

# Shamba Shape Up Series 4

Knowledge, Attitude and Practices Survey Report

November 2014



**THE MEDIAE COMPANY**

MEDIA FOR EDUCATION AND DEVELOPMENT

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## Introduction

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## Shamba Shape Up Series 4

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### Partners

Shamba Shape Up Series 4 sponsoring partners are as below:

ASARECA	AATF
Coopers K Brands	CIP
CCAFS	dLight
FAO	GALVmed
IFAD	Kenchic Ltd
MEA Fertilizer	Syngenta EA
EABL/EUCORD	Unga Farm Care
Technoserve	AGRA PASS and FOSCA

### Content

Content covered in Shamba Shape Up Series 4 is as follows:

Sector	Content
Poultry	NCD vaccines, biosecurity, housing, health, feeding (broiler, layer, local), poultry business development, breeding, hatchery
Dairy	Cow health, housing, minerals, supplements, concentrates, ECF vaccination, ECF symptoms, ECF costs
Vegetables	Indigenous vegetables, climbing beans, capsicum, tomatoes, pest and disease control, Sukuma, spinach
Maize	Planting, varieties, seed selection, QPM, IR maize, Striga control, fertility symptoms
Soil fertility	Soil testing, soil lab, correct fertiliser use, blends, fertiliser factory, symptoms of nutrient deficiency, topdressing, planting
Climate change adaptation	Rainwater harvesting, terracing, gully healing, farm planning, intercropping with trees, fertiliser trees, fruit trees, agroforestry, fodder for livestock, pasture management, biogas, using manure and waste to make briquettes
Sorghum	Sorghum varieties, EABL supply chain, planting, management, pest control, harvesting, drying, storage
Orange Flesh Sweet Potato	Nutrition benefits, cooking shows, planting, management, harvesting, storage, processing
Solar lights	Cost benefit of solar, health benefit, S300, S20, safety benefits
Farmer Groups	Requirements of successful farmer groups, accessing finance as a farmer group, inventories, leadership, supply chain
Groundnuts	Correct planting and management of groundnuts to avoid aflatoxin

## Regions/Locations

Shamba Shape Up Series 4 was filmed in the following areas:

Naro Moru	Embu
Meru	Nyeri
Rongai	Bungoma
Uganda – Mbale	Bondo
Vihiga	Eldoret
Katamani	Kimutwa
Kiserian	Ugenya
Njoro	Kitui

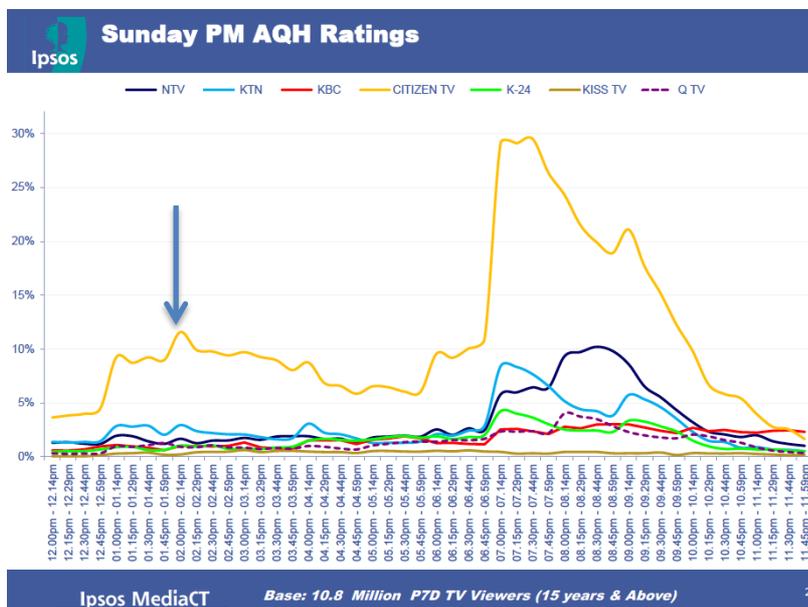
## Broadcast areas

Shamba Shape Up Series 4 was broadcast in Kenya, Uganda, and Tanzania in 2014 and will be broadcast in Rwanda in 2015.

## 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. 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.

Charts from KARF indicate that the share of viewers that SSU has compared to other broadcasters is high, and that viewers are ‘tenting’ – i.e. viewership is increasing at the time that SSU is aired. (Note: the base viewers is out of date).



Tanzania data 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.

There is little data for Uganda viewership that is up to date; the viewership in Uganda is estimated at 1 million.

## SMS database traffic

Xxx

Total sms  
 SMS by episode  
 SMS by sector

**Social media/internet use**

47.3% of Kenyans use Internet. Facebook has a high use rate, and Shamba Shape Up has the largest agricultural Facebook page in the region with 40,000 fans. The page is used to interact with viewers, share information, hold competitions and for peer-to-peer information exchange. A higher proportion of SSU Facebook fans are women than men; most fans (34,124) are Kenyan, 1,460 Tanzanian, 560 Ugandan. USA ranks fourth (294), and UK fifth (97).



The highest Facebook traffic occurs on the weekend when the episodes air.



The Twitter account is used for interaction with potential partners, and has a following of 2,500.

Over 530,000 hits have been recorded on the YouTube site, Africa Knowledge Zone.

### *Research methodology*

The KAP survey was conducted pre-broadcast in March 2014, and post-broadcast in September 2014. The surveys were conducted in Bondo, Vihiga, Embu, Nyeri, Kikuyu, Kisii, Kapsabet, Nakuru Rongai, Mwingi, Kajiado Isinya and Kiserian with an even split of respondents in each location. 800 respondents were interviewed in total in each survey wave. Every household owned a working TV.

## Audience figures

### Viewer demographics

- Average land size cultivated: 1.88 acres
- Main source of household income
  - 67% Crops
  - 33% Livestock
- Gender: Male 44%, Female 58%
- Age range
  - 18-24: 13%
  - 25-34: 33%
  - 34-44: 22%
  - 45+: 32%
- Education
  - No formal education: 3%
  - Primary only: 26%
  - Secondary only: 46%
  - College: 20%
  - University: 3%
- Income levels:

Average monthly Income	Frequency
Less than kshs 3000	7%
Kshs 3001 – 5000	18%
Kshs 5001- 10,000	21%
Kshs 10,001 – 15,000	16%
Kshs 15,001- 20, 000	12%
Kshs. 20,001 – 30,000	9%
Kshs 30,001- 40,000	4%
Kshs 40,001- 60,000	1%
Kshs. 60,001 - 80,000	1%
Kshs 80,001 – 100,000	0%
Over 100, 000	0%
Don't know	4%

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### Regional differences

### Farming characteristics

The farming behaviours of the viewers interviewed in this survey are broken down as follows:

Sector	% Viewers Farming
Maize	93%
Dairy Cattle	63%
Chickens	85%
Goat	5%

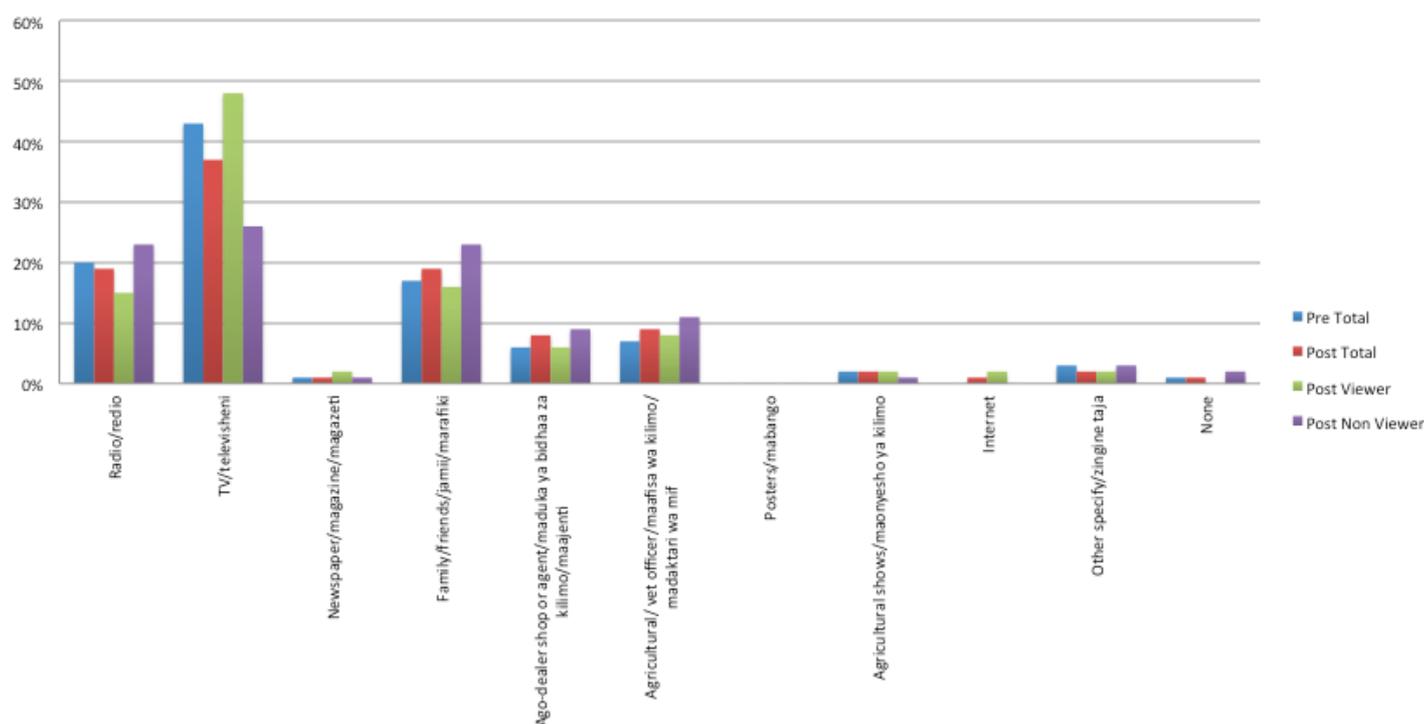
Beans	86%
Sukuma	62%
Sorghum	14%
Local vegetables	54%
Sweet Potato	26%
Horticulture vegetables	7%
Fruit	27%
Root vegetables	20%
Tomatoes	10%
Coffee or Tea	8.4%
Nuts/Pulses	6%
Sugar Cane	2%

### 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, Internet or agricultural shows.

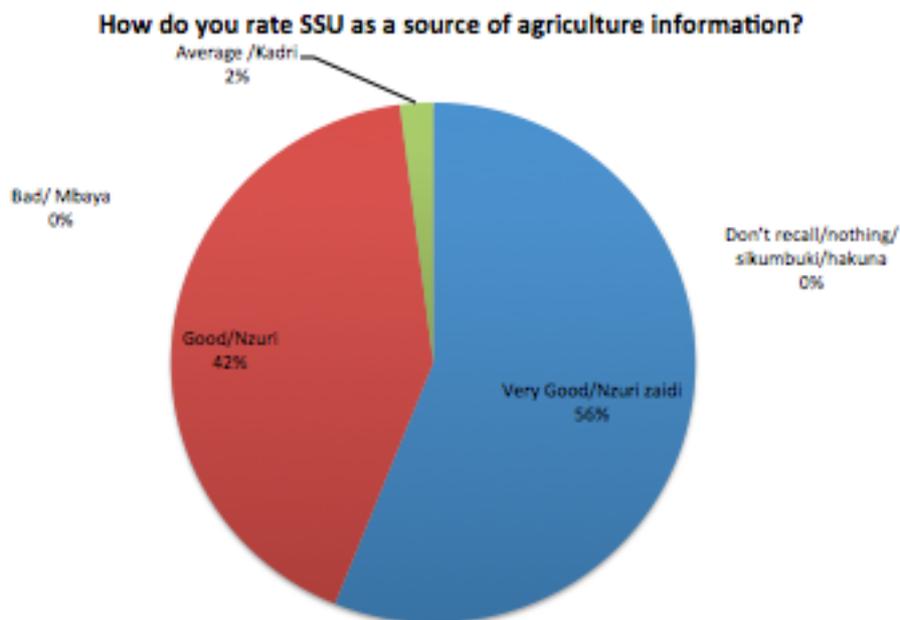
When asked to rate the most useful source of information, the most cited most useful source is TV, followed by radio, Friends/Family, agrodealers and agricultural officers/vets.

Source of most useful agricultural information.



