

Shamba Shape Up

Series 2 and 3 KAP study

December 2013



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Introduction

Shamba Shape Up has broadcast 39 episodes in both English and Swahili in Uganda, Kenya and Tanzania to date. The first series, aired between March and June 2012, was preceded and followed by field research to determine the impact of the series on its audience.

The second and third series aired between March and September 2013 with some delays due to general elections in Kenya. The series were preceded by field research in March-April 2013 and followed by post-broadcast field research in September-October 2013 in Kenya. The series, due to its popularity, is currently being re-broadcast to give the region 52 weeks of agricultural TV programming. Rwanda has recently begun airing the show, increasing the program's reach.

This report summarises the findings of the research for the second and third series in terms of the audience knowledge, attitudes and practices (KAP) in Kenya.

The field research and cross tabulation in 2013 was carried out by Research Guide Africa, an independent research organisation.

Methodology

A KAP study compares knowledge, attitudes and practice of households by asking a series of questions before the event, and asking the same questions after the event with several screening questions to determine which category (viewer or non-viewer) the respondent falls into.

The responses before and after the event (in this case, broadcast of Shamba Shape Up) are compared to show changes in knowledge about agricultural topics covered in the program, attitudes to them and any changes in farming practices.

All respondents were households with TV access. The households were spread across the agricultural zones of Kenya to cover the topics in the series and to ensure households were in TV accessible areas. A total of 800 respondents were interviewed. The respondents are not the same individuals in the first and second wave.

Locations covered

Fieldwork was carried out in rural areas around Embu, Limuru, Thika, Kikuyu, Kisii, Kakamega, Busia, Bungoma, Homabay, Machakos, Makueni, Kangundo and Mwea. A total of 800 people were interviewed, 500 in high potential areas and 300 in low potential areas.

Topics covered

Series 2 and 3 covered a wider range of topics than Series 1. These include:

Table 1 Content areas covered in series 2 and 3

Subject	
Amaranth	Hay
Bean diseases	Intercropping maize and beans
Bee keeping	Irrigation
Cabbage pests and diseases	Livestock feed
Cattle feeding	Livestock insurance
Cattle herd – breed selection, reduce numbers	Livestock loans
Chicken disease control	Livestock Zero grazing
Chicken housing	Maize planting and weeding
Chickens, broiler	Maize stalk borer and Striga – Push Pull
Chickens, Indigenous	Mango pests and disease
Chickens, layers	Napier grass

Climate change	Potatoes
Coffee cropping	Pumps
Composting	Silage
Cow health	Soil fertility – manure and fertiliser at planting
Cow sheds	Soil testing
Dairy milking	Solar drying
Drought resistant varieties	Solar lights
Farmer groups	Sorghum planting and cropping
Fertiliser	Stoves, fuel efficient
Financial literacy	Sukuma planting and pest control
Fruit flies	Terracing
Goats – health and management	Tomatoes
Grain storage	Tree planting
Greenhouse	Water Harvesting



Results

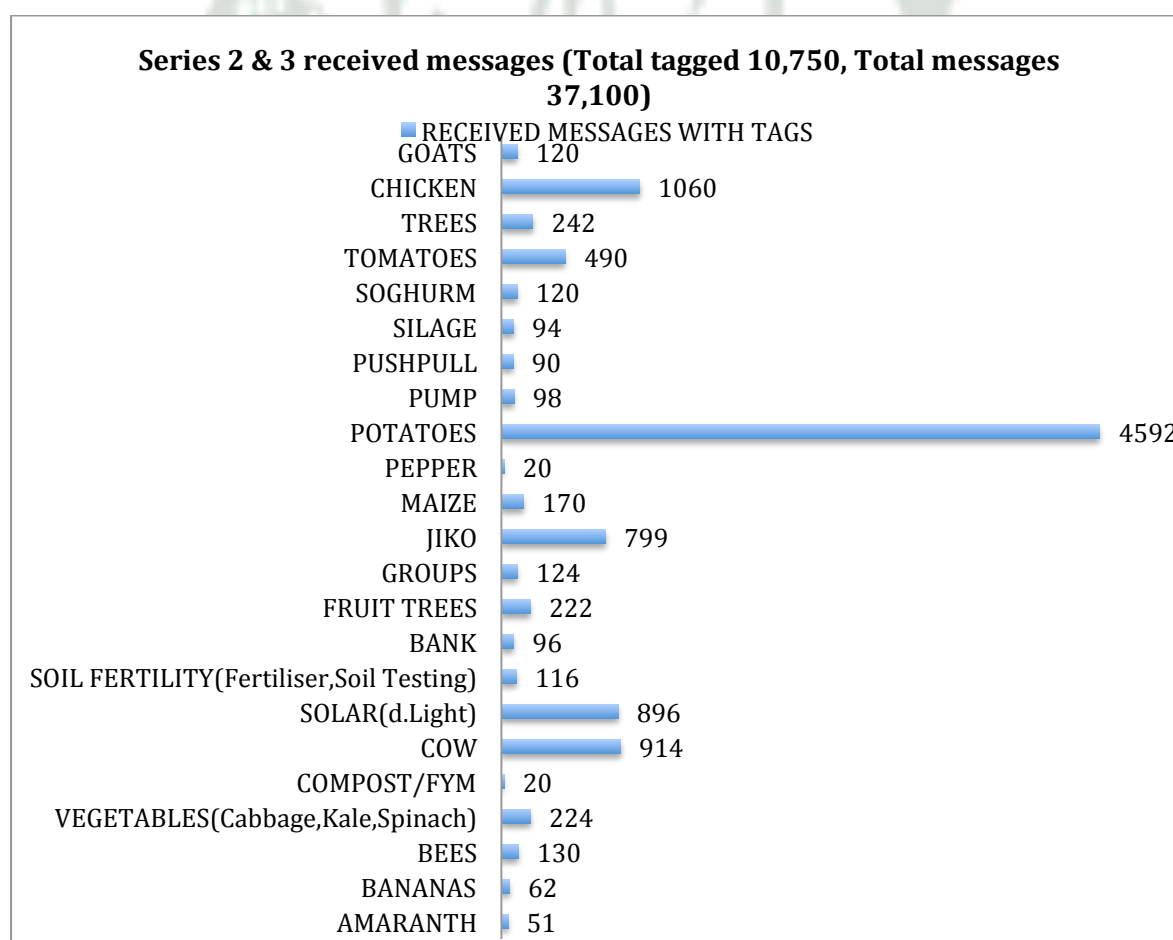
Audience figures

Kenya

The 2013 FinAccess National Survey shows that 44.2% of rural households own a TV, and 81.2% of urban households do so in Kenya. Audience figures for Kenya are determined by the Ipsos MediaCT data. These are calculated using household diaries about media use each week and are charted quarterly by % of viewership per broadcaster. The audience figures for Q2 and Q3 2013 are based upon the base audience of 10.9 million people who watched TV in the country (15+) in the past 7 days (P7D).

In Q2 and Q3 2012, when the first series aired, KARF's breakdown of viewership by broadcaster showed that, at the times the program airs (1.30pm Saturday English, 1.30pm Sunday Swahili) approximately 8% and 13% of the audience respectively watch Citizen TV.

In Q2 and Q3 2013, the graphs show a decrease in the audience share for Citizen (though it is still much higher than any other broadcaster), and a clear increase in viewing in the time slot that the program is aired compared to the adjacent slots – this means people are tuning in to watch this program. 13% of the viewers watch the program on a Sunday afternoon and 6% on a Saturday afternoon. In the rural areas (base 5 million), 8% watch on a Sunday afternoon and 7% on a Saturday afternoon. Using the country figures, this equates to 1.417 million watching on a Sunday and 654,000 on a Saturday – i.e. a 2.071 million audience over 15 years old. The data research method only accounts for literate people in accessible areas; the number is likely to be higher. This also does not take into account younger family members watching alongside adults.



The SMS database has received messages from over 70,000 Shamba Shape Up viewers since 2012 and sent out over 60,000 leaflets. The number of messages by sector is outlined below. – Series 2 and 3 generated over 37,000 SMS from the audience in just 26 weeks. Potato is high due to the promotion of a potato farmer group and a seed potato supplier.

Internet use is also rising – the Shamba Shape Up Facebook site has 20,000 followers to date and the Africa Knowledge Zone 400,000 hits. The audience is, therefore, accessing the program off air and online. 3.7 million Kenyans use the Internet (P7D), 35% of those for research or academic purposes.

Tanzania

In Tanzania, Shamba Shape Up Swahili airs on ITV on Friday evenings. TAMPS and Audiencescapes data show that 41% of Tanzanians watch TV weekly; this drops to 28% when considering rural viewers only. 67% of TV viewers watched ITV in 2010. A rough calculation suggests that about 19% of rural Tanzanians could watch Shamba Shape Up each week. If the rural population of Tanzania is approximately 26.1 million people (Index Mundi, 2011) and 57% are over 15 years old, we can very roughly estimate the number of rural viewers over 15 years of age in Tanzania to be 2.8 million.

In Uganda, there is no clear data available for the audience share for Citizen TV. It is estimated that the reach in Uganda for Citizen is approximately 1-2million.

Demographics

Land area

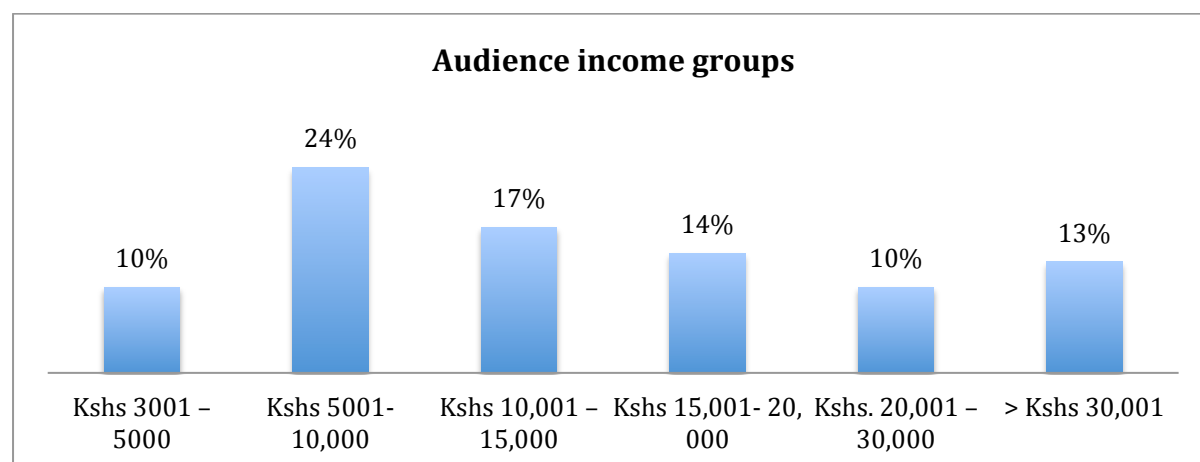
The average area of land being cultivated by all respondents was 1.98 acres – viewers and non-viewers had roughly the same amount of land under cultivation (2.05 vs. 1.9 acres respectively).

Gender and education composition

The post-broadcast interview data show 54% of the viewer respondents to be women, 46% men. 39% of these had only primary education, 41% up to secondary and 2% no formal education.

Income groups

All the respondent households had access to TV. This means their socioeconomic level is likely to be D2 or higher – i.e. in the cash economy or above. The majority of the viewers in the sample have an average monthly income of Ksh 15,000 or less.



Farming practices

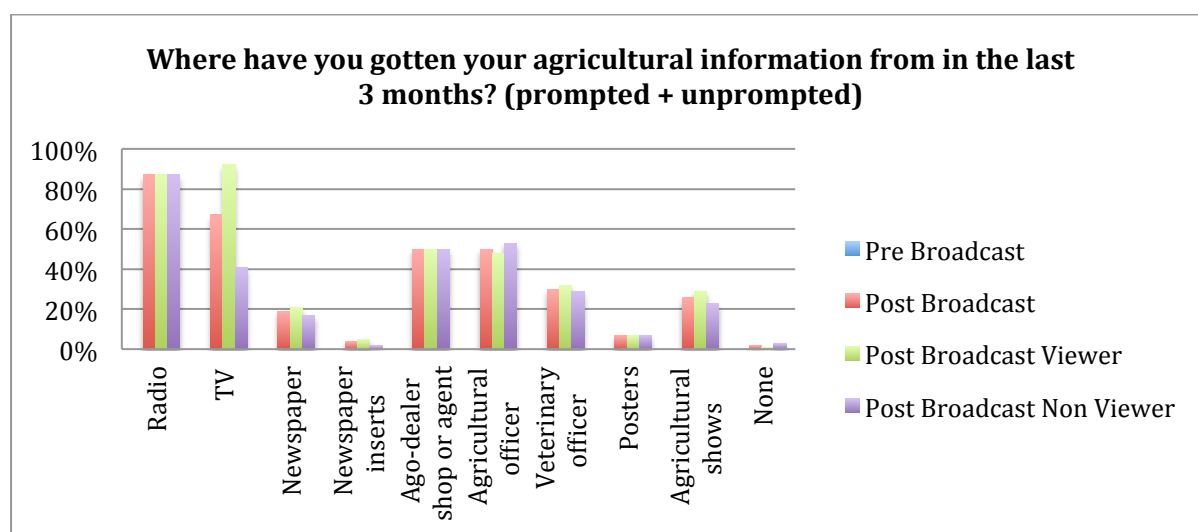
Of the viewers, 88% farm maize, 81% beans and 10% rice (the latter is low as Mwea was the only rice growing area sampled). 54% farmed dairy cattle, 10% dairy goats and 80% chickens for meat or eggs. The non-viewer farming activity is almost identical.

