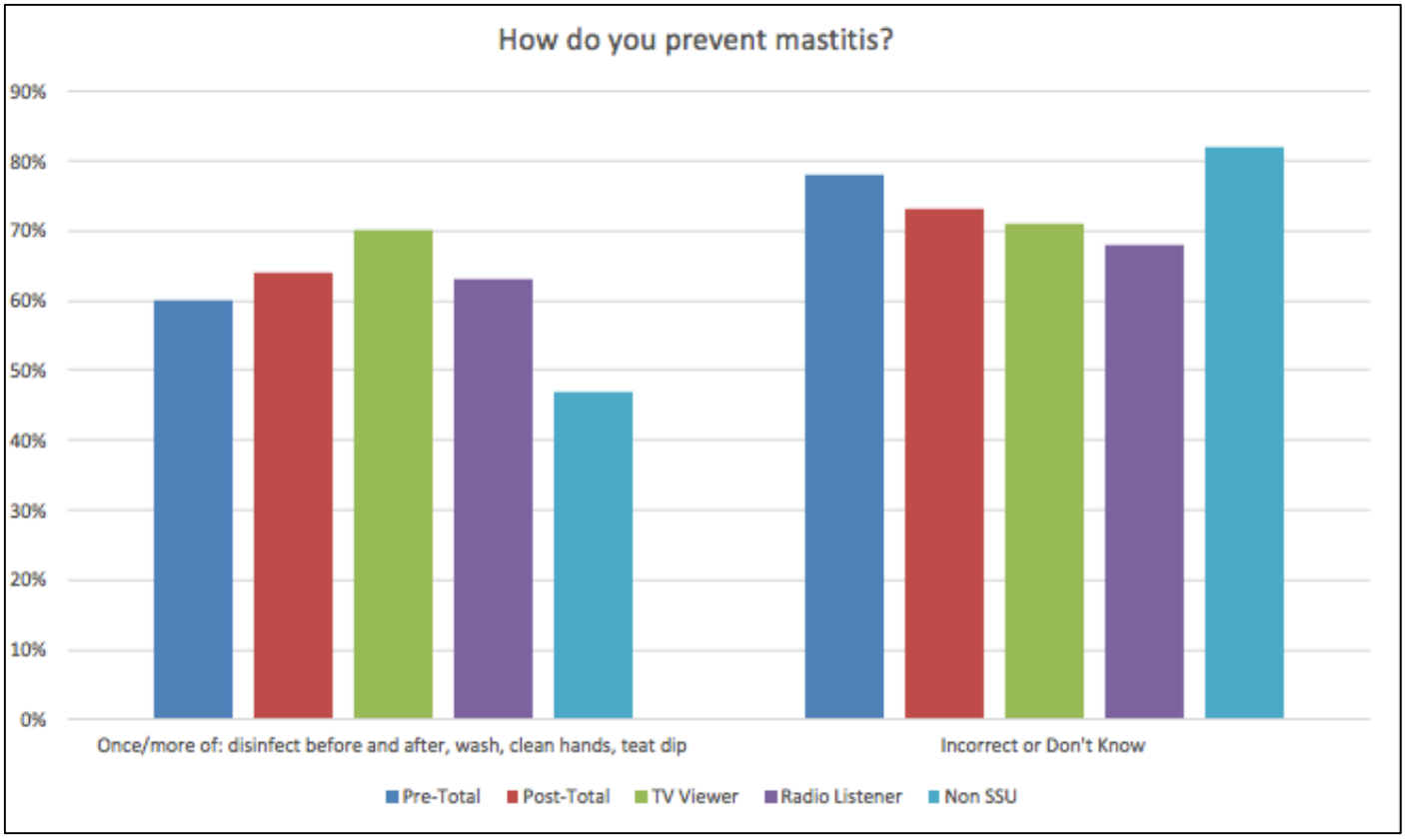
80% know what the symptoms of worms are.

90% spray for ticks. The number who do so at the recommended 1-week interval has grown over the period across all respondents; however, viewers and listeners are up to 10% more likely to be spraying at correct intervals.



For mastitis control, 30% more viewers are aware of how to prevent mastitis than non SSU (15% more listeners are aware). 15% more viewers are aware of mastitis symptoms than non SSU respondents. 30% of all respondents recall their cows having mastitis in the past.

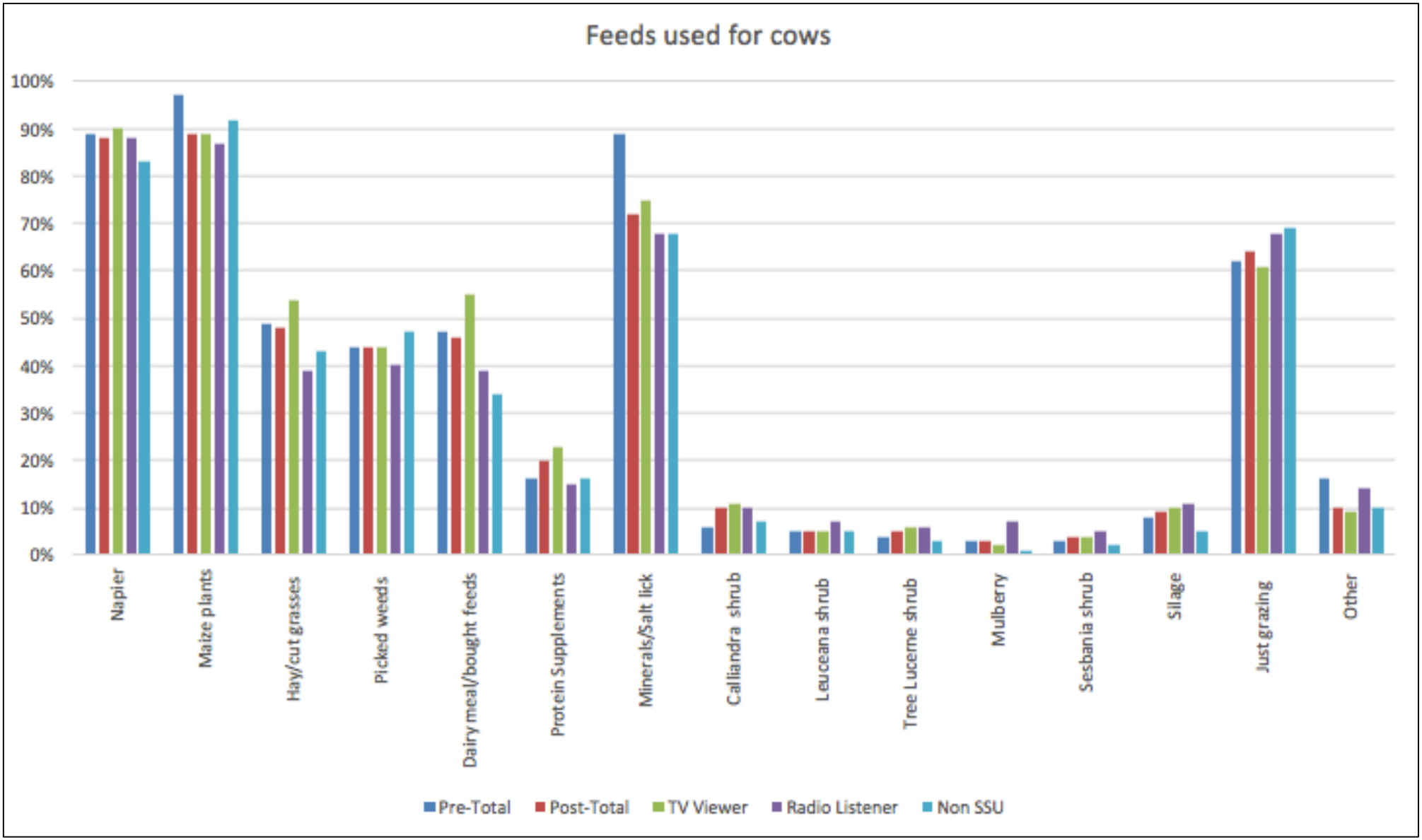




Feeds and supplements

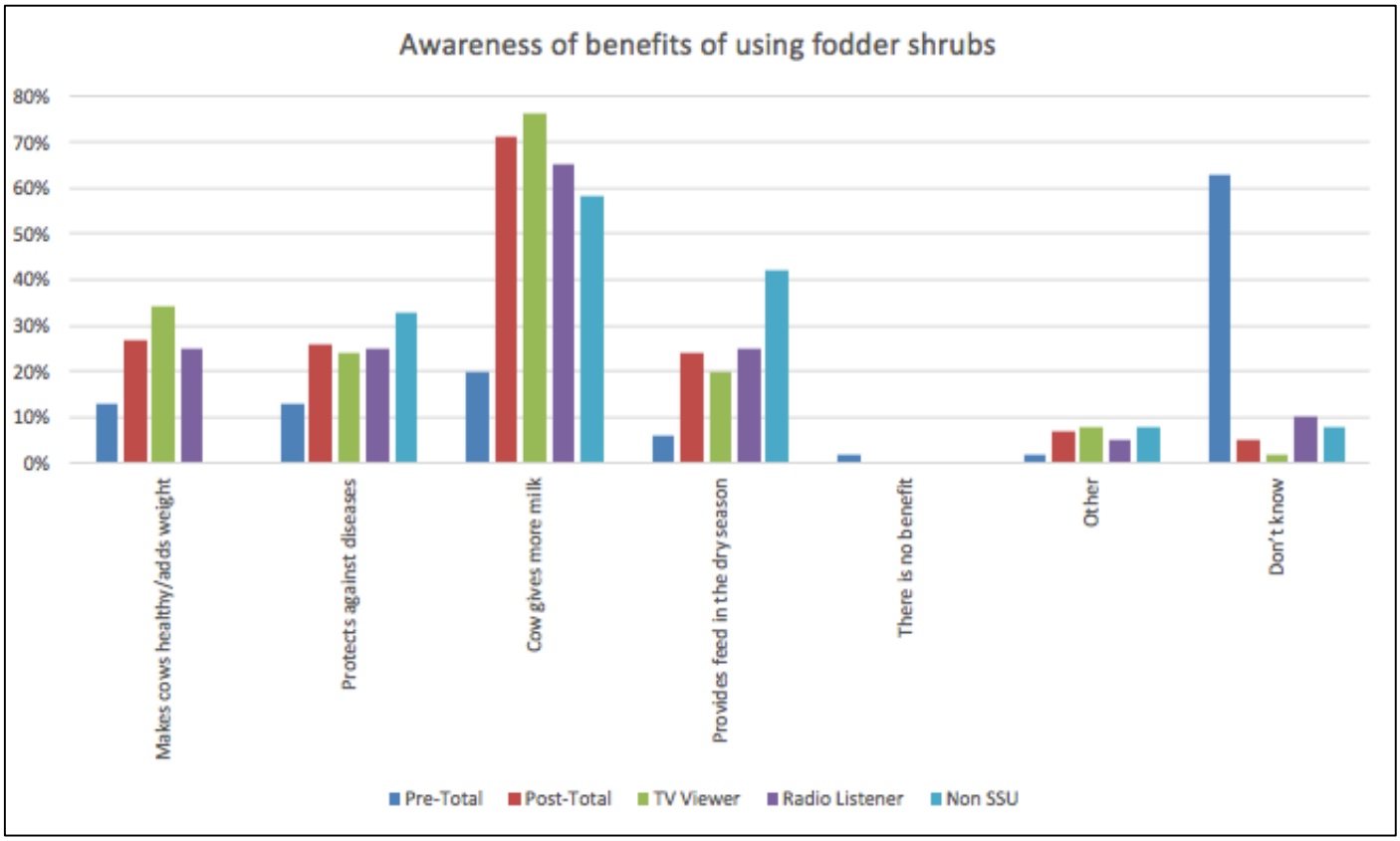
The series covered use of dairy meal, supplements and Calliandra fodder shrubs as feed for cattle. All of these were remembered frequently as practices learned from the program.

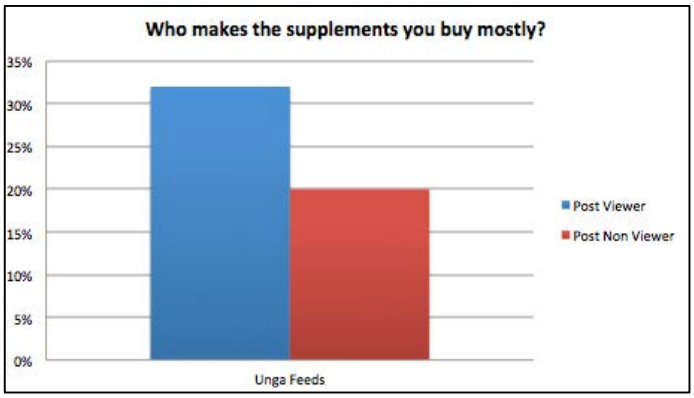
20% more viewers use dairy meal and 10% more use supplements than non SSU – they are also more likely to zero graze, use hay and to use fodder shrubs and silage for their cattle.

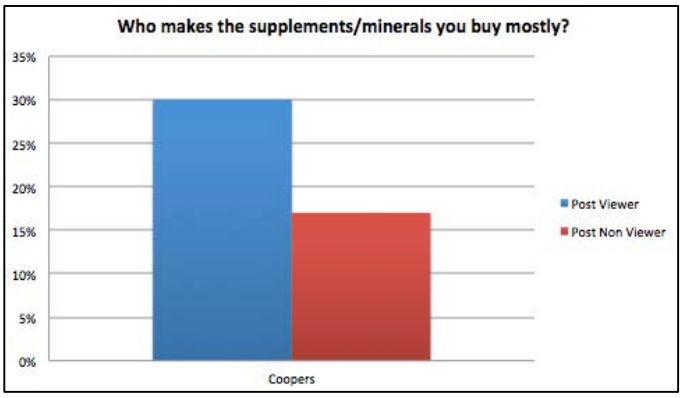

Feeds used for cows
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Napier
Maize plants
Hay/cut grasses
Picked weeds
Dairy meal/bought feeds
Protein Supplements
Minerals/Salt lick
Calliandra shrub
Leuceana shrub
Tree Lucerne shrub
Mulberry
Sesbania shrub
Silage
Just grazing
Other
Pre-Total
Post-Total
TV Viewer
Radio Listener
Non SSU

Use of Calliandra as a fodder shrub has increased – viewers and listeners are 4-5% more likely to use Calliandra and other fodder shrubs than non SSU. Those who do grow Calliandra intercrop it on their farms, or use for internal boundaries, as recommended in the program.

Awareness of the benefits of fodder shrubs has grown significantly, with viewers and listeners showing 20% and 50% improved awareness of health and milk benefits. However, the benefits of the shrub as a dry season feed needs improvement.



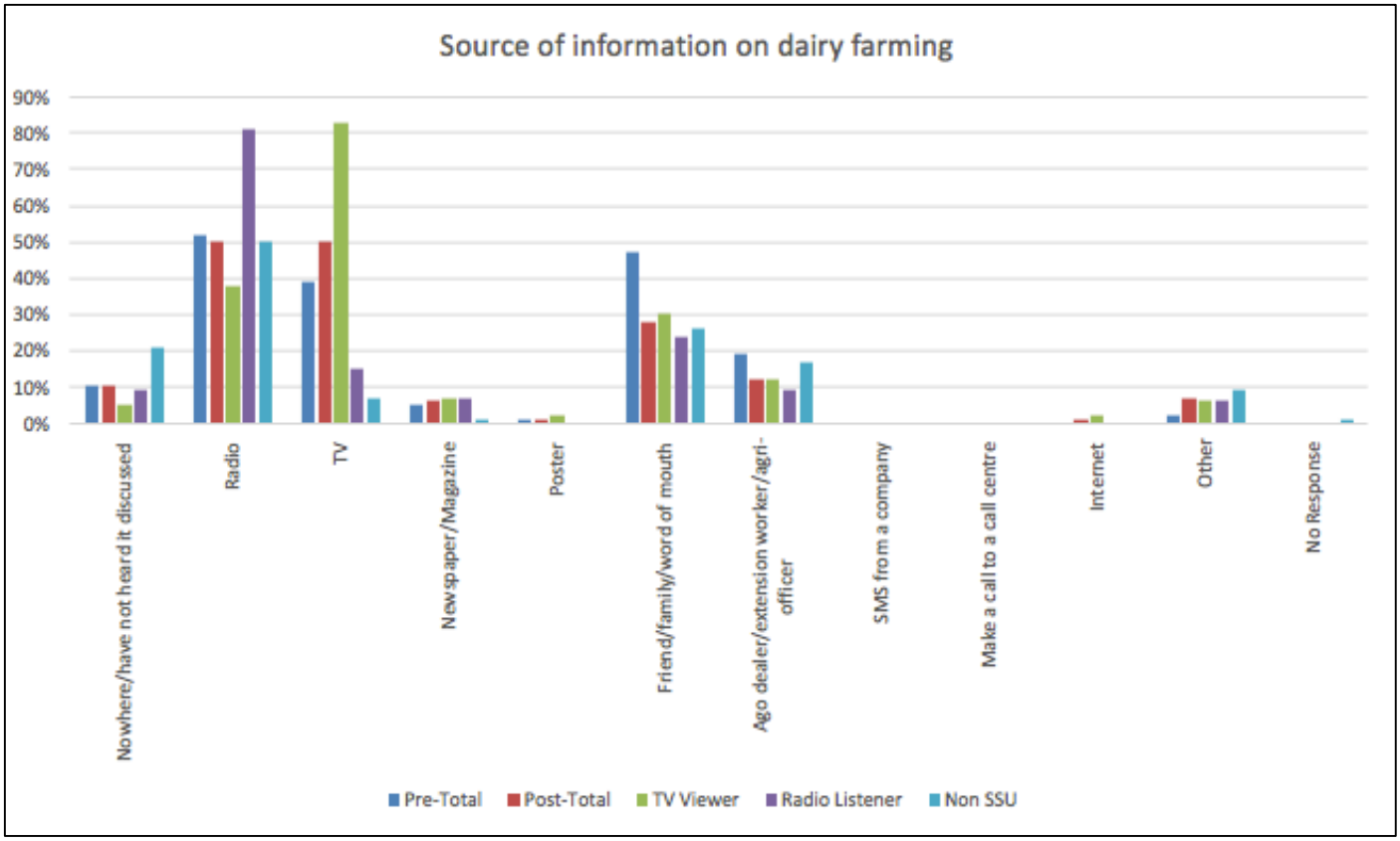




In terms of brand use, more viewers buy brands associated with SSU – Unga and Coopers:

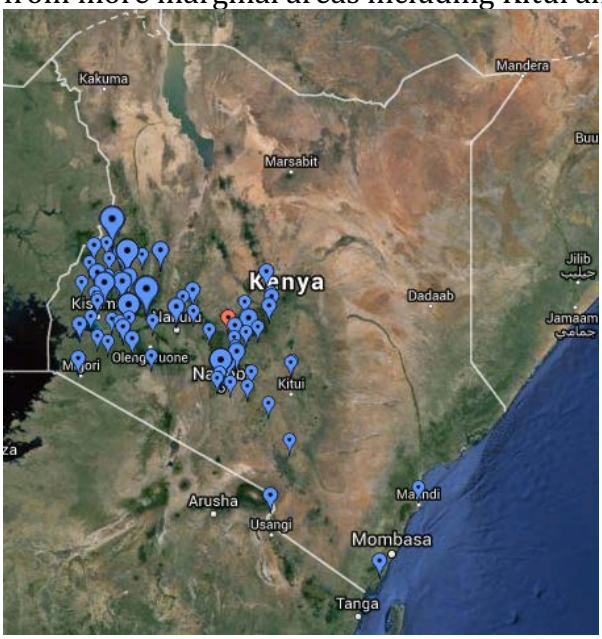
Sources of information for dairy/cattle

SSU TV viewers are getting their dairy information mainly from TV, SSU radio listeners from radio, and non SSU are getting theirs from radio, friends/family and agrodealers.



SMS traffic for dairy sector

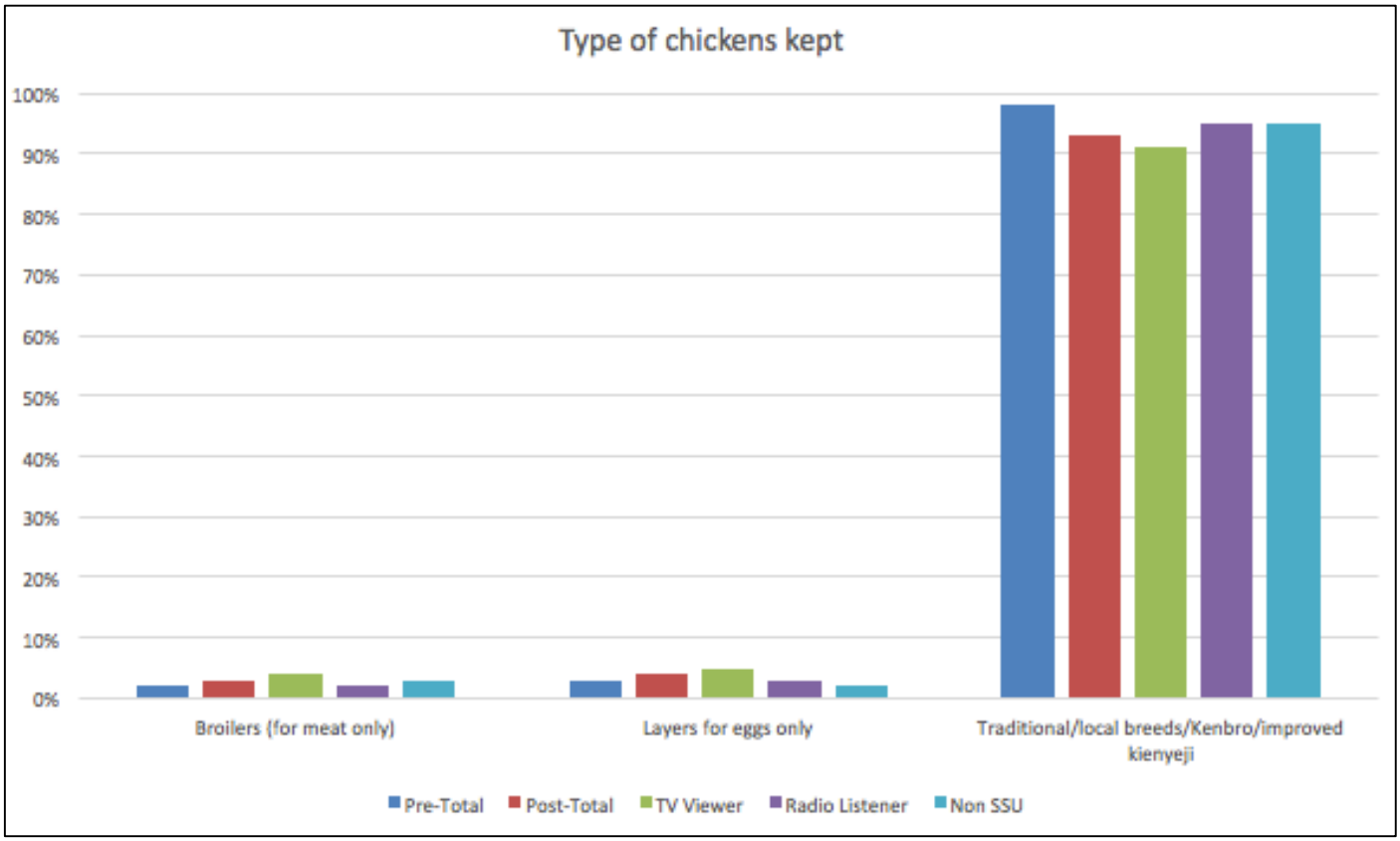
SMS for cattle came from higher potential areas and traditional dairy farming areas, with some traffic from more marginal areas including Kitui and Taveta:



Poultry

The series encouraged farmers to vaccinated against NCD, improve biosecurity for their chickens to reduce diseases, control rodents, and discussed feeds and management for local, mixed and broiler chickens. Chickens feature often on the program, as they are ubiquitous and also generate high levels of demand from the audience.