### Attitude to Shamba Shape Up

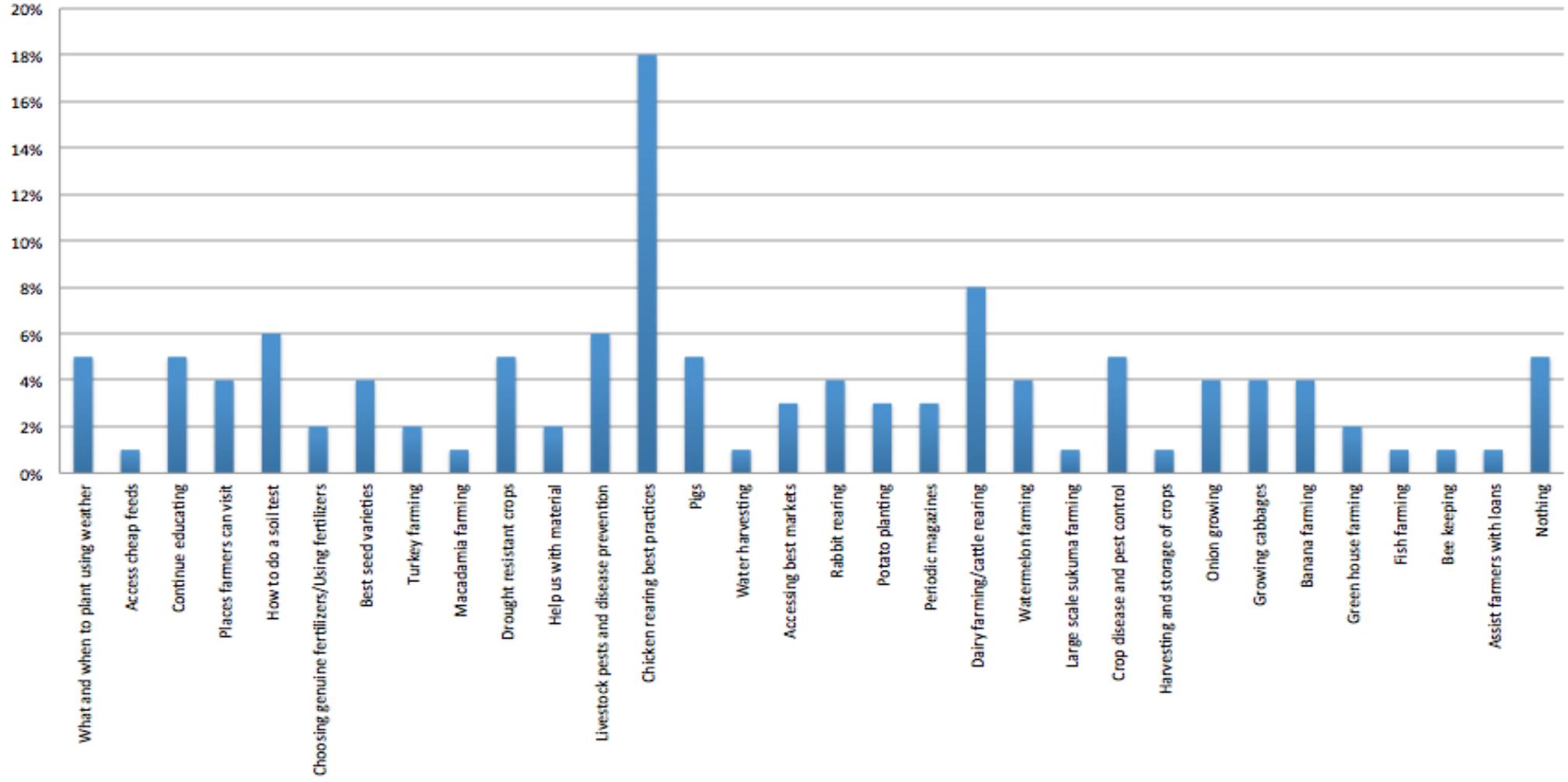
In order for SSU to be successful, viewers must rate the program highly – entertainment for education can only be effective if users return by choice. In this regard the program has been successful:



***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.

### What more information would you like on SSU to improve your farm?

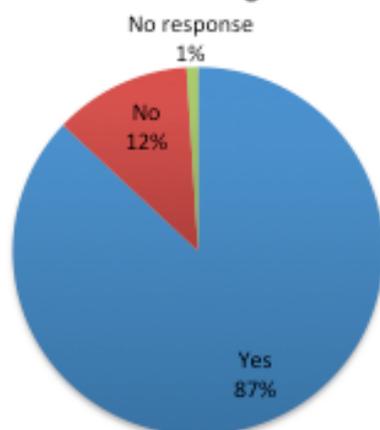


## Impact - changes in Knowledge, Attitude and Practice (KAP)

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.

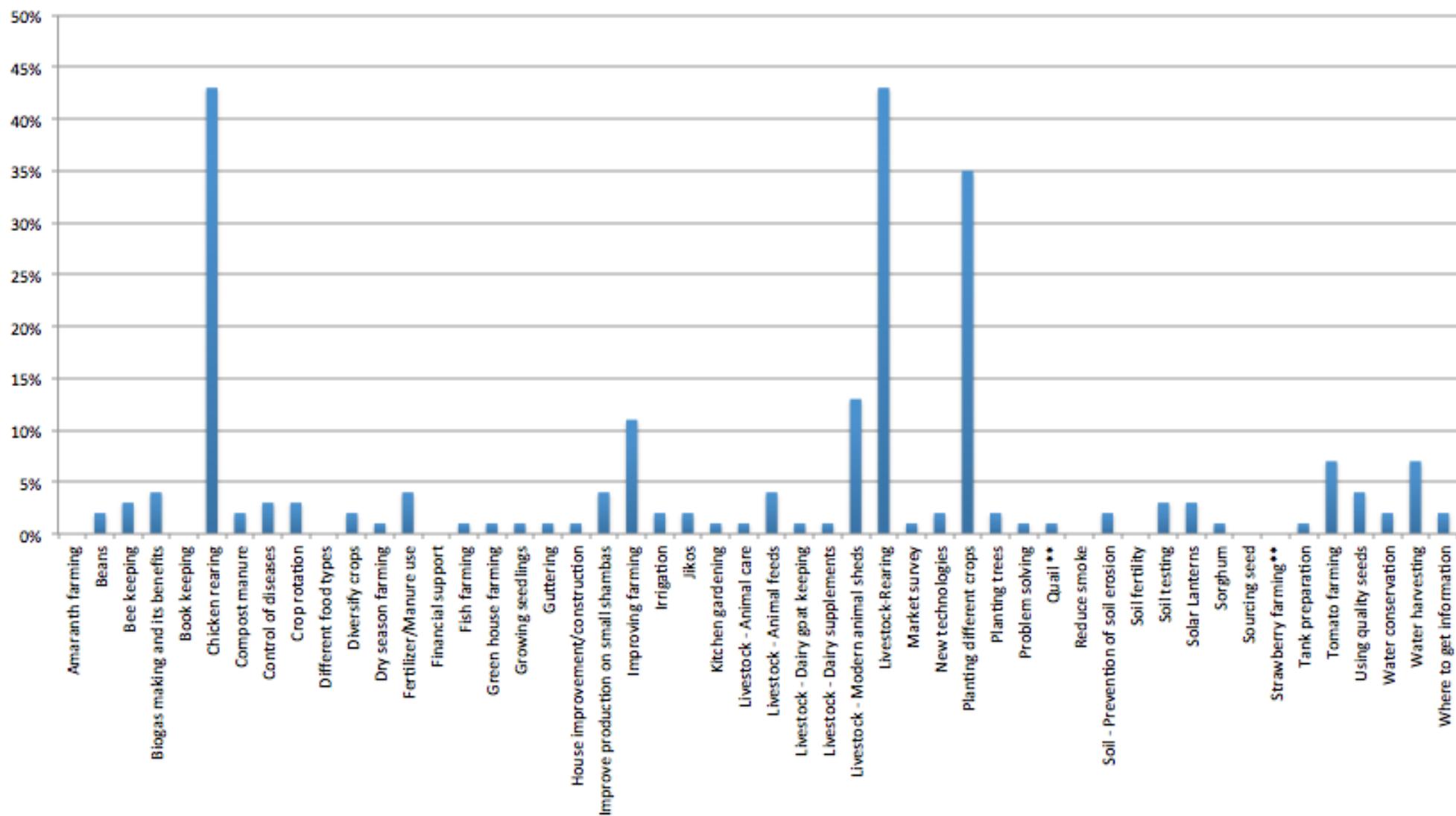
### Learning - Knowledge

Did you learn something new from SSU?



Rates of learning something new (i.e. something the viewer did not know before) are high. If we estimate a 5 million audience in Kenya alone, this can translate roughly to 4.35 million people learning something new in 2014 from the program.

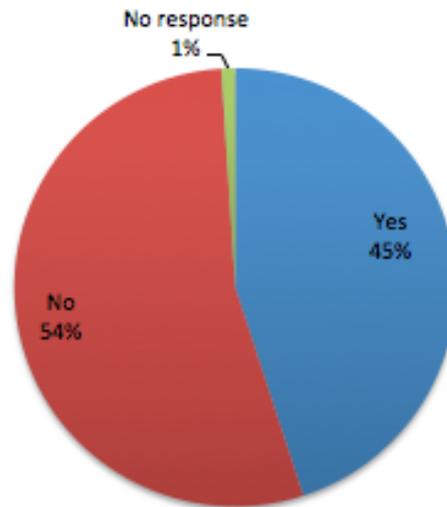
## What is the main thing you learnt from SSU?



## Attitude – opinion

Attitude results are broken down by topic in each respective chapter.

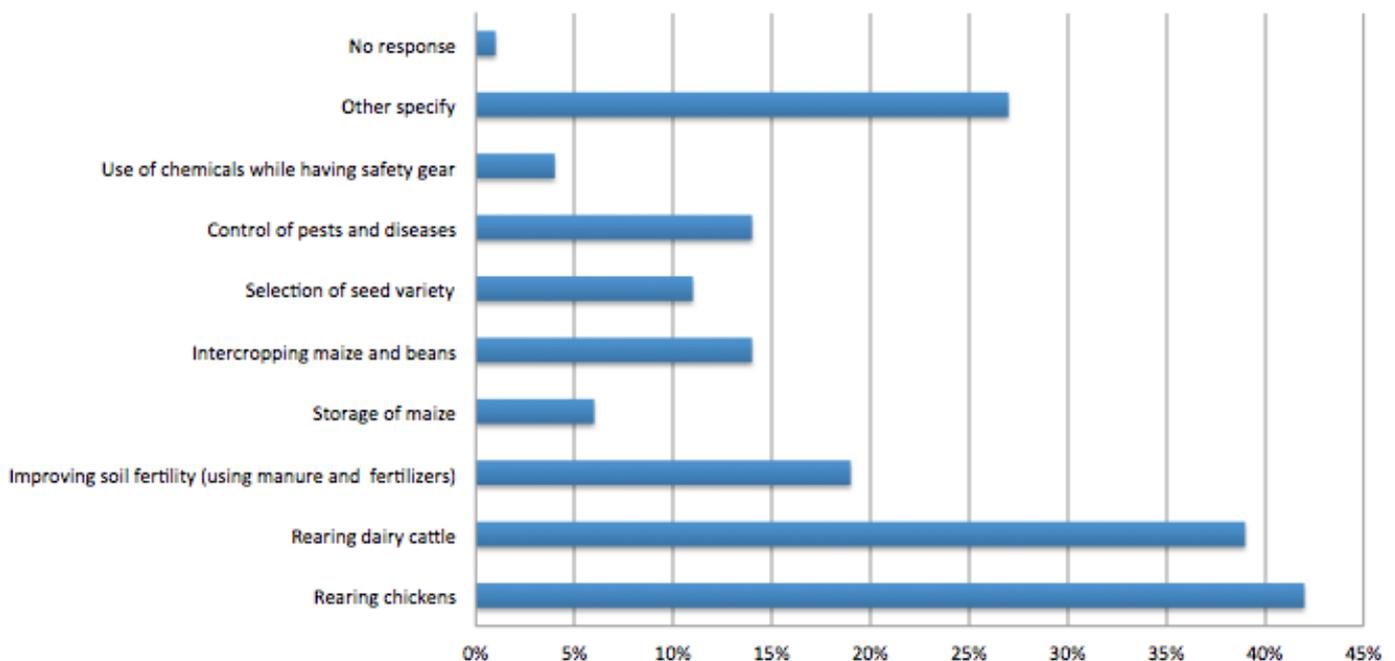
### Did you change any of your farming practices as a result of learning something new from SSU?



## Practice – behaviour

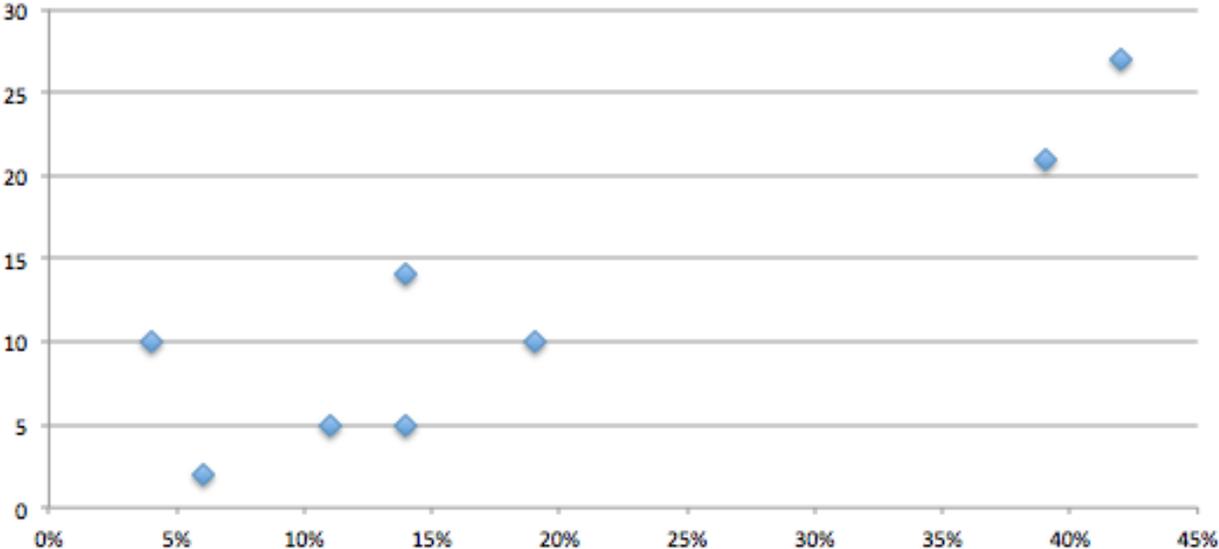
Changes made are disaggregated into sector; highest rates of change were seen in dairy, poultry, soil fertility, maize and pest and disease control. In the category 'Other Specify', the activities changed include planting napier, crop rotation, spacing during planting, growing horticultural crops (onion, tomato, beans, passion, cabbage), and rainwater harvesting.