Use of Shamba Shape Up as a source of agricultural information

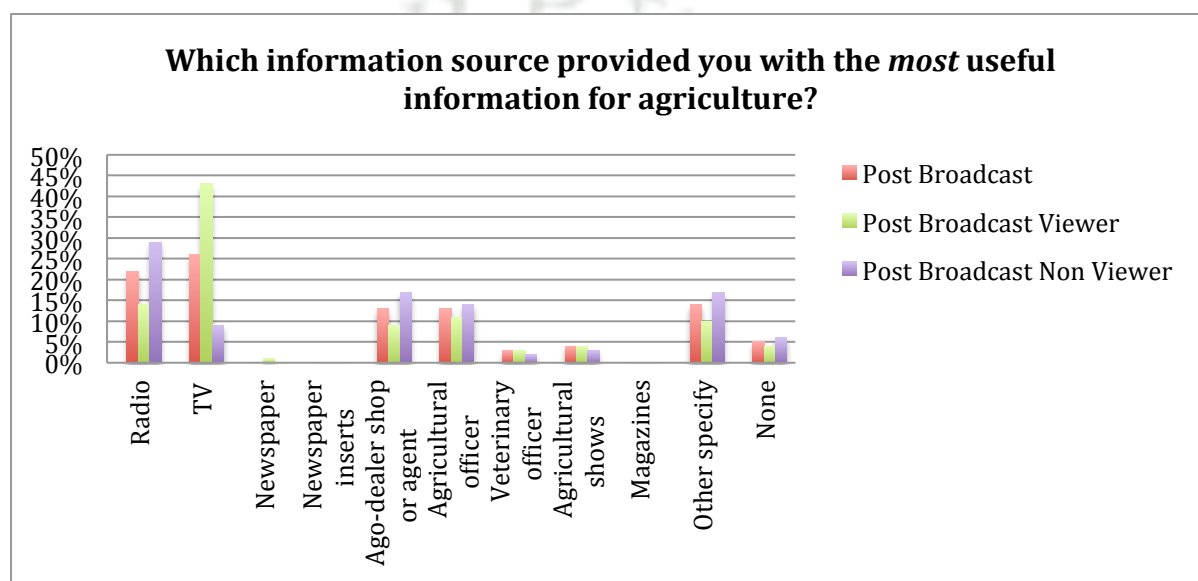
Sources of information

After broadcast, the respondents were asked where they had gotten their agricultural information over the previous 3 months (i.e. the last 3 months of the program airing). 67% of all respondents said TV, against 87% from radio, 19% from newspapers (4% from inserts), 50% from agricultural officers and 50% from agrodealers.

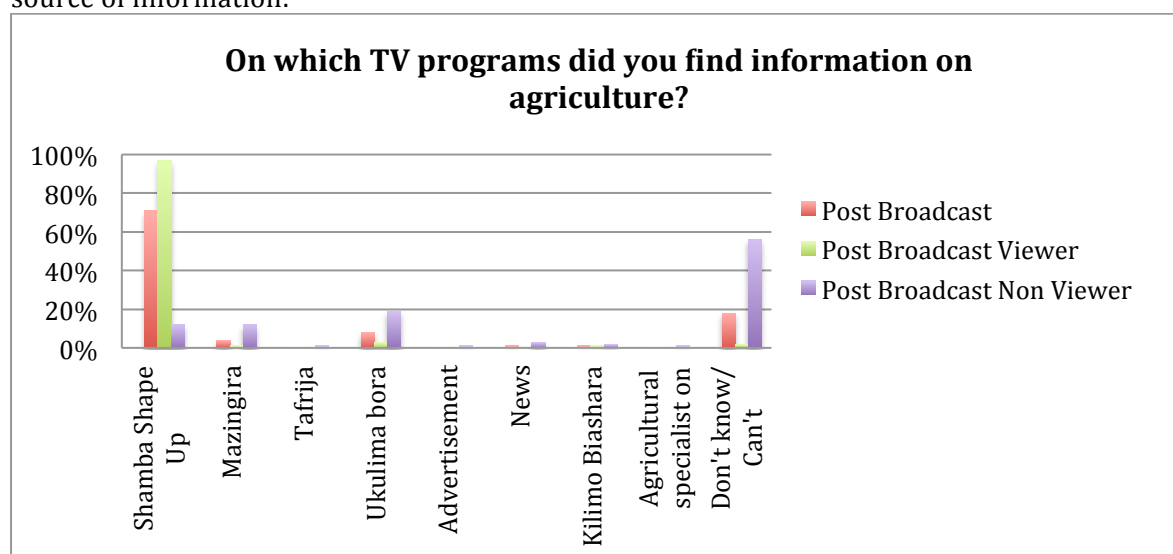
Viewer use of TV was, as expected, much higher than the average – 92% of viewers used TV as a source of agricultural information against 41% of non-viewers.



In terms of the usefulness of the information, TV ranked higher as a useful source of information (26%, all respondents) than radio (22%). Of viewers of Shamba Shape Up, 43% found TV the most useful source against 14% for radio. All other sources of information were found to provide much less useful information.



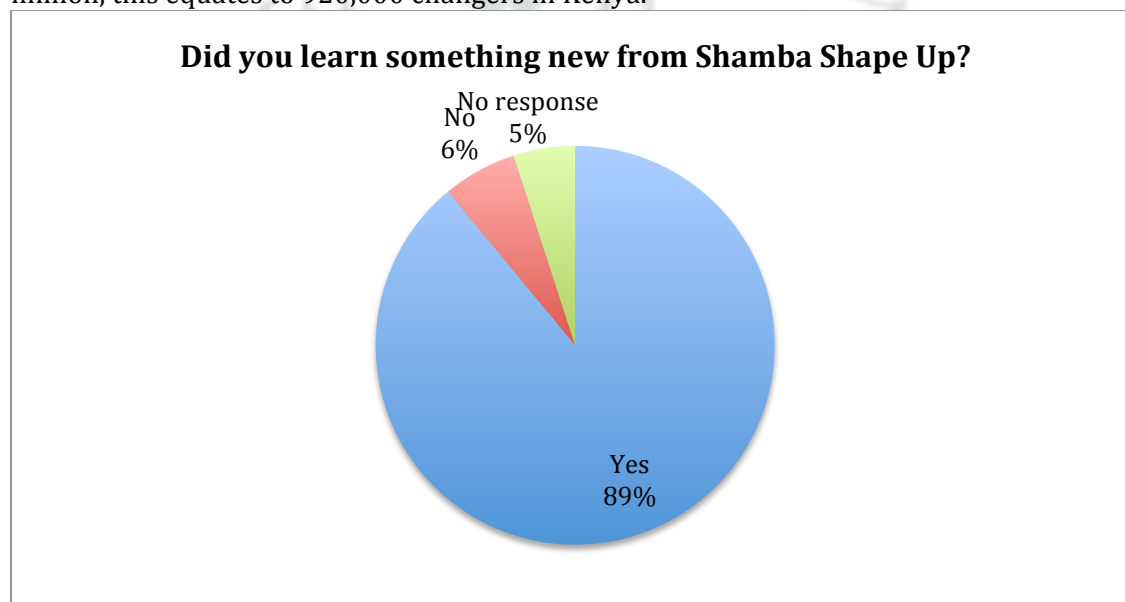
Of the sources of agricultural information on TV, Shamba Shape Up was the most cited as a source of information:



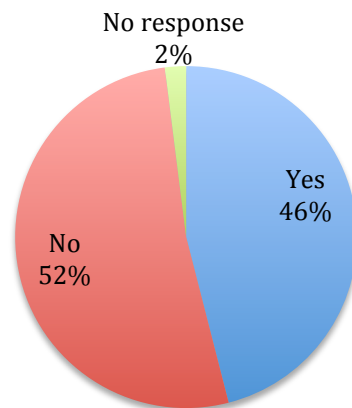
Uptake of knowledge and new farming practices

In order to gauge the impact of the program on agricultural productivity and food security, the level of learning must be established, followed by the level of adoption. After the first 3 months of the program in 2012, 91% said they had learned something new and 36% claimed to have changed their farming as a result of Shamba Shape Up.

The second and third series ran for 6 months from March to September 2013. After which, 89% said they had learned something new and 46% had changed their farming practices as a result of watching Shamba Shape Up. Assuming the total adult decision making audience in Kenya is 2 million, this equates to 920,000 changers in Kenya.

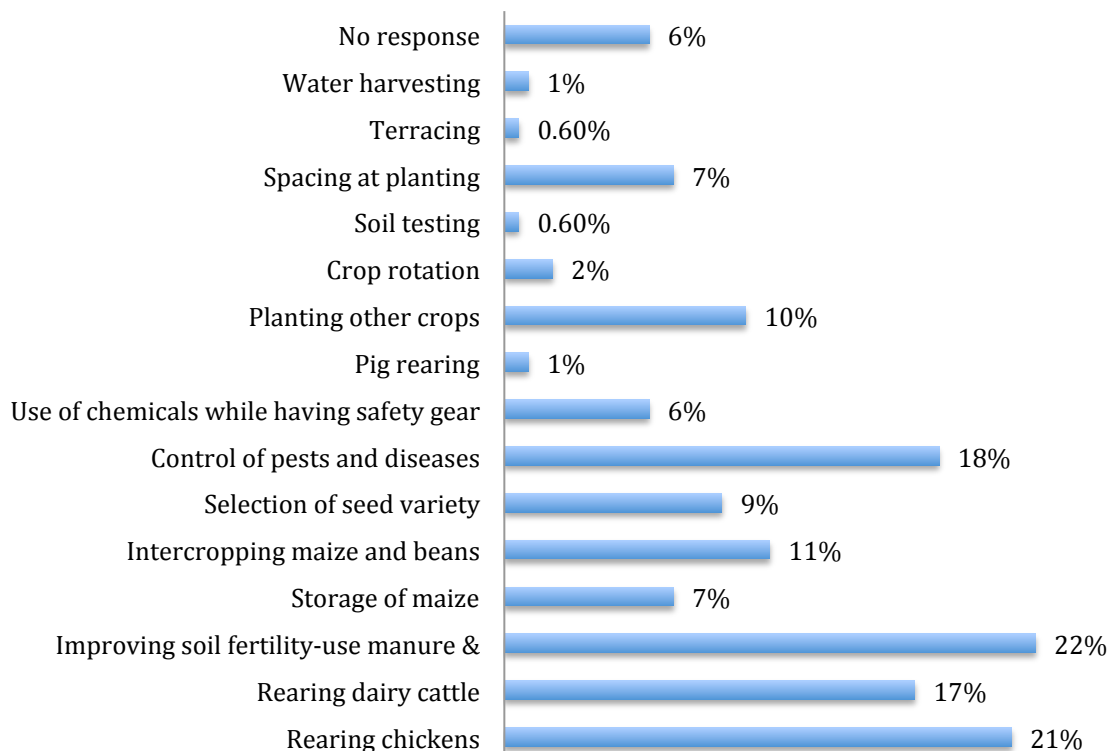


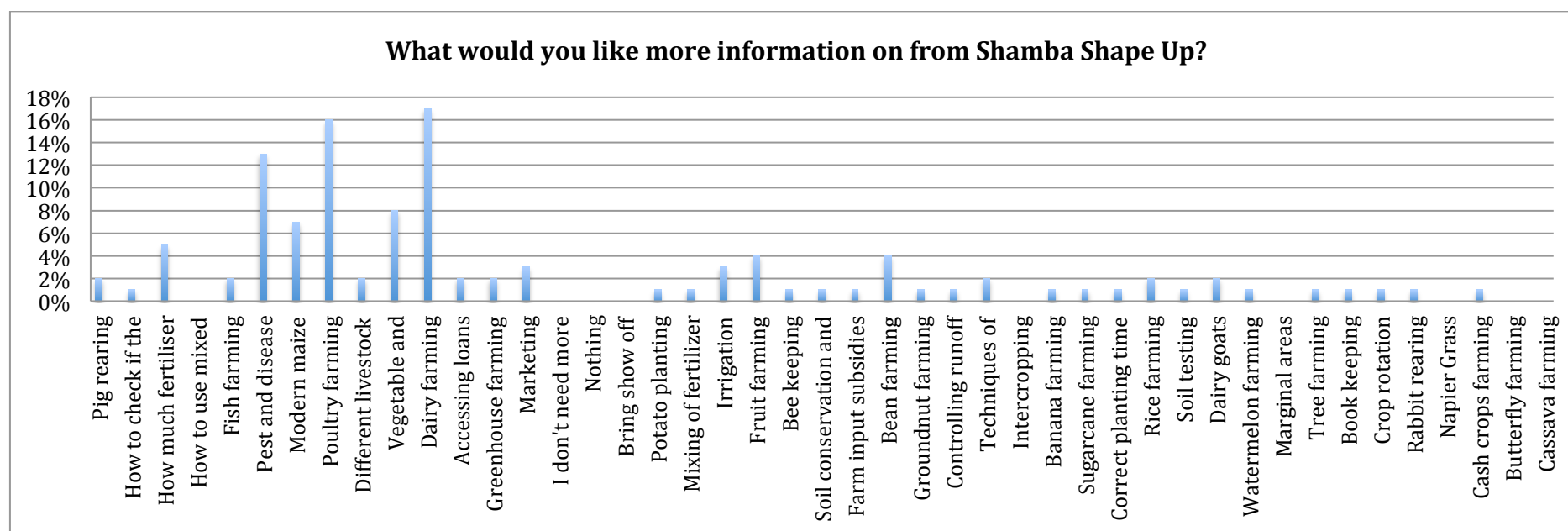
Did you change any of your farming practices as a result of watching Shamba Shape Up?



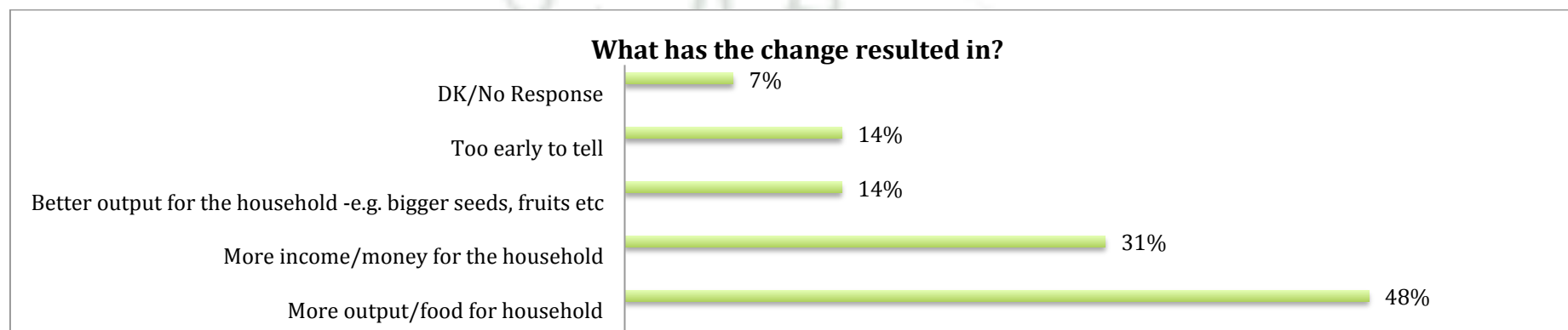
The areas in which the audience made those changes roughly reflects the amount of time spent on each topic within the series, and the level of demand for information from the audience (i.e. what the audience ask for information about).