87% have chickens, over 90% are local or mixed breeds. The average number of chickens ranges from 27 for viewers to 13 for non SSU – the range is from 1 chicken to 2,000. This introduces huge variability into any data.

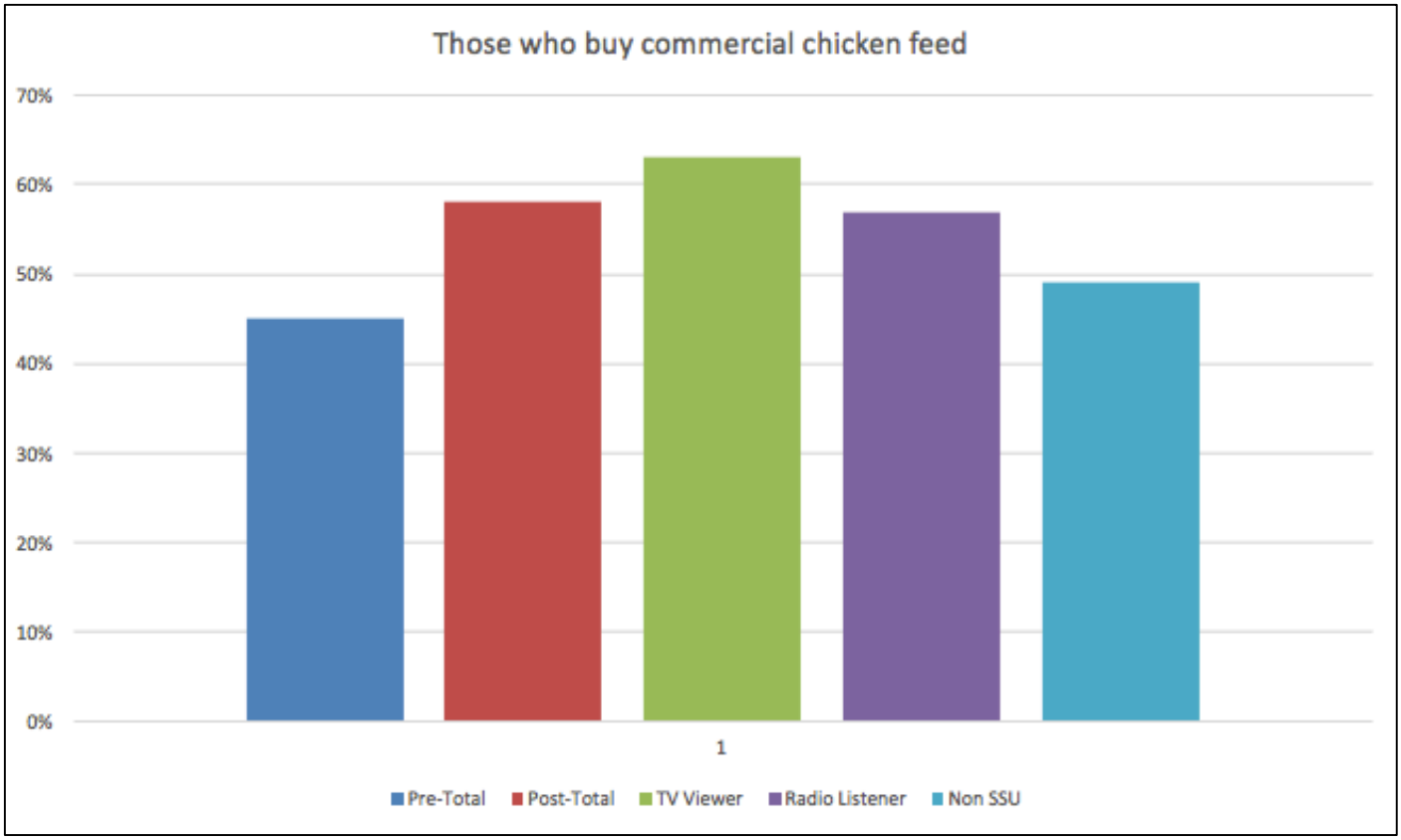


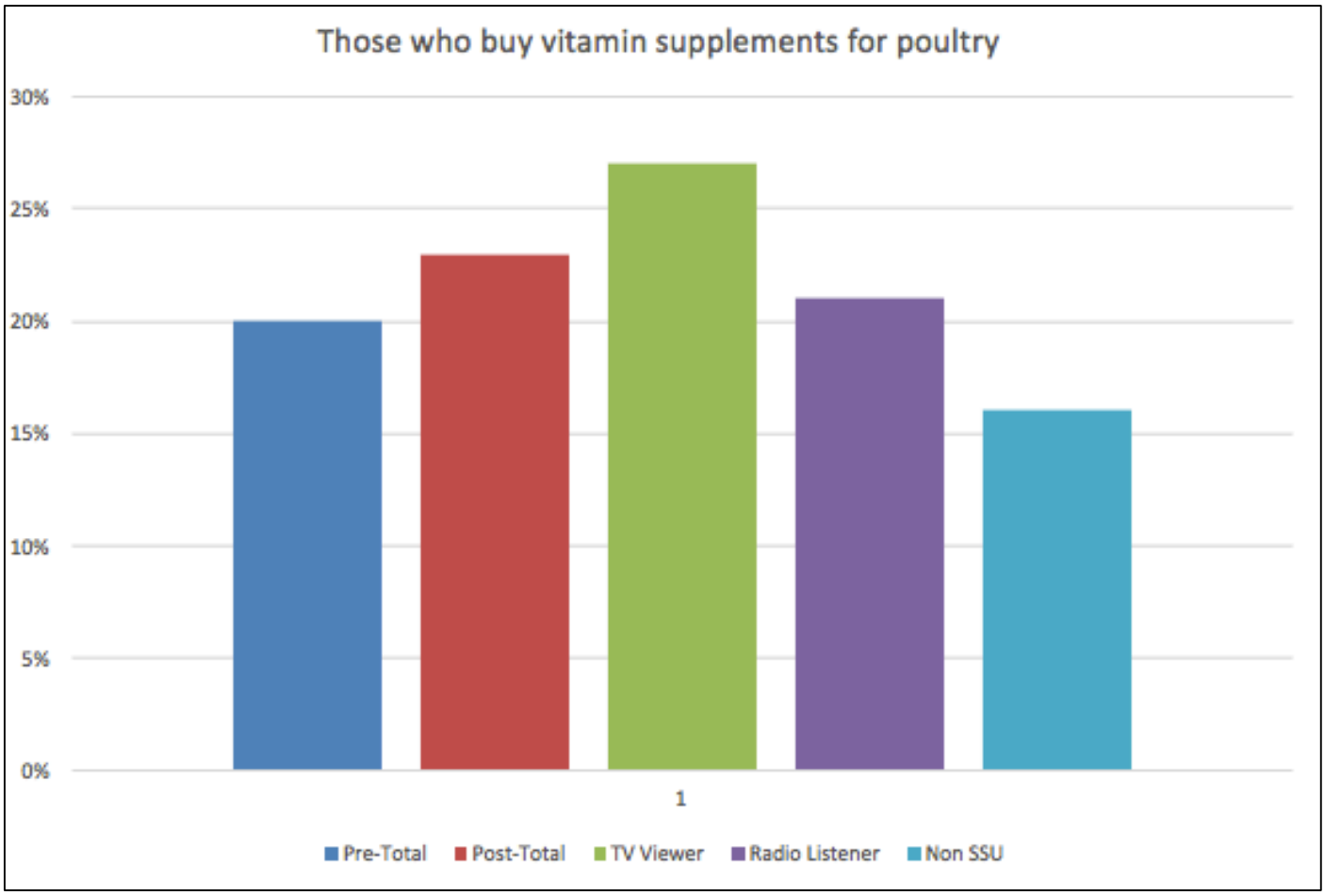
"Grade" chickens (layers or broilers) are expensive to keep, and with fluctuating feed prices, many farmers avoid them. Most farms have local chickens in a free range minimum management method; others have local or improved kienyeji chickens for sale for meat or eggs.

Over 50% have a chicken house to enclose the chickens at night, with more than an average of 1 foot square per bird for local birds.

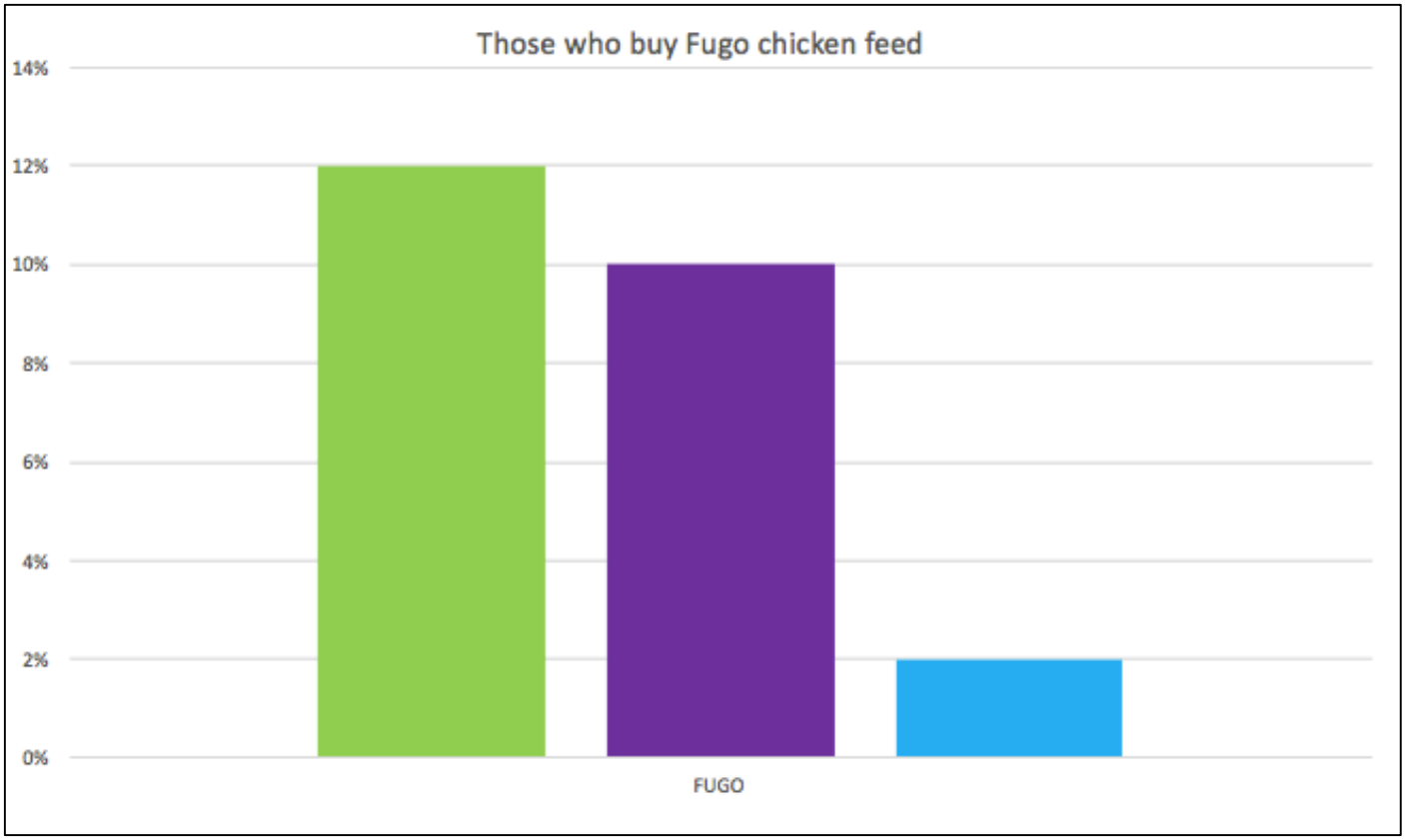
Feeds

15% more viewers buy feed for their chickens than non-SSU and 8% more listeners buy feeds. This is consistent with previous data that SSU audiences are more likely to spend more on inputs and investments for their farms than non SSU farmers.

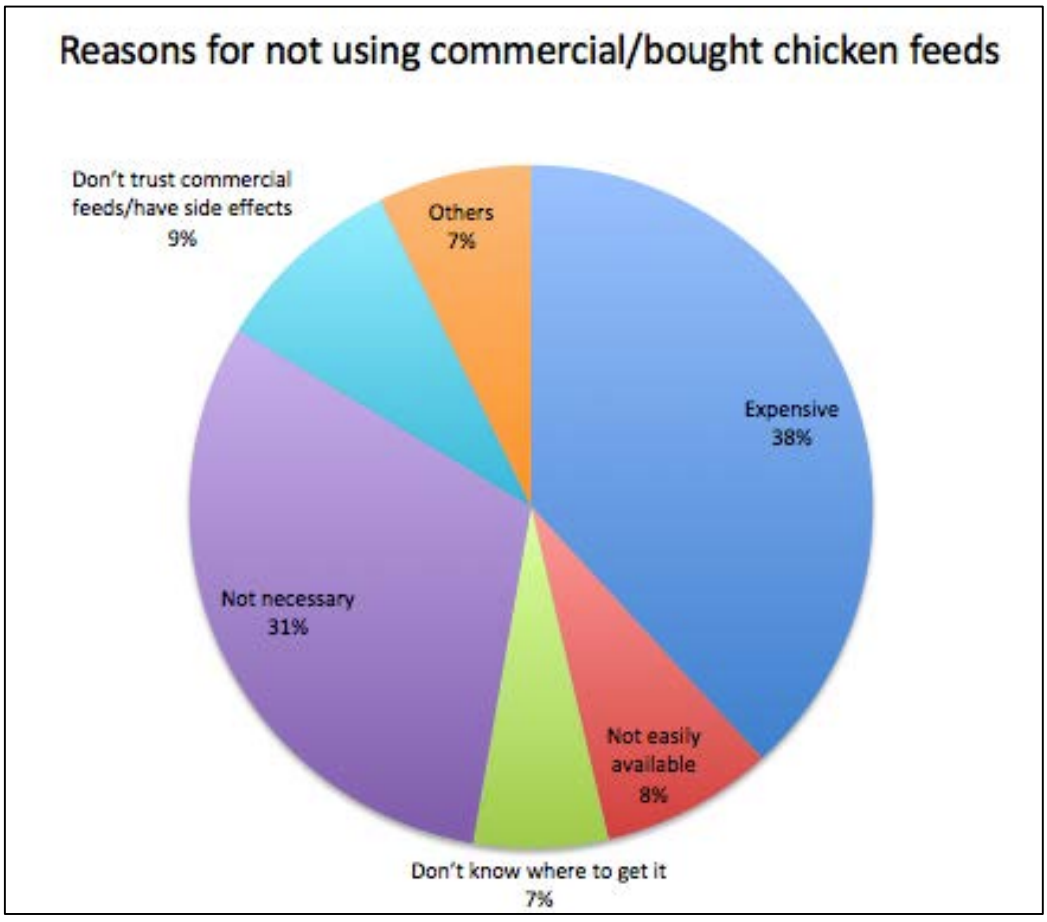




SSU viewers are 10% more likely to buy Fugo feeds and supplements for their birds.



Of those who do not buy chicken feed, the main reason is the cost, followed by 'not necessary' – the latter probably because they are keeping local chickens only. The chart below shows results from the whole dataset in October 2015 (i.e. merged viewer, listener and non SSU).



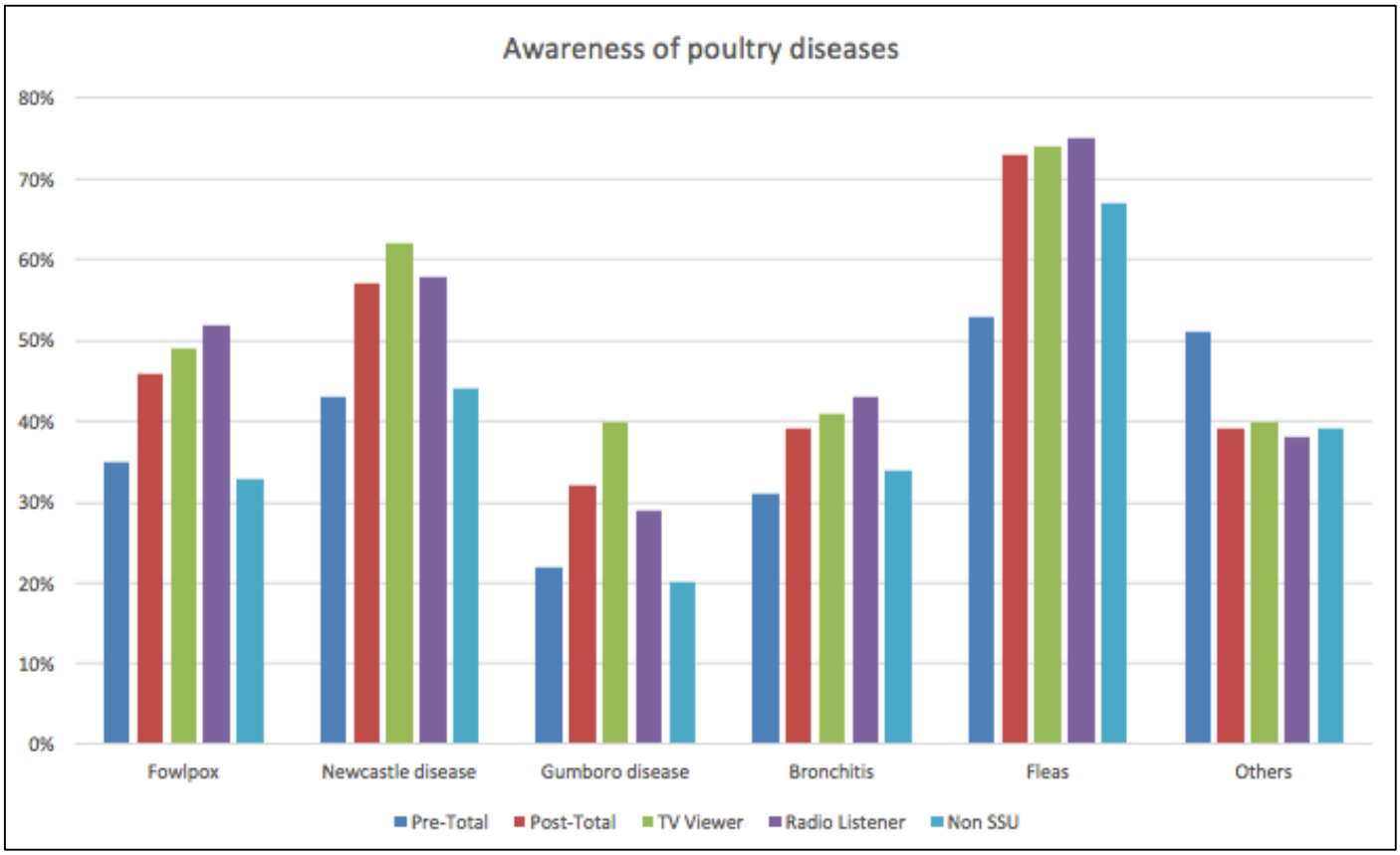
Health

The series extensively covered health, hygiene and Newcastle Disease (NCD) vaccination and control.

The awareness of NCD increased by 20% among viewers and by 15% among listeners. At the same time, awareness of Fowl pox grew by 14-18% and Gumboro by 7-16%, and Bronchitis by 10-15% - all diseases tackled in both radio and TV programs.