### What practices did you change?



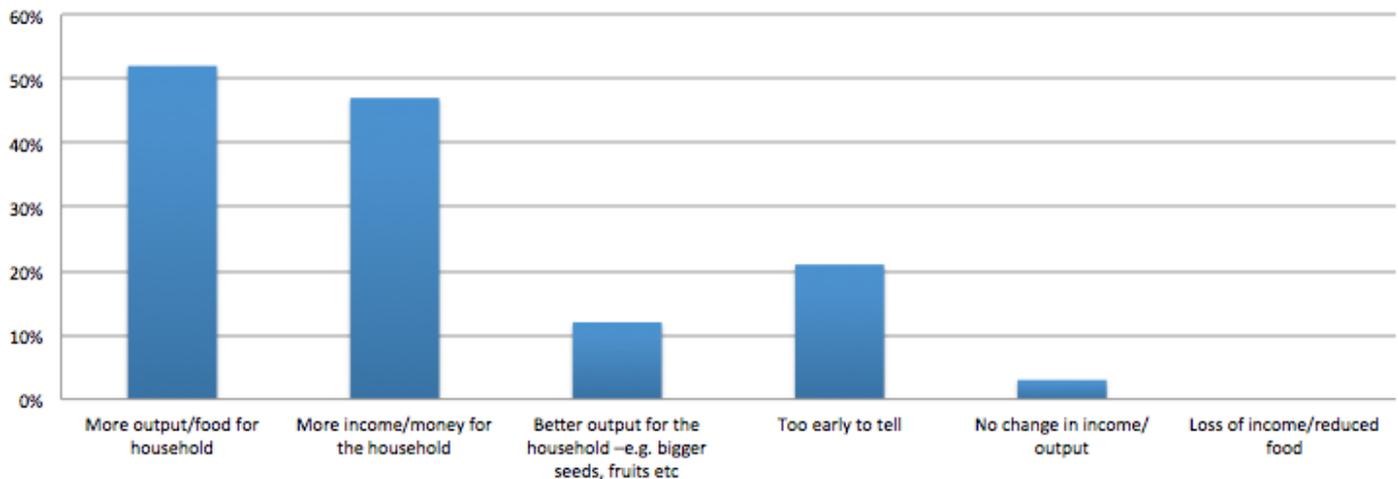
Rates of change reflect, as expected, rates of learning. Interestingly, the level of change for each activity roughly correlates to (a) the frequency the topic is requested by viewers and (b) the number of times the topic features on the program.

### Change vs. Times Featured



## Impact – value implications

### What have your changes resulted in?



The positive changes to income or food supply for households adopting new practices or behaviours suggests an increase in average viewer income as a result of the program.

### Introduction to AECF-Reading and partners' research

AECF (African Enterprise Challenge Fund) funded SSU Series 1 as a pilot under its RIB phase. As such, AECF has an interest in the impact of the program on the audience. AECF commissioned a large piece of research in 2014 to estimate the impact of the program on three main sectors: dairy, poultry and maize. The summary is excerpted below.

### Assessing the impacts of Shamba Shape Up - Executive summary – October 2014, Reading University

1. AECF commissioned a study to investigate the impact of the Shamba Shape Up TV edutainment programme on small-scale agriculture in Kenya and to research the processes by which the programme influences farmers' activities
2. The assessment is based on a theory of change that draws on three bodies of theory and research which have informed the design of the Shamba Shape Up initiative: mass media and society; agricultural and rural extension; and innovation systems
3. The study focused on the area of Kenya that Shamba Shape Up is targeted at and the rigorous statistical design of the assessment allows robust estimates of the size of the audience, and of the effects of Shamba Shape Up at farm and population levels
4. Two questionnaire surveys were conducted across 119 Enumeration Areas together with a more detailed study at selected locations using participatory tools
5. In the 26 rural and peri-urban counties which comprise the main target audience, Shamba Shape Up is viewed in 12.6% of sampled households
6. Most viewers report that the programme has helped them improve the profitability of their enterprises and has had a positive effect on their families' food situation
7. Shamba Shape Up covers a range of enterprises. This assessment focussed mainly on maize and dairy as they were the most focused on. In both enterprises, viewers of the programme were significantly more likely to have made changes in practice featured in broadcasts, and to have made more changes, than non-viewers, even when other socio-economic variables are taken into account
8. The overall number of households specifically reporting that they had made changes to their maize or dairy practices as a result of the programme, or who reported that they had benefited from SSU through increased profit or improved household food situation, is statistically estimated to be

428,566

9. Households who reported making specific changes in their farming practices as a result of Shamba Shape Up are statistically estimated to be 218,562 households for maize and 65,063 for dairy
10. From these two enterprises, the statistically estimated net economic impact in the 25 counties was US\$24,718,648; this comes mostly from dairy enterprises.
11. Viewers reported a range of effects of the programme, beyond the impact on output and profitability: these included improved food security and nutrition, confidence in their management ability, enhanced social status and the re-investment of increased income in other, off-farm, livelihood activities
12. Findings from detailed participatory budgets indicated that gross margins for maize and dairy have improved for viewers of the programme over the past two years, and to a greater extent than for non-viewer
13. There is some evidence that women dairy farmers who have made changes influenced by the programme have been able to reduce the gap in gross margins between them and male dairy farmers
14. Trust in a source of information and influence has a significant effect on the likelihood that farmers will make changes promoted or suggested by the source; Shamba Shape Up scores higher on trust than other more conventional sources of information among viewers of the programme
15. Most viewers identify with the problems farmers face in the broadcasts, care about the families shown and feel involved with them
16. Most viewers feel that they get useful information from the programme and that it helps them make decisions on their own farms; they learn things that they can try out; and they also find the broadcasts enjoyable to watch
17. The programme has become an important part of farmers' information and innovation systems, operating as a trusted source of information presented in a format that engages their interest and emotions, encourages discussion and provides opportunity for follow-up and interaction

### Qualitative research data

The Reading research contained a large section on participatory qualitative research (PQR) data, which has given SSU a lot of insight into what viewers want and how to improve the program, as well as what constrains non viewers from watching the program.

The PQR was carried out using Participatory Budgets, Focus Group Discussions and Key Informant Interviews.

The summarised points are as follows:

- The program stimulated farmers to
  - make specific changes,
  - seek more information from other sources,
  - make changes by adapting techniques they learned on the program,
  - informally discuss the program with individuals or groups
  - increase demand for input supplies
- The program stimulated extension workers and service providers by
  - Refreshing their memories
  - Allowing them to reflect on the content
  - Increasing their knowledge on the content by doing further research
- Household improvements such as jikos, rainwater harvesting and solar lights were well received by women, as they improve the quality of life and reduce workloads.

The PQR provided a wealth of feedback on ways to improve the program. Some of these are outlined below, with the steps taken to follow the recommendations noted.

PQR feedback	SSU reaction
Change the time so viewers can come home from church on time to watch	SSU in discussion with Citizen to broadcast slightly later in the afternoon
Content too basic/Farmers beginners	Selecting more advanced farmers, using more technical content
Needs more advertising on local FM stations to encourage people to watch if they do not already	SSU in discussions with Royal Media's vernacular stations to air vernacular promos
Too much heavy capital investment in structures	SSU reducing building structures, encouraging farmers to use their own materials/capital to build/renovate any that are required
Host farmer should be more active in the discussions	SSU scouting for more outgoing/technically adept farmers who can question the experts
More support services should be used at local level	SSU encouraging partners to use their local networks, and improve interactivity with their projects and SSU

## Impact on KAP by sector

### 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.

### Housing

50% of viewers zero-graze their cattle, and keep them in a shed/house full time.

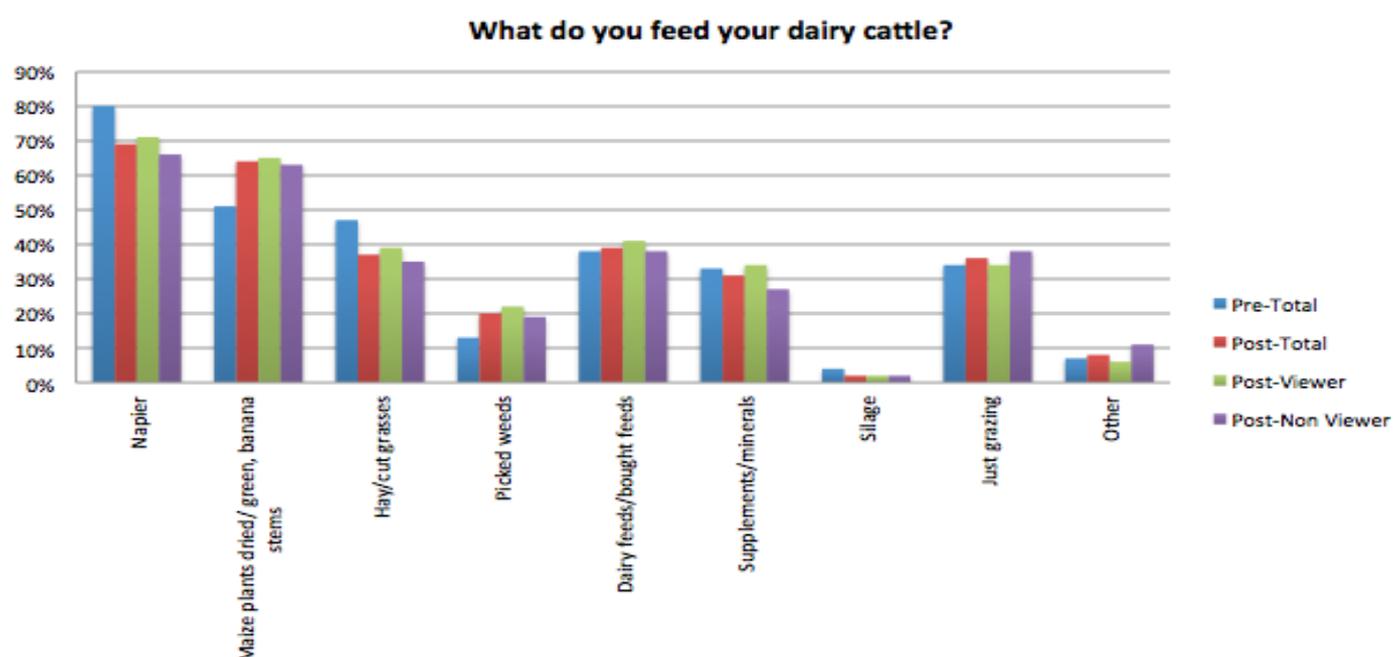
### Health and diseases

The series covered East Coast Fever vaccinations extensively. 11% more viewers know what ECF is after broadcast (82%), and 10% more viewers than non viewers know about vaccinating their cattle (53%).

70% of respondents cited spraying as a way to reduce ECF; 2/3 of viewers actually spray against ECF and 41% claim to have vaccinated. Vaccination is preferred to spraying as a way to combat ECF as it is perceived as more effective.

### Feeds and supplements

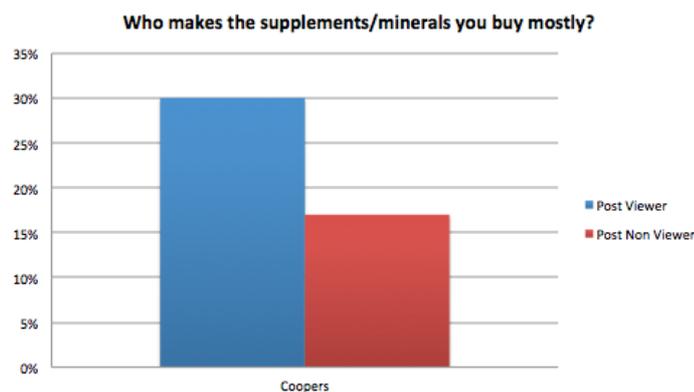
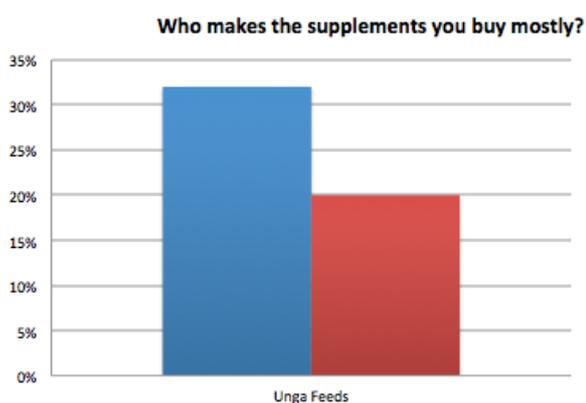
More viewers than non viewers use feeds or supplements, and fewer viewers only graze their animals.



88% think supplementation during pregnancy is good; 5% more viewers than non viewers actually do supplement during pregnancy (77%).

Supplements used include, in order of use: salt, minerals, molasses and protein.

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



More viewers use maize stover as dry season feeding, 10% of all respondents use silage and 50% hay. 30% also supplement with a mixture of what is available at the time, including banana stems, lucerne, chicken waste, bean leaves, weeds and pineapple.

#### *Sources of information for dairy/cattle*

The most frequently cited source of information for livestock is Neighbour/Friend, followed by TV, then Radio and Agrodealer for viewers.

#### *SMS traffic for dairy sector*

#### *Social media interaction*

## Poultry

### Breeds

50% have free range chickens, and 12% fully enclosed chickens. There was an increase in the number keeping local chickens. 11% more viewers are aware that Kenchic is a supplier of day old chicks.