What practices did you change as a result of watching Shamba Shape Up?





Encouragingly, 93% of those who changed said that the change they had made had resulted in more income or food or better outputs for the household. This indicates that Shamba Shape Up is directly improving the audience's food security and livelihoods.



Change of knowledge and attitude by sector

Soil fertility

Soil tests

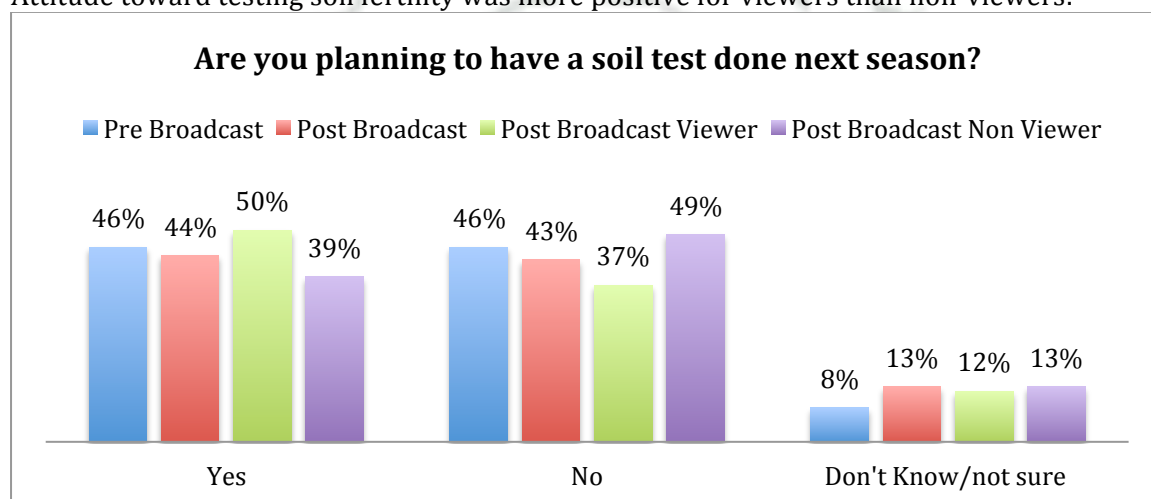
Knowledge of soil fertility and soil testing is known to be very low in the region. Pre broadcast, 67% of people did not know what a soil test was. After broadcast, 52% of viewers did not know what a soil test was; this is a 15 percentage point increase in awareness of soil testing.

In terms of knowledge of what a soil test entails, there was a 10% increase in viewers knowledge that it involves selecting soil from 4 places, a 5% increase on awareness of pH being tested, and a 15% increase in knowledge that a soil test checks soil nutrient levels. 12% of viewers know a soil test recommends the type of fertiliser to use against 7% of non-viewers.

The number of viewers who have tested their soil is 10%, against 6% for non-viewers; the majority tested over 2 years ago.

Awareness of where soil can be tested improved by 11% for KARI from 60% to 71% and 2% for Crop Nutrition Laboratory Services or Daktari wa Udongo from 18% to 20%. These two services were featured on the program.

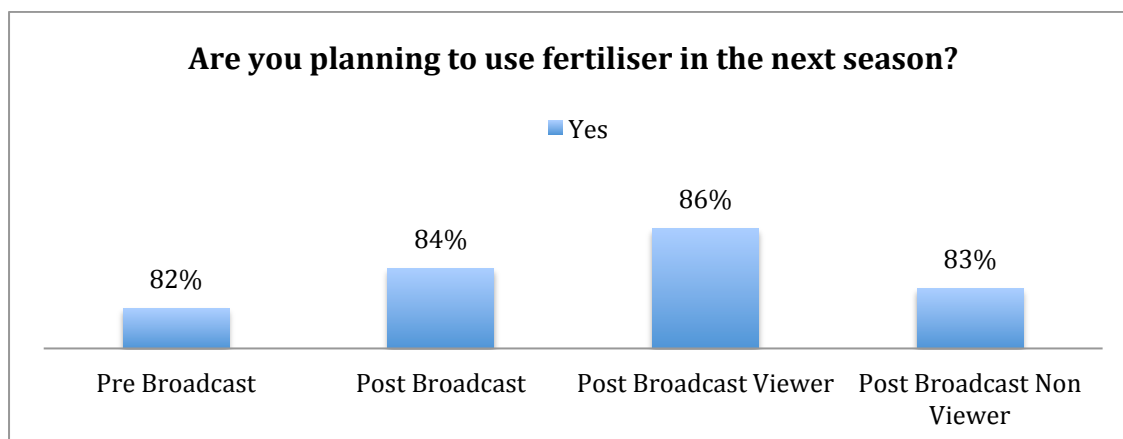
Attitude toward testing soil fertility was more positive for viewers than non-viewers:



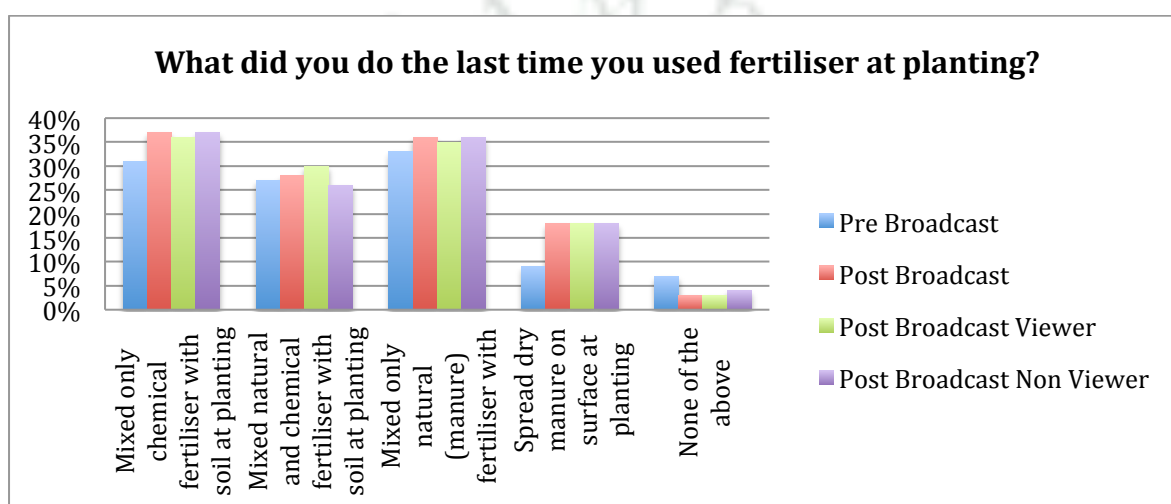
Fertiliser use

Fertiliser use was not significantly different between viewers and non-viewers, nor was the type of fertiliser used. Almost all (93%) bought fertiliser with cash.

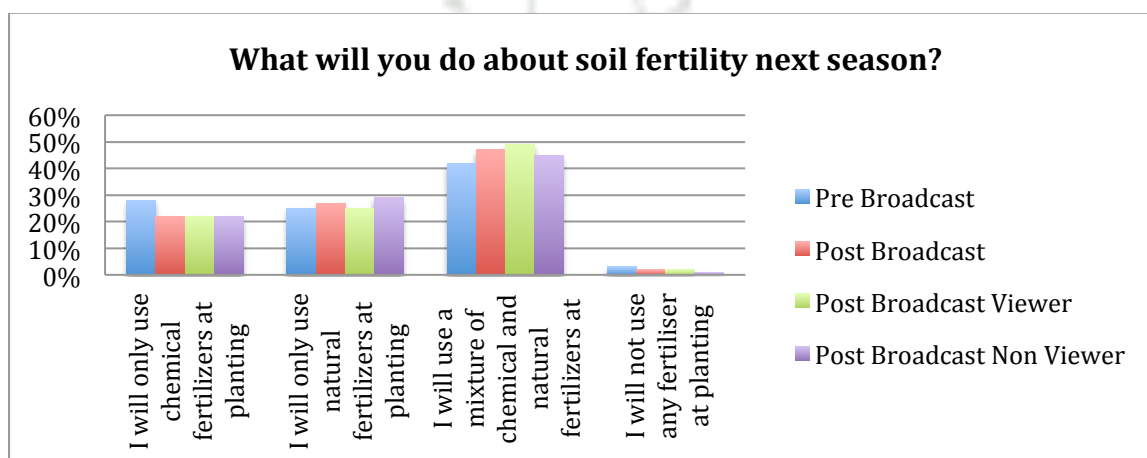
Attitudes toward using fertiliser in the next season were slightly more positive for viewers than non-viewers:



The program promoted the use of manure mixed with fertiliser; the impact on viewer's use of fertiliser showed that 30% had mixed fertiliser with manure at planting against 26% of non-viewers.



For the next season, more viewers than non-viewers planned to mix natural and chemical fertilisers together at planting:



Other than manure and fertiliser use, the program advocated crop rotation, resting land and growing legumes to help improve soil fertility. More viewers than non-viewers (22% vs. 18%)

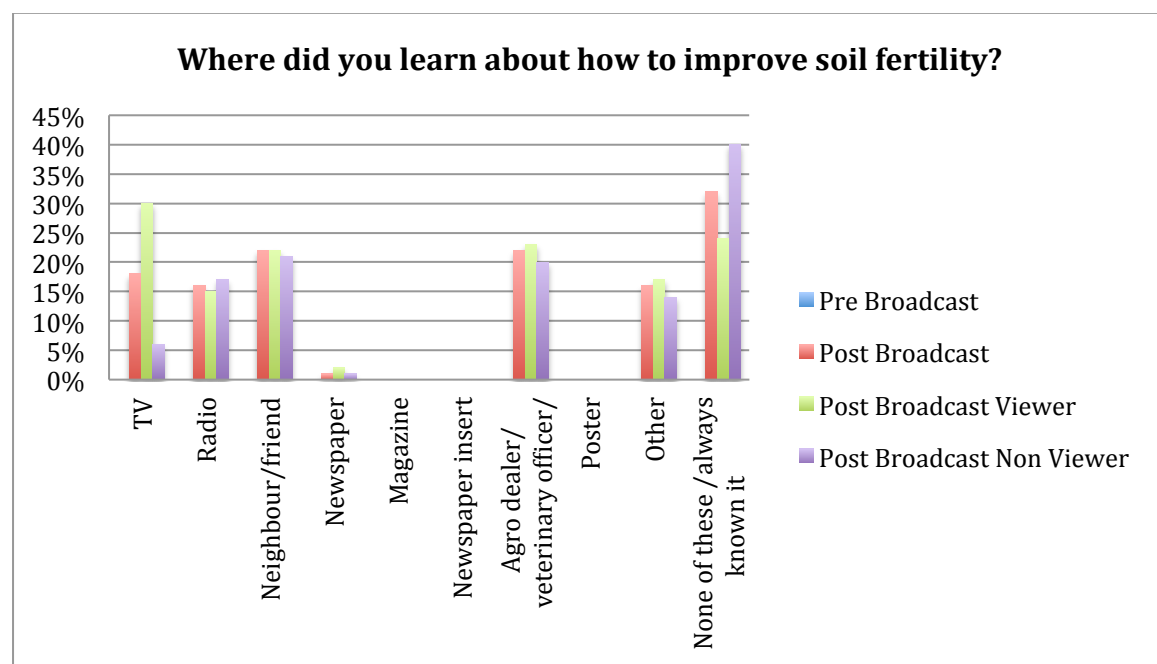
thought the best method to improve soil fertility (other than using fertiliser) was to rest the land.

Soil pH

17% of all respondents knew that soil pH involved soil acidity; 28% thought that pH indicated the type of crop that could be grown. Only 5% were aware of the use of lime for reducing acidity.

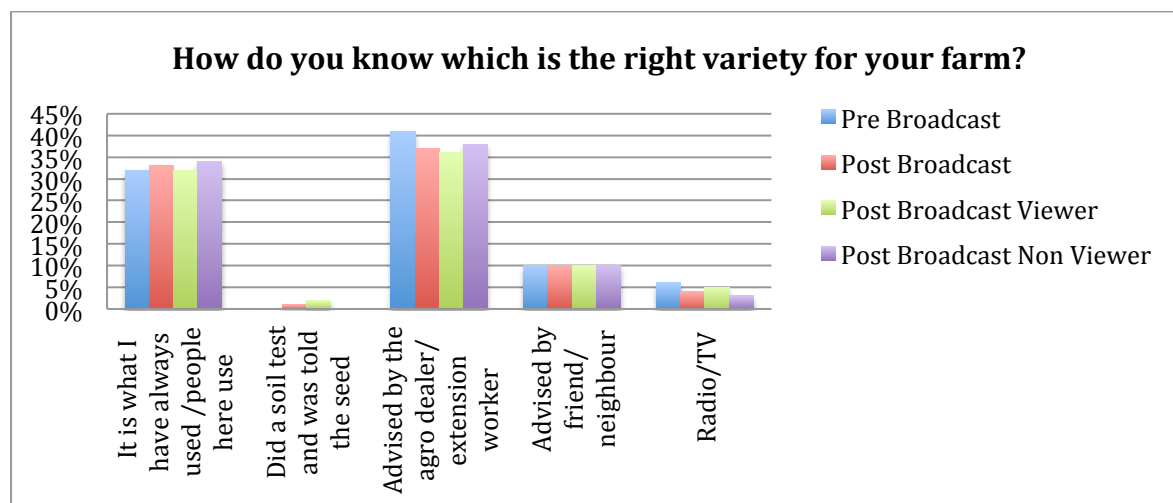
Source of information on soil fertility

The source of information on soil fertility most cited by viewers was TV (30%). Non-viewers' most used source of information on soil fertility was neighbours or friends, followed closely by agro-dealers. Radio was lower than both non-viewer information sources, and newspaper use was negligible.