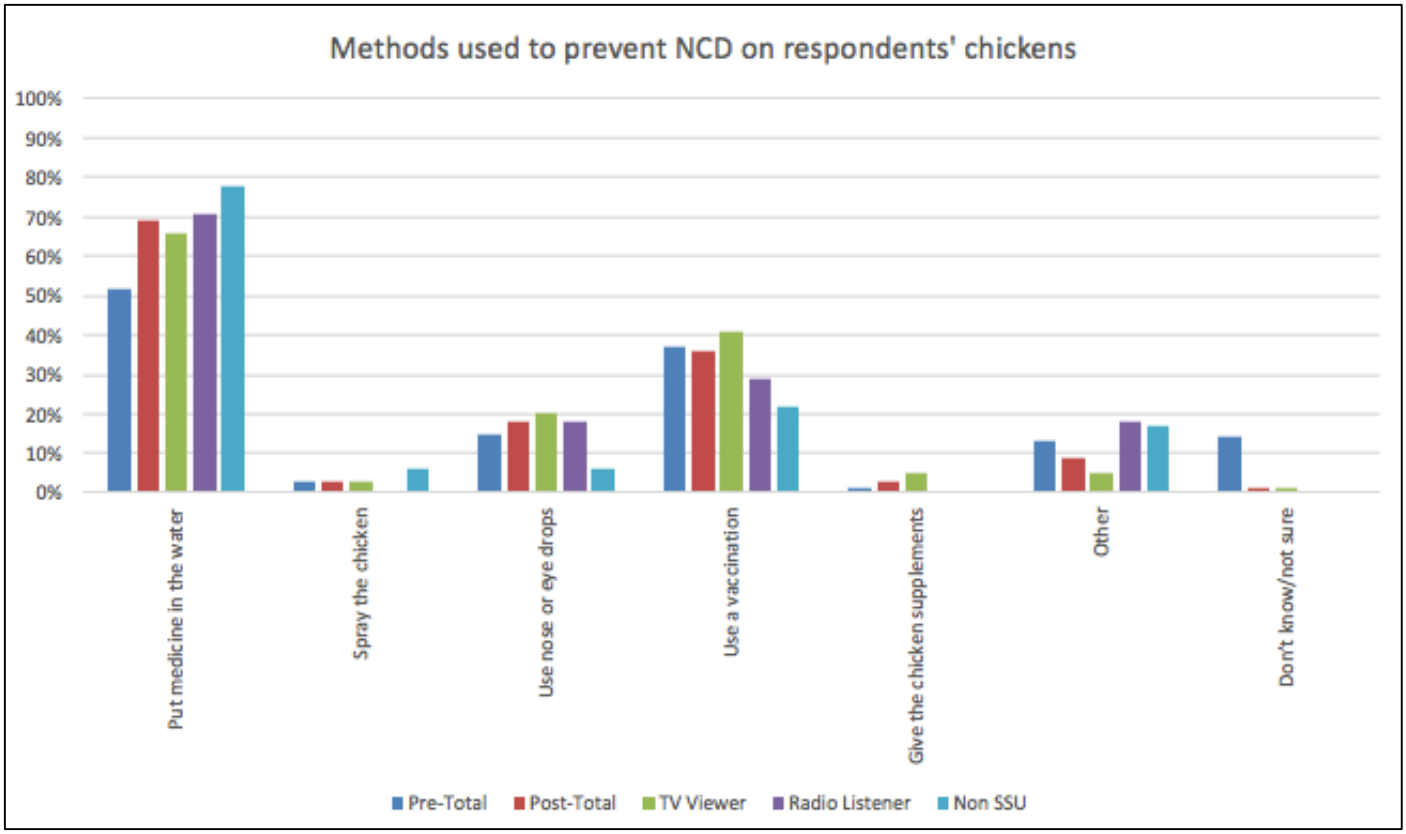
This clearly shows a learning attributable to SSU.

25% of respondents have had NCD in their chickens – the disease is a huge problem in the region and many farmers still do not know how to control or prevent it – more than 50% of Non SSU respondents are unaware of the disease.



Putting medicine in chickens' drinking water is still the most popular method. However, the better method of eye or nose drops were taken up by both viewers and listeners, and not by non SSU respondents.

"Use a vaccination" as a method indicates a misunderstanding that the drinking water and eye/nose drops are vaccination methods.

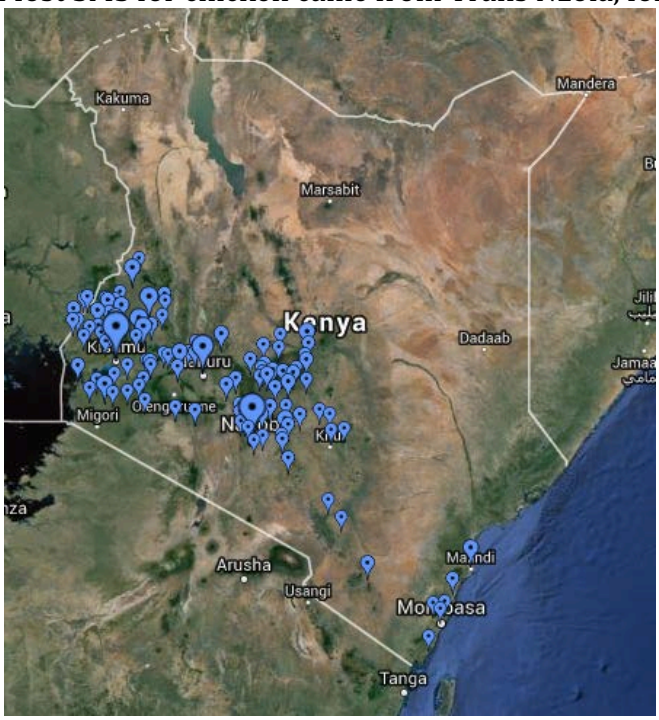


30% use measures to stop rodents getting into their chicken houses, including clearing bush, bait, traps and closing holes.

The majority of viewers get their chicken information from TV. Listeners and non SSU have a spread of chicken information, including radio, posters and 'always known'.

SMS traffic

Most SMS for chicken came from Trans Nzoia, followed by Nairobi and Rift Valley.

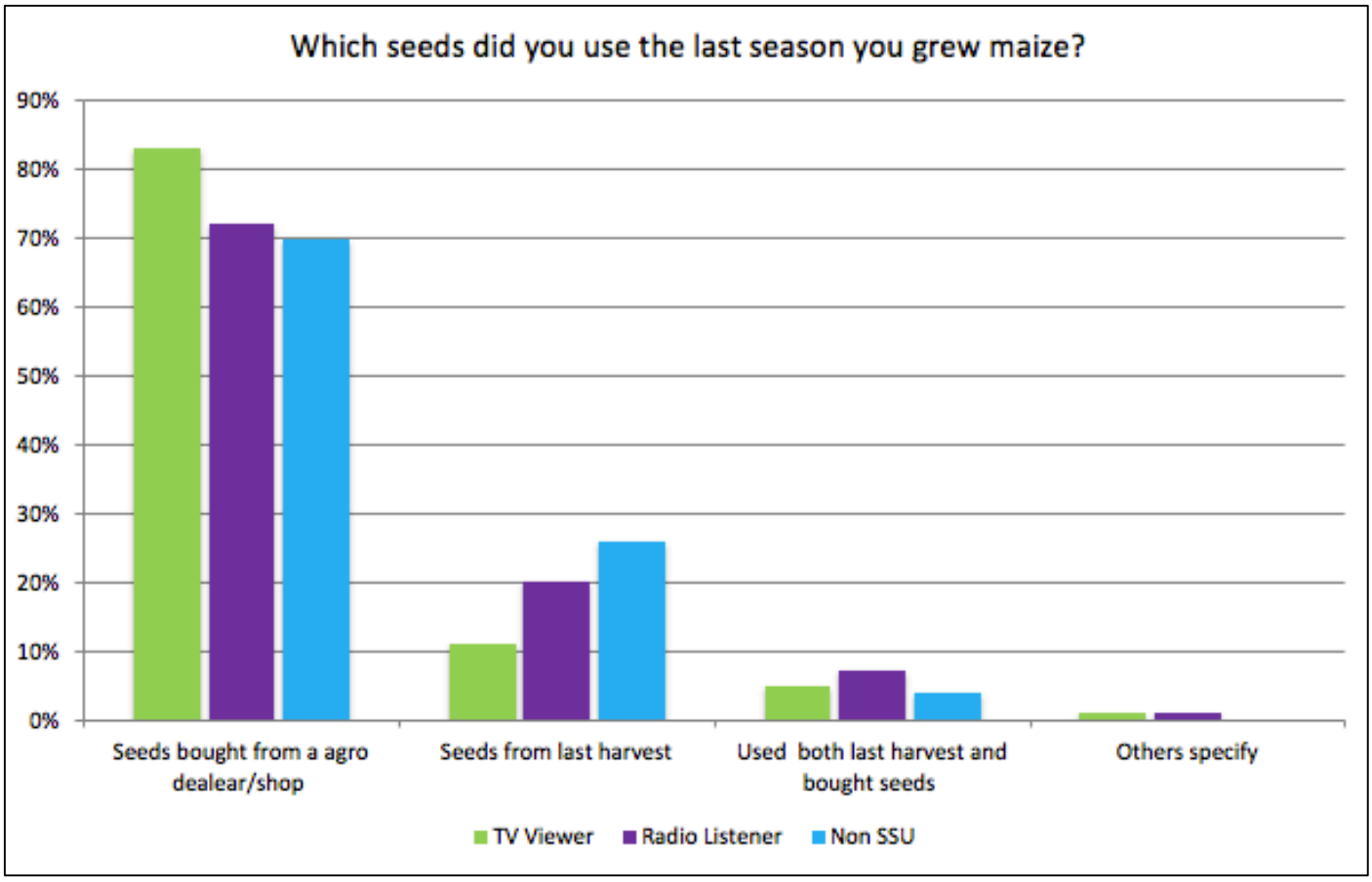


Maize

The program covered plant populations (plant spacing), correct planting methods, IR Maize (Striga resistant or "Kayongogo", Maize Lethal Necrosis Disease (MLND). Farmers were also encouraged to improve their maize storage techniques, by drying correctly, storing in airtight containers such as PICS bags or silos, and if storing in sacks, to store away from floors or walls, in rodent proof stores.

Source of Seeds

95% of the respondents grow maize. 83% of TV Viewers bought seeds from agro dealers compared to 72% of radio listeners and 70% of non SSU.
26% of the non SSU respondents used maize seed from the last harvest compared to 11% of TV Viewers.



MLND

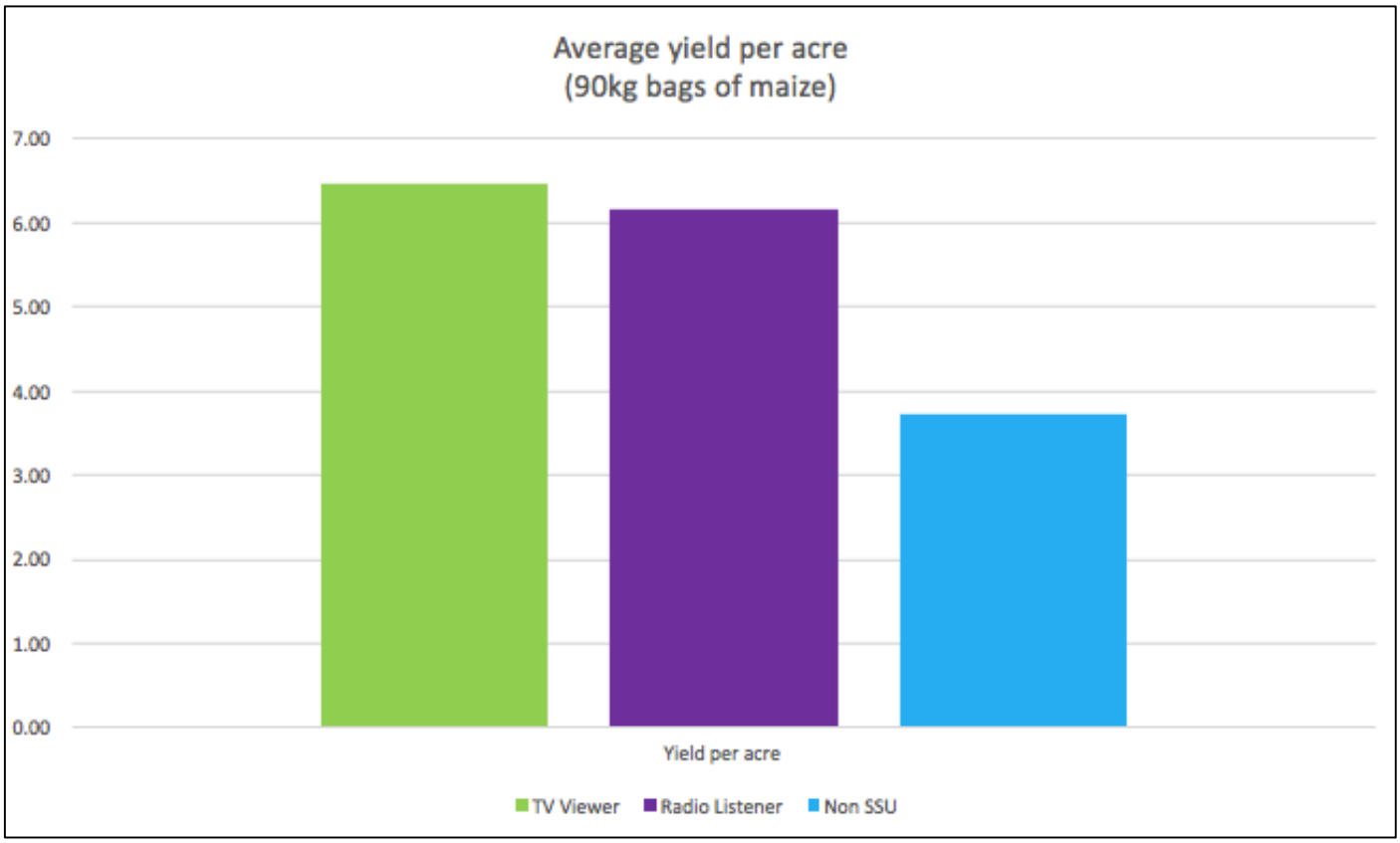
30% of TV Viewers and 35% or Radio Listeners had heard of MLND against 24% of non SSU farmers.
42% of farmers commented that the solution to MLND was to uproot and stop growing maize, however there was no distinction between viewers, listeners and non SSU.

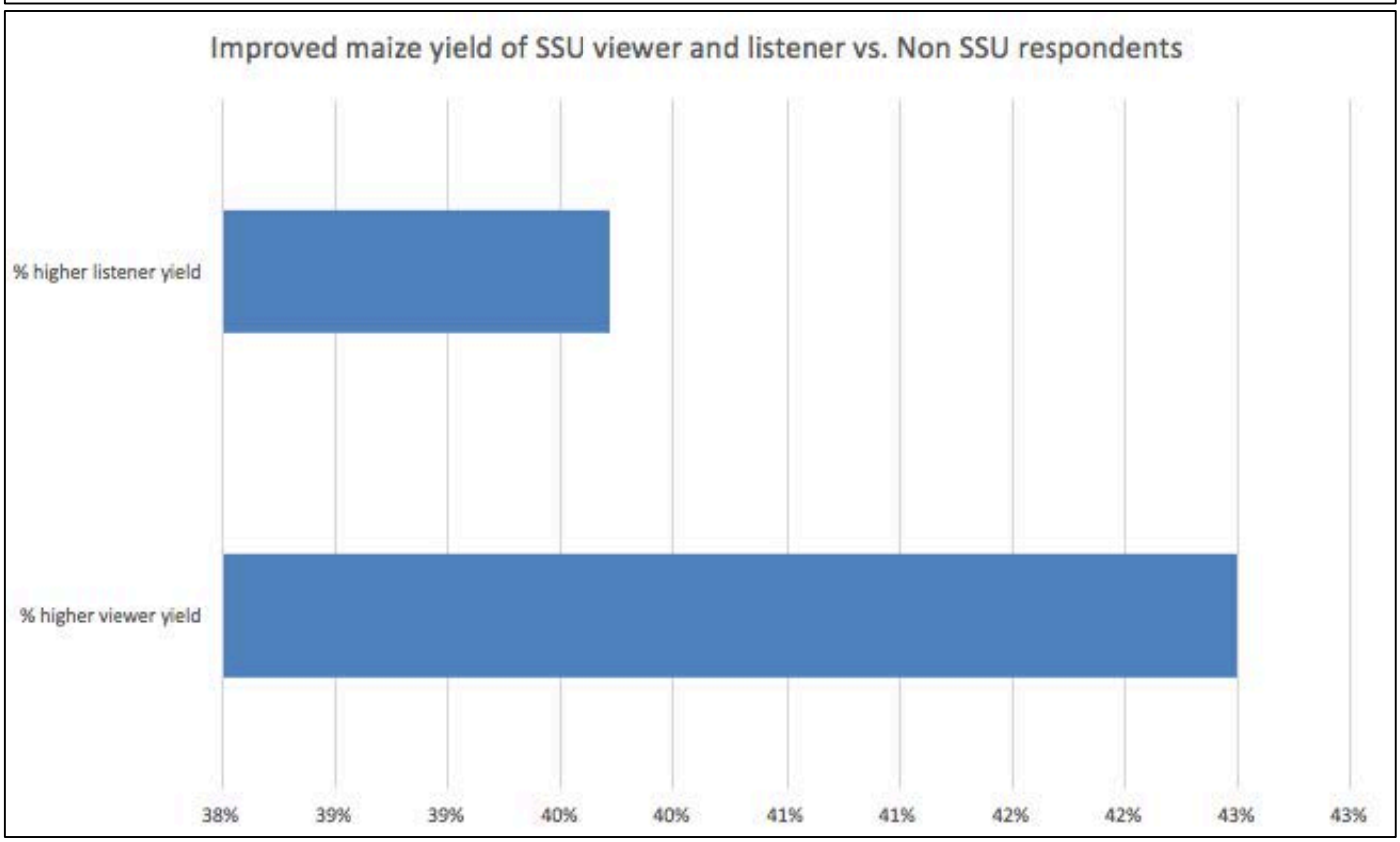
Striga

76% of viewers and listeners knew what Striga / Kayongo is Vs 67% of non viewers.
After having been shown a picture of Striga, 55% of all respondents said they had a problem with the parasite. A slightly higher percentage (2%) of TV viewers were aware of using Striga resistant seeds (IR) compared to listeners and non SSU farmers.

Yield and post harvest management of maize

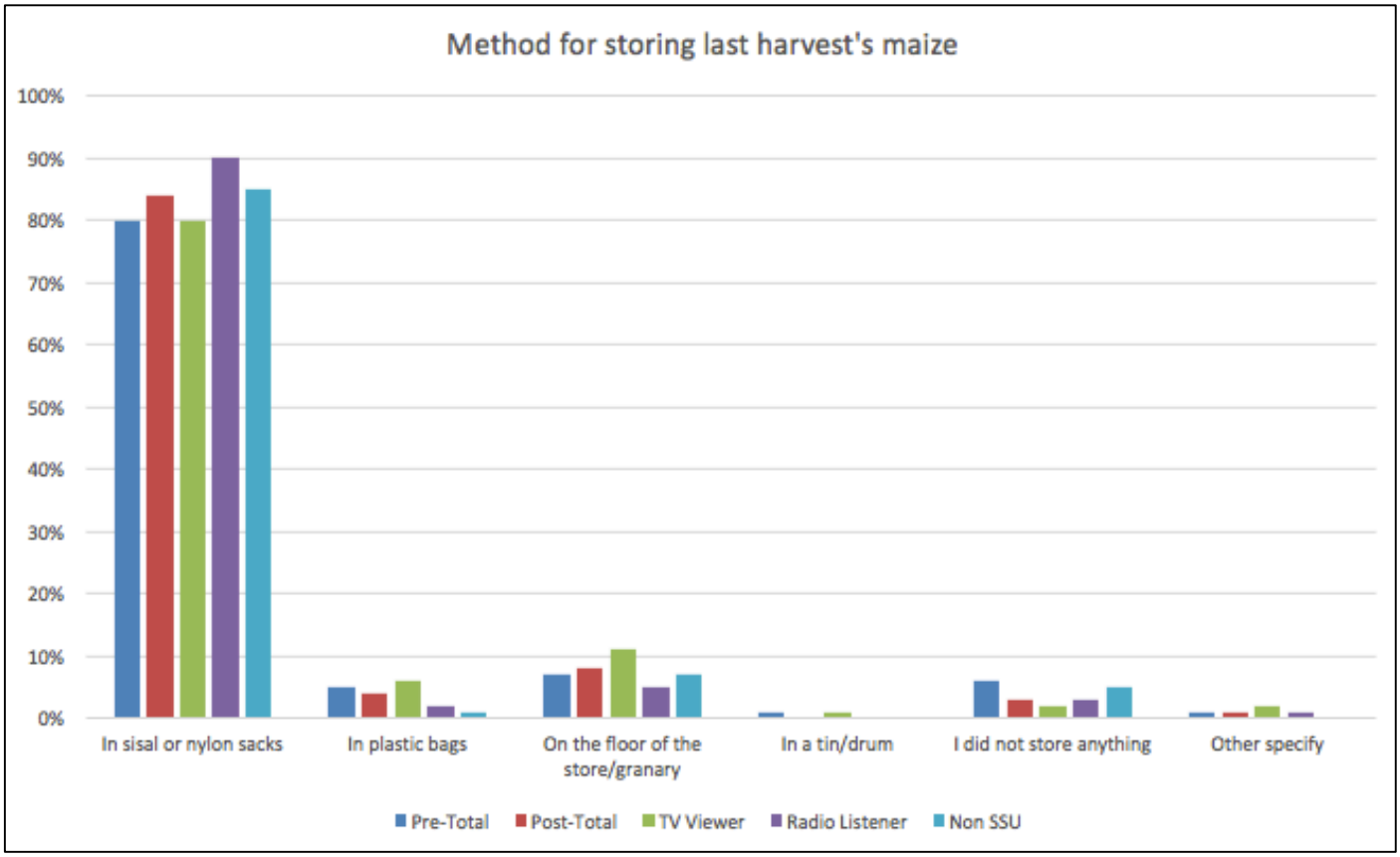
The average acreage under maize in October 2015 ranged from 1.33 acres (viewers) to 1.49 acres (non SSU). However, the yields between the three different groups were markedly different.
Viewers had a 43% higher yield than non SSU respondents, and **listeners had a 40% higher yield**.