### Housing

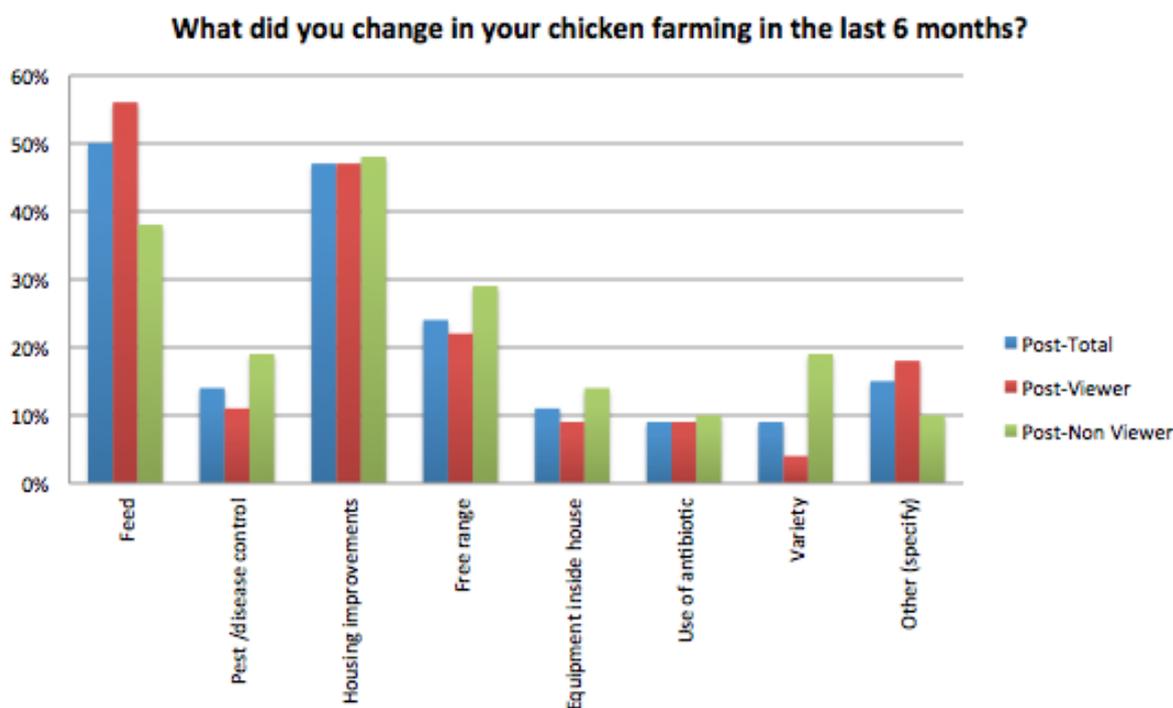
70% of respondents have a chicken house. The majority have wooden floors, followed by earth floors. On average, 47% use wood shavings on the floor, with more viewers doing so than non-viewers. 70% use drinkers in their chicken house, 65% feeders and 46% of viewers nest boxes against 41% non-viewers.

### Feeds

6% more viewers buy feed for their chickens than non viewers.; of those, 9% more (55%) viewers buy Unga feeds than non-viewers.

In terms of the reason feeds are not bought, cost fell as the most problematic after VAT was removed. Most state they do not buy grower or layer feeds because they prefer local chickens/free range.

Despite this, there was significant change in viewers who started using feeds at a higher rate than non viewers.



### Health

46% on average use disinfectant when raising chickens, with no difference between viewer and non viewer. 83% of viewers use medicines or vaccines for their chickens (vs. 74% non-viewers). 91% apply the medicine/vaccine through drinking water, and less than 10% through eye or nostril, though viewers are more likely to do so than non-viewers.

In terms of the purpose for using the medicine/vaccine, the majority is for Newcastle Disease prevention:

<b>Purpose</b>	<b>%</b>
NCD	57%
Gumboro	17%
Fowlpox	16%
Bronchitis	18%
Fleas	20%
Not sure	14%

### *Local poultry*

The majority of respondents are growing or keeping local chickens, free range, as it is a cheaper business to be in.

### *business*

### *SMS traffic*

### *Social media interaction*

## Climate change, resilience and adaptation techniques

### Summary of topics covered

- Fodder crops
- Storing fodder
- Pasture management
- Growing drought tolerant crops
- Intercropping trees
- Agroforestry
- Fruit trees for stabilisation and nutrition
- Roof rainwater harvesting
- Surface water harvesting
- Terracing
- Gully management
- Protein rich fodder for cattle
- Biogas
- Selecting drought tolerant or early maturing varieties
- Drip irrigation

### Awareness of climate change

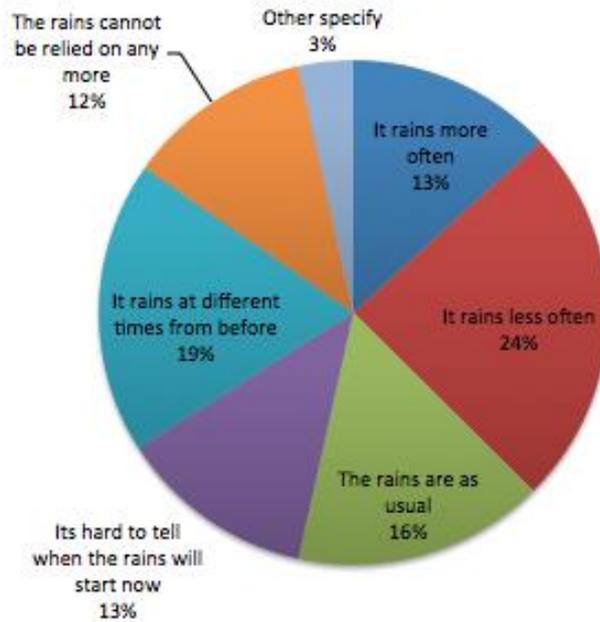
Of the households aware of climate change (70% of viewers, 62% non viewers), climate change means a variety of things. For viewers, it means:

Meaning	Frequency
Irregular rainfall	26%
Changing weather patterns	19%
Less rain	16%
Unreliable weather	15%
Too hot	10%
Weather not good for farming	5%
Longer drought	3%
Longer rains	3%
Colder	2%

In terms of techniques to adapt to climate change, more viewers than non-viewers cited trapping water, growing drought resistant crops and varieties, planting fruit trees, using mulch, zero grazing, using different cattle and irrigation. The majority cite planting trees, trapping water and growing drought resistant crops or varieties as the main ways to adapt to climate change.

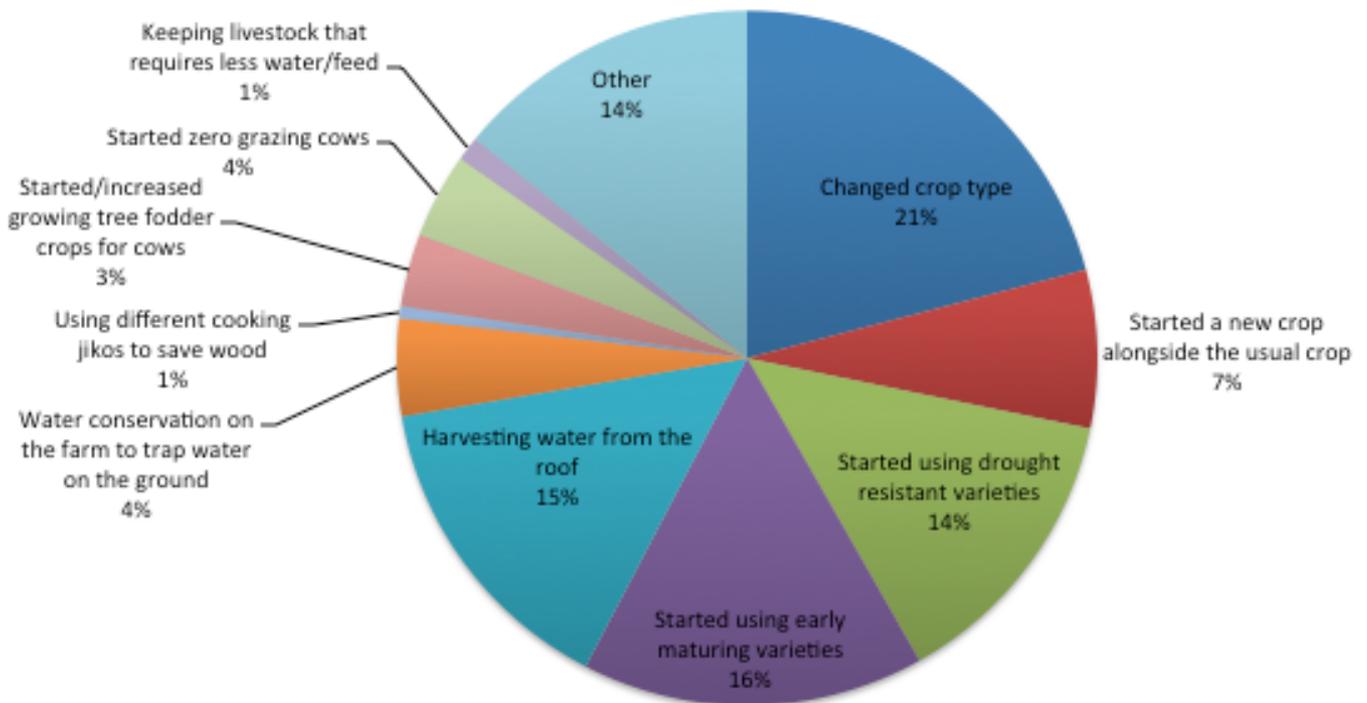
95% of households have noticed change in the weather patterns in their area.

### How has the weather changed in your area?



For actual adaptation, only 33% of households have adapted their behaviour, marginally more than non-viewers. They have used a variety of methods, the main ones being water harvesting, changing the crop type and growing fodder crops.

### What changes have you made?



'Other' includes planting trees and irrigating.

Roof rainwater harvesting is practised by 74% of viewers, and surface/on farm water harvesting by 54% of viewers through terracing, mulching, pans and furrows. Drought resistant crops being used are, in order of precedence, trees, Amaranth, Sorghum, new maize varieties.

### ***Biogas***

Despite the vast amount of work going into biogas across the country through NGO and private companies, only 5% have biogas systems, and none the bag or flexi type showed in the program. At 76%, 11% more viewers are aware of biogas than non-viewers, and most get their information from neighbours, followed by TV and radio.

Radio and TV are the main sources where both viewers and non viewers get their information on adapting to climate change.

### ***SMS traffic***

### ***Social media interaction***

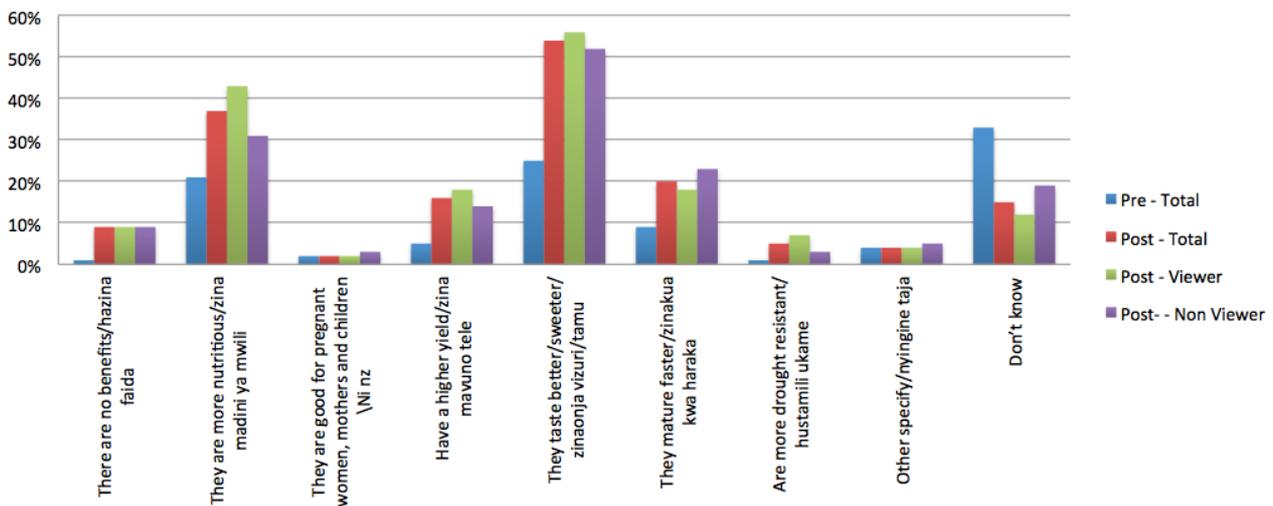
## Orange Flesh Sweet Potato

Prior to broadcast, 30% of the survey area grew SP, and of those 5% grew OFSP. After broadcast 18% grew OFSP. Before broadcast, 19% of respondents were aware of OFSP – after broadcast this grew to 49%.

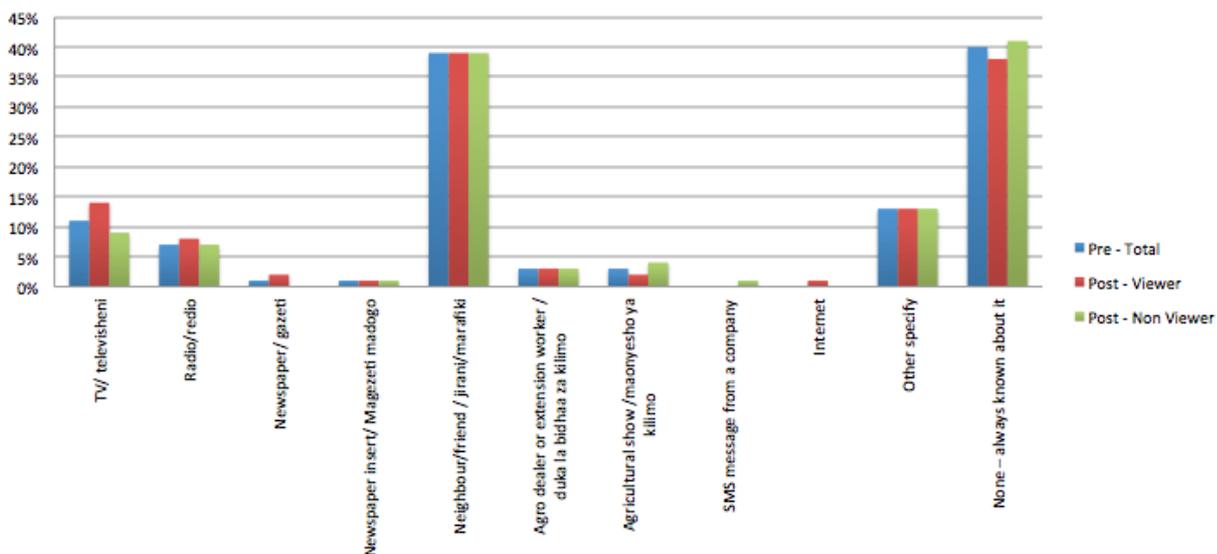
87% of those who grew SP before broadcast did not store them; rather they sell or consume immediately. 1% store in sand, 1% on the ground and 6% in sacks. There was no significant change after broadcast. It is unlikely that this would have been influenced by planting cycles, as the question was ‘Once you have harvested your sweet potatoes, how do you store them?’, moreover the pre-broadcast cycle was conducted at the time that some regions would be harvesting SP.