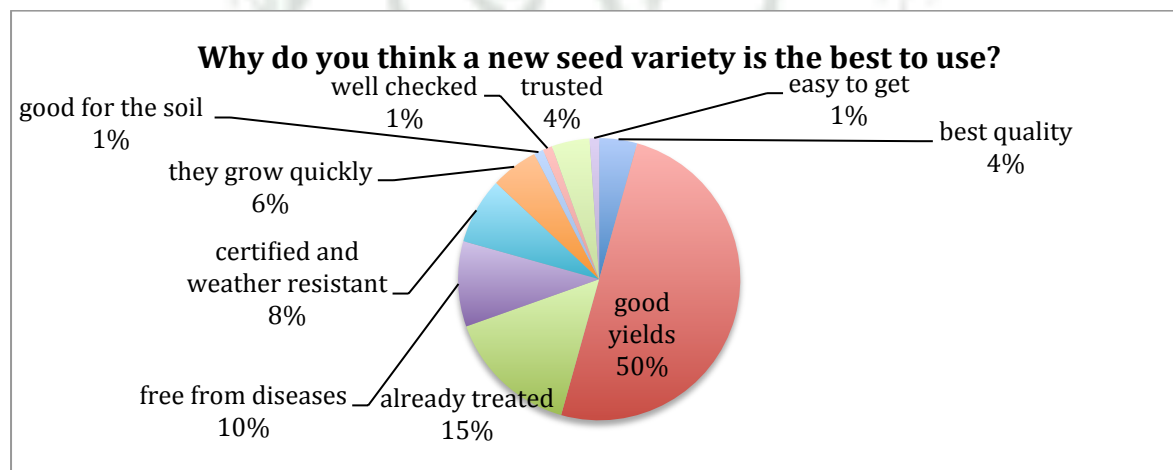


Seed selection

The program recommended the use of certified seed to increase yields and reduce pest and disease losses. Most viewers received their information on the best seed to grow equally from neighbours and friends and from TV, though when asked how they knew which variety was best for their farm, most cited agrodealer/extension or what they always use. Very few chose seed based on a soil test and all of those who did were viewers:



80% of the respondents use seed from the last crop and only 10% buy seeds from a provider. Despite the low uptake of certified seed, the majority thought that new seed was better than last season's seed (89% vs. 11% for viewers). More viewers thought certified seed was better than non-viewers (89% vs. 83%). The reasons cited are:



Intention to change the variety of seed in the next season was higher after broadcast – this may be due to the pre broadcast survey being carried out after planting and the post-broadcast survey before the next planting season, or to an uptake of new knowledge about seed.

Sourcing seed

Leldet provides certified seed for orphan crops, which are traditionally not sold by larger seed companies. The company was promoted in the program and awareness of the company increased from 1% before broadcast to 23% after broadcast for viewers and 19% for non-viewers.

Maize

88% of viewers of Series 2 and 3 grew maize.

Planting

The program encouraged the use of fertiliser and manure when planting maize. The use of fertiliser or manure or a mixture at planting was high pre-broadcast (86%) but increased to 93% for viewers after broadcast and not significantly for non-viewers. The majority of respondents plant beans between the rows of maize (82%) whether they view or not.

The Push Pull method

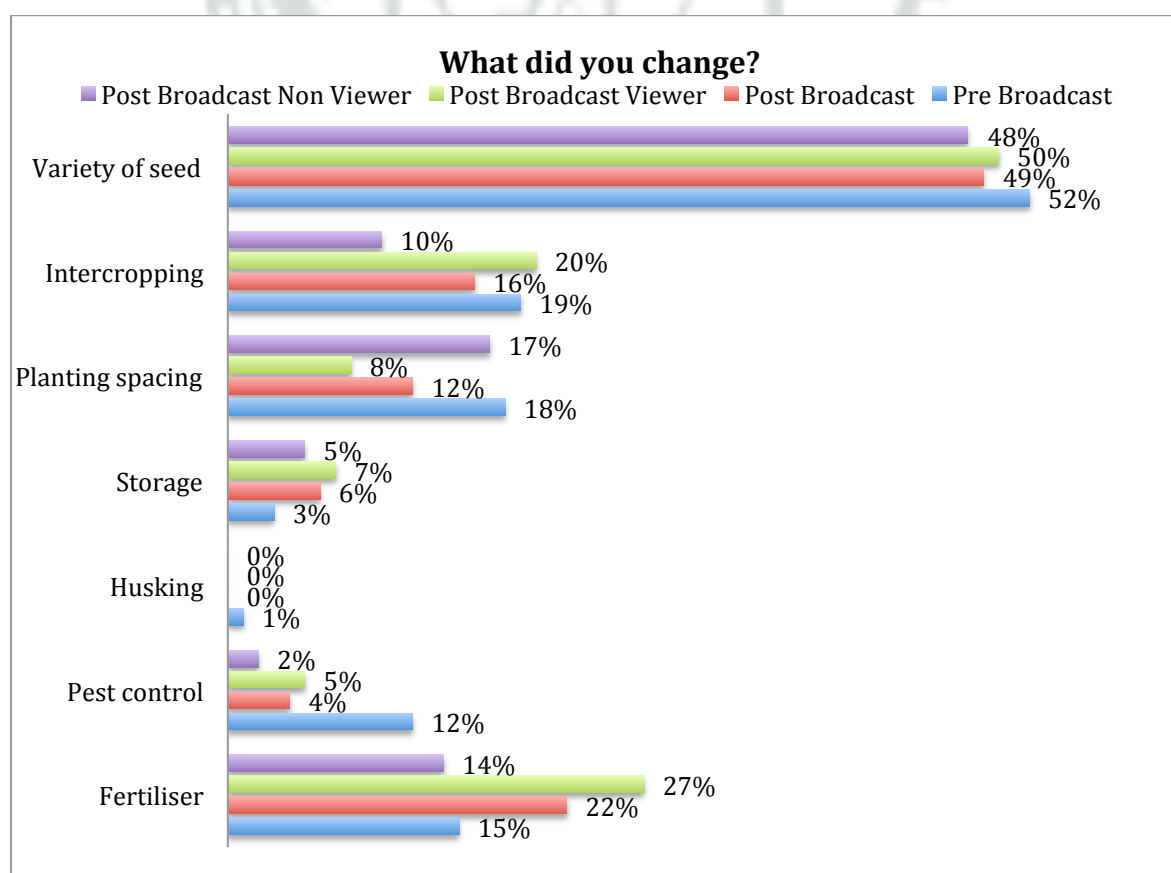
Over half of viewers (53%) against non-viewers (42%) knew what maize stalk borer is; almost 29% of all respondents had a problem with maize stalk borer and 15% with weevils and/or caterpillars. Most used chemical pesticides to control the pest; only 3% and 4% planted Napier or desmodium respectively.

There was a slight increase in awareness of Push Pull as a method to control maize stalk borer after the series (10-12%) though more viewers were aware than non-viewers (12% vs. 7%). Of the viewers who knew of the method, 59% knew that desmodium was used to repel moths and 36% knew that Napier around the crop attracted moths.

For Striga control, more viewers than non-viewers used Striga resistant seed (13% vs. 0%) but none used Push Pull and only 8% had used Push Pull to control Striga in the past. However, 17% of viewers knew that Push Pull to control Striga involved using desmodium to attract the Striga and 29% that it should be planted within the maize crop against 0% and 22% respectively. 42% of viewers said they had gotten this information from TV and 21% from the radio.

Changes in maize farming

Almost a fifth of viewers (17%) changed their maize farming in the previous season.



More viewers changed their fertiliser and intercropping than non-viewers. These practices were covered repeatedly within the program; however the same proportion that got their information on the practice from TV got it from radio (viewers) and more viewers got their information on the change from neighbours, agrodealers or extension officers. The lead source of information for non-viewers was, again, neighbours and friends and agrodealers.

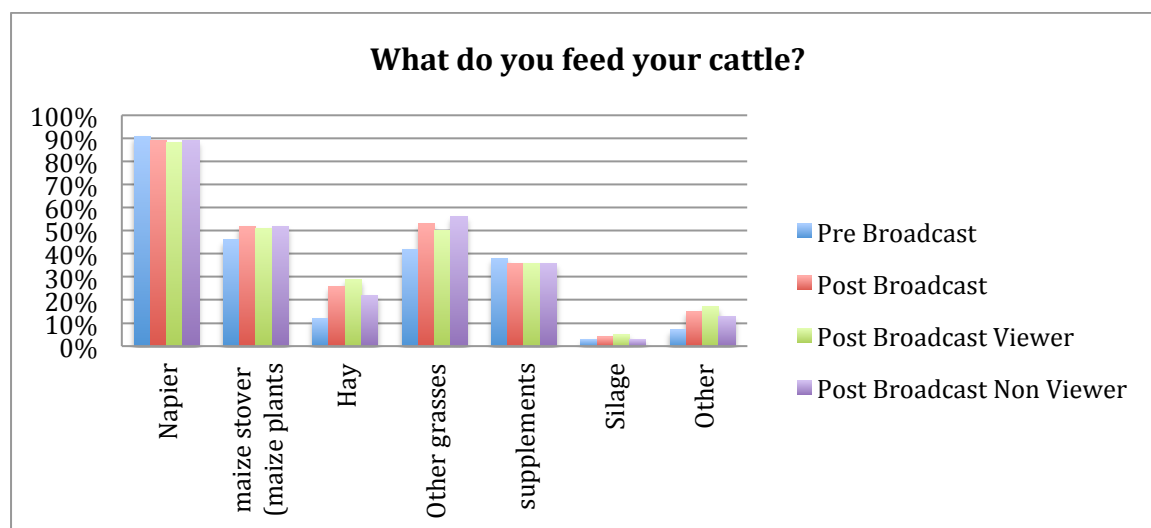


Dairy

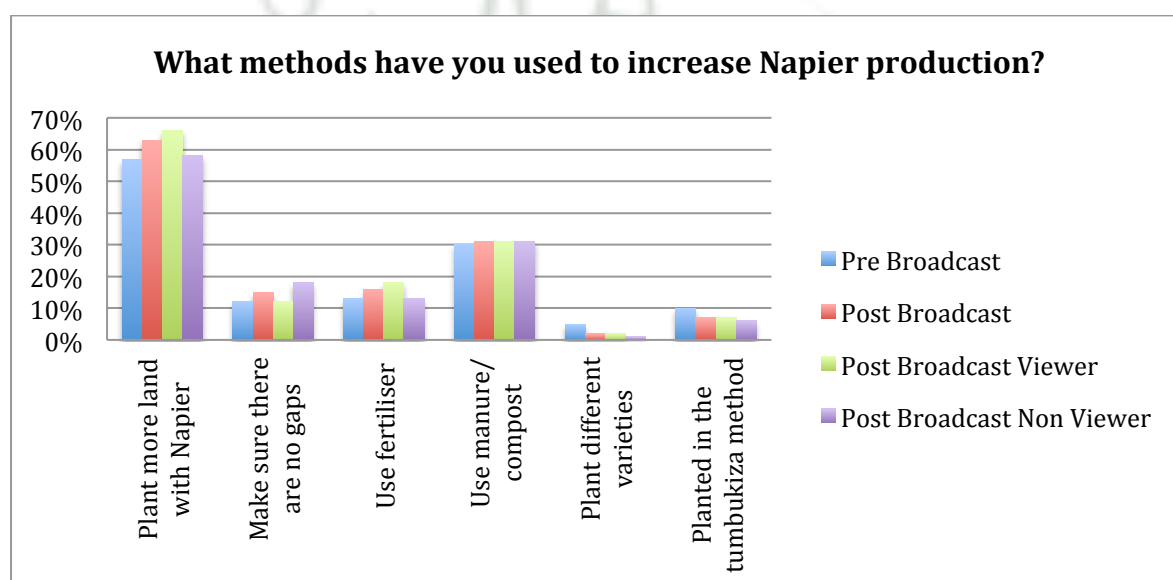
54% of viewers keep dairy cows and 66% of those zero graze their cows.

Feeding cattle

Most feed their cows Napier grass, followed by other grass, maize stover and then supplements. There was an increase in use of hay as a feed for viewers – making hay and baling it was covered in the program as a way of maintaining yields in the dry seasons. There has been no significant change in the use of supplements or silage.

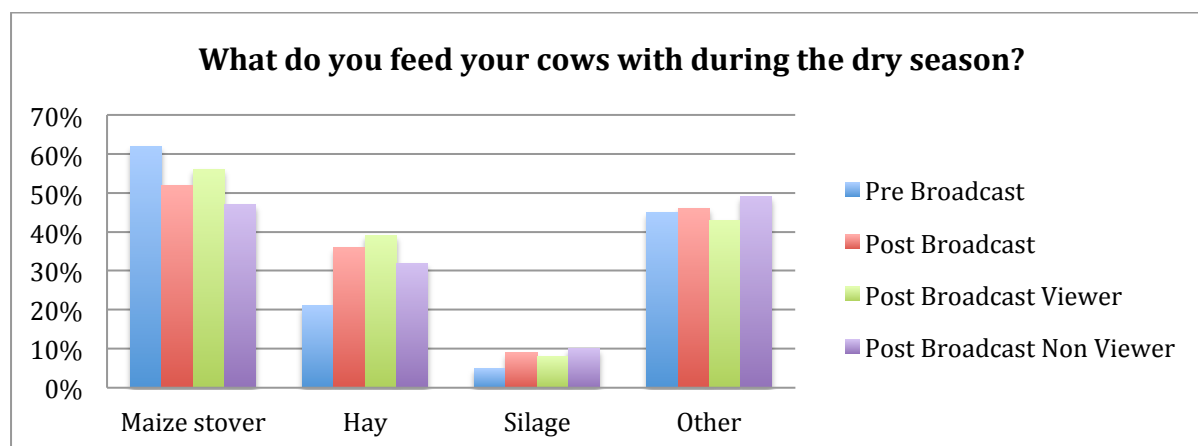


72% of viewers grow Napier grass, and for 81% Napier is a very important feed. The program taught farmers how to improve their Napier production by planting up any gaps in the field, or starting a new block, and using manure or fertiliser to improve the crop. More viewers have planted more land with Napier grass and used fertiliser than non-viewers.