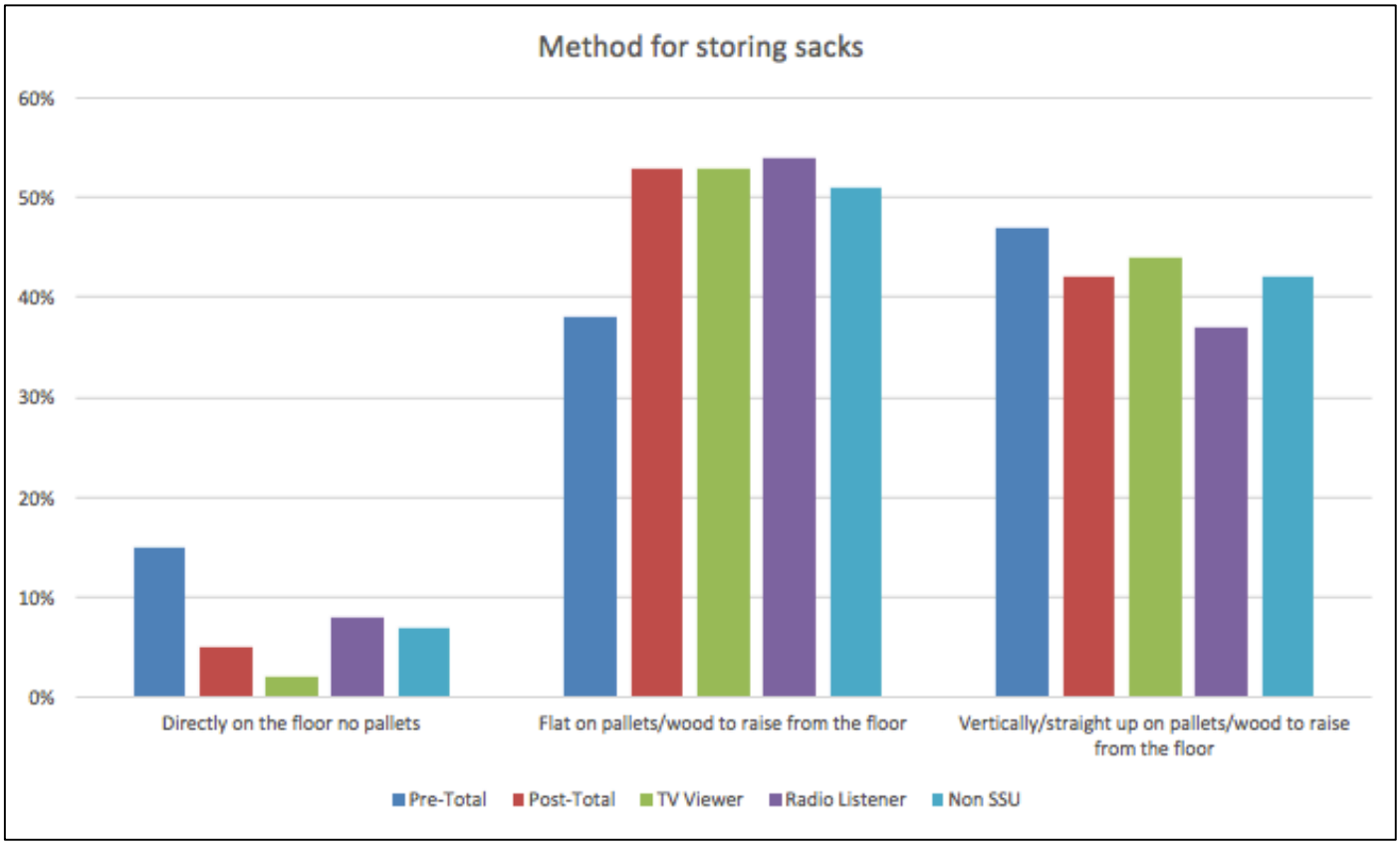


In terms of post harvest management, the program introduced the audience to airtight post harvest storage methods – PICS bags, silos and plastic containers – and reinforced the message that maize stored in sacks must be off the ground and away from the walls in the store.

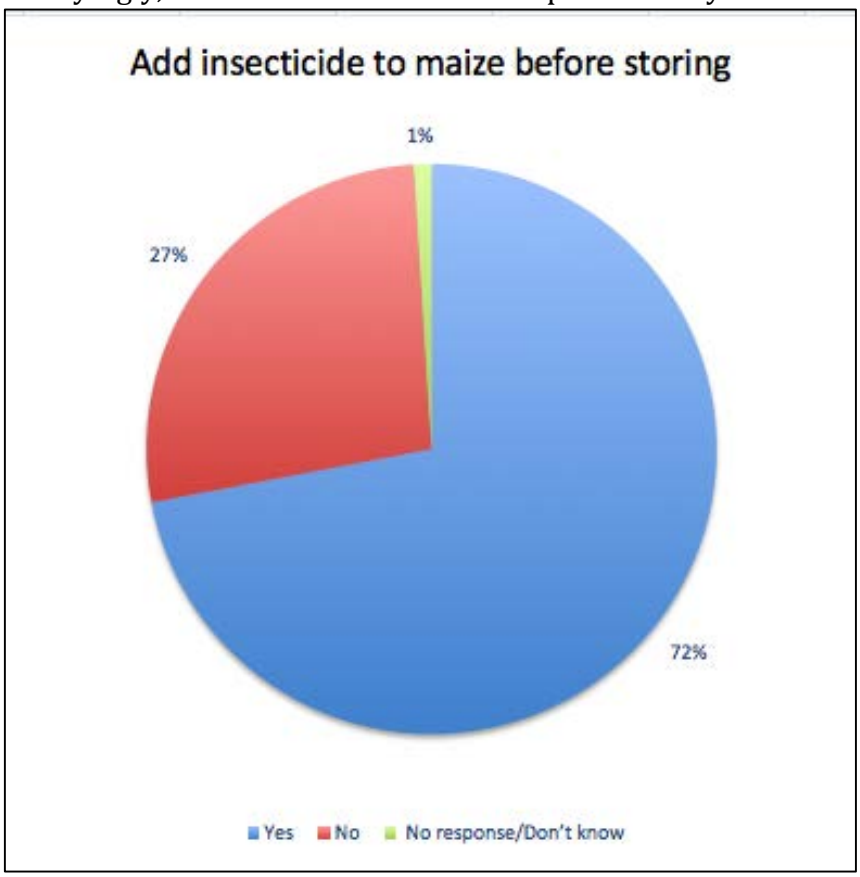
Over the broadcast period there was a slight increase in the number of viewers who use plastic bags (the PICS bags are universally known as plastic bags by farmers who know of them). The increase in viewers storing their maize directly on the granary without sacks or silos is unexplained.

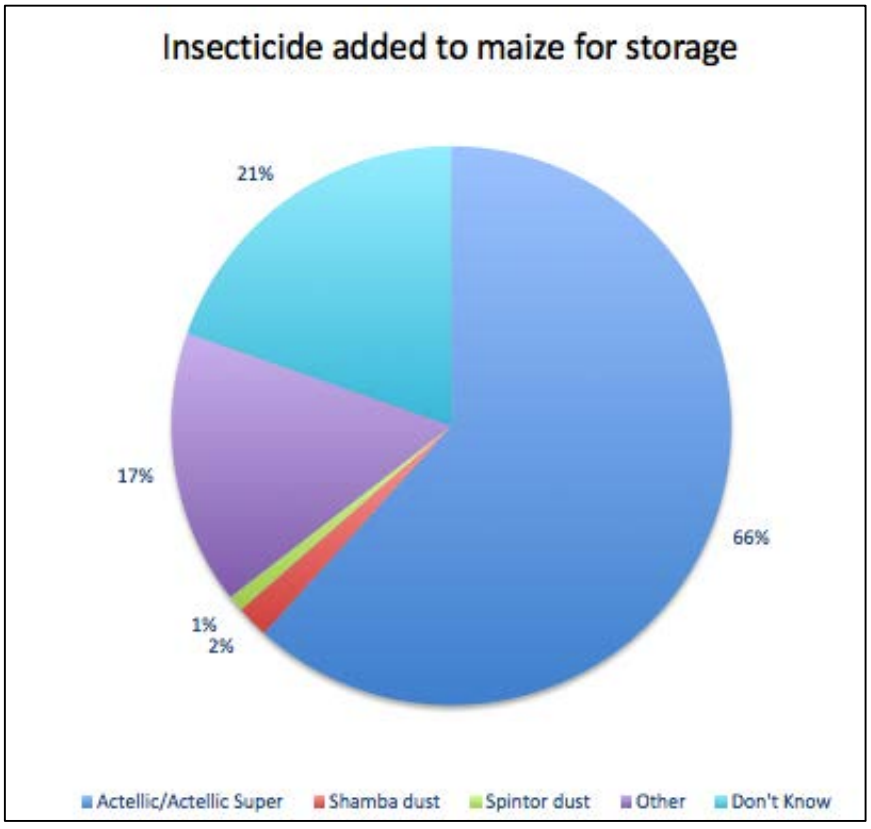


The majority still store their maize in sacks; the number who store on pallets increased, and encouragingly, the number storing their sacks on the floor decreased.



Pesticides for storing maize are still very widely used. Over 72% use an insecticide; 2/3 use Atelic. Worryingly, 21% do not know what the product they use is called.

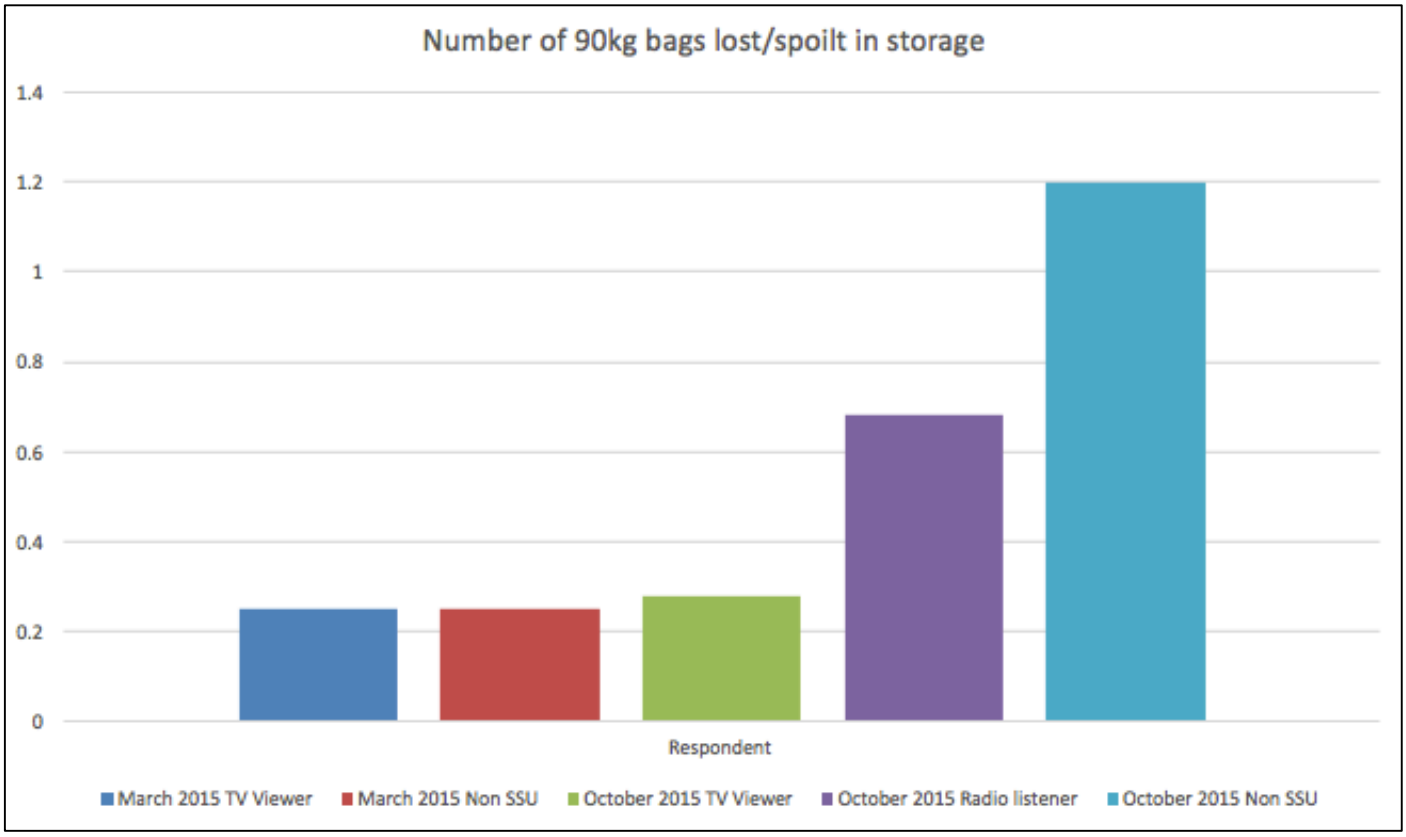


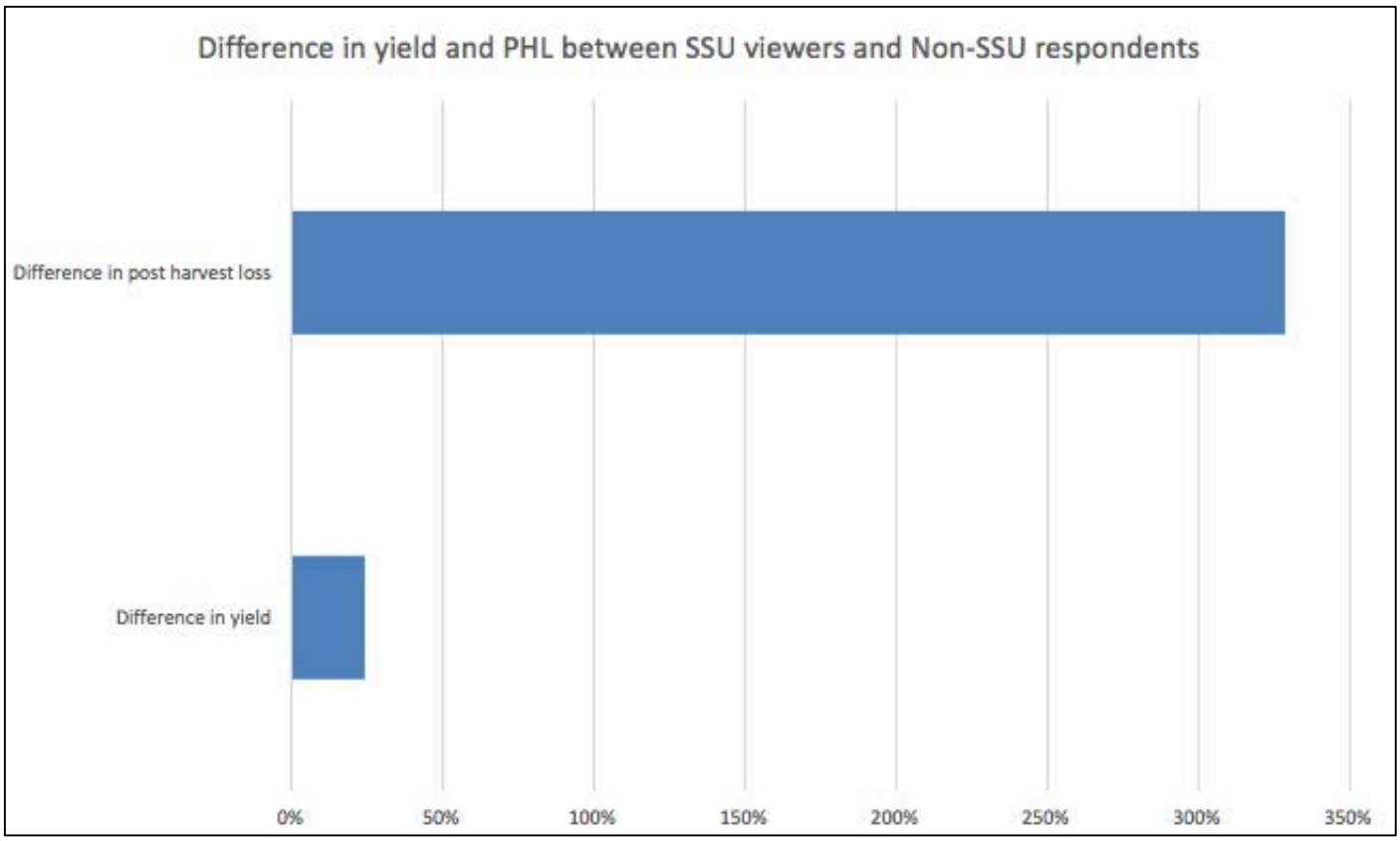


For post harvest losses, rates are still extremely high. In March 2015, pre broadcast, farmers estimated their losses to be around 25% or 1 bag in 4. By October 2015, the non SSU respondents' losses had rocketed.

So, despite harvesting less per acre than viewers or listeners, non SSU respondents also lost more of their harvest in storage.

The difference in post harvest losses between SSU viewers and non SSU respondents is 329%.

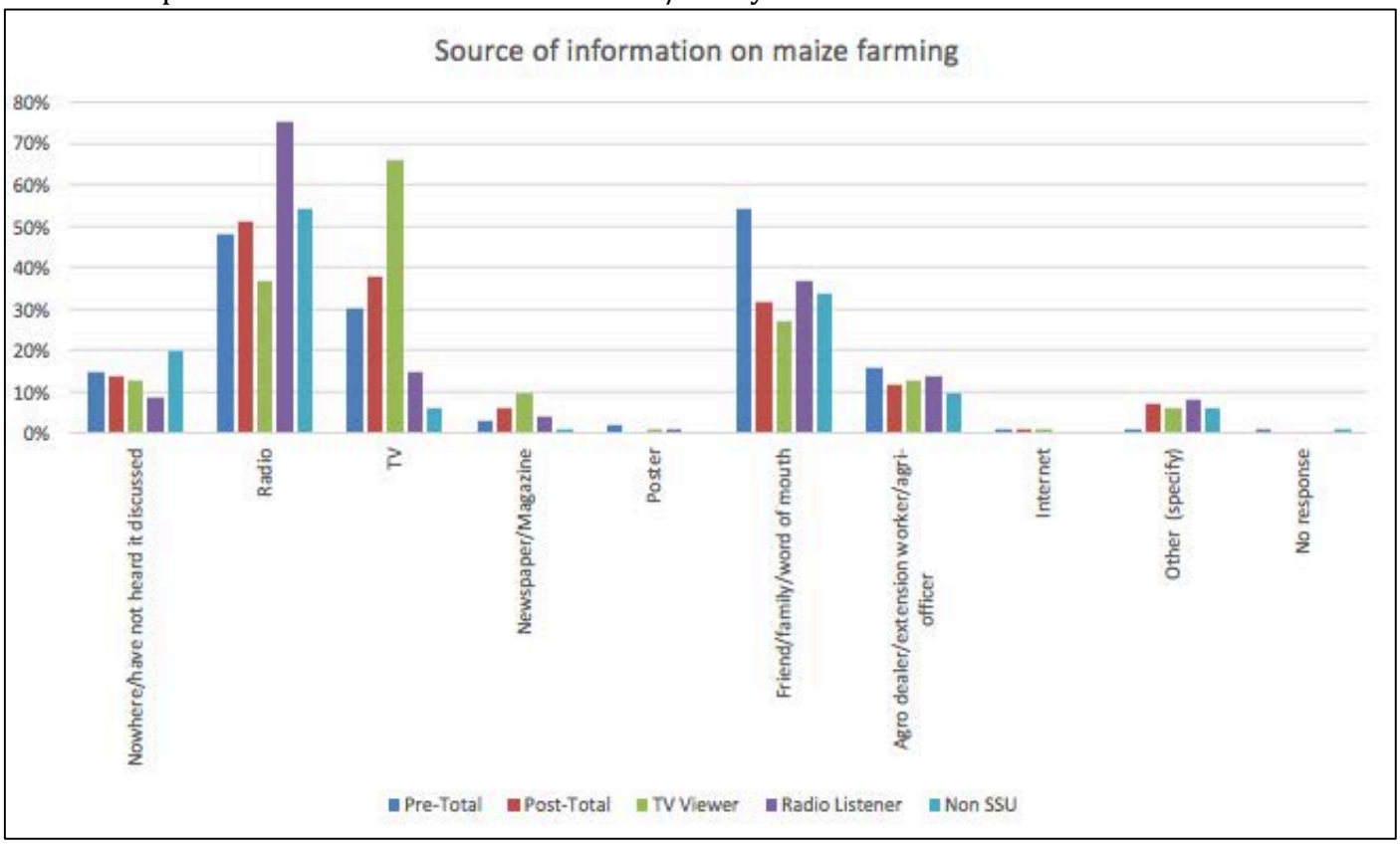




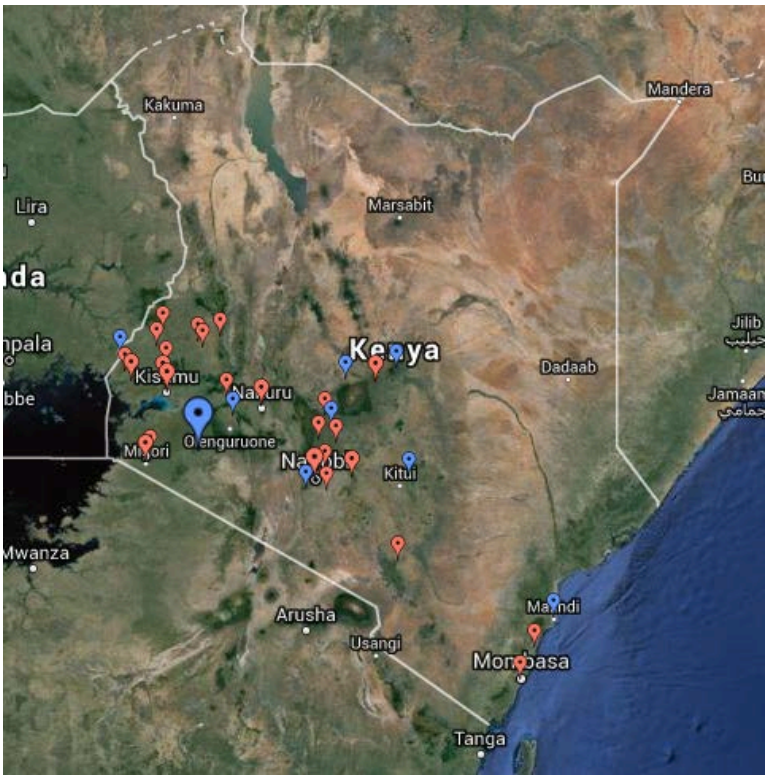
From this data, we can assume that those who receive their information from SSU are (a) harvesting more maize per acre than their non SSU counterparts and (b) losing less in storage.