In terms of nutrition benefits, awareness of nutritional benefits grew from 21% to 43%, taste from 25% to 56%. Awareness of drought tolerance and yield also grew by similar margins. More viewers than non-viewers were aware of the nutrition (43% vs. 31%), yield (18% vs. 14%), taste (56% vs. 52%) and drought tolerance (7% vs. 3%) benefits of OFSP.

### What are the benefits of OFSP?



### Source of information about OFSP



There was an increase in awareness of the various benefits of OFSP for non-viewers over the same time period, which indicates either that CIP's other promotional activities are working (e.g. field activities or other media programs), or that viewers are sharing information with non-viewers.

For information about SP/OFSP, most farmers learn from their Family/Friends or claim to have always known it – which indicates the strong tradition of growing the crop. For 14% of viewers, TV was the source of information on OFSP, against 39% sourcing from 'Neighbours/friends' and 38% from 'None-always known it'.

### ***SMS traffic***

The queries specifically for crop type are either people who are more applied, or who have had a leaflet already with a section prompt to SMS "OFSP" for more information.

9989 SMS were received asking for leaflets for the episodes in which OFSP featured, and 92 SMS were received with questions about OFSP specifically.

### ***Facebook and social media***

SSU has an active Facebook community; CIP and SSU both 'like' each other on Facebook.

Shamba Shape Up followers: 37,800

CIP followers: 4,500

CIP and SSU ran a competition on the SSU Facebook page in the past with successful results. Around 30-40 people entered the competition online, and a winner was chosen from the competitors. The prize was given by CIP (OFSP planting manual) and was sent to the winner by CIP, with photographs added to Facebook to show the lucky winner, and incentivise others to join future competitions.

SSU have also promoted a Special Offer for CIP information leaflets. Every time someone sends an SMS to SSU to ask for information about the episodes in which OFSP featured, or about OFSP specifically, a CIP leaflet was added to his or her post, increasing the volume of leaflets being sent out.

## Sorghum

The program covered Sila and Gadam sorghum growing for sale to EABL. This was part of a drive by EABL to increase the volume of sorghum based beer as a result of incentives to produce beer made of locally produced grains. However, midway through the broadcast cycle these incentives were removed; EABL still buys white sorghum but acts as a warehousing agent instead.

The program covered correct planting, crop management, topdressing, pest control and harvesting measures as well as good storage techniques. It also introduced the viewers to the concept of an agent network buying a commodity for a central buyer.

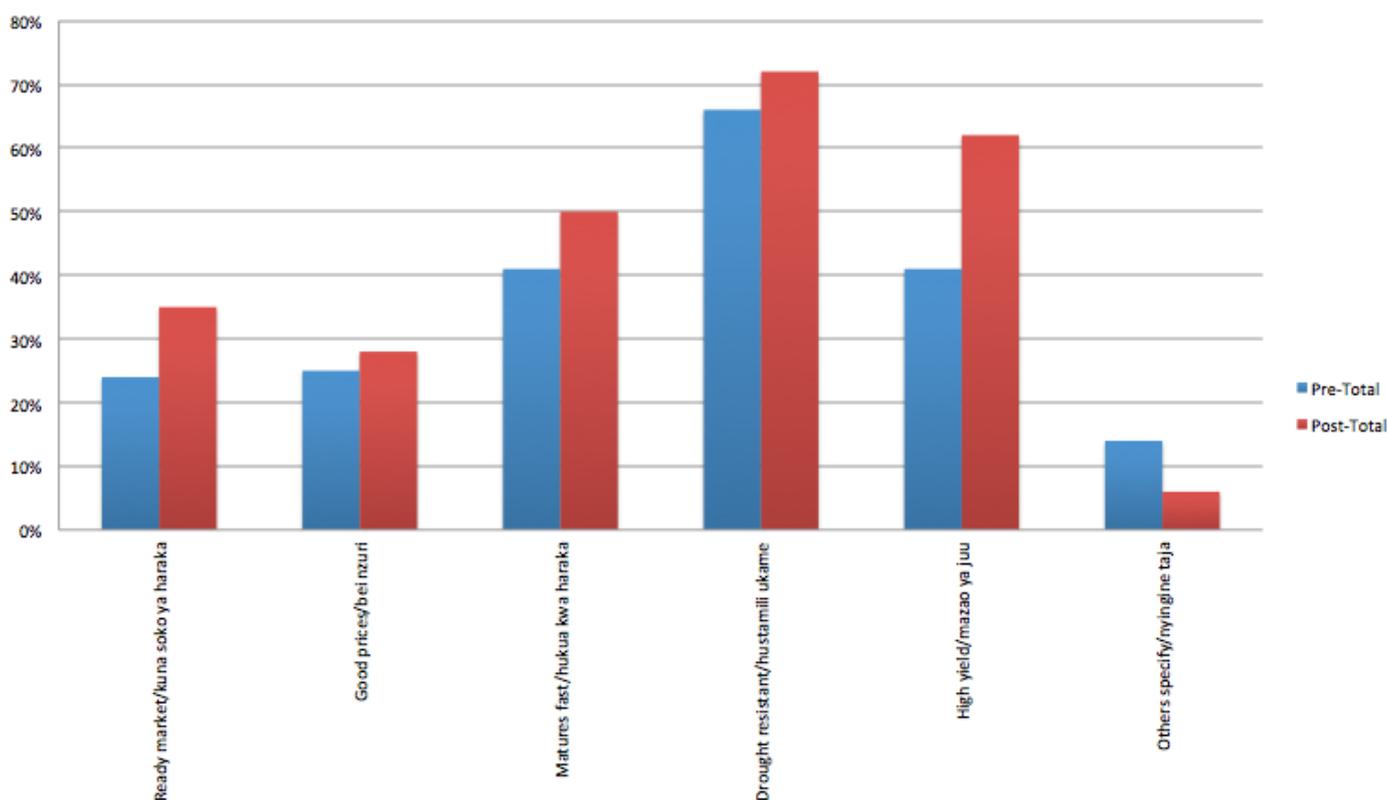
20% of the areas for the surveys were specifically targeted to cover sorghum growers. As such, 14.5% of the respondents grow sorghum. Slightly more viewers grow sorghum than non-viewers.

Of the growers, 72% grow red sorghum, 18% a white variety of unknown name and 14% specifically mentioned Gadam. There was no mention of Sila.

In terms of planting, the number of viewers who grow in rows with specific spacing is almost double that of non-viewers who do so. More viewers were also aware of the need for spacing, whether they practised it or not. However, most space at 1-1.5ft between rows rather than 75cm as recommended on the program.

95% of those who grow the crop think sorghum is a good crop to grow in their area, for a number of reasons as illustrated below. The sample sizes of respondents means there is no statistically significant difference between viewers and non-viewers in terms of knowledge and attitude, however there is an increase in positive attitudes to sorghum after the program as compared to before the program.

**Why is sorghum a good crop to grow**



*SMS traffic*

*Social media interaction*

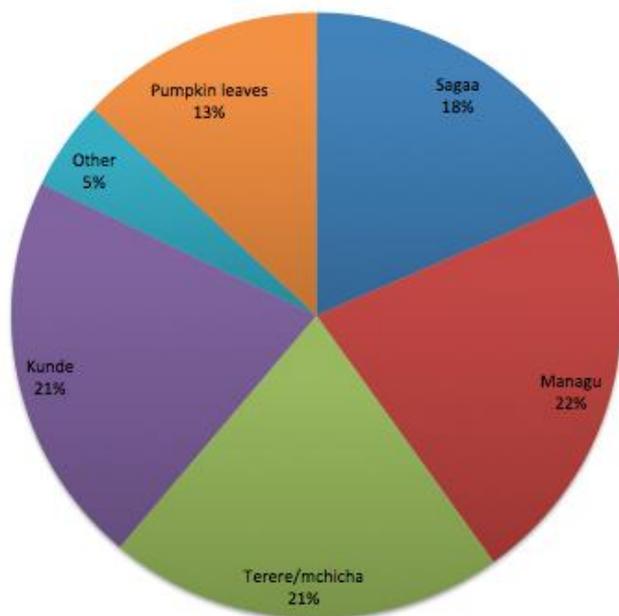
## Indigenous vegetables and climbing beans

### Indigenous vegetables

The program encouraged mothers to grow indigenous vegetables including nightshade (osuga/lisusa), terere, jew mallow (mrenda) and pumpkin leaves for improved nutrition of children and food security in times of drought.

46% of the respondents grow local vegetables of a range of types. 'Other' includes nightshade, jew mallow, crotolaria and other cited but non-indigenous vegetables.

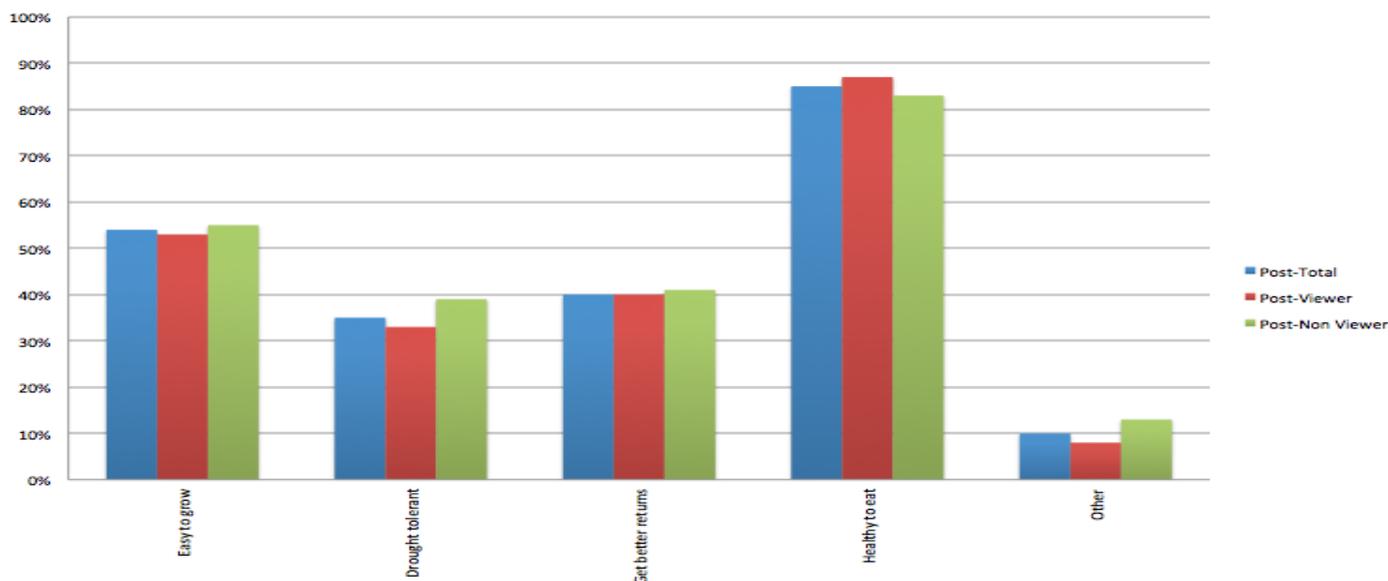
Which local vegetables do you grow?



More viewers than non-viewers were aware of the health benefits of growing and eating local vegetables.

The most popular source of information on local vegetables is self (48%), followed by neighbours (41%), and 1/5 of viewers used TV as a source of information on local vegetables.

What are the benefits of growing local vegetables?



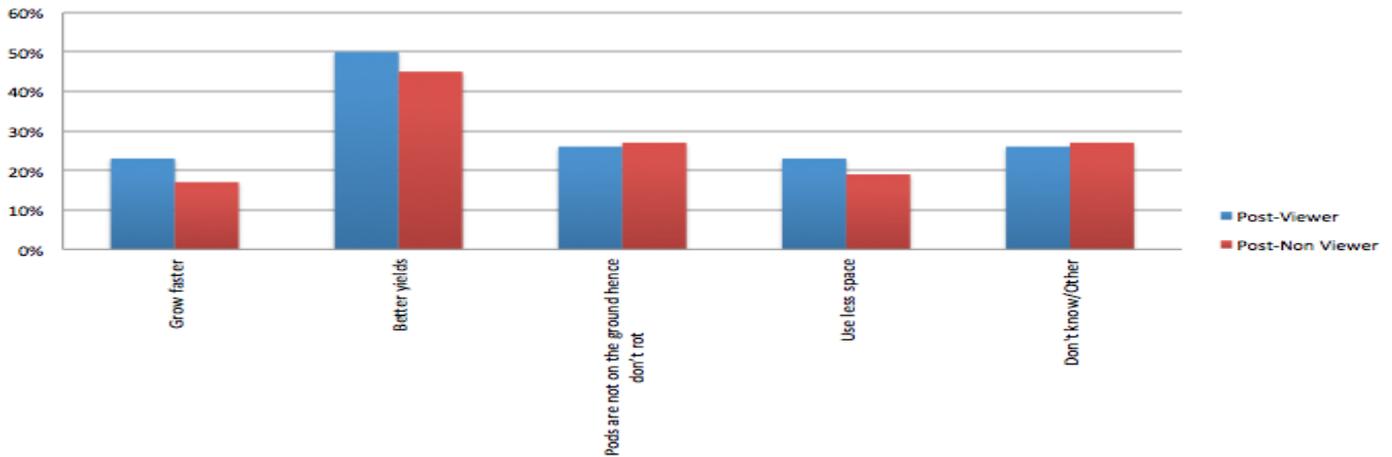
### *Climbing beans*

Of the 86% who grow beans, only 4% of respondents grow climbing beans. 4% grow a mixture of both bush and climbing beans.