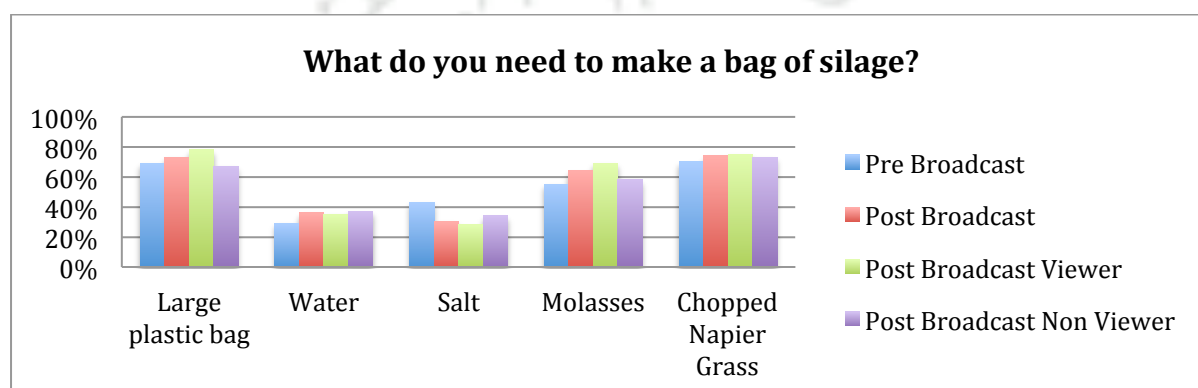
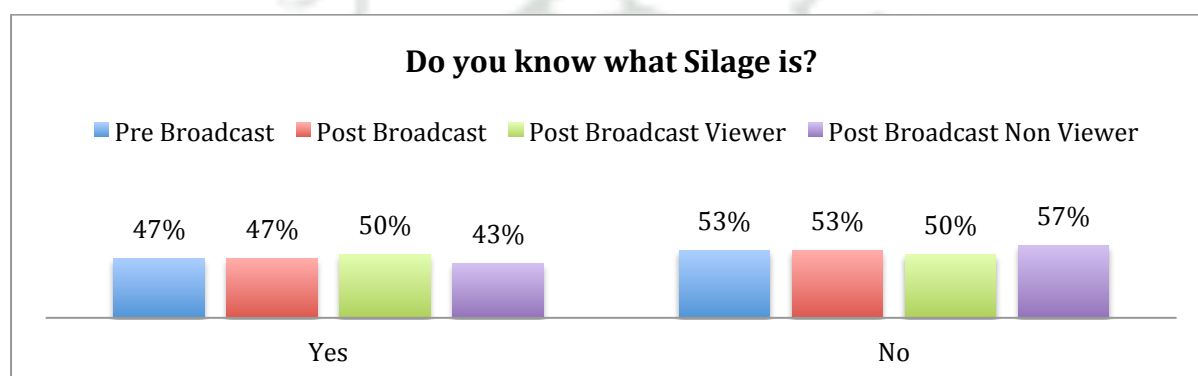


During the dry season, milk production falls sharply as the availability of feed decreases. Silage is an expensive dry season food to make, though its effectiveness as a dry season feed is excellent. Hay or stored maize stover are cheaper to make than silage. All three were promoted as good dry season feeds.

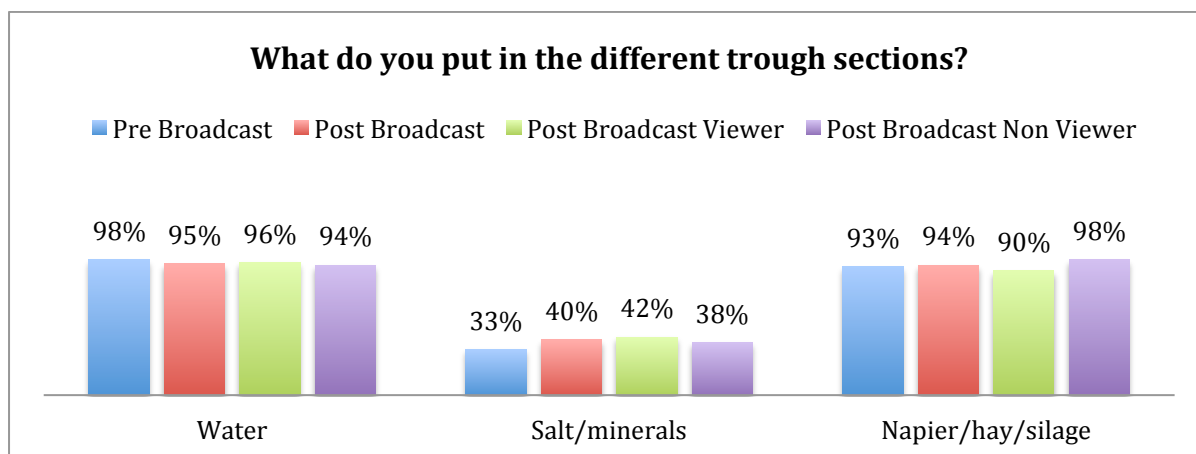
The reduction in use of maize stover reflects the time of season the survey was carried out – maize was not yet harvested in most of the country when the post-broadcast survey went out. Despite this, more viewers than non-viewers used maize stover or hay for dry season feeds.



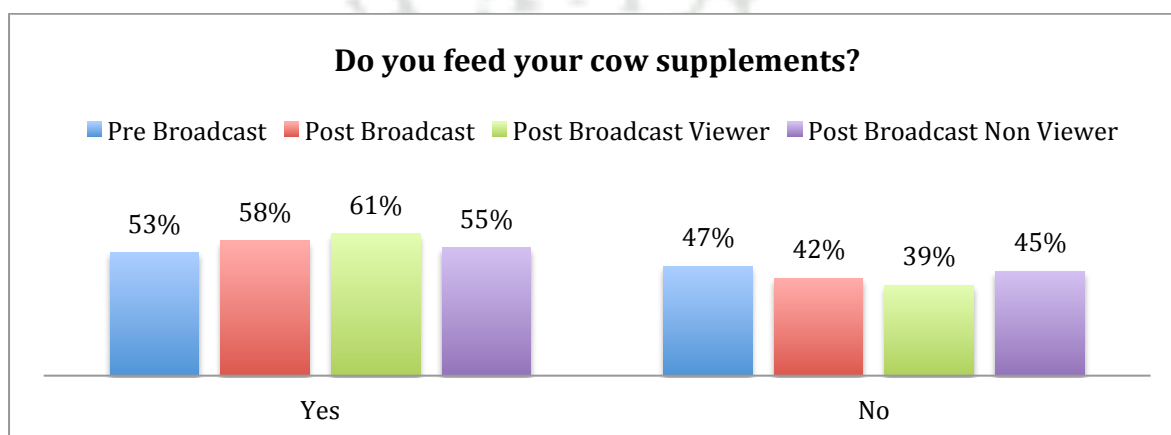
Despite the low use of silage, the level of awareness about silage was good, and higher among viewers than non-viewers. More viewers were aware that salt was not a component of silage, and molasses and Napier are needed.



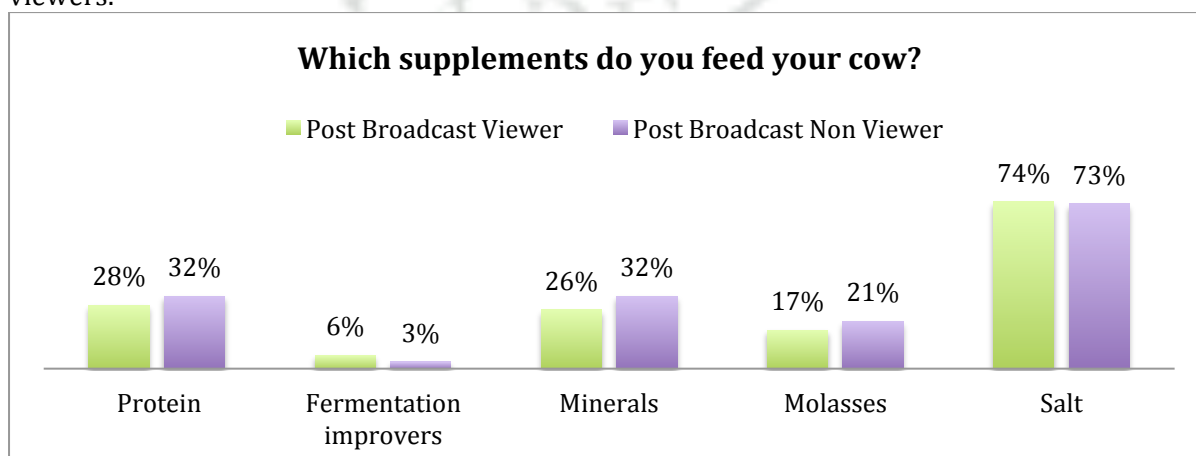
The benefits of silage highlighted in the program included improved cow health during the dry season, increased milk production in the dry season and better milk prices in the dry season. In terms of feeding systems, more viewers (64%) than non-viewers (55%) had divided their troughs into sections, the average number of sections was 2. Most used the troughs for water and fodder; use of minerals increased slightly after broadcast.



Use of supplements is low in the region, largely due to cost of inputs. Despite this, the majority of respondents give their cows supplements (53%), increasing after broadcast for viewers to 61%. Supplementing pregnant cows was high (61%) with little change after broadcast. The program covered 'steaming up' only once, which may explain the lack of change on this section.



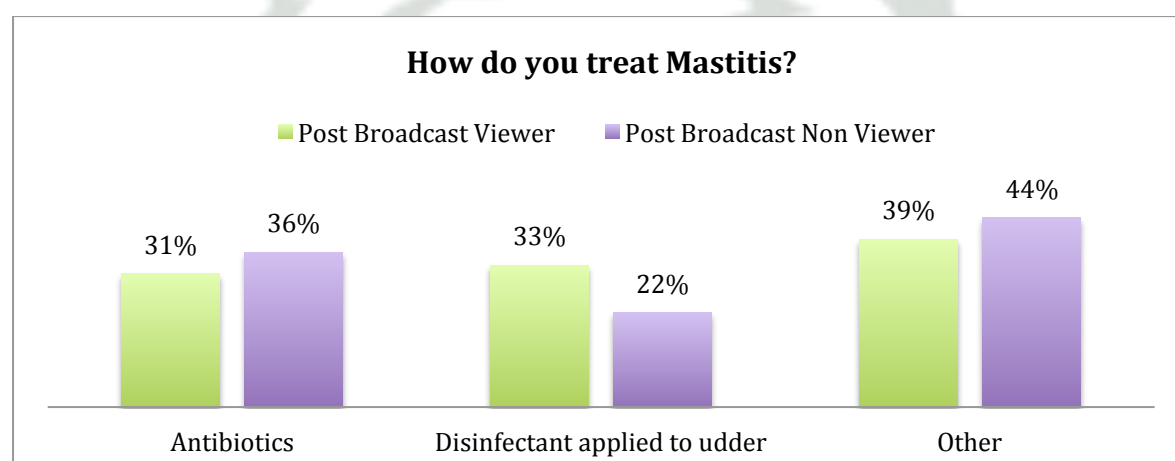
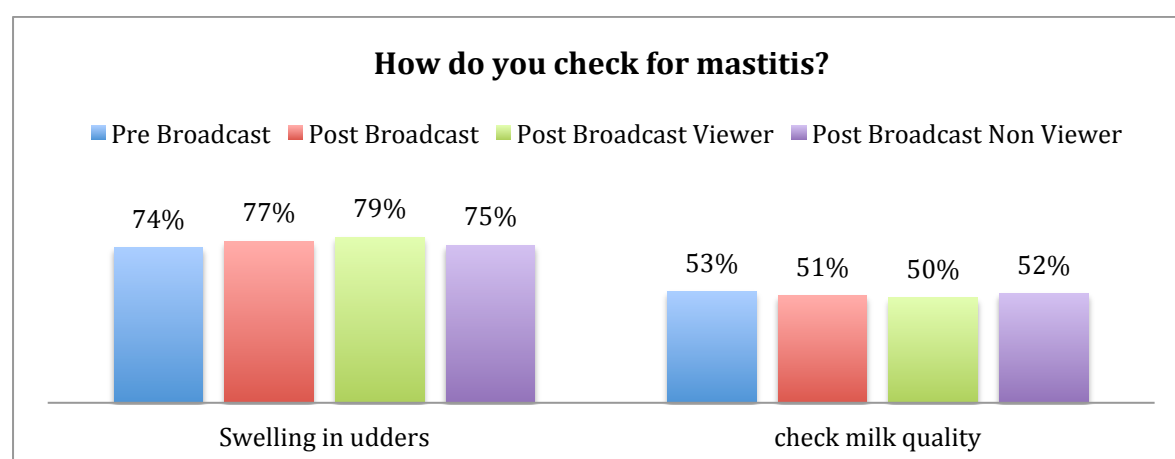
There were no significant differences between the supplements used by viewers and non-viewers.



Health and hygiene

Of those who had a zero grazing (59%) shed, most (79%) cleaned the slurry out from under the animals. They do this during the rains as it is easier to clean the shed then, and the slurry is used for planting. Cleaning is not done regularly.

A third of all respondents said their cows had suffered from mastitis and most did check their cows for the problem. Slightly more viewers knew to check for swelling, and there was no significant difference in those who knew to check milk quality. More viewers used disinfectant than non-viewers, who used more antibiotics to treat mastitis. In terms of preventing mastitis, half knew to clean the udder before milking with water though only a fifth knew to use disinfectant, and a quarter knew to wash their hands. A quarter knew to use milking salve on the udder but only a tenth knew to use it on their hands, too, or to dip teats in disinfectant after milking. For disinfectant, a third use soap, and a quarter use Mastrite and/or Bactergent.