Information source

Viewers get their maize farming information from TV, listeners from radio then friends/family and non SSU respondents also from radio and friends/family.



SMS traffic

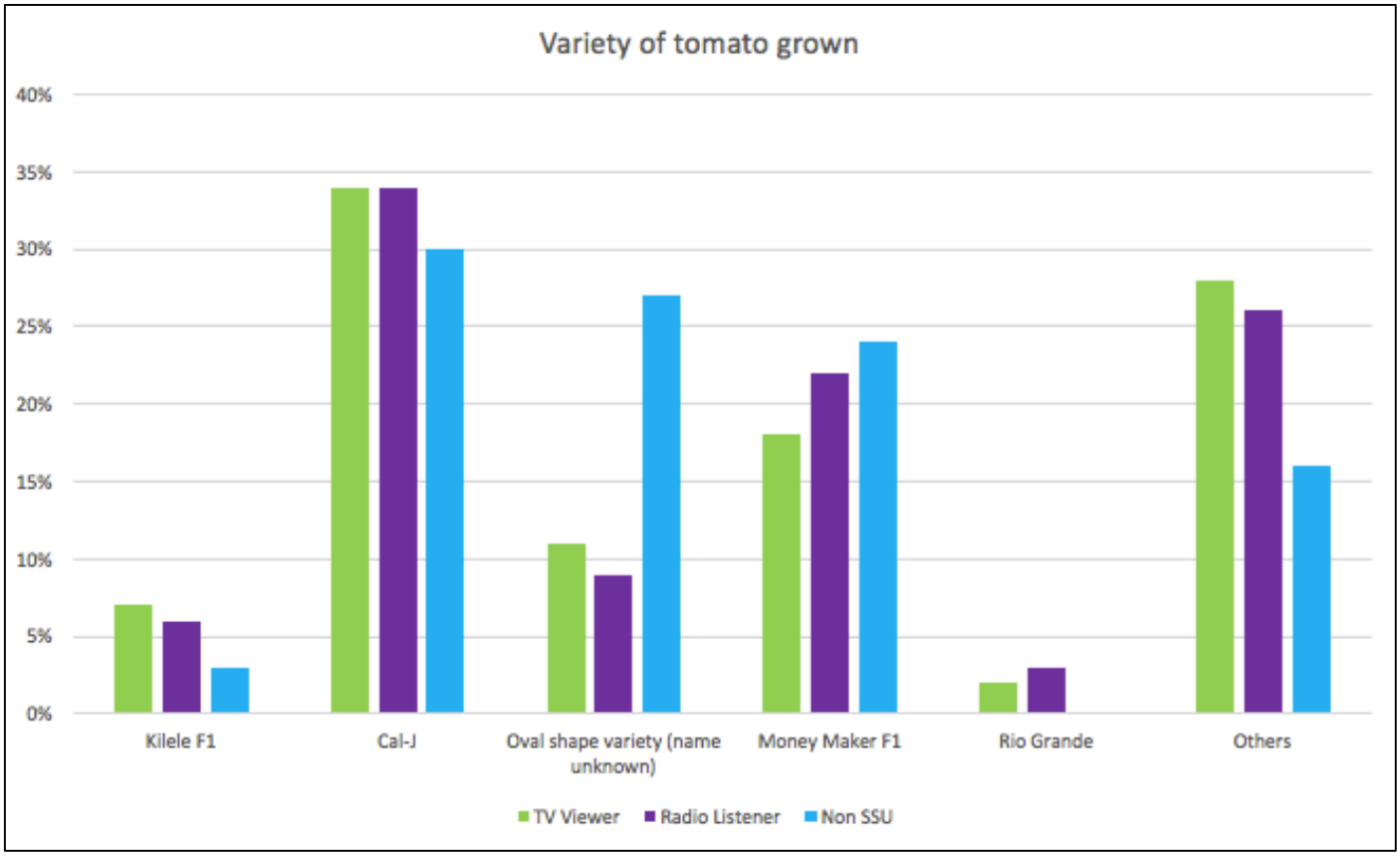


Horticulture

Tomatoes

19% of TV Viewers, 15% of Radio Listeners and 16% of non SSU farmers grow tomatoes.
3 varieties of tomato constitute 62% of tomatoes farmed.

Of these, the majority grow Cal-J followed by Money Maker. Many cannot name the variety, but they know they grow the Kamungu shape (plum tomato) which significantly more non SSU farmers grow (21%) than TV Viewers (10%) and Radio Listeners (9%)

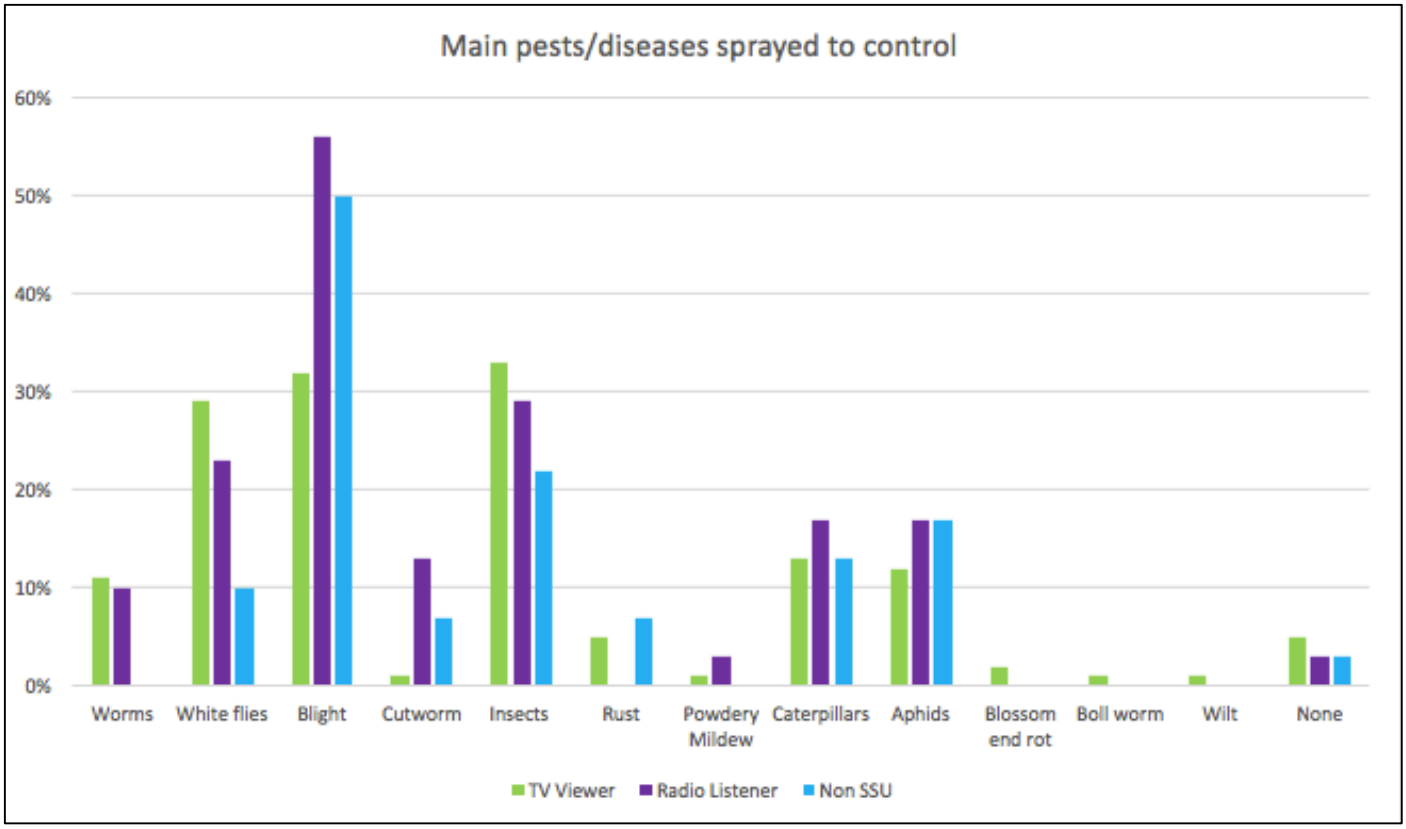


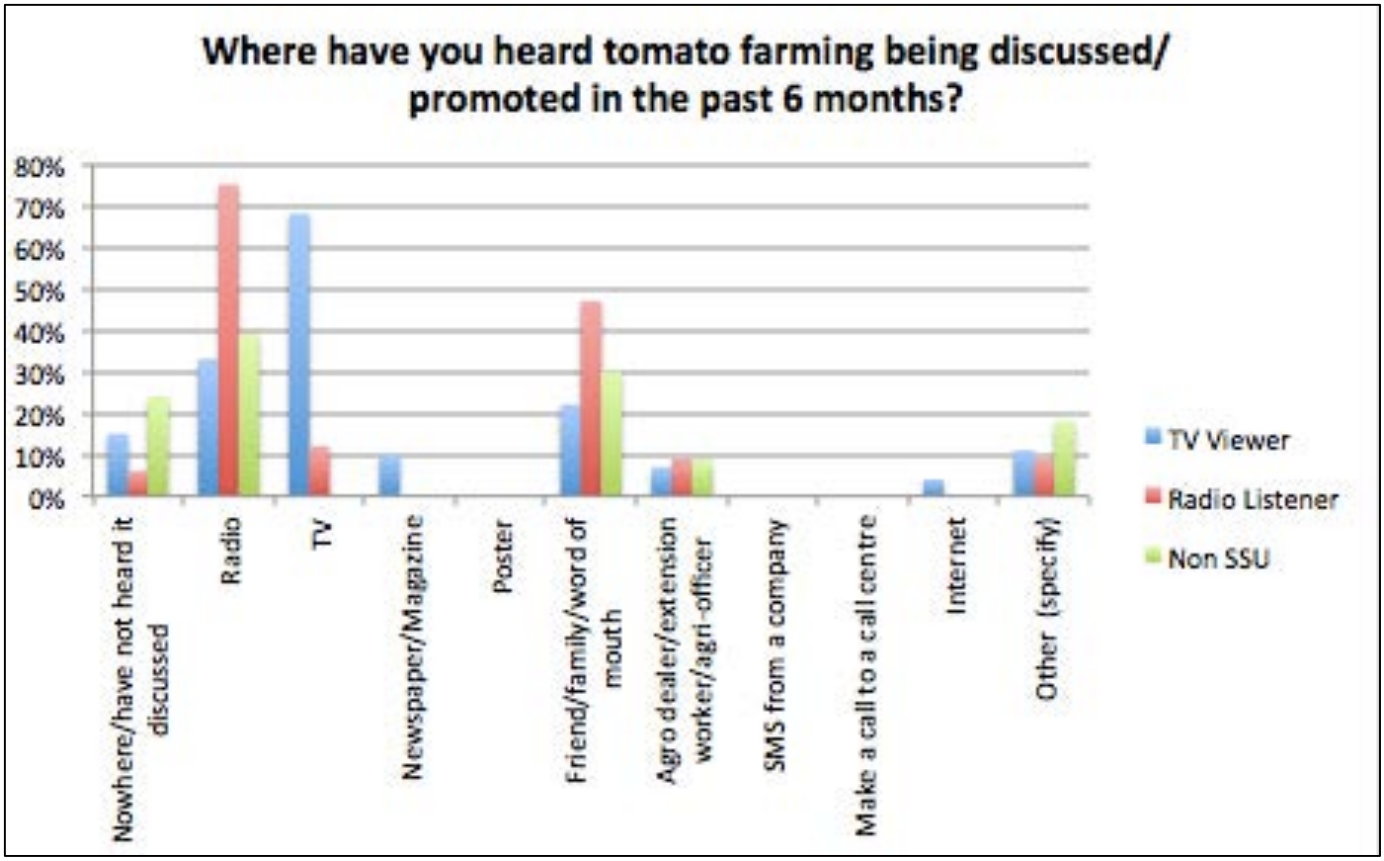
TV viewers are more likely to use a Greenhouse (11%) compared to radio listeners and non SSU farmers (3%).

90% of TV viewers transplant tomatoes from a nursery compared to 81% of radio listeners and 82% of the non SSU audience.

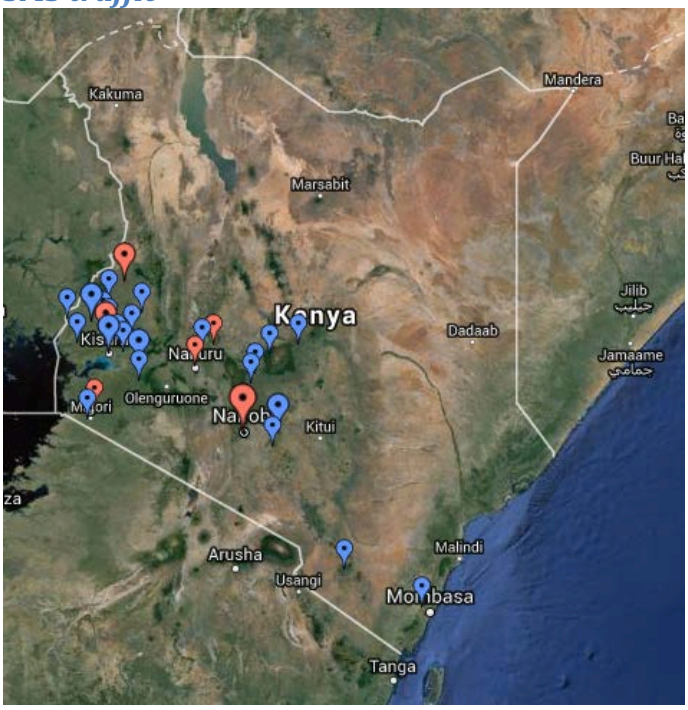
In line with findings so far, TV viewers are more aware of the best practices as 81% add manure Vs 70% of the non SSU farmers. As the plants grow, 72% of the TV viewers add fertilizer every 2 weeks compared to 61% who don't access the SSU program.

The majority of respondents spray to control diseases – this is at 90% across all categories.


Main pests/diseases sprayed to control
60%
50%
40%
30%
20%
10%
0%
Worms
White flies
Blight
Cutworm
Insects
Rust
Powdery Mildew
Caterpillars
Aphids
Blossom end rot
Boll worm
Wilt
None
TV Viewer
Radio Listener
Non SSU


Where have you heard tomato farming being discussed/ promoted in the past 6 months?
80%
70%
60%
50%
40%
30%
20%
10%
0%
Nowhere/have not heard it discussed
Radio
TV
Newspaper/Magazine
Poster
Friend/family/word of mouth
Agro dealer/extension worker/agri-officer
SMS from a company
Make a call to a call centre
Internet
Other (specify)
TV Viewer
Radio Listener
Non SSU

SMS traffic


Kakuma
Mandera
Marsabit
Kenya
Dadaab
Jilib
Jamaame
Olenguruone
Kitui
Arusha
Malindi
Usangi
Mombasa
Tanga

Potatoes

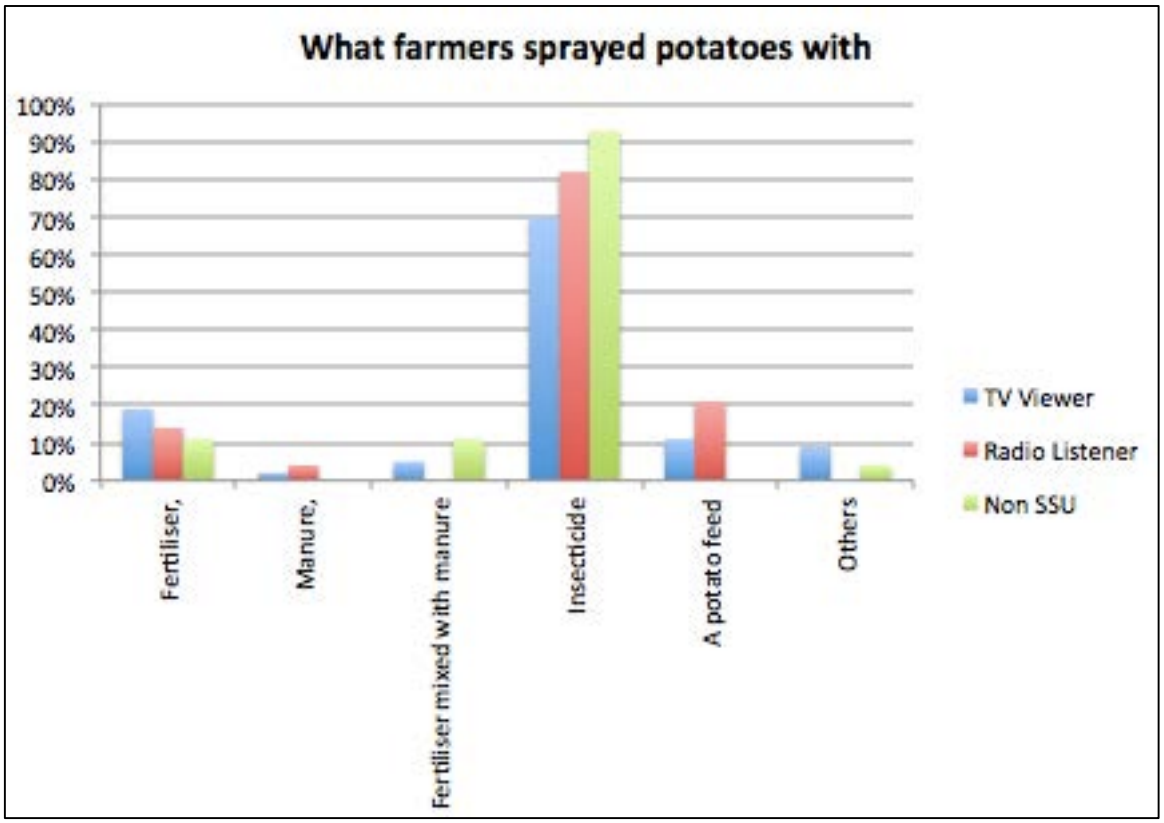
The program covered Viazi Power, an innovative way to grow potatoes involving various treatments and foliar sprays at four stages of growth.

20% of TV viewers, 19% of Radio listeners and 24% of non SSU farmers grow potatoes.
TV users were the most productive with 8 bags of potatoes per acre while Radio listeners produced 6 bags per acre and non SSU farmers 5.7 bags per acre.

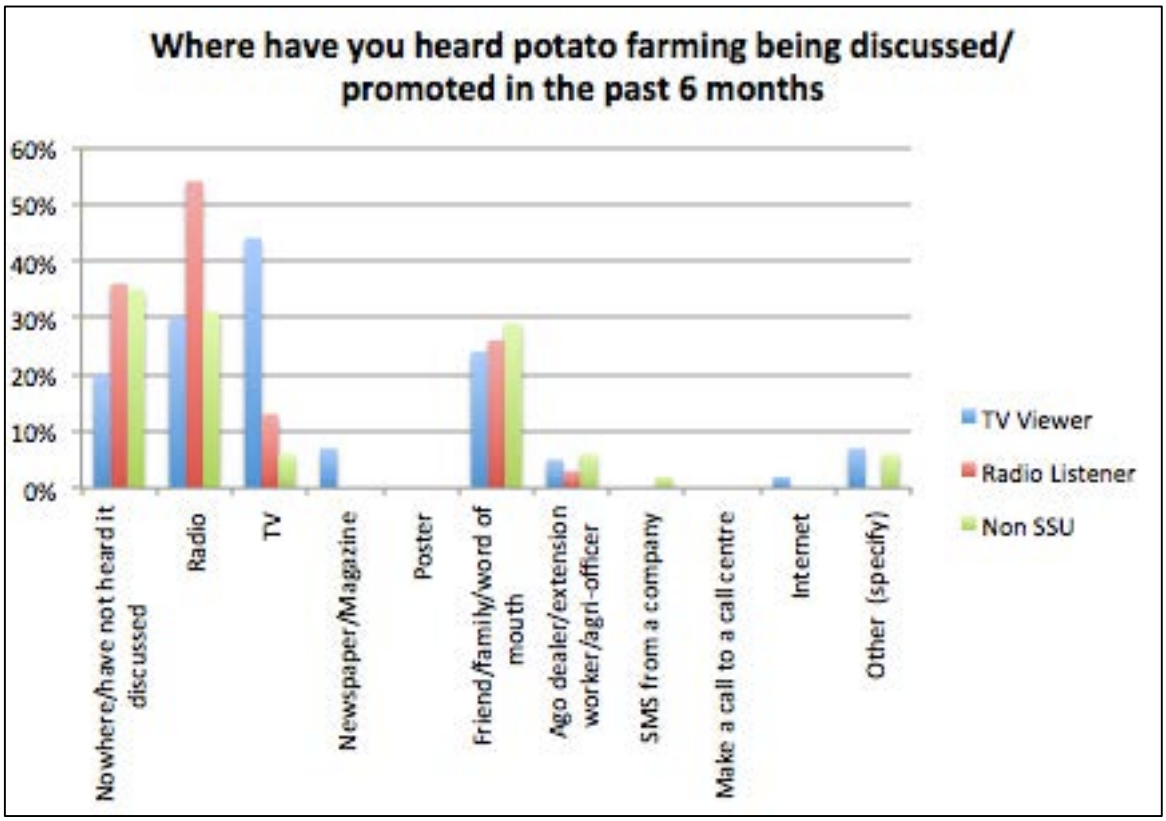
A similar percentage of all respondents used earlier seed (33%). Fewer TV viewers bought seed from another farmer than radio listeners and non SSU farmers. TV viewers were 8% more likely to buy seeds from a seed centre than the non SSU audience.

30% of the potato farmers mixed the seed with something and for the majority (91%) this was fertiliser and pesticide.

During growing, 66% of TV viewers sprayed their potato crop compared to 72% of radio listeners and 53% of the non SSU audience.



9% of all respondents had heard of the Viazi Power Program, however when asked what it was, 33% of TV viewers had a good understanding against no radio listeners or non SSU respondents.



SMS traffic

Apples

Apples were surveyed briefly with the majority of respondents (75%) believing that apples can't be grown in their areas.