More viewers are aware of the yield, maturity and space benefits of climbing beans than non-viewers.

Over 90% of bean growers do not apply anything to the seed at planting (e.g. seed treatments). The majority of viewers get their information about growing beans from self (i.e. always known it) (49%), neighbours (35%) and TV (17%).

**What are the benefits of growing beans which climb?**



### *SMS traffic*

### *Social media interaction*

## Soil fertility

### Testing

The program encouraged farmers to test their soil; 9% more viewers knew what a soil test is, and 6% more viewers than non viewers have tested their soil (11% vs 4% respectively).

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

1. Do not know where to take it for testing
2. Expensive
3. Not aware/do not know the need to test

24% of non-viewers against 34% of viewers know where to take soil for testing – the majority cite KARI, followed by CropNuts/Daktari wa Udongo. There has been a 5% increase in the number of viewers who know where to take soil for testing.

After testing their soils, the majority of viewers changed their fertiliser or the quantity of fertiliser. Non-viewers instead used more manure or compost, or changed their crop.

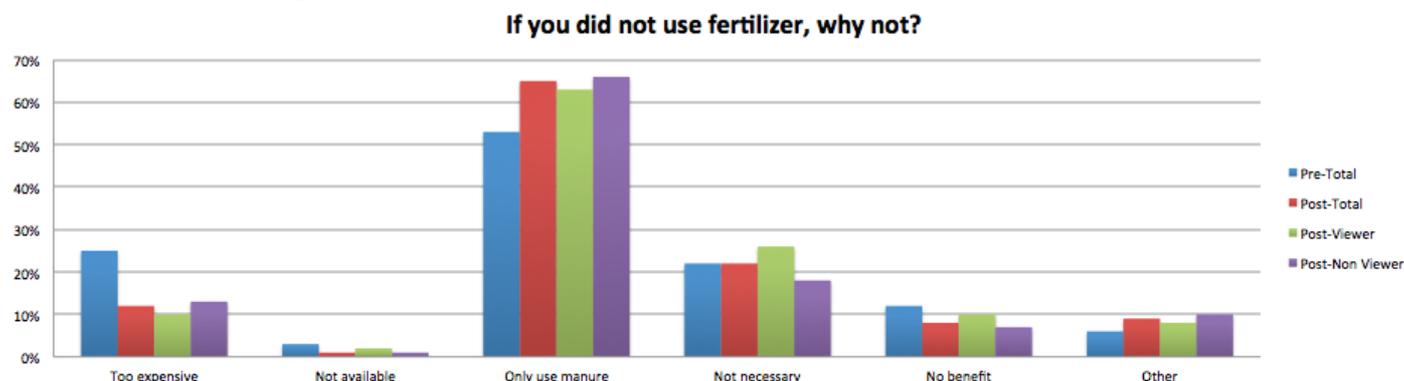
80% of those who made a change following their soil test said it had resulted in an increase in yield.

The program covered pH and its importance – encouragingly there was a large difference in those who knew about pH before and after the program. 13% more viewers know what soil pH is than non viewers, and 8% more know that pH affects crop type and type of fertiliser. 6% more viewers (73%) know that low pH, i.e. acidity, can cause reduced yields.

Of those who know about testing, 69% of viewers learned about it on TV.

### Using fertiliser

69% of viewers against 63% of non-viewers used fertiliser last season. Those who did not use manure only or thought it unnecessary:



In terms of what they look for when buying fertiliser, the majority (48%) buy according to crop, and over a third (36%), what they have always bought, which tends to be DAP or CAN, rather than what is best for the farm. 22% buy on affordability and 16% on the season.

However, 76% know that using the wrong fertiliser can have a negative effect.

The program encourages mixing manure with fertiliser to improve soil fertility; 45% of viewers think this is a good practice, and more viewers (40%) will use this as a practice next season.

To improve soil fertility other than using chemical fertilisers, most would use manure or compost, followed by a break crop, and lastly resting the land.

For brand awareness, when asked which brands they know, respondents generally cited the type of fertiliser (DAP, CAN) instead of a brand. However, Mea was the highest cited brand at 14% of viewers (against 10% non viewers).

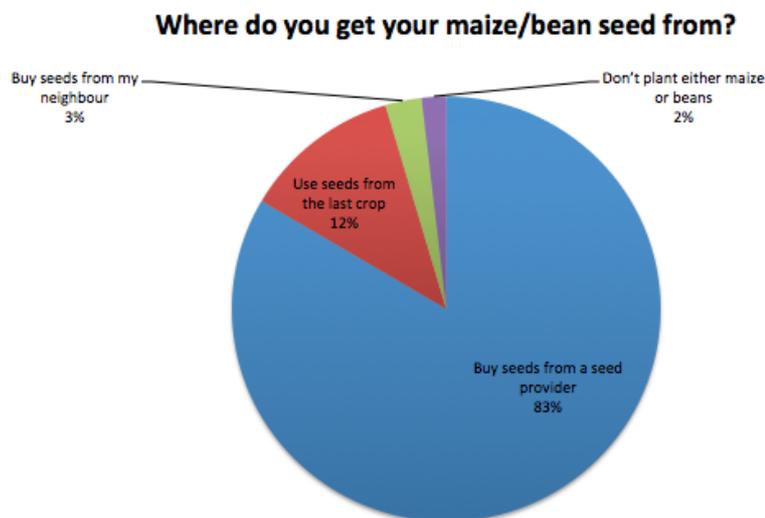
*SMS traffic*

*Social media interaction*

## Seed sourcing

AGRA's PASS program encouraged farmers to buy certified seed, and plant varieties which are suited to their area – which they can enquire about from their agrodealer.

There was no change after the program on the number buying from seed providers (91%) nor using seed from last season (13%), however the majority are buying new seed. There is an overlap, suggesting that farmers plant both new and saved seed.



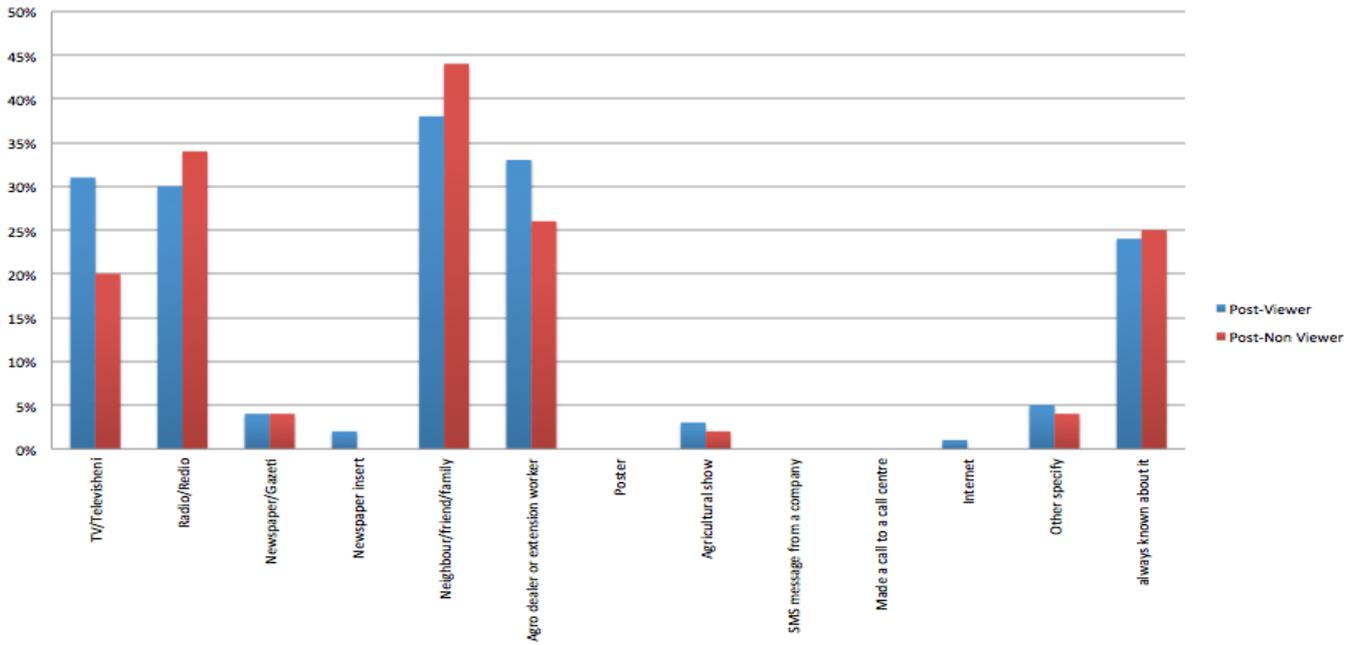
Slightly more viewers think that growing new seed is best (90%), and more viewers choose seed based on the advice from their agrodealer (by 10%), but most people buy what they have always planted there. After 'what I have always used' and 'advised by agrodealer' the third most cited reason for buying a variety is 'advised by neighbour'.

For viewers, using the agrodealers' advice for choosing a variety grew by 7% from 25% to 32% over the program. This suggests that it is possible to encourage viewers to change the variety they grow, provided the agrodealers are supplying the correct information.

92% do not apply seed dressing or treatment, of those who do, they do so to prevent pest and disease damage.

The majority of respondents get their information on maize and bean seed selection from their neighbours. The popularity of other sources then diverges according to whether the respondents are viewers or non viewers (see chart below); for viewers, agrodealers, TV then radio are the next most cited sources in descending order. For non-viewers, radio, agrodealers and self are the next most cited sources.

Where do you get most of your information on the best seed to grow?



*SMS traffic*

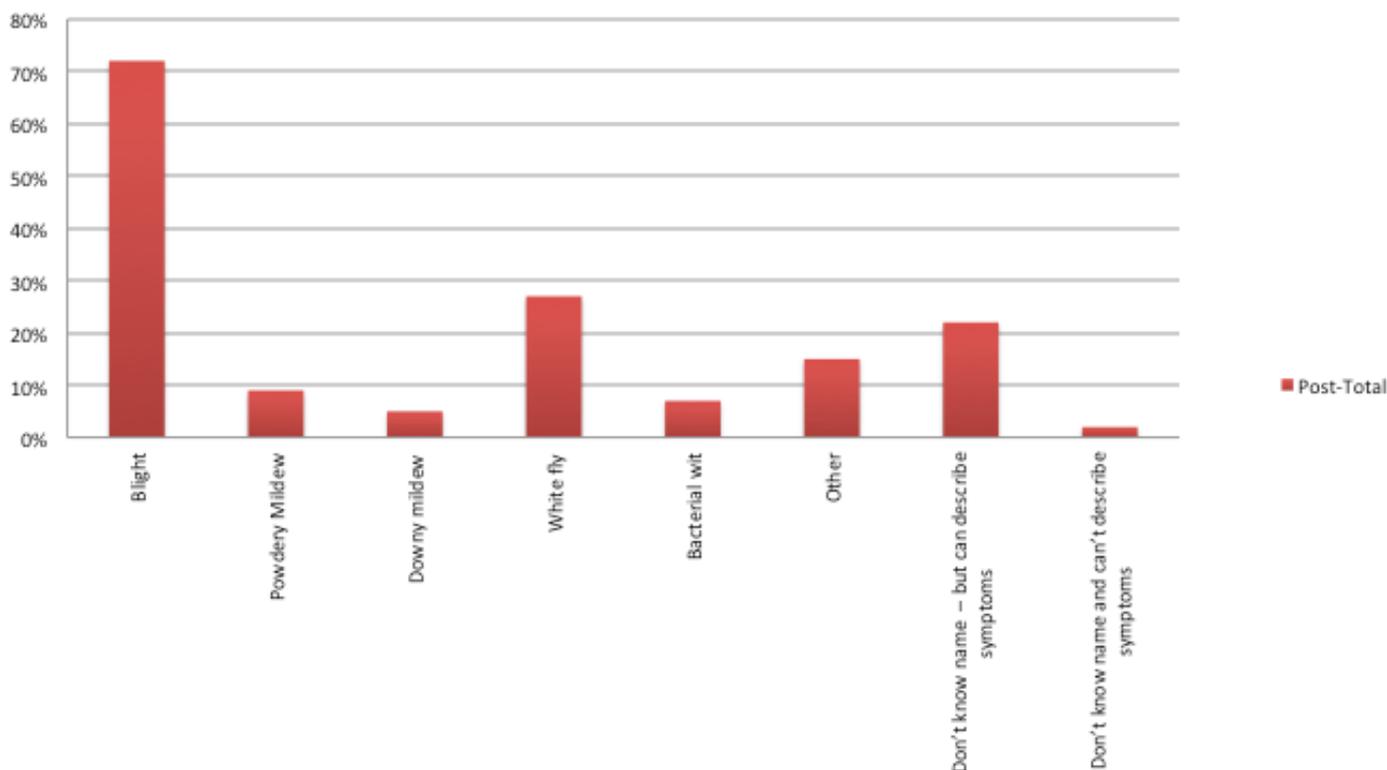
*Social media interaction*

## Tomatoes

16% of viewers and 10% of non viewers grow tomatoes, i.e. they have a tomato enterprise. Of these, 32% of viewers grow Kilele F1, 6% more than non-viewers, who prefer Cal-J.

The most problematic pest/disease for all respondents is blight, followed by white fly, powdery mildew, bacterial wilt and downy mildew.

From what pests or diseases do your tomatoes suffer? (Post-Total)



95% of viewers use spray to control pests and diseases – 8% more than non-viewers. The second option cited is to remove infected stalks (14% viewers, 23% non-viewers).

The program encouraged farmers to apply preventive insecticide and fungicide at transplanting to protect the crop and get good survival rates. However, only 6% apply any chemical at transplanting; 94% apply fertiliser, manure or a mixture of the two. A third apply products in the nursery – when asked which products they apply there is huge variation – over 40 different products are listed.