More viewers than non-viewers' attitude to using disinfectant was positive (74% vs. 66%).

Source of dairy information

34% of viewers got their dairy information from TV and 38% from the agrodealer. The same proportion of non-viewers got their information from agrodealers, 37% from neighbours/friends and a quarter from the radio.

None got their information from the newspaper, inserts, magazines or posters.

Poultry

The program covered poultry housing, feeds, health, and biosafety, use of antibiotics, breeds and general husbandry.

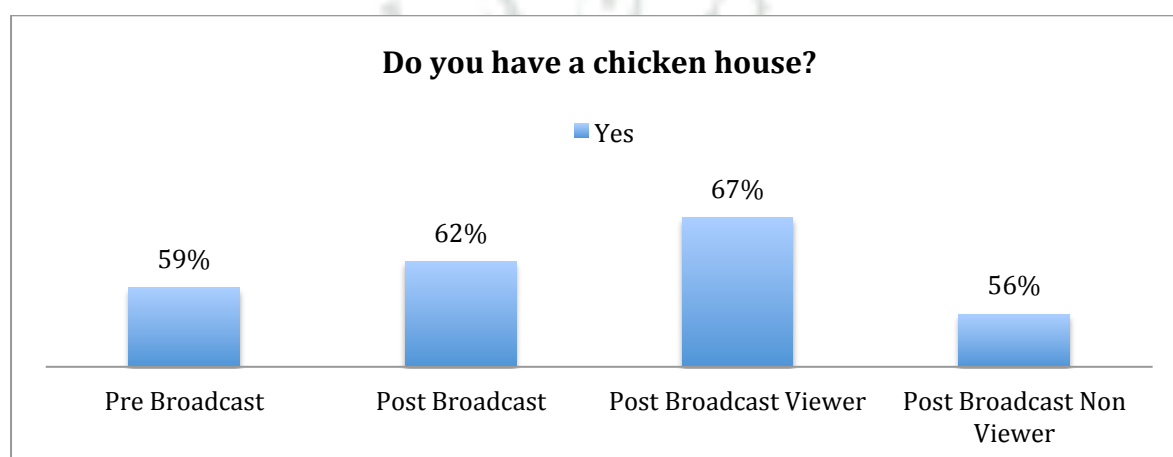
Keeping chickens

A basic principle of keeping chickens is to keep different types of bird (broilers and layers) separately to reduce disease. There was an increase in understanding that broilers should be kept separately from layers, from 32% to 38%. Similarly, there was an increase from 32% to 35% in knowledge that layers should be kept separately. At the same time, the proportion that thought broilers and layers could be kept together decreased from 16% to 12%.

10% more viewers than non-viewers are likely to rear broiler chickens; the major reason for not keeping broilers was cost.

Housing

Prior to broadcast, 59% had a chicken house. After broadcast, 67% of viewers had a chicken house, against 56% of non-viewers.



In terms of housing quality, more non-viewers (90%) had houses with open sides than viewers (85%). Closing the sides of the chicken house with curtains was covered several times in the series.

For flooring, more viewers than non-viewers used sawdust, and fewer viewers used sand, cement or grass than non-viewers.

Biosecurity

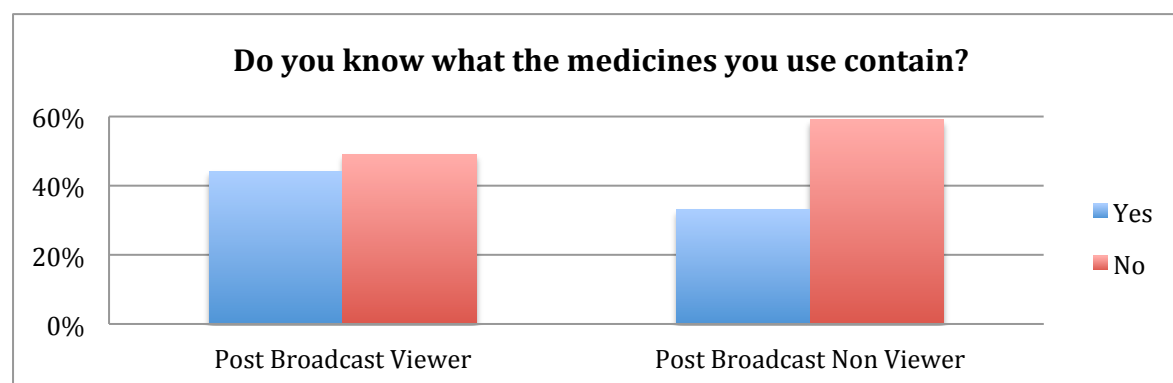
The program covered the need for disinfecting the chicken house, using footbaths and general cleanliness repeatedly. The impact was to increase the use of disinfectant for rearing chickens by viewers from 61% to 70%. Non-viewers' use of disinfectant after broadcast remained at 59%.

Use of antibiotics

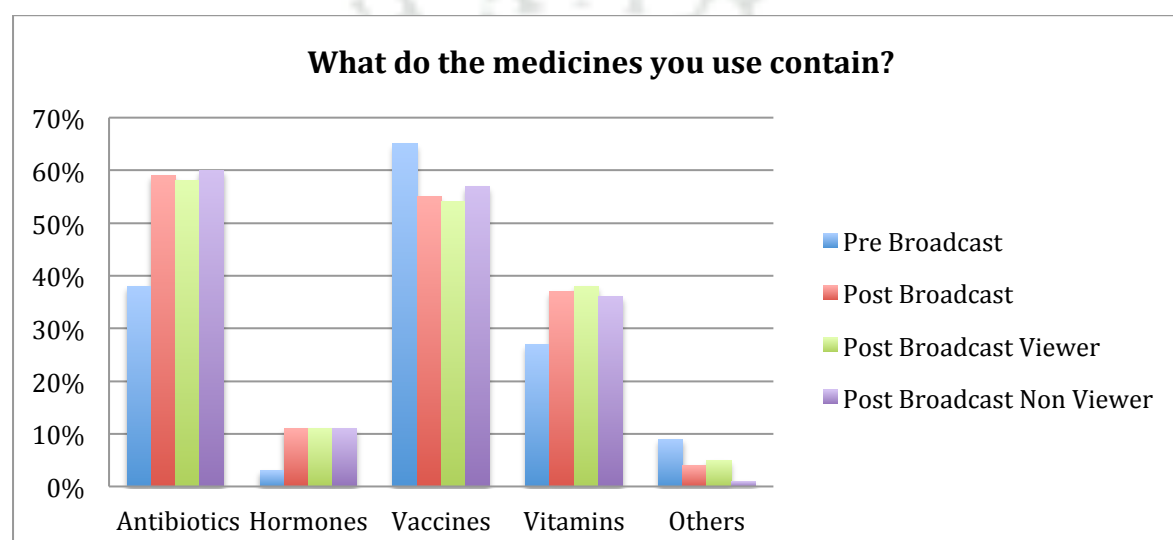
The overuse of medicines for livestock is prevalent, especially antibiotics in poultry production; most of this is without proper instruction from veterinary officers due to the lack of officers. Access to good quality medicines and vets is also determined by income – more well off farmers are able to buy more medicines.

In terms of medicine use, there was more use after broadcast (78% vs. 73%) and 81% of viewers had used medicines against 75% of non-viewers. However, more viewers than non-

viewers knew what those medicines contained, though the proportion of those not knowing was higher than those who knew.



Encouragingly, more were aware that the medicines contained antibiotics, hormones or vitamins after broadcast and less thought they contained vaccines. There was no significant difference in those who knew they contained antibiotics.



Awareness of the dangers to animals and humans of treating animals with incorrect medicines increased after broadcast; slightly more thought it resulted in reduced egg quality, 5% more viewers than non viewers thought it would reduce the health of the chicken and 4% more viewers than non-viewers thought that using medicines on animals would affect human health. However, less than 50% of all groups thought there was an effect on humans from treating animals with medicines.

There was no significant change in awareness of how livestock medicines can affect humans; the field team recorded a high level of misunderstanding and confusion with the section.

Sourcing chicks

The program covered Kenchic as the supplier for broiler, Kenbro and day-old chicks for shape-up farmers. This is reflected in the increase in awareness of Kenchic as a chick supplier by viewers after broadcast of 5%.

Feeding chickens

Slightly more viewers than non-viewers bought food for their chickens (7%); those who did not cited cost as the main reason. Those who thought they might buy chicken feed in the future

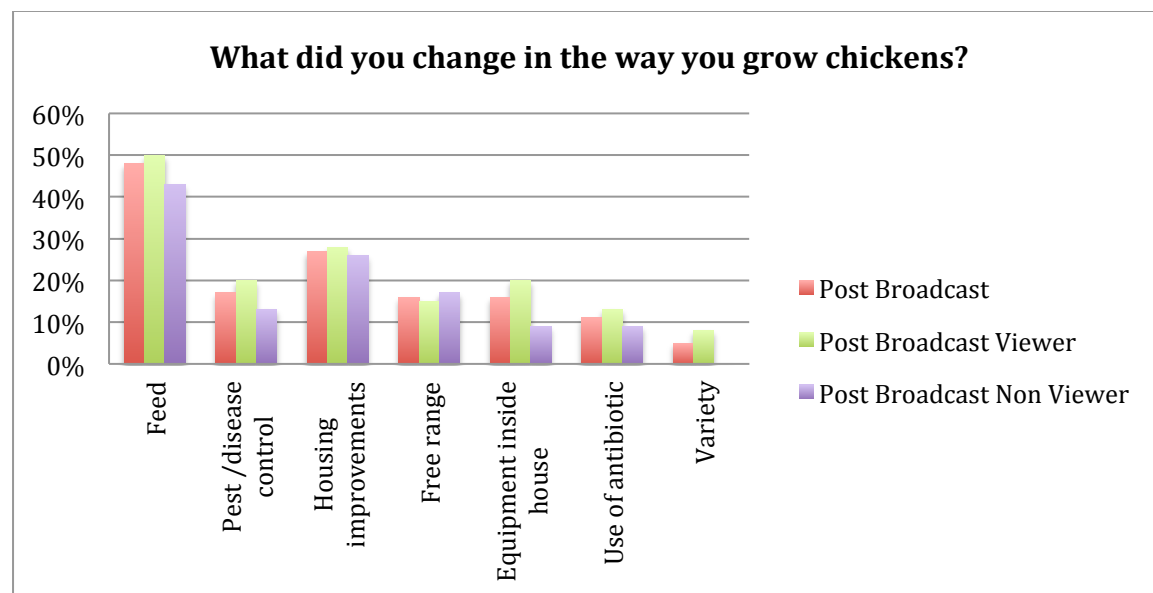
cited faster growth, more eggs and healthier chickens as the main reasons to buy chicken feed for their flock.

In terms of brand awareness, Unga Feeds was recognised as a chicken feed supplier by 7% more people after broadcast (88% of viewers).

Change in chicken rearing

More viewers changed their chicken rearing practices in the preceding months after broadcast (12%) than prior to broadcast (6%) or non-viewers (8%).

Viewers made more change in feeding (50%), pest and disease control (20%), housing (28%), housing equipment (20%) and use of antibiotics (13%) than non-viewers.



Most viewers got their information on this change from TV (33%), agro-dealers or extension (28%) or neighbours (23%). Most non-viewers, as expected, got their information on the changes they made from their neighbours and friends (39%).

Rice

As Mwea formed only one sampling area, the number of respondents who grow rice is small (10%). It is therefore difficult to make comments about the impact of the program on such a small number of farmers.

There were significant changes in knowledge and practice; however these were not in the areas the program had covered. Rather, the changes were in areas advocated by the rice growers' SACCO. There was a high level of SACCO activity in Mwea between the two fieldwork waves due to drought.

The results clearly show an increase in activity of the farmers in their SACCOs – all rice growers in Mwea belong to a SACCO. Prior to broadcast, only 34% of all the rice farmers got their seed from a SACCO; after broadcast, 78% did. Concurrently there was a large drop in those who got their seed from the previous crop or from a dealer. Furthermore, variety selection prior to broadcast was 'What I have always used' (43%) or 'Advised by the agrodealer' (25%). After broadcast these were replaced by 'Given by the SACCO/Cooperative' (48%).

Prior to broadcast, most farmers transplanted after 30 days (88%) and had no specific planting spacing between rows or plants (77%). After broadcast, most farmers transplant their rice after 30 days (93%), leaving ½ a foot between rows and plants (88%). All farmers use fertiliser for their rice and all broadcast the fertiliser.

There was clearly an education program running in the area at the same time as Shamba Shape Up was broadcasting, as the results are the same for viewers and non-viewers.

System of rice intensification (SRI)

The program introduced, in one episode, a new system for growing rice, SRI. This involved planting the seedlings out at 2 weeks rather than 3-4 weeks old, in a larger grid system (25cm x 25cm) and using less water with buried urea tablets as opposed to closer together with flooded paddies and broadcasting fertiliser.

Despite none of the respondents burying fertiliser and all transplanting with the SACCO recommended time and spacing,

There was a slight increase (8%) in the number of people who had heard of burying tablets of fertiliser in the soil between the plants. Furthermore, more viewers than non-viewers were aware that the system used less fertiliser, less water and improved fertiliser uptake by plants.

With the strong influence of the SACCO in the rice sector, there is likely to be more uptake of the SRI system if the SACCO recommends the system and teaches farmers how to adopt. One half-hour episode of Shamba Shape Up was unlikely to have a significant impact in any field, and not in a sector where the farmers are tightly knit and highly organised by their SACCO.