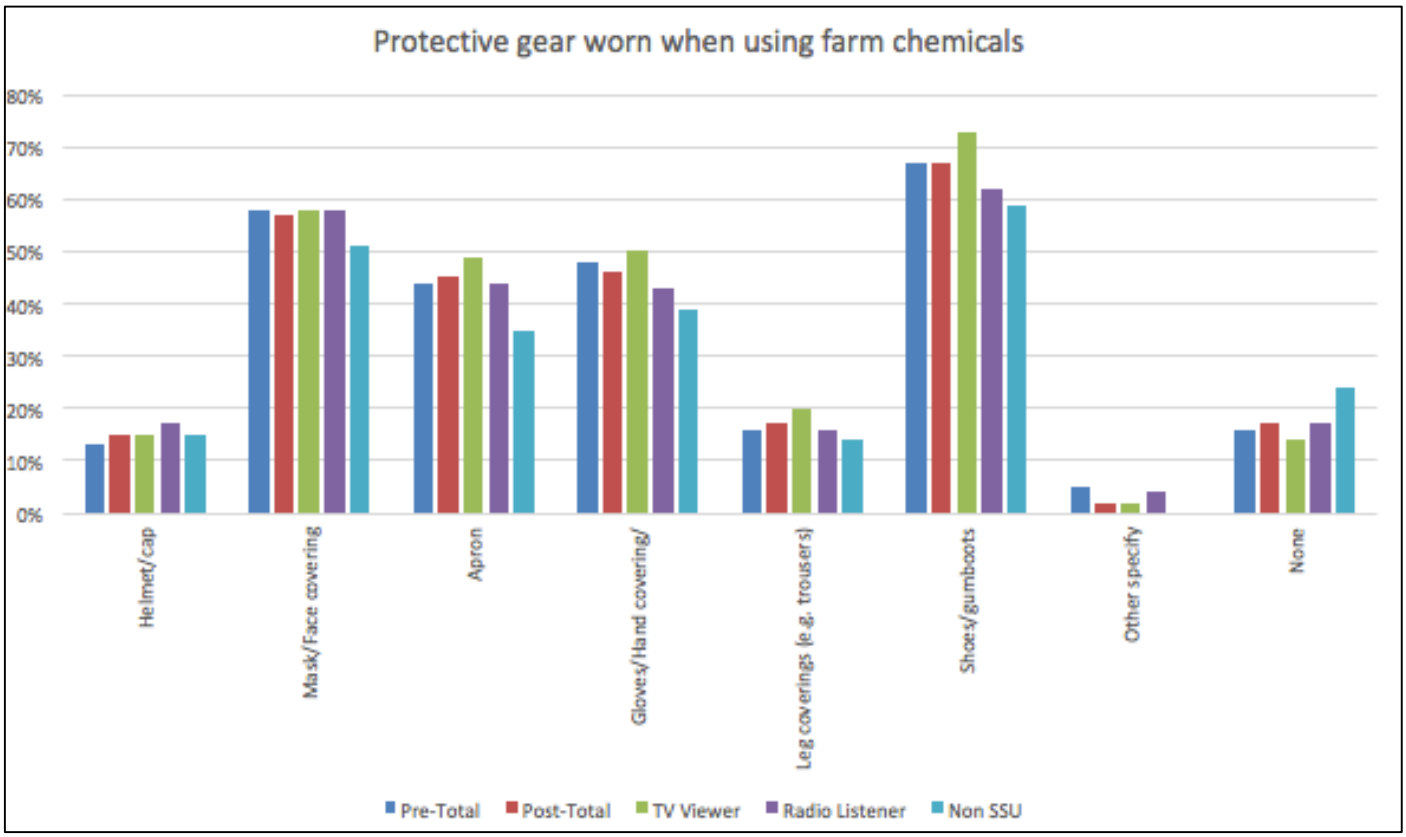
5% of respondents grow apples and 98% have not had any training on how to farm apples.

Farm chemicals

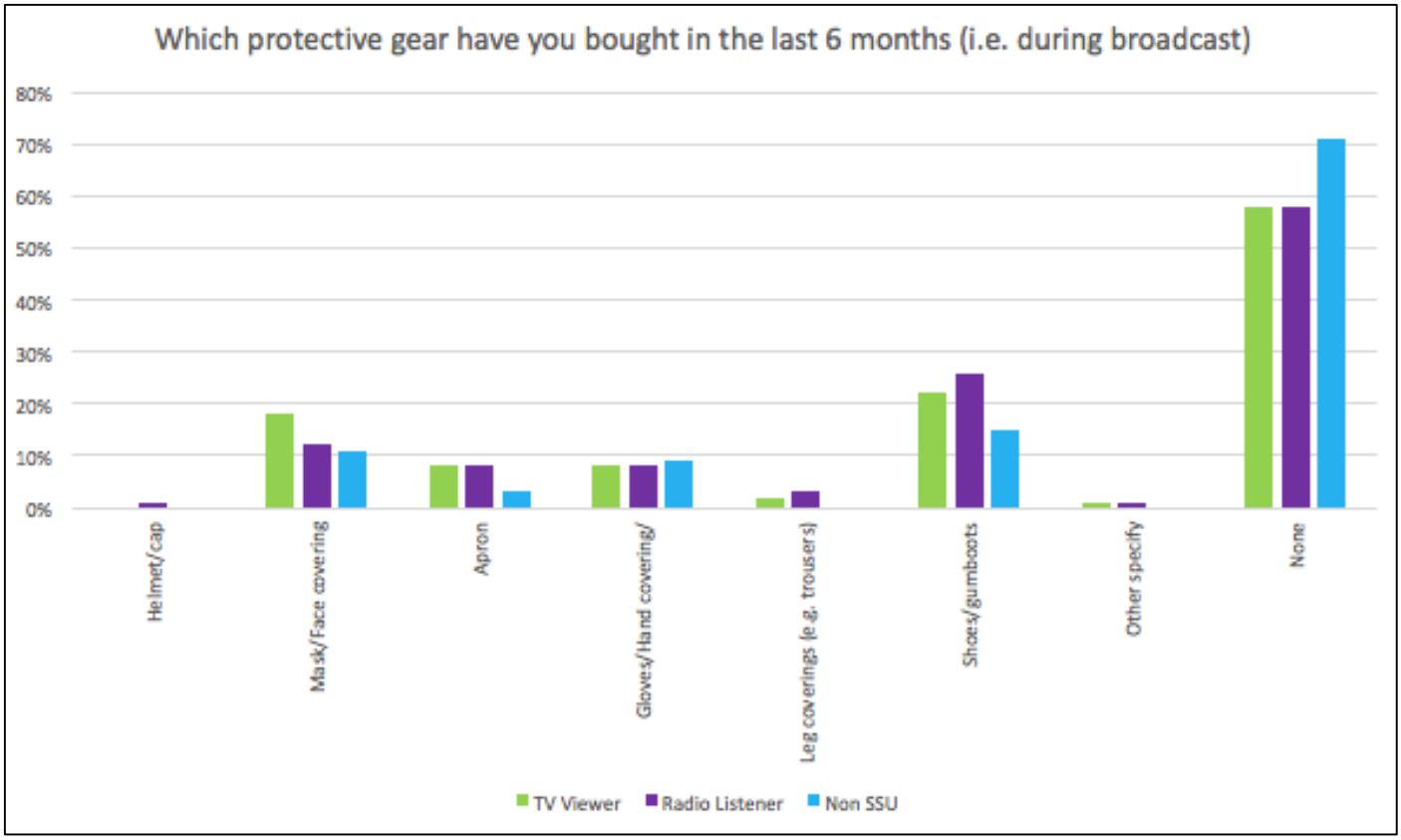
60% of respondents use chemicals in their farms.

It is, however, important that personal protective equipment (PPE) is used when using chemicals. The program stresses that any time chemicals are used, the user must wear PPE. This topic is covered in all sections using chemicals, whether for crop or livestock, and in sections discussing fake chemicals.

Viewers are more likely to cover their faces, wear aprons, gloves and shoes; listeners are more likely to cover their faces, wear aprons and gloves, than non SSU. There has been an increase in viewers using aprons, gloves, and trousers.

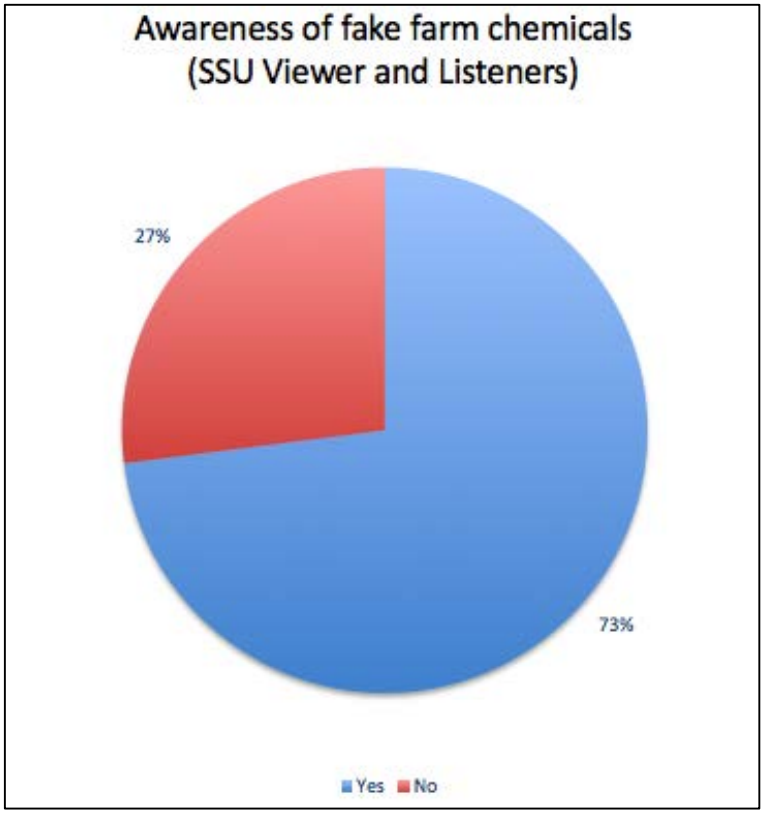


When asked what PPE they have bought in the last 6 months (i.e. when the program was on air), viewers bought masks, listeners bought shoes/gumboots and non SSU mostly did not buy anything.

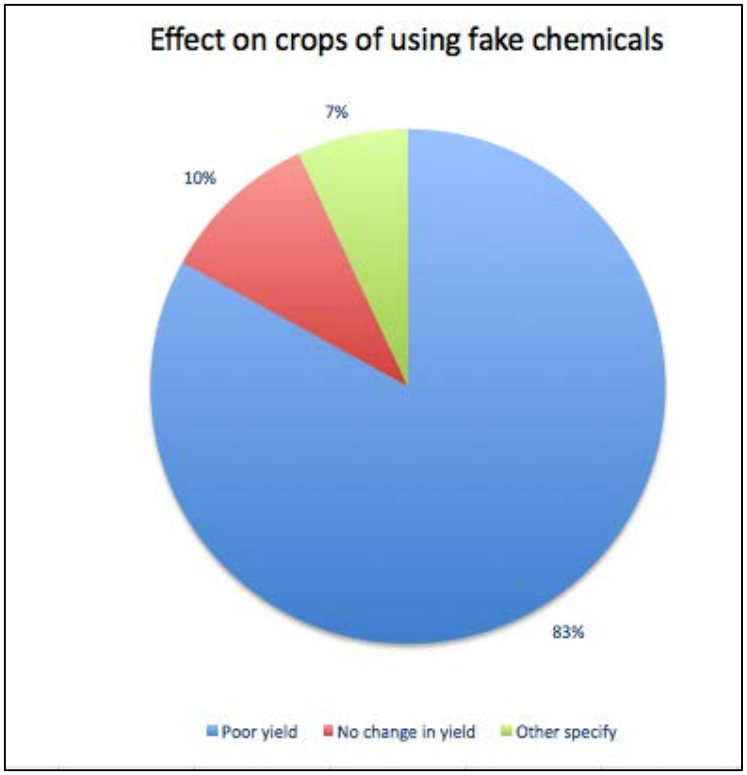


Fake chemicals

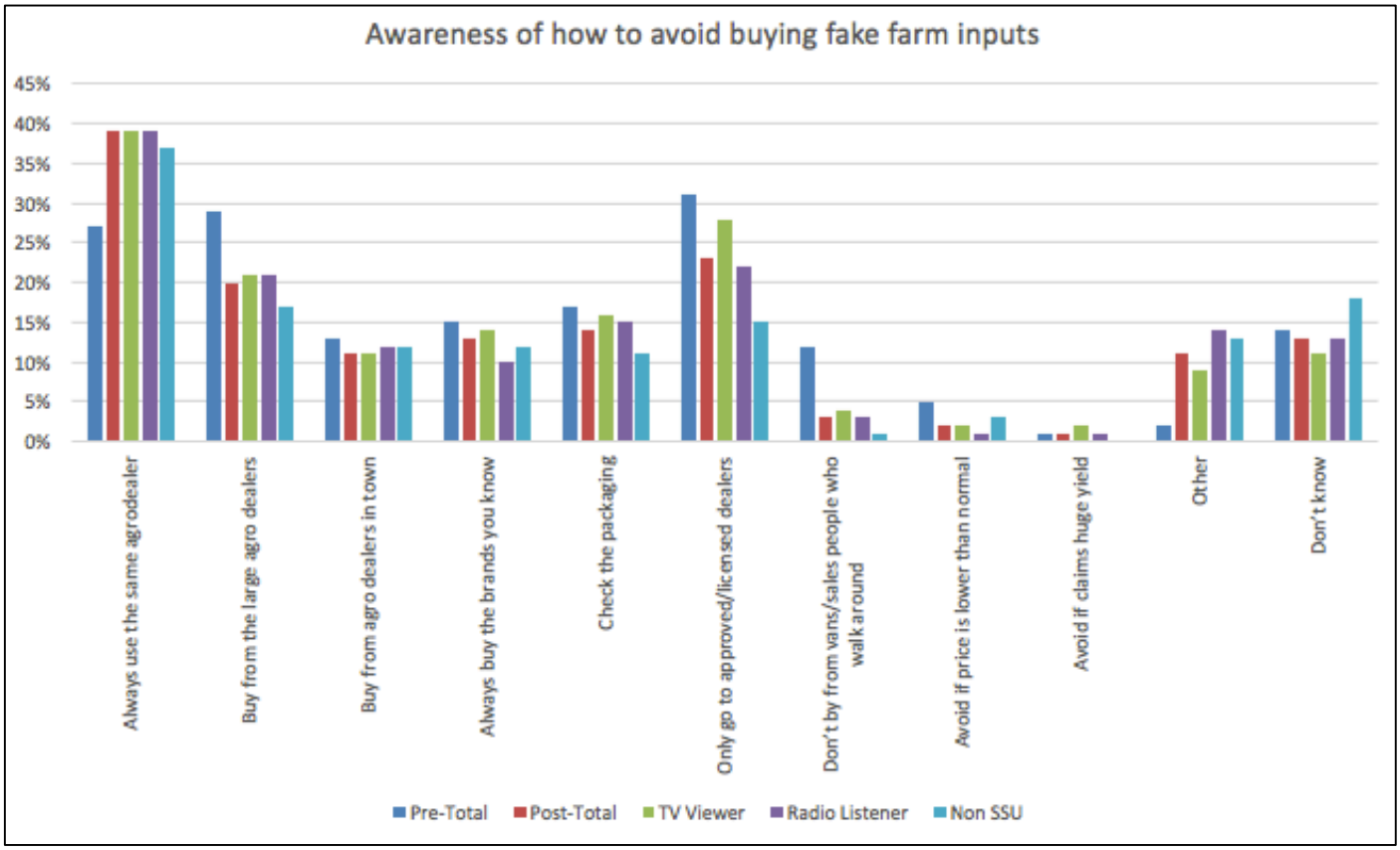
The program worked with AAK, PCPB and CropLife to encourage viewers to avoid fake chemicals. The majority of all groups are aware of fake chemicals, as they are pervasive on the market. 1/3 have used fake chemicals in the past.



The effect of using fake chemicals is overwhelmingly negative:



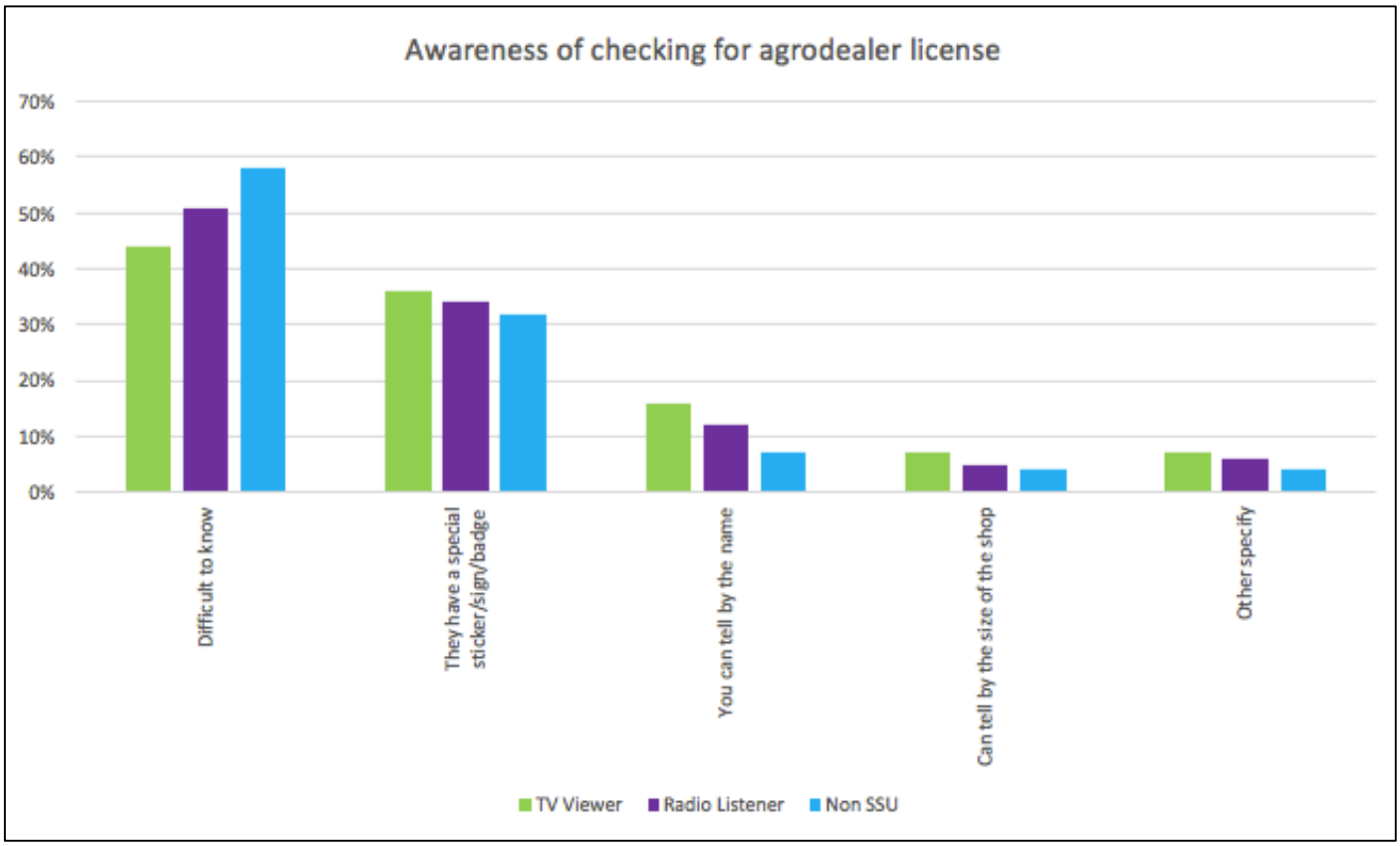
In terms of improved awareness of how to avoid fake chemicals, viewers awareness has increased – they are more likely to go to licensed agrodealers, stick with the same agrodealer and/or check the packaging closely.



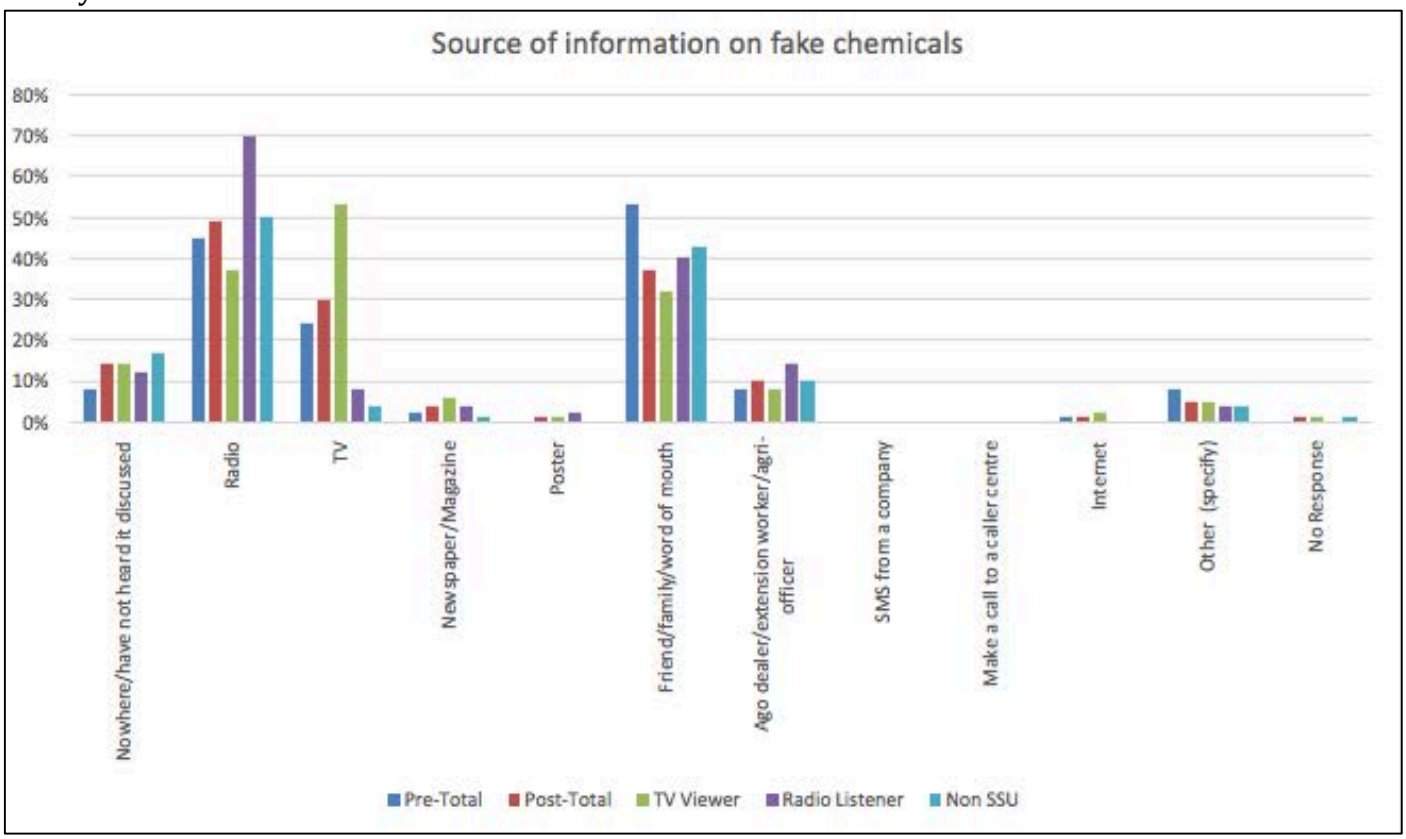
20% of respondents are aware of a licensing body that licenses agrodealers; however, very few can name the body – 3% say PCPB, 2% AAK. Most cite an agrochemical company or seed company.