9% more viewers than non-viewers topdress their tomatoes (75%), the majority every two weeks. Almost twice the number of non-viewer viewers topdress every two weeks.

Most respondents source their tomato growing information from neighbours, then self, then TV. Non viewers rely heavily on their neighbours.

### *Other horticultural crops covered*

The program also covered capsicum, Sukuma and spinach. However, these were not covered in the survey.

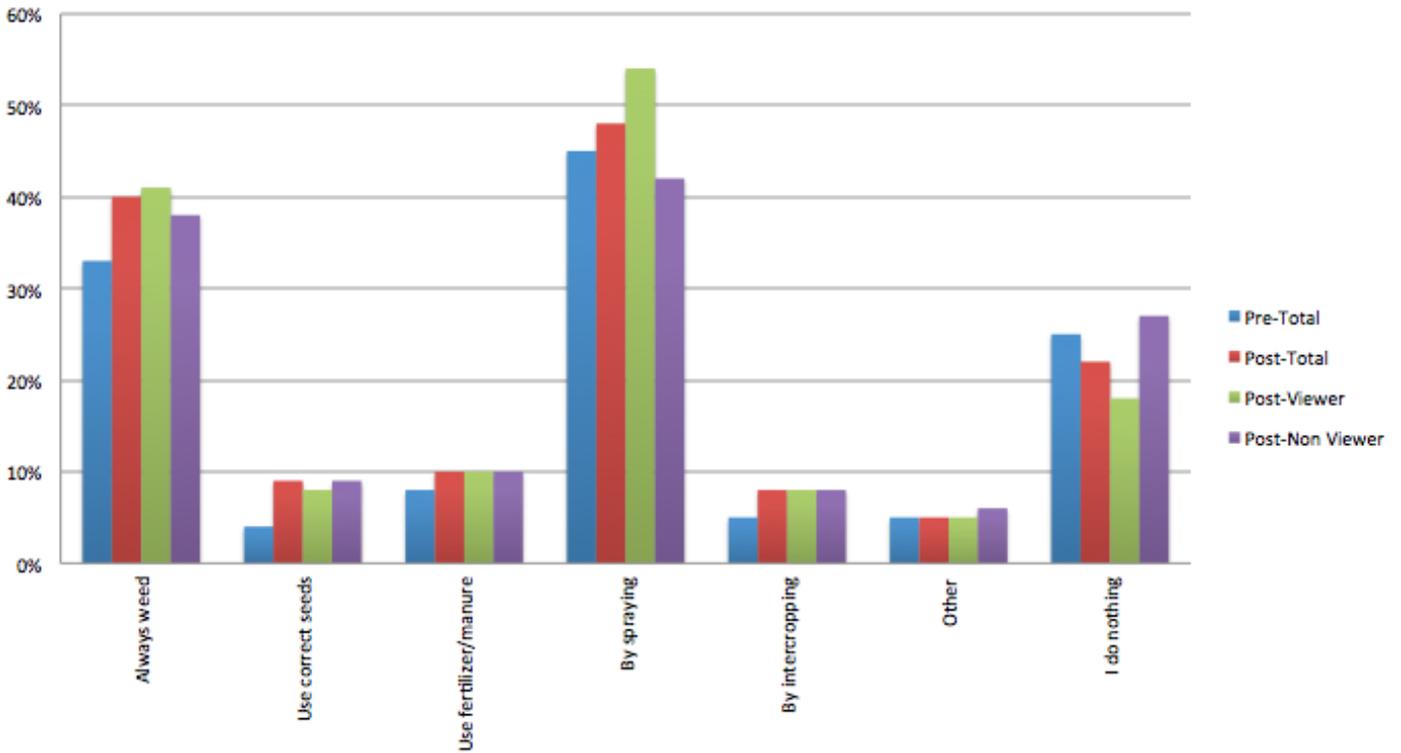
### *SMS traffic*

### *Social media interaction*

## Pest and disease control

Many farmers complain of pests and diseases in their crops, and the inability to control them effectively. Most respondents use sprays to control pests and diseases in their farm:

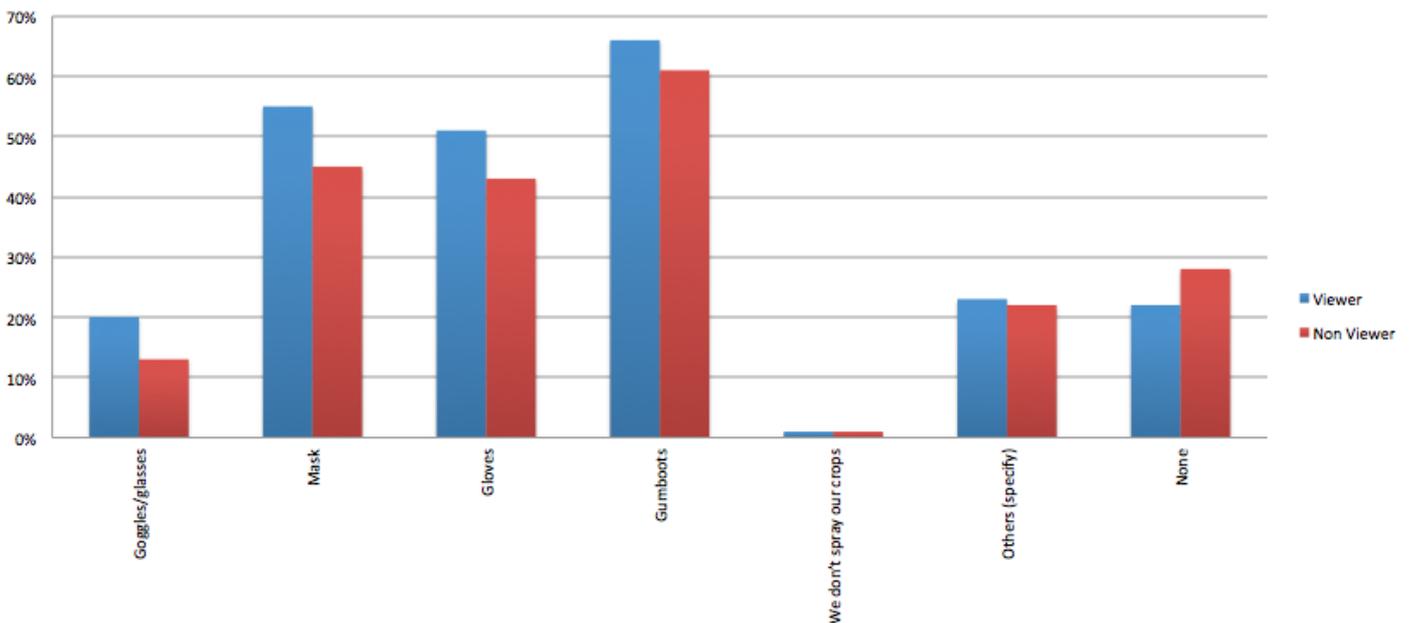
**How do you control against pests and diseases on your farm (for crops)?**



It is, however, important that PPE is used when spraying. The program stresses that any time chemicals are used, the user must wear PPE.

More viewers than non-viewers do wear PPE on all counts; however there is still room for improvement as only 50% use gloves and just over 50% use a mask.

**When spraying, which of these do you wear?**



In order to know the volume of chemical to use, most respondents read the label (74% viewers, 68% non viewers) or measure the area to be sprayed (28% total).

*SMS traffic*

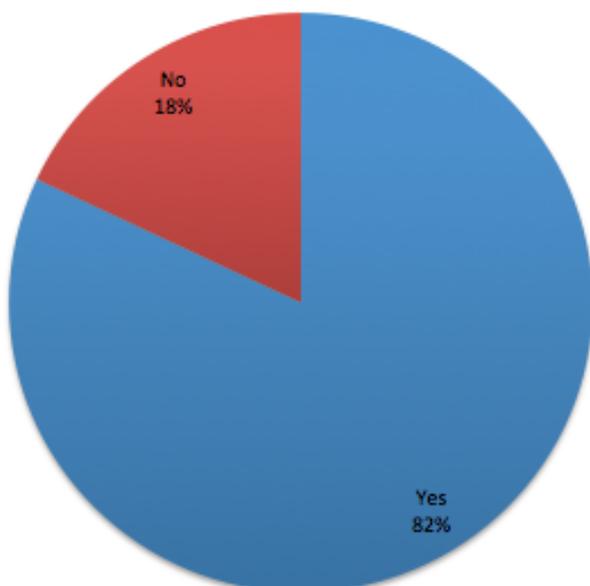
*Social media interaction*

## Maize

### *Improved maize production*

Of the 94% of respondents who grow maize, 9% changed their maize farming last season ( either fertiliser, husking, storage, planting, intercropping or variety). 82% of those who changed said the change had resulted in an increase in yield:

#### **Did your maize yield improve after these changes? Total**



87% of maize farmers intercrop their crop; of these, 97% intercrop with beans. Other intercrops used are peas and potatoes.

### *Seed selection*

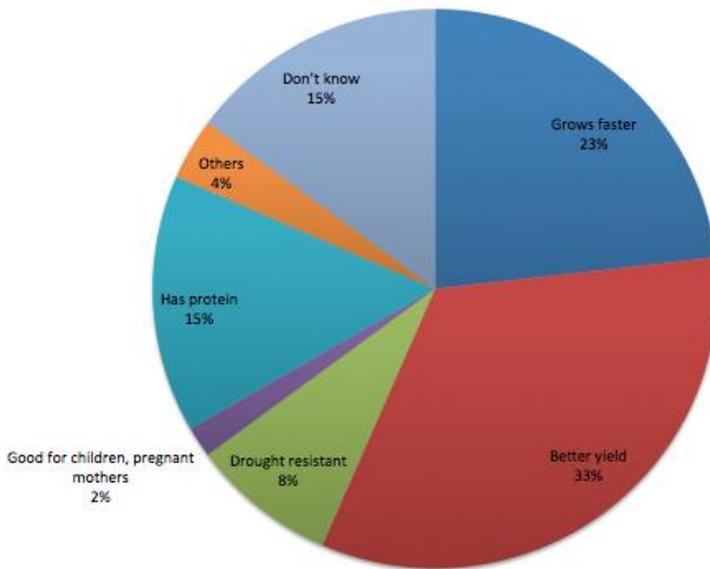
See seed selection section (above).

### *Quality Protein Maize*

The program promoted QPM as a source of protein for the family to save money on milk or meat, and as a drought tolerant, higher yielding alternative variety.

There was an 8% increase in awareness of QPM after broadcast to 10%; more viewers are aware of the variety than non-viewers.

### What are the advantages of QPM?



### *IR maize*

The program promoted AATF's IR maize program as an option to reduce Striga infestation in Western and Nyanza. Of the farmers in these areas who grow maize, 88% know what Striga (Kayongo) is, and 54% have a problem with the parasite in their fields. To counter the parasite, 49% remove infected stalks, and 7% of viewers use Striga resistant seed (3% more than non-viewers). Other ways to combat the parasite are using fertiliser or manure, weeding, XXX.

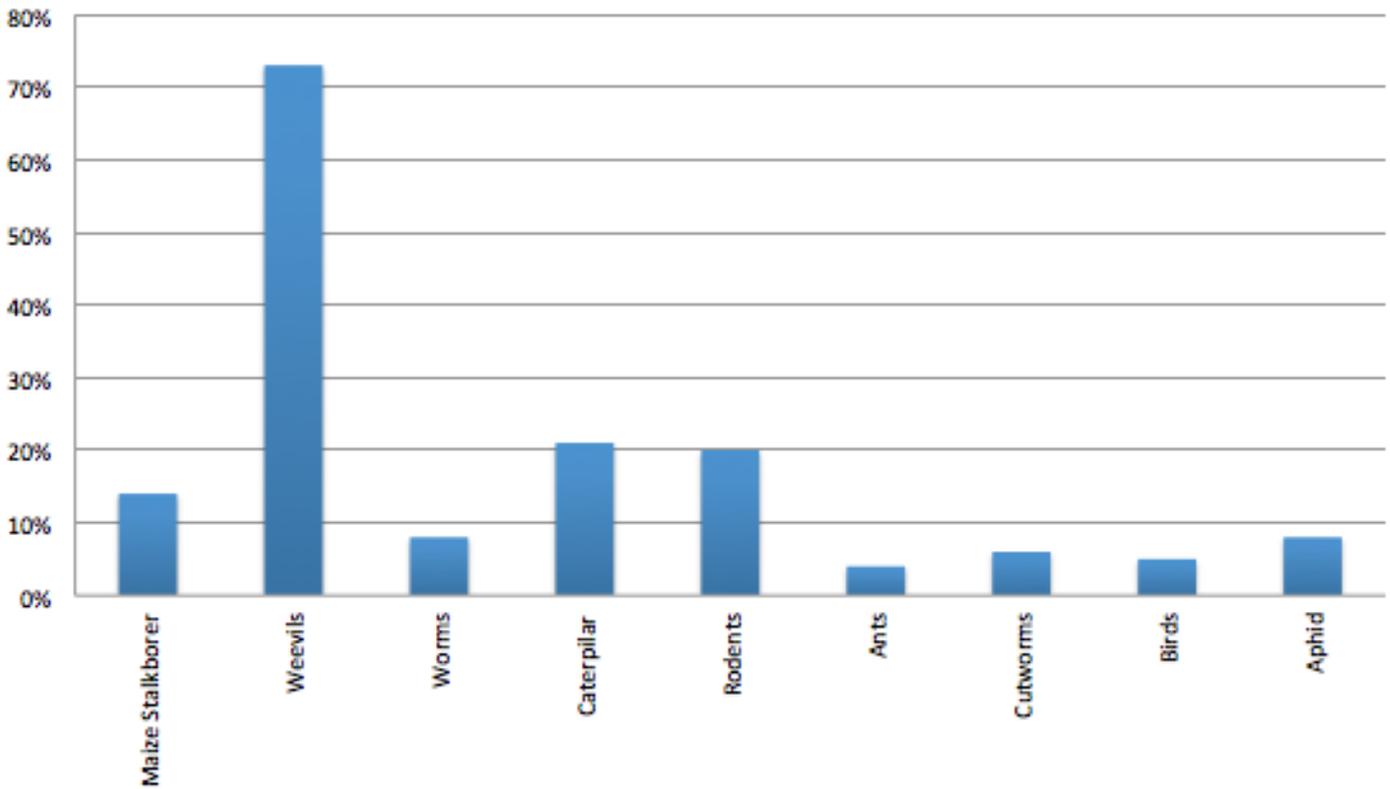
Of those who try to control Striga, 70% say their method reduced Striga, and two thirds say it resulted in increased yield.