Growing vegetables

Tomatoes

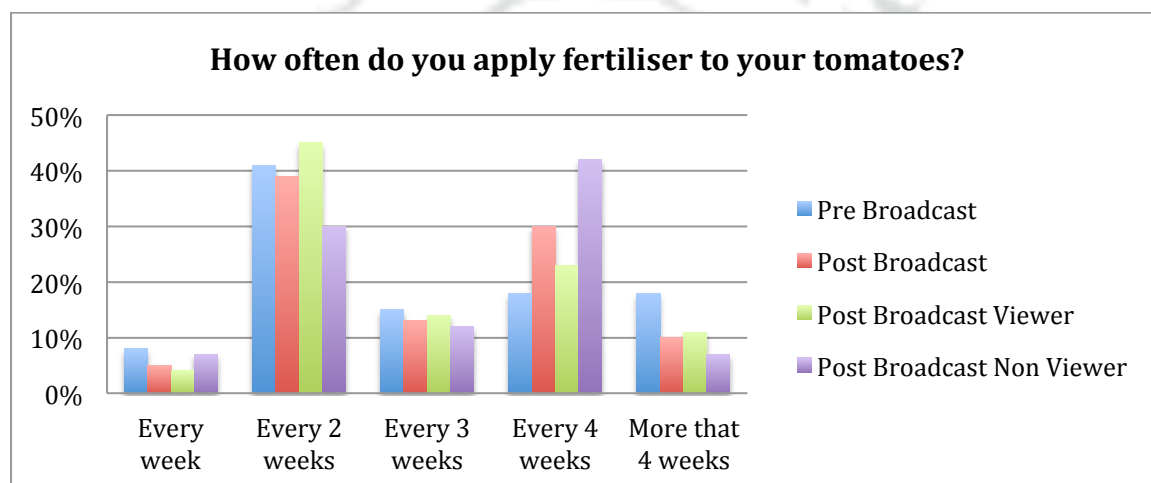
21% of the viewers grew tomatoes against 12% of non-viewers. The most popular tomato varieties are Kilele F1 (22% of viewers) and Cal-J (40% of viewers). Kilele F1 was featured in the program as a good hybrid variety with high production.

89% of respondents had problems with pests and disease in their tomato crop and 92% used insecticide for the crop – 84% of viewers used insecticide while the crop was still in the nursery though 40% couldn't name the chemical.

The program advocated the use of fertiliser or manure, and drenching the hole with insecticide to reduce pest damage to the seedling. The majority of respondents added something to the hole with the seedling when transplanting. Most use manure only (>50%), followed by fertiliser only and then fertiliser mixed with manure (9%).

The program recommended spraying the tomato bed with insecticide to protect seedlings when transplanted. More viewers than non-viewers did use insecticide for this purpose. (8% vs. 2%).

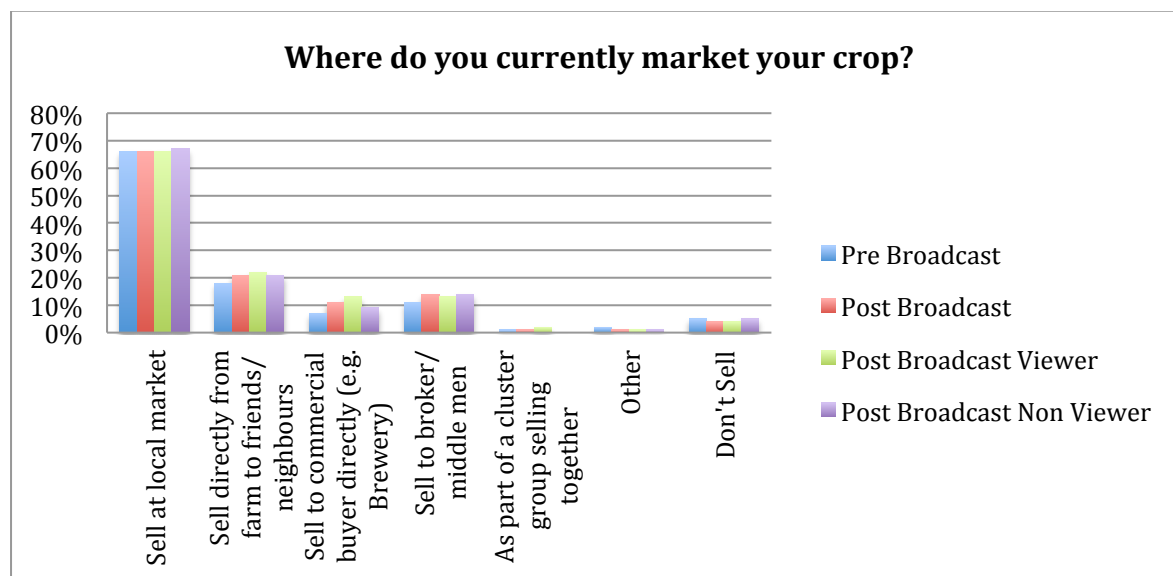
86% continue to use fertiliser on the crop as it grows. The recommended interval for fertiliser application in the program was 2-3 weeks. There has been an increase in viewers who apply fertiliser every 2 weeks and no change in those applying every 3 weeks. Non-viewers have adopted application every 4 weeks.



Markets

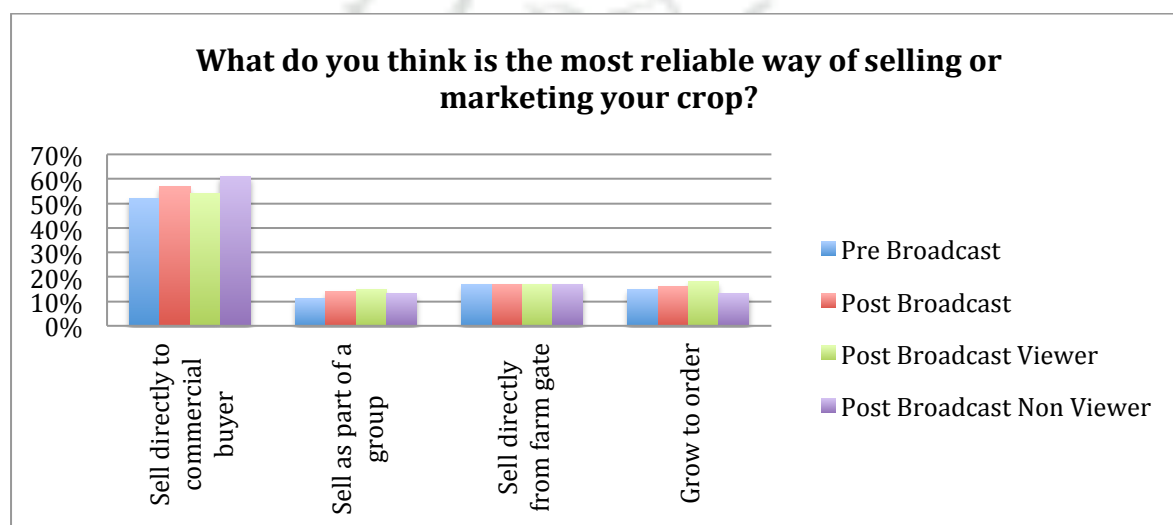
Few farmers process or add value to their crops, or grow under contract for direct sale to commercial buyers. Most sell their produce at the local market, which is prone to price fluctuations according to the season. The program advised farmers to join grower groups and to sell to buyers with a pre-arranged price and contract. This would allow the farmer to plan a budget and be sure to get a set price.

After broadcast, there was an increase in sales to commercial buyers by viewers of 6%.



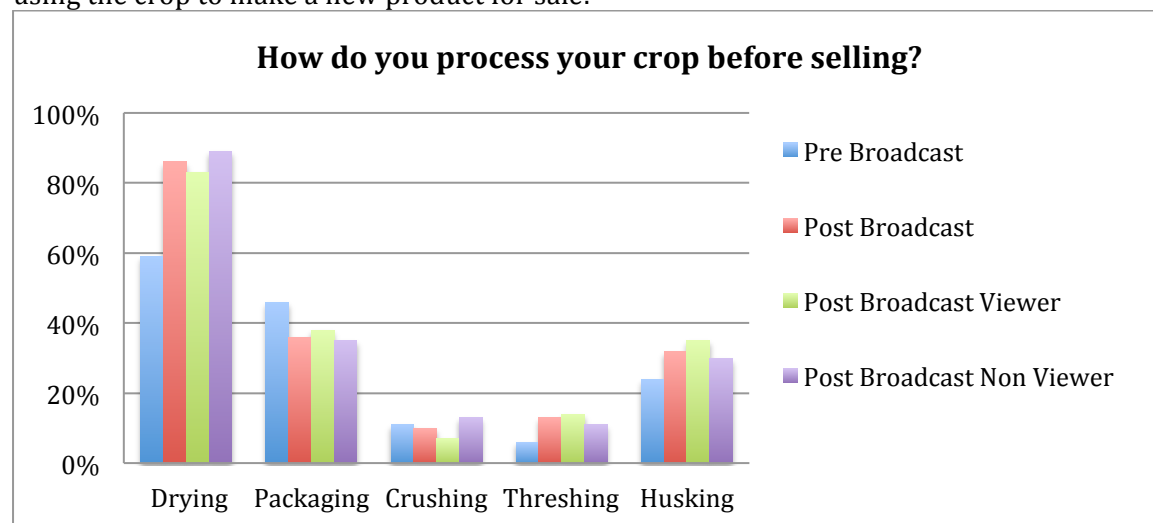
However, the number of farmers planning ahead by looking for a market prior to planting was still very low (less than 18% across all samples).

In terms of market reliability, farmers are unlikely to sell to a very unreliable market if they can avoid it. The majority described their market as 'reliable' (45%); however, more viewers than non-viewers had a 'very reliable' market (17% vs. 14%). When asked what they thought was the most reliable way of marketing, most cited selling directly to a commercial buyer. More viewers thought selling as a group or growing to order was most reliable compared to non-viewers:



Processing

A fifth of respondents process their crop in some way before selling. This may be as simple as drying or threshing their crop; few add value by packaging and none by processing in terms of using the crop to make a new product for sale:



Sources of information on markets

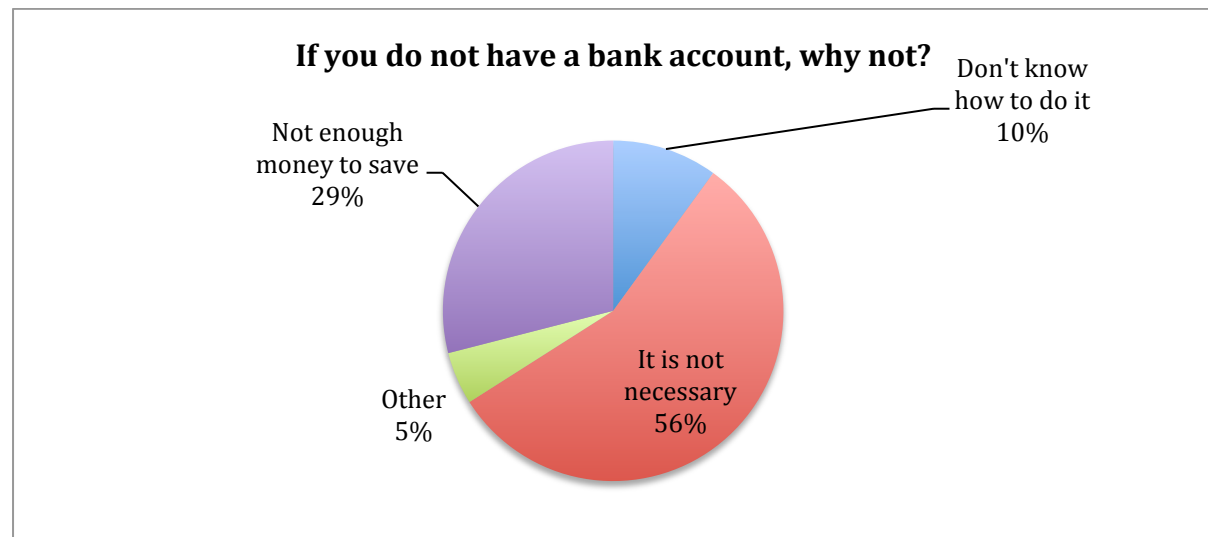
Unlike other agricultural information, farmers are not sourcing their market access information from traditional media channels. Less than 20% get their information from TV, radio or agrodealers and none from newspapers, inserts or magazines. A fifth get information from neighbours and friends; however almost 60% say they do not get information from any of these channels.

Financial education

Bank accounts

Bearing in mind the rural nature of the audience, and the income level (<15,000KSH per month) with the erratic nature of incomes from crops or livestock, the level of bank account ownership was high. 11% more viewers had bank accounts than non-viewers (67% vs. 56%).

Of those who did not have a bank account, the main reasons cited were 'not necessary' and 'not enough money to save'. 10% did not know how to open an account.



Insurance

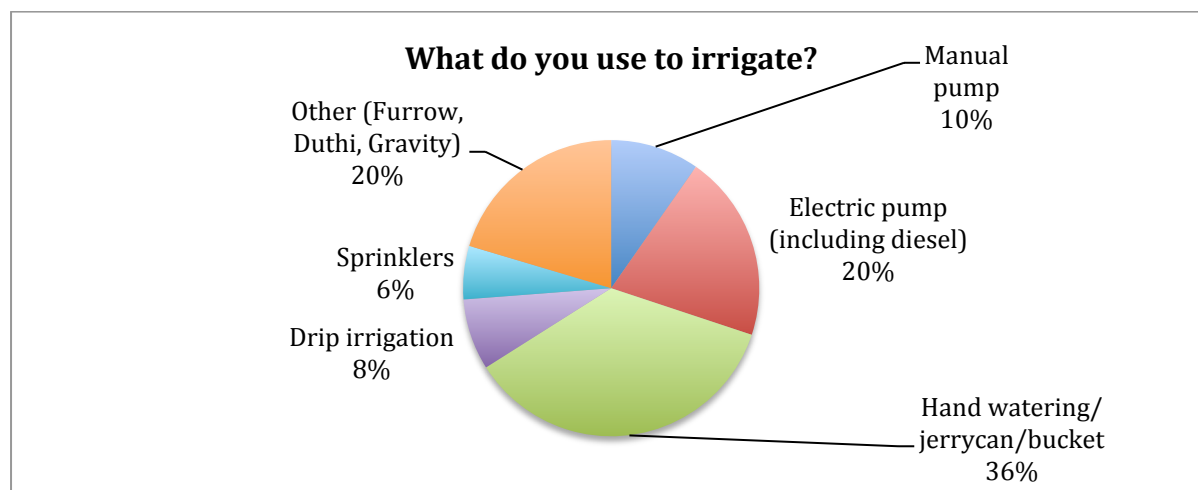
Despite the growing availability of insurance for crops or livestock on the market in Kenya, very few use these services (<1%). Of those who did, the majority had bought insurance from Equity Bank.