Despite this, more viewers than non SSU know how to check for a license at an agrodealer, though more than those who know still find it hard.

More needs to be done to tackle this issue.



Listeners and non-SSU get their information about fake chemicals from radio; SSU viewers get theirs mainly from TV.



Financial literacy

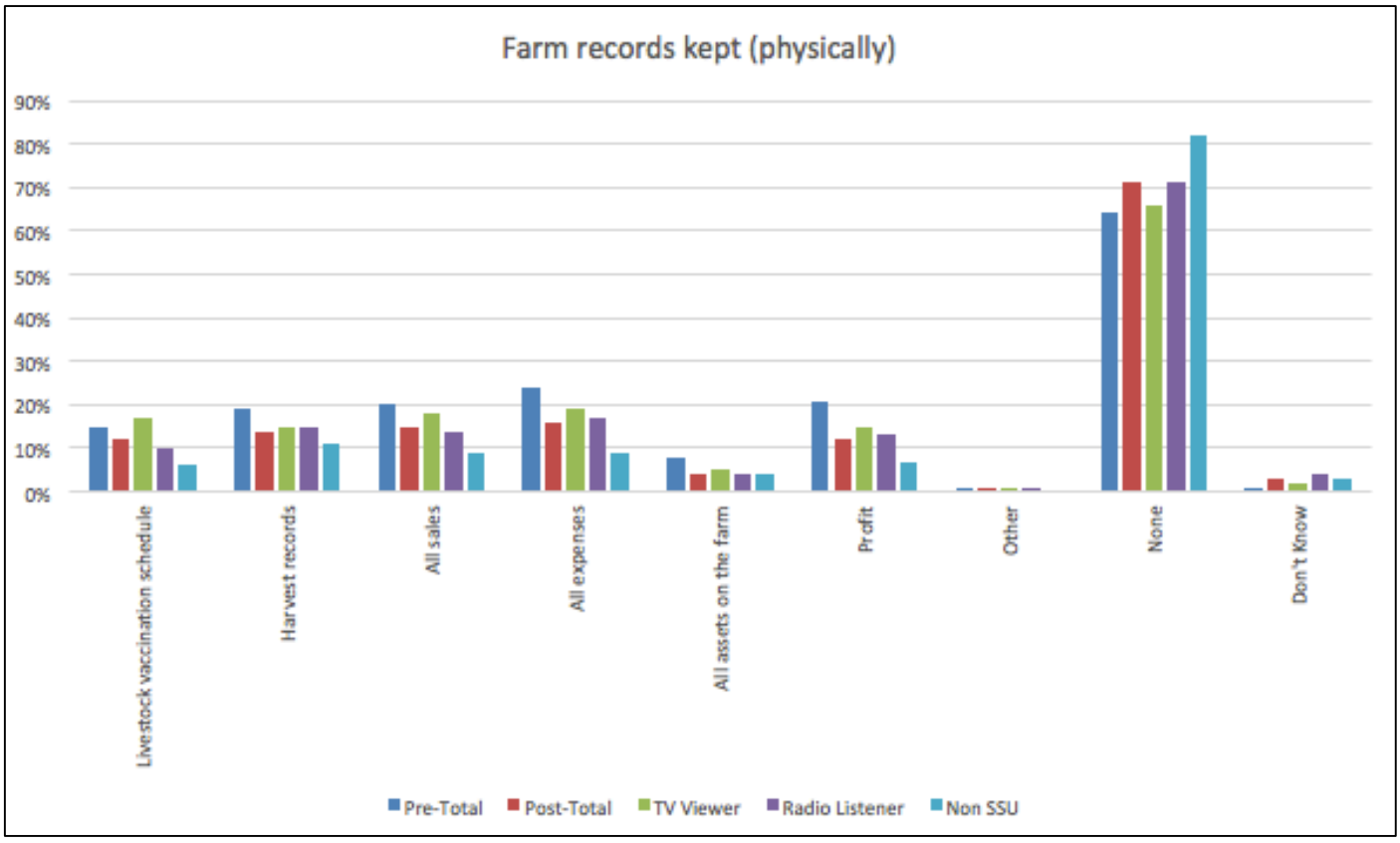
Following previous series' research, which showed woeful levels of record keeping and financial planning amongst farmers, SSU focused on record keeping, budgeting and tracking expenditures in this series. The sections were funded by USAID EA and the experts where from Hand in Hand EA.

Summary of topics covered

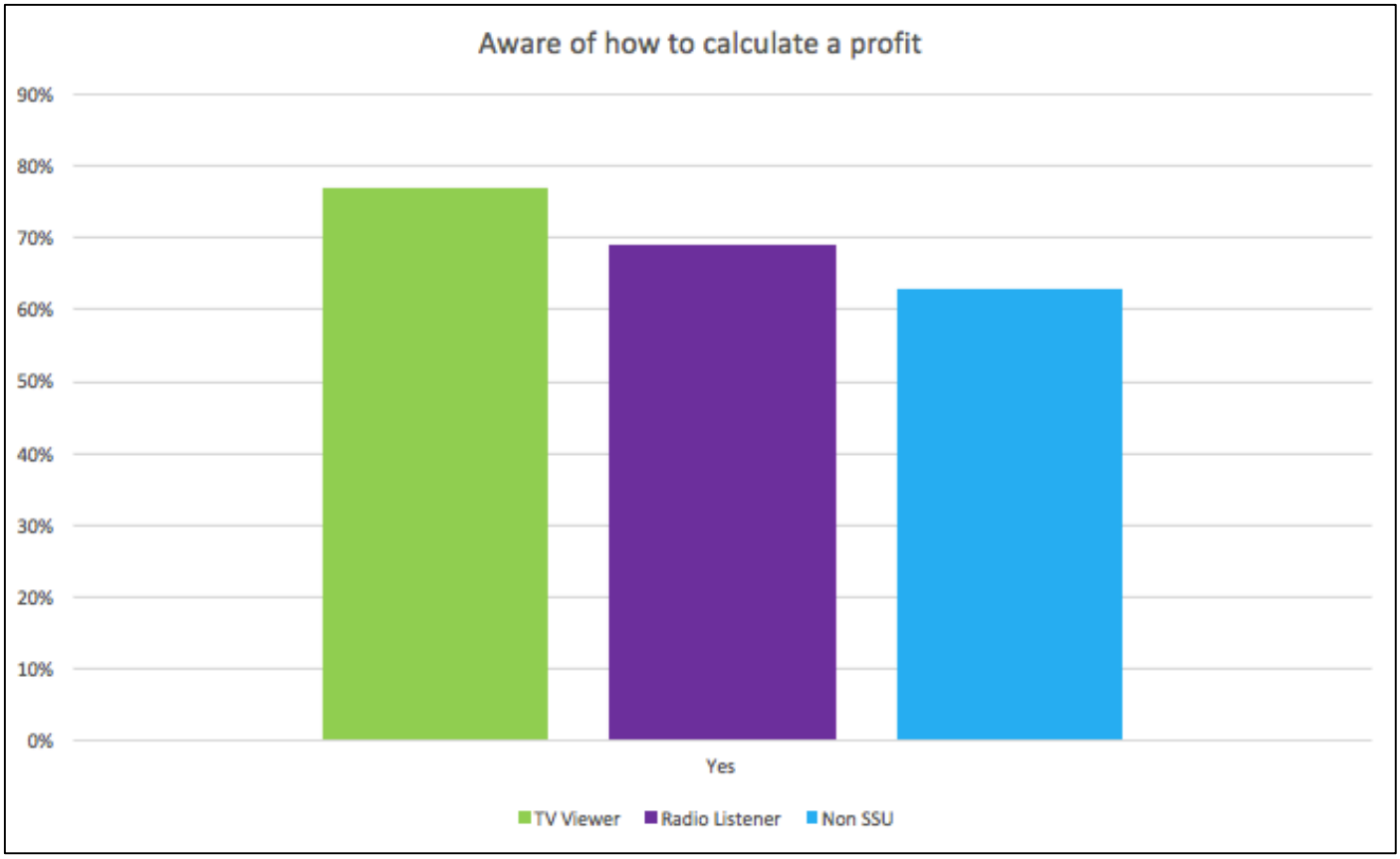
- Budgeting
- Keeping records for farm activities
- Tracking sales
- Tracking expenses
- Calculating profits.

Use of records on farms

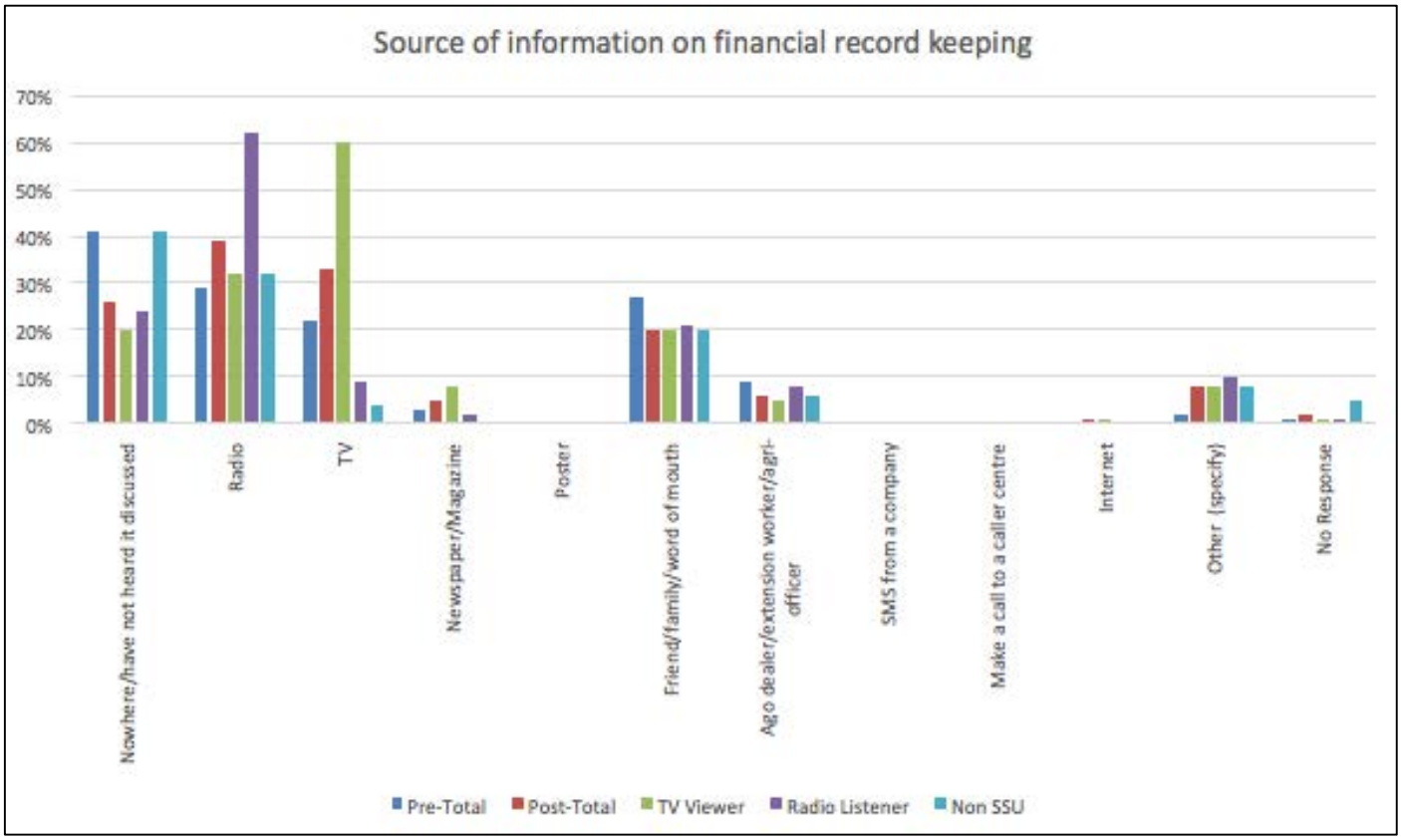
There has been an increase in the proportion keeping records over the broadcast period, particularly in livestock records. Viewers are more likely than any others to keep records. The survey specified physically written records rather than 'in one's head'.
The majority, however, are still not keeping records.



Viewers are 14% more aware of how to calculate a profit.
50% of SSU viewers have a budget for their farms, versus 42% of non SSU, but 2/3 of these are not written down. It is less likely that farmers will stick to a budget that is in their head, rather than written down.



Viewers source their information on financial literacy from TV, SSU Radio listeners from radio and non SSU either do not get information from anywhere, get it from the radio or get it from friends and family.



Solar lights

d.light Design have been partners with SSU for 4 series. In that time, their brand awareness has grown considerably. In Series 5, SSU launched the solar home system, a 4 light, phone charging and lamp charging solar panel/battery pack system which can light a whole home.

When asked which brands of solar lantern they were aware of, 37% of viewers/listeners and 25% of non-SSU said d.light, followed at 6% by Philips.

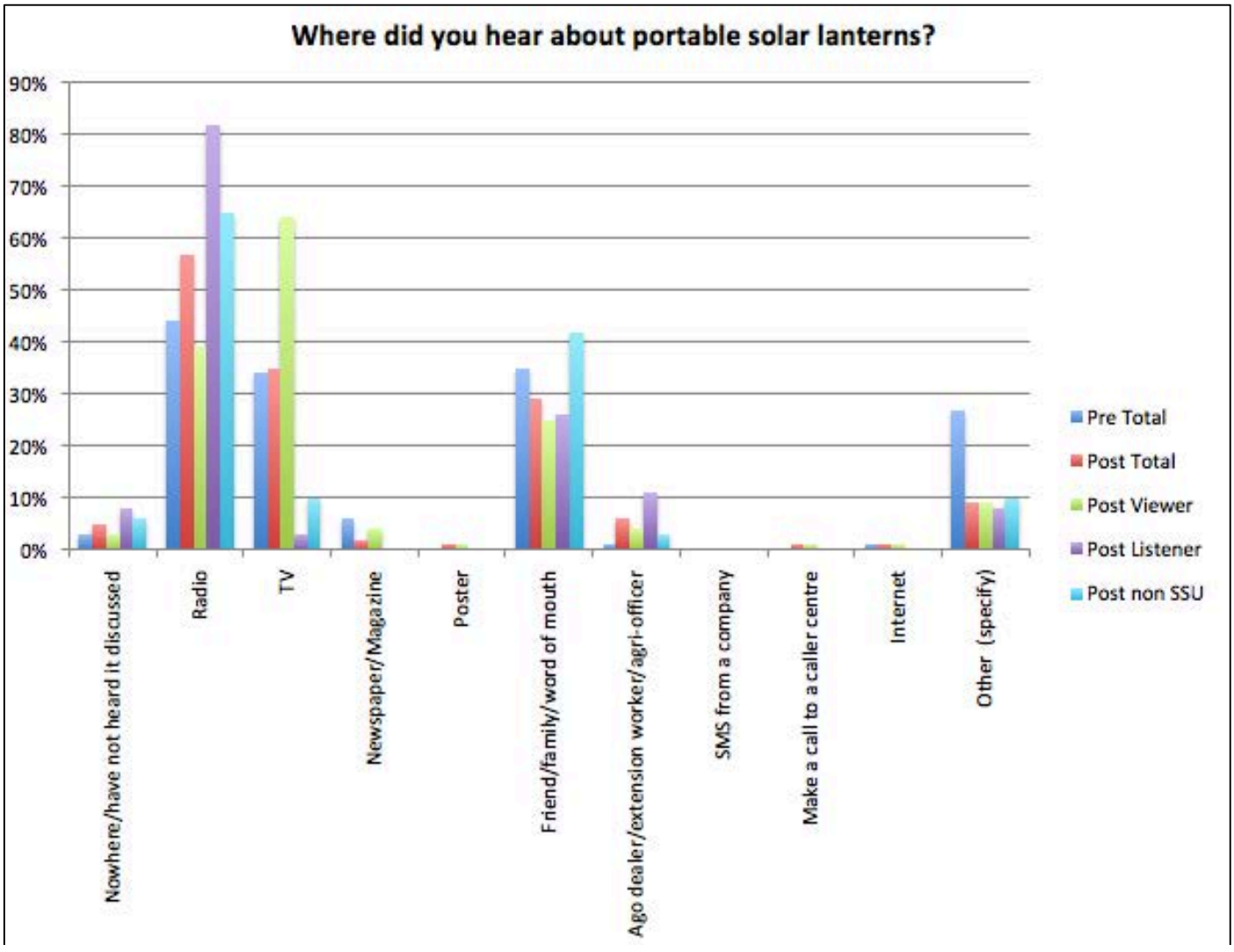
47% of viewers & listeners were not aware of any solar light brands against 61% of the non SSU respondents.

Of the 17% of viewers/listeners who bought a solar lamp in the last 6 months, 61% bought a single lamp configuration while 33% bought a solar system with one bulb or more.
42% of the SSU audience who had bought a solar light bought a d.light.

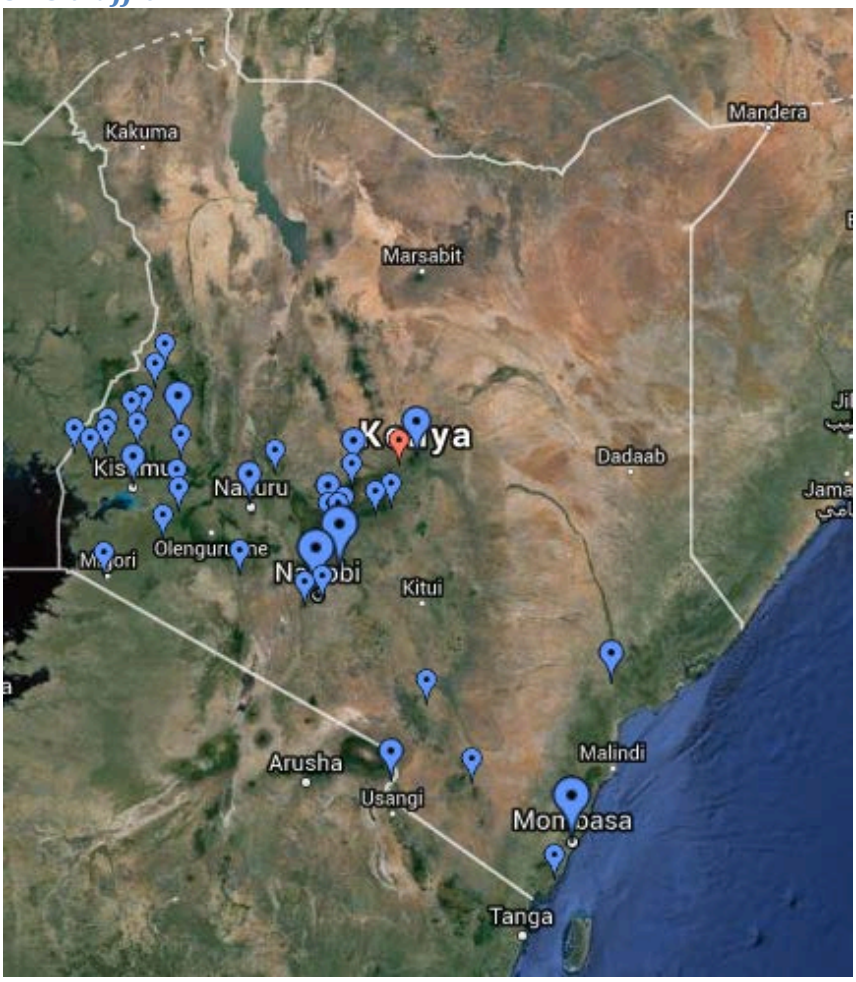
64% of TV viewers had heard of Solar Lamps on TV in the last 6 months against 10% of non SSU viewers.

82% of SSU radio listeners had heard of solar lamps against 65% of non SSU.

Friends/Family/Word of Mouth is the main source of information (42%) for non SSU against 25% for the SSU viewers and listeners.