However, the majority are still unaware of Striga resistant seed as an option in the fight against this weed (96% non-viewers, 87% viewers). Encouragingly, those who do know of the variety cite radio and TV as their source of information on the variety. This indicates further media work to promote the variety can be successful.

### *Pests*

61% of respondents say they have problems with pests which destroy their maize either in the farm or in storage; the most problematic pest is weevils:

## Which pests destroy your maize?



### *Information source*

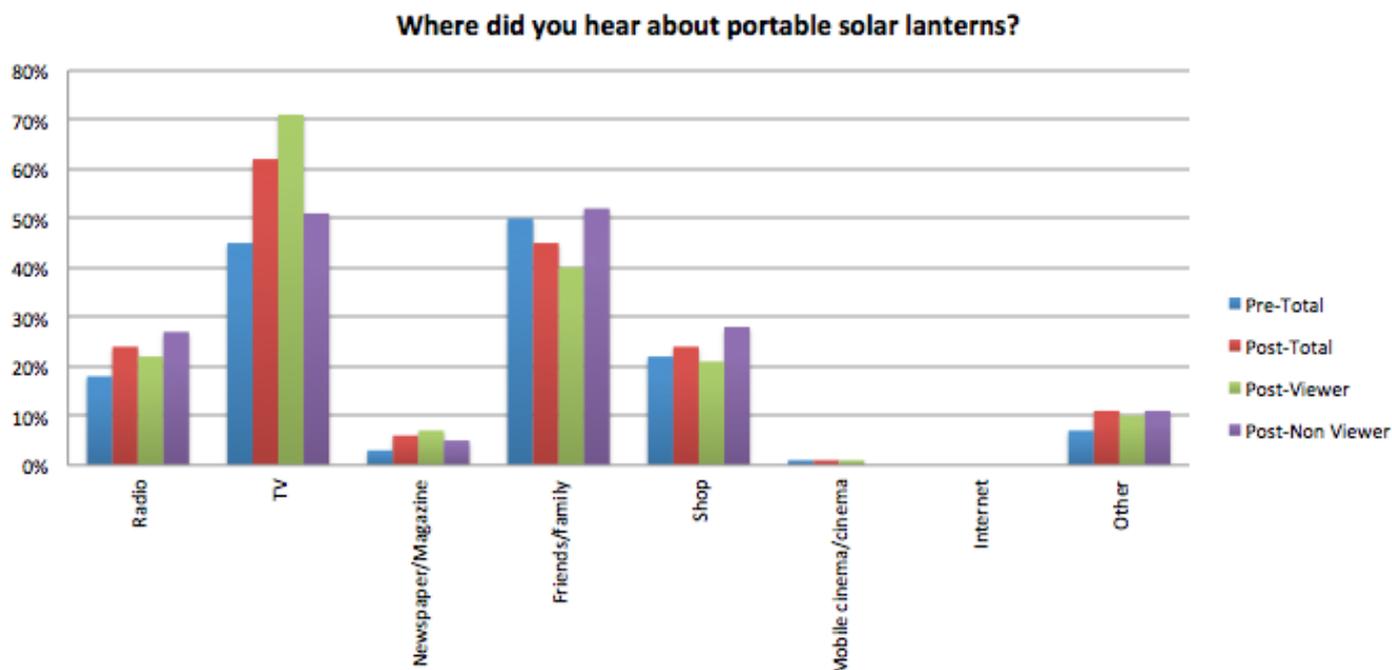
The majority of viewers get their information for maize farming in general from TV (60%) and neighbours (60%), non-viewers from neighbours and radio (58%, 42%).

### *SMS traffic*

### *Social media interaction*

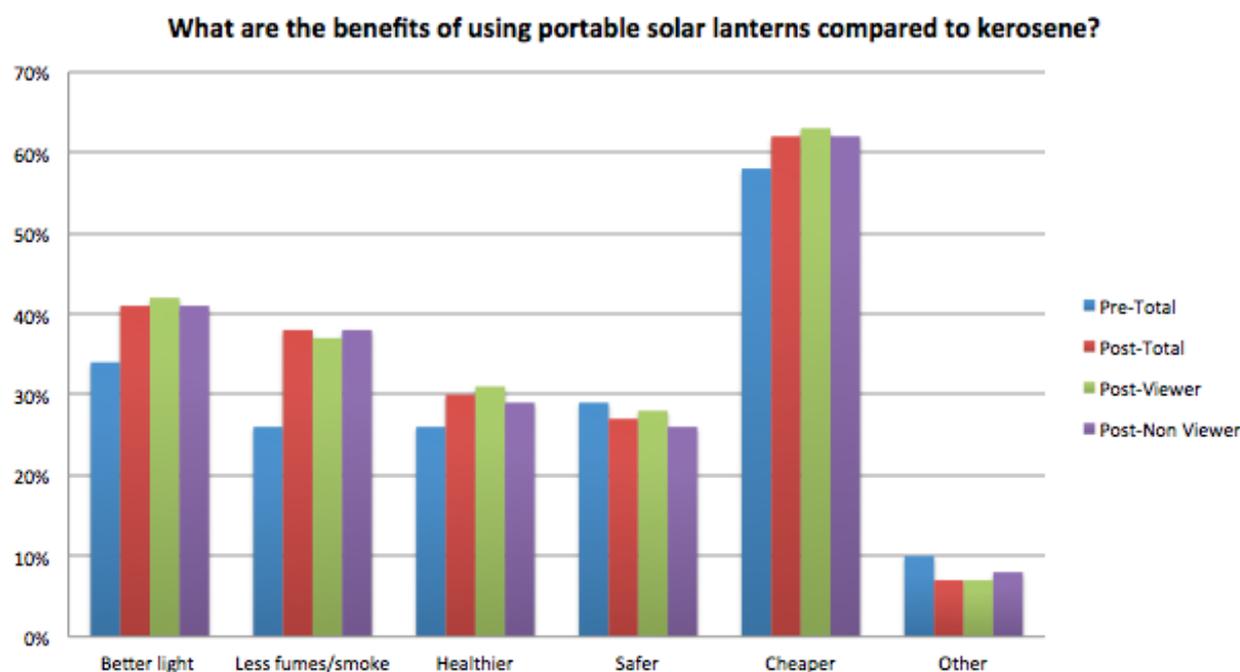
## Solar lights

d.Light have been partners with SSU for 3 series. In that time, their brand awareness has grown considerably. When asked of which brands of solar lantern they were aware, 39% of viewers and 30% of non-viewers said dLight, followed at 9% by Philips, and 53% of viewers said 'None'. 82% of viewers have seen or heard of portable solar lanterns in the past year (67% for non viewers), the majority for viewers on TV (71%). The majority of non viewers who have seen or heard of these lanterns have done so from neighbours (52%).



Of viewers, 22% have bought a portable a solar lantern (18% for non viewers), 80% of which were a d.Light.

The benefits of solar lanterns are widely known – slightly more viewers are aware of the safety, light and cost benefits than non viewers.



*SMS traffic*

*Social media interaction*

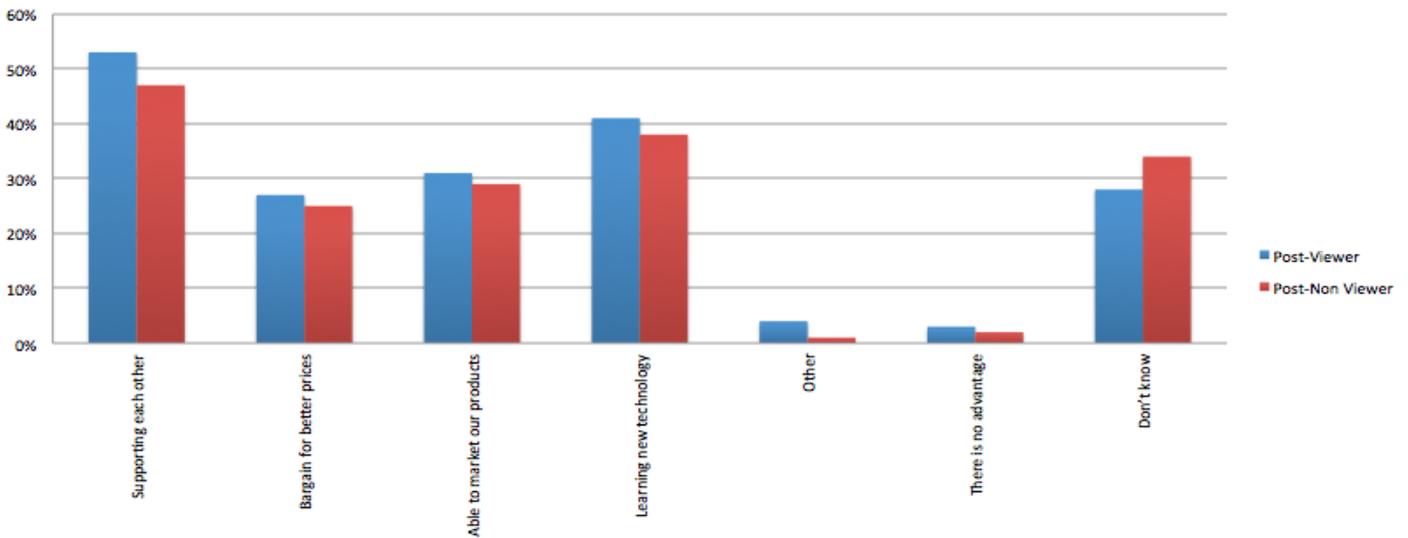
## Marketing and farmer groups

AGRA’s FOSCA program encouraged farmers to join and correctly manage their farmers groups, in order to improve income through better sales and input bargaining power.

12% of viewer and 11% non viewers belong to a group. Most use their groups for loans/merry-go-round (53%), selling as a group (53%), then sourcing inputs (34%) and learning new technologies (34%).

When discussing advantages and disadvantages of being in a group, the clearest advantage is support and learning, and the biggest problems are poor leadership and corruption/stealing money.

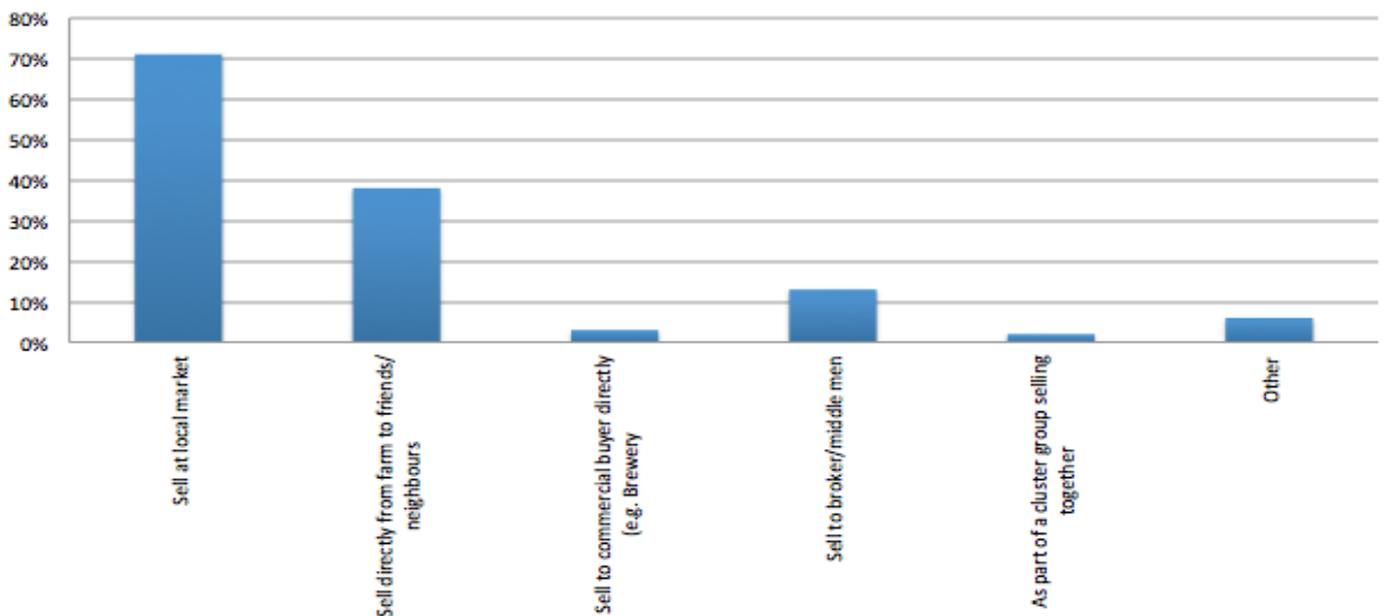
**What are the advantages of belonging to a group?**



## Markets

71% of respondents sell their produce/crop at the local market, 38% to neighbours, 13% to brokers and only 3% directly or to a commercial buyer. Only 4% look for a market before planting their crop.

**Where do you currently market/sell your crop?**



This is despite 44% of viewers and 40% of non viewers thinking it is best to sell directly, 23% on order and 23% direct to a buyer at the farm.

39% learn about marketing from neighbours, 53% know it themselves, and 16% learn about it from TV.

*SMS traffic*

*Social media interaction*



**Summary**

**Conclusions**