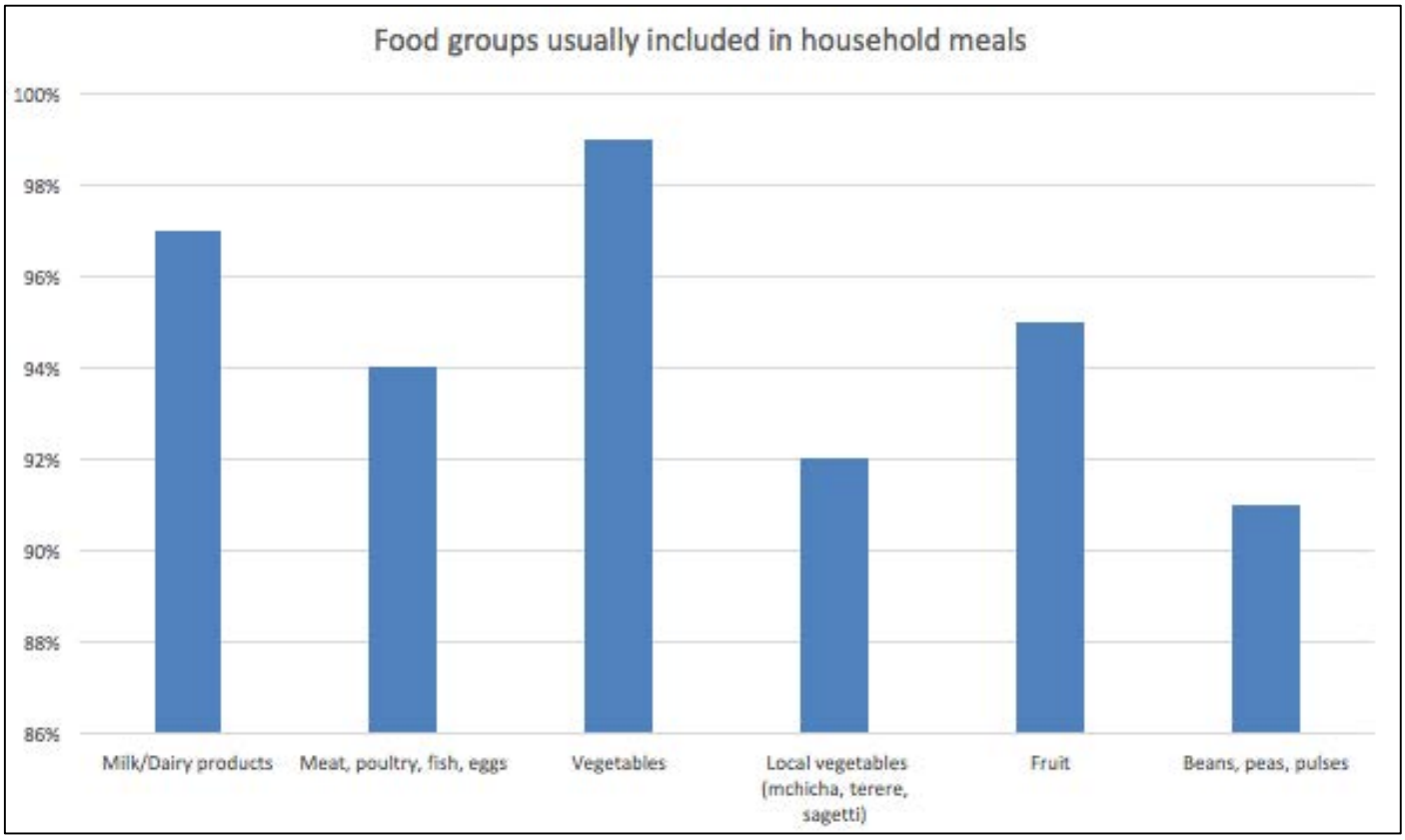
SMS traffic


Kakuma
Mandera
Marsabit
Dadaab
Kitui
Arusha
Usangi
Malindi
Tanga

Nutrition

In 2014, Series 4 covered orange flesh sweetpotato as a nutrition rich alternative food for families. The content got a lot of interest from the audience, so Series 5 contained more information about nutrition – this time on growing vegetables, running a kitchen garden and cooking vegetables to keep vitamins and minerals intact. The sections were sponsored by USAID EA, and content was provided by RealImpact in Kenya and TAPP in Tanzania.

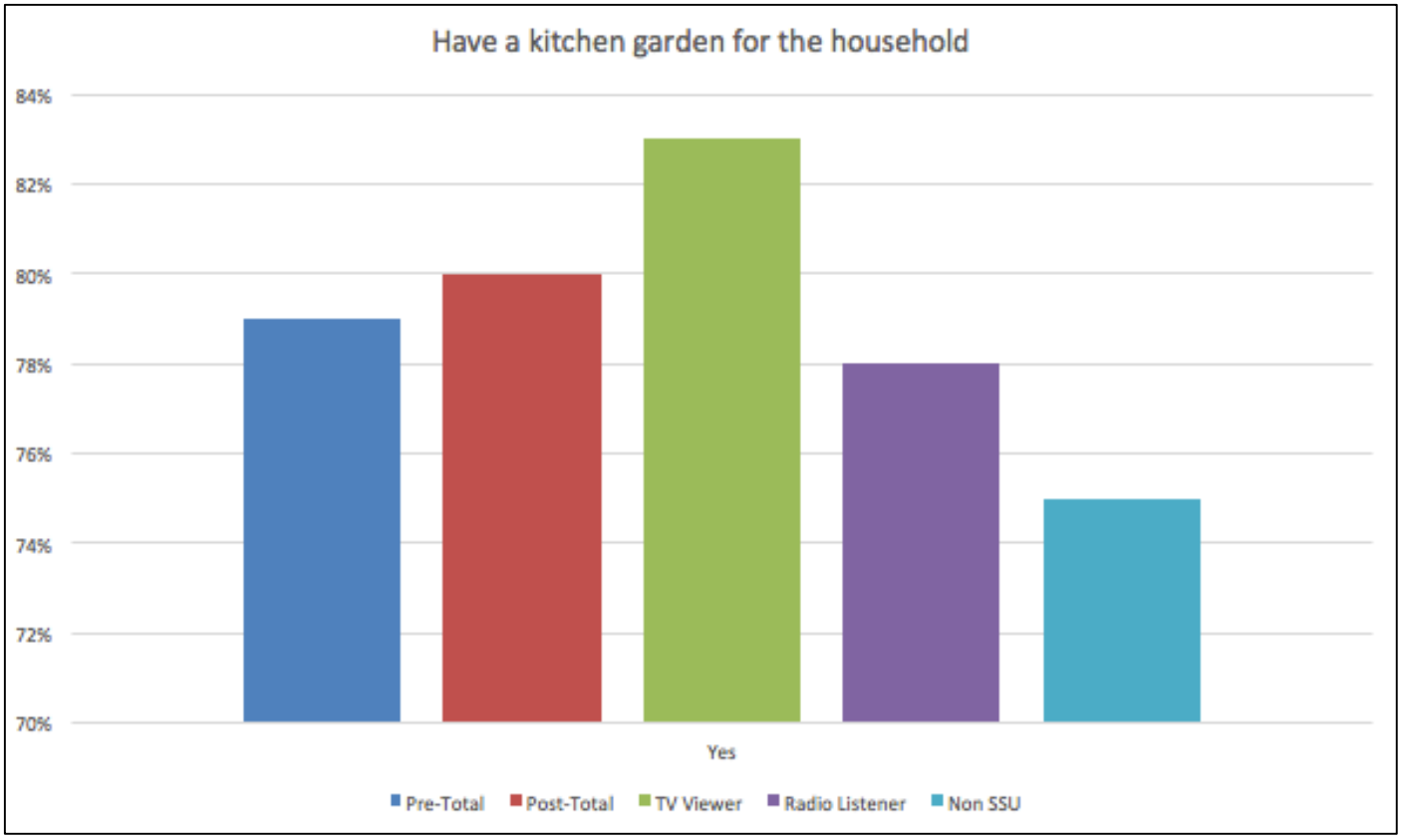
Respondents have a similar diet, and this has not changed over the last 6 months.



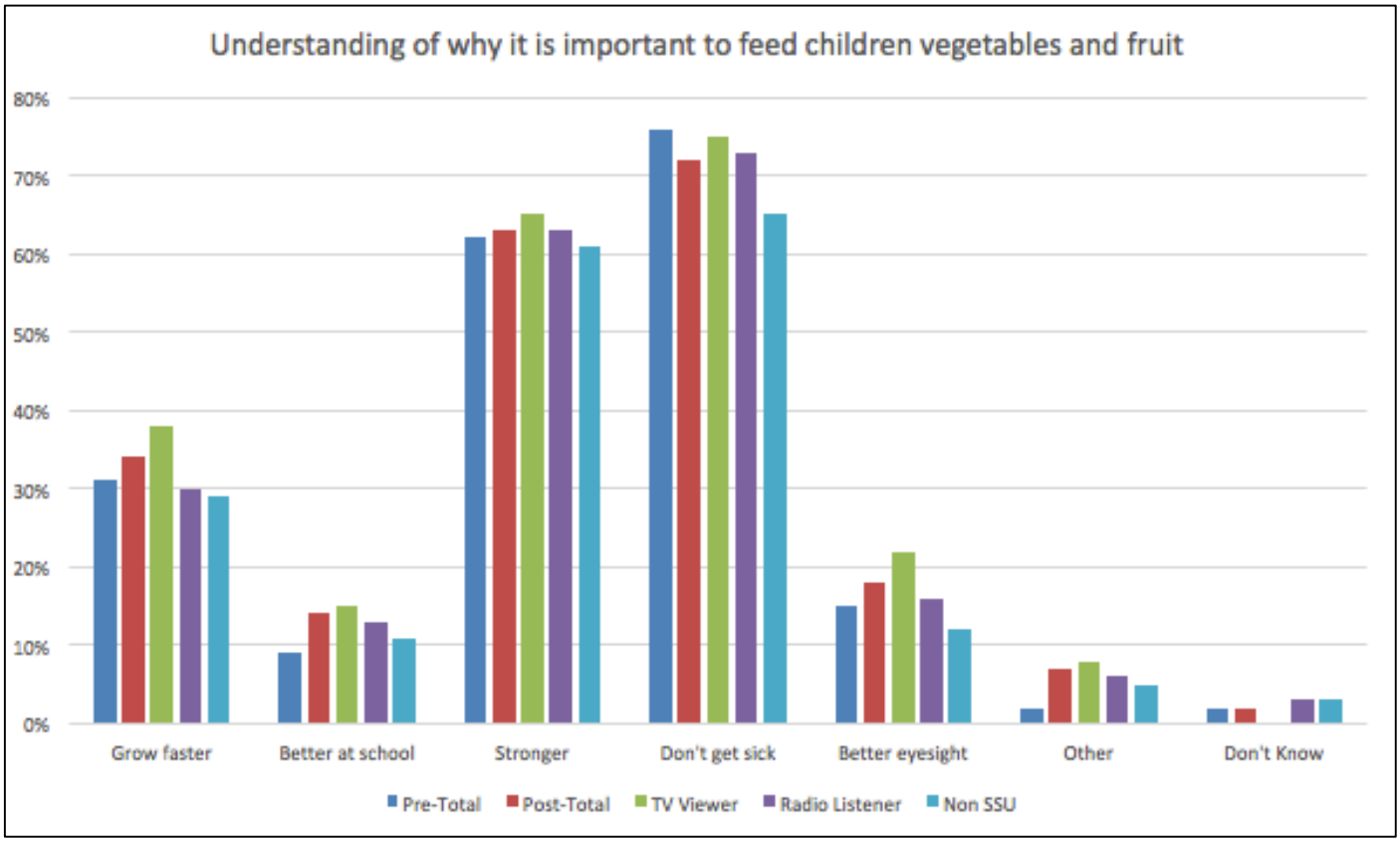
The number who have a kitchen garden has increased slightly over the broadcast period; 8% more viewers have a kitchen garden. The number of all respondents who had a kitchen garden is high.

Of those who do have one, 2/3 can supply all the vegetables required by the household from that garden.

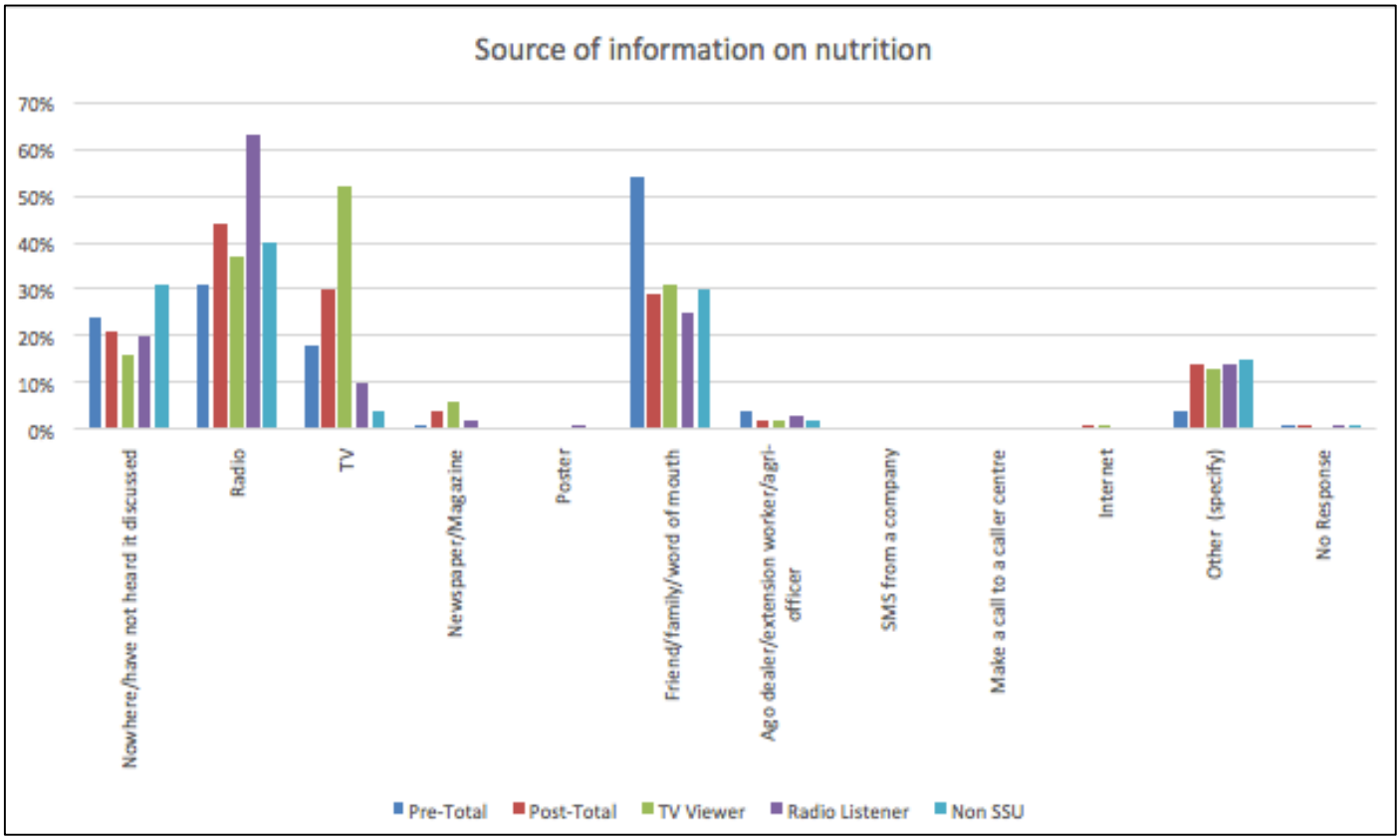
However, despite every cooking feature encouraging people not to overcook vegetables, in order to preserve the vitamins, all respondents still cook vegetables for 20 minutes or more. The program encouraged steaming or boiling for 5 minutes or less.



The importance of feeding children fruit and vegetables is stressed in the program, for improved health and ability in school. Viewers are more aware that a diet high in fruit and vegetables helps children to grow, be stronger, do better in school and have eyesight. Listeners, whose program has minimal nutrition information apart from OFSP episodes, are more aware that fruit and vegetables improve children's' health, eyesight and strength:



Viewers get their nutrition information from TV, followed by radio and friends/family. Listeners do so from radio and friends/family. Non SSU follow the same pattern as listeners:

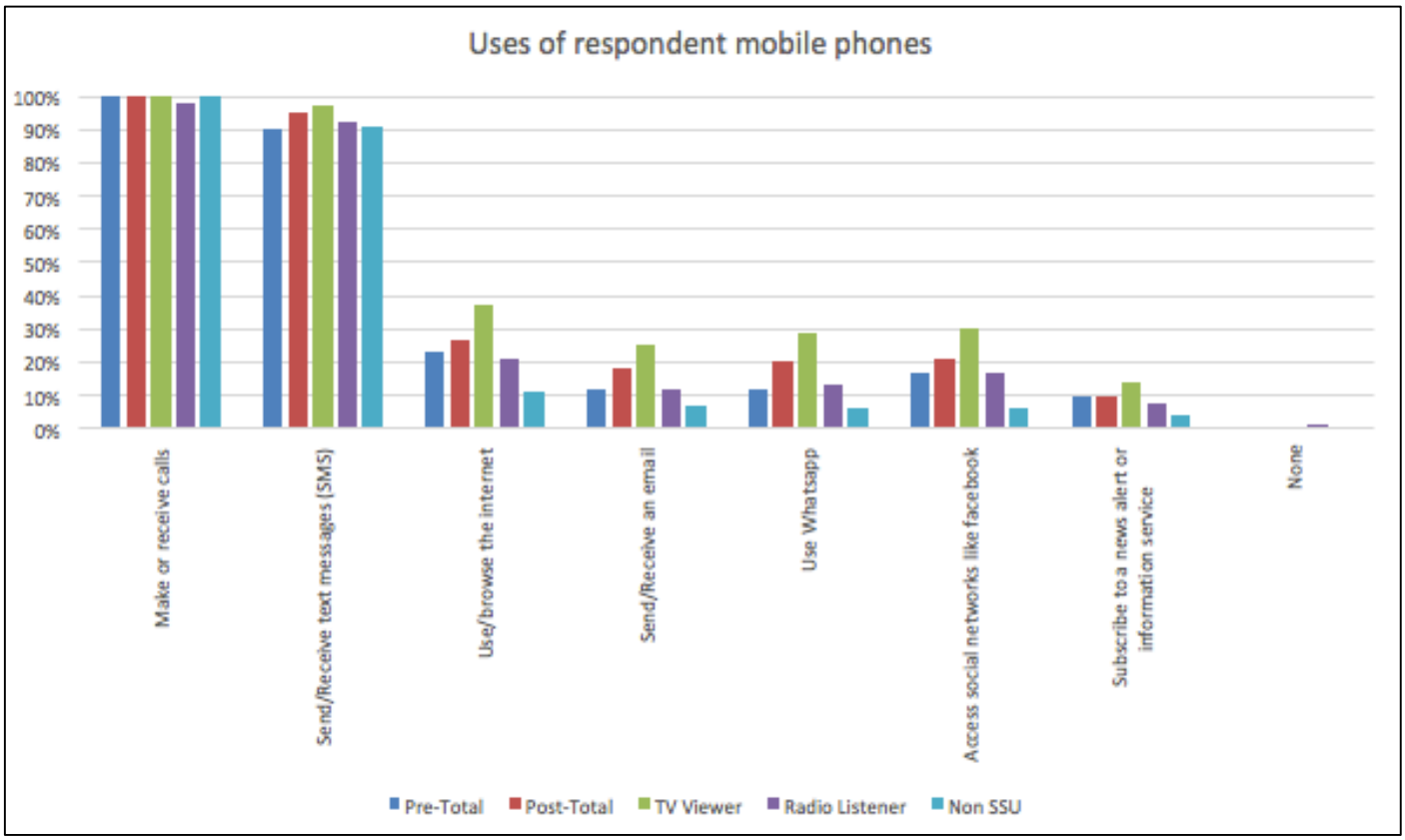


Use of mobile phones

MSU featured instructions on how to use mobile phones to make calls, send messages, subscribe and unsubscribe to services, and use mobile money.

98% of respondents own a mobile phone. The series showed viewers how to use their phones to send SMSes, subscribe to services and use mobile payment systems.

Viewers are more likely to use their phones for Internet browsing, WhatsApp, Facebook and email than the other groups. More viewers than any others are likely to sign up to a mobile information service.



Summary and conclusions

Series 5 has been successful in providing audience with information they need to improve their farming practices. The program has allowed farmers to improve their chicken, maize, dairy, potato and other yields, making their incomes more secure and their farms more productive.

Social media is an important component of the program. Launching Tanzania and Uganda specific series in 2015 saw a huge increase in social media interaction from those two countries.

The launch of radio has also been successful, providing farmers with a good source of information on an already well used information source. The program is well rated by the audience, and there are already clear changes in KAP among radio listeners.

It is encouraging that both the TV and radio programs reach more women than men, and that SSU is still the most useful source of information for its audience. This is because the information on the show is what is needed, asked for, learned and adopted the most every year.

There have been consistent increases in the number of people adopting new practices each series, and this series has seen some good uptake of series-specific information, such as Calliandra growing, NCD vaccination, soil conservation, financial literacy, agrochemicals and potato growing.

The dairy sector continues to see huge improvements amongst the audiences, with much better shed, health, hygiene and feed management amongst SSU audiences than non SSU. Dairy yields are consistently higher with SSU audiences.

Maize yields are also consistently higher among SSU audiences, and post harvest losses are significantly lower for audiences. It is therefore likely that SSU audiences will have more profitable farms than non SSU farmers.

Brand loyalty is still a feature of the program; audiences recognise and prefer to buy brands associated with the program. Moreover, audiences are more likely to buy inputs for their farms (i.e. invest more) than their non SSU counterparts.

Lessons learned

Soil testing is still a problematic area. Despite featuring more easily accessible low cost options for testing, the number testing has not increased significantly. Neither has the use of DAP decreased to an extent acceptable to allow pH to stabilise enough for fertiliser use to be efficient.

Although viewers learned about fake chemicals, and how to avoid them, more needs to be done on agrodealer licensing, so that consumers can be more aware of what to look out for in agrodealers, helping them make a better choice.

Financial literacy is an important component of the program – if people are to invest in new practices and also make more money, they need to be able to manage their finances effectively. Though the program saw good improvements in financial behaviour, there is still a long way to go to get to acceptable level of financial literacy and discipline.

Next steps

Shamba Shape Up Series 6 is under production in Kenya, Uganda and Tanzania. A radio version will likely be made to complement the TV version and increase impact of the program in the region.
The show will also move to other countries in the region.
The show's backup SMS mobile information service and call centre, iShamba, will grow in 2016 and offer farmers bespoke information for their farms, 7 days a week.