Most learnt about insurance from the radio, followed by TV and then neighbours and friends.

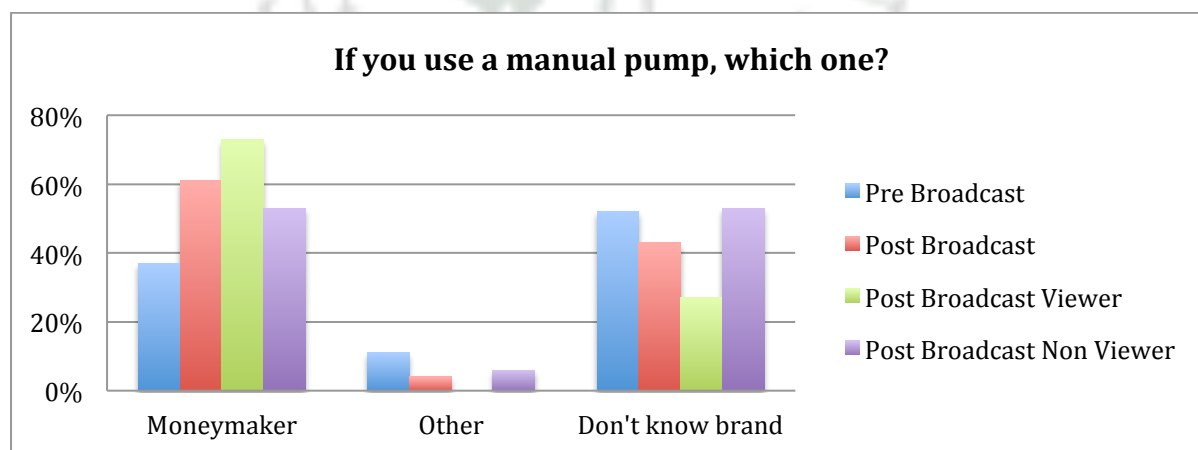
Irrigation – manual pumps

The program showed manual water pumps from Kickstart, particularly the Moneymaker foot pump, as a way to water crops by filling header tanks for irrigation systems or watering crops directly.

Irrigating or watering crops requires a source of water close to the farm – therefore we can expect that few respondents will irrigate or water their crops. On average, only 30% did water their crops or use irrigation. Of those, most watered their crops by hand, followed by those who used furrows, or electric pumps.



Only 10% of the 30% who irrigate or water their crops do so using a manual pump, and the majority of those use Moneymaker pumps. Though the sample size is small, it does appear that a larger proportion of viewers use Moneymaker pumps and/or is aware which brand they have bought.

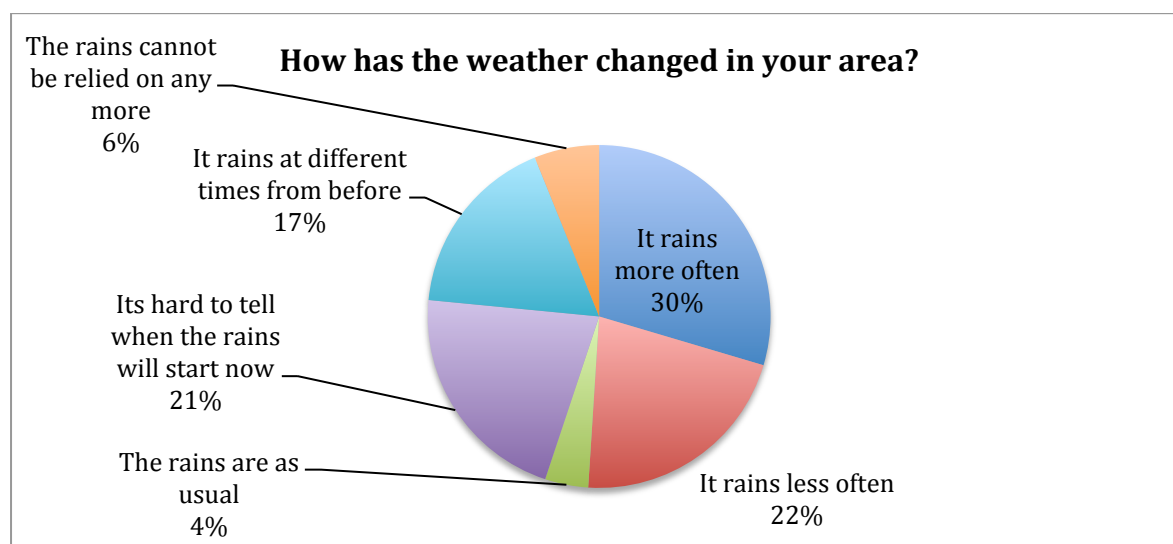


On average, 65% of respondents after broadcast who used the Moneymaker pump said that their yields had improved after they started using it.

In terms of brand awareness for those who do not use the pump, the majority had heard of Moneymaker pumps. Many more viewers than non-viewers had heard of the pump (84% vs. 71%) – half of them had heard about it from TV, 40% from radio and 31% from neighbours. 48% of non-viewers heard of Moneymaker from the radio, 41% from friends and 12% from agrodealers. Less than 2% in any group learned of it through the newspaper, inserts or posters.

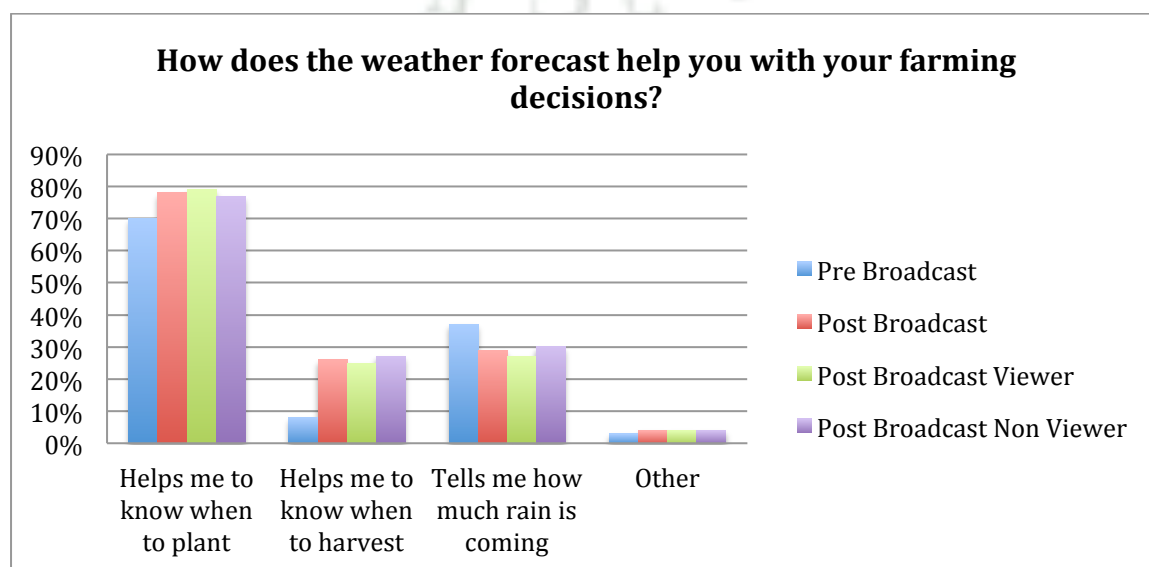
Climate Change

The program covered several ways in which households can adapt to climate change, from harvesting rainwater to planting multipurpose trees and growing drought resistant crops. 'Changing weather patterns' was used more frequently than 'Climate Change' when covering the subject. As expected, the majority (75%) had noticed a change in the weather patterns in their area in the preceding years; overall, the reliability of the rains were the main concern rather than any temperature change. More viewers than non-viewers were aware of 'Climate change' as a phenomenon (67% vs. 60%).



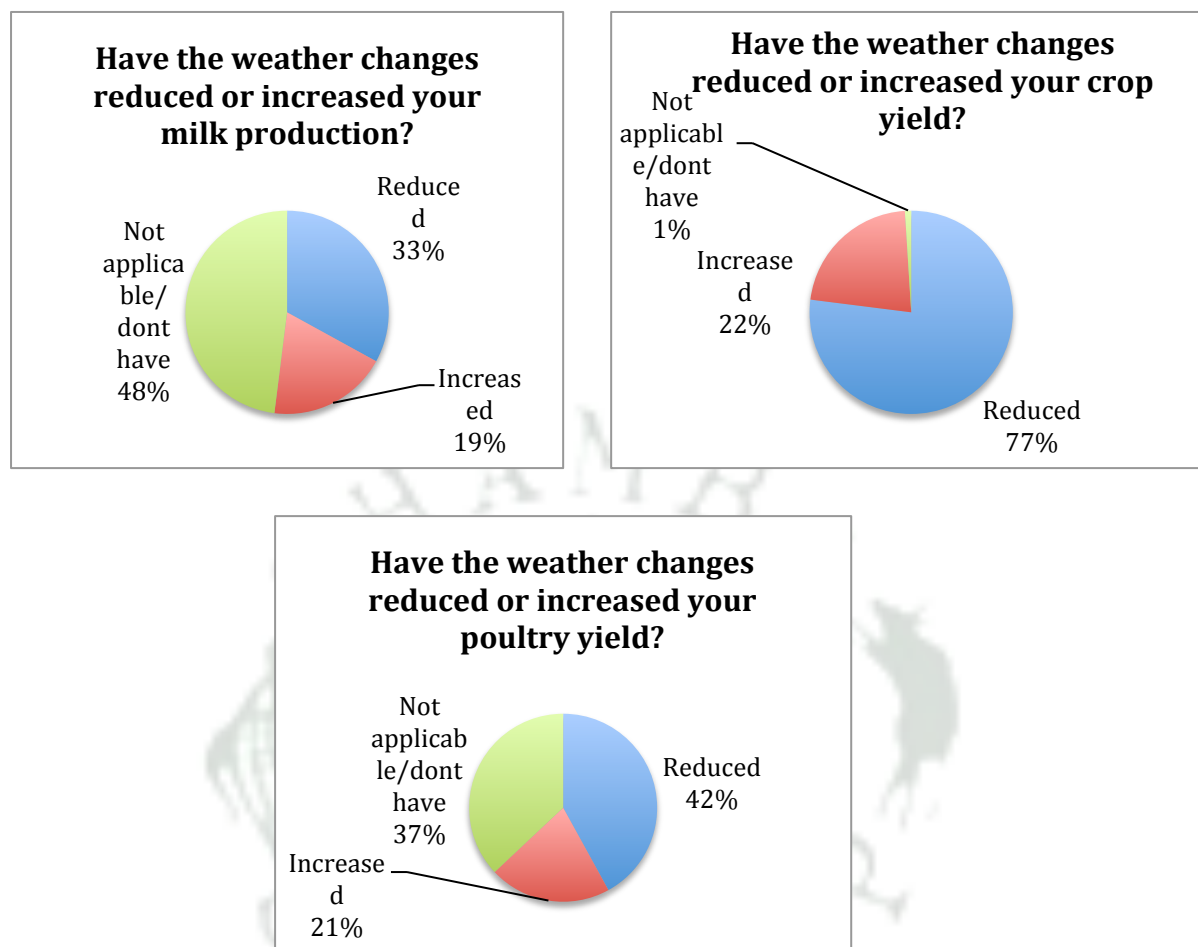
Forecasts

Weather forecasting was covered once as a way for farmers to plan their farming better in light of the changing weather patterns. 61% of viewers and 57% of non-viewers thought forecasts could help them plan their farming better; fewer non-viewers than viewers (68% vs. 76%) accessed a weather forecast though the majority of both sets did access weather forecasts. Of those who did not think forecasts were useful, 75% cited the unreliability of the weather forecasts as a problem – this unreliability is something well known in the country!

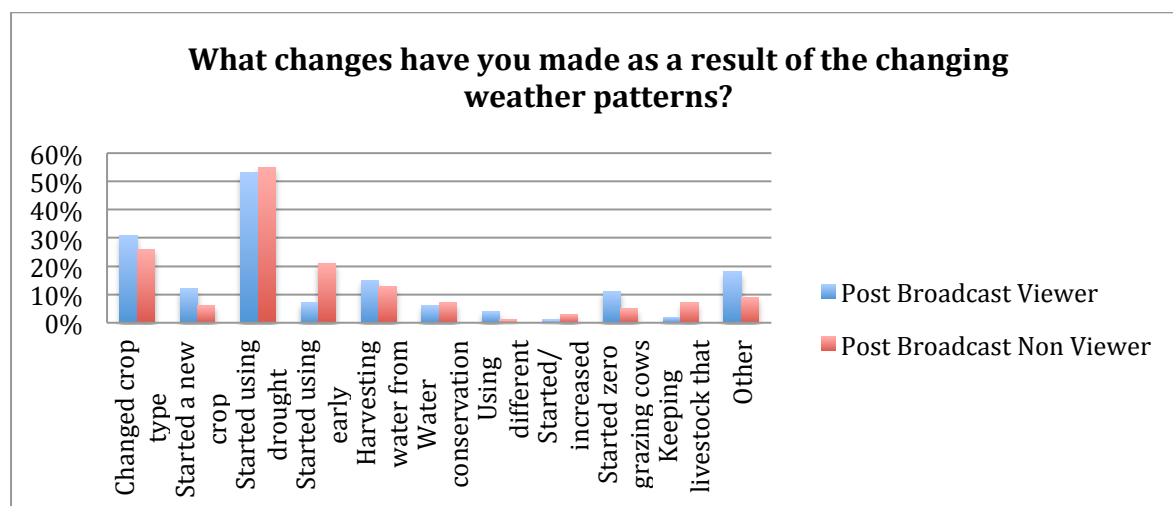


Impact of climate change on agriculture

The majority of viewers and non-viewers said that the changing weather had reduced their crop, milk and poultry yields. The post-broadcast fieldwork was fielded in heavy rains, when most people who had chickens noted that the weather had caused diseases within their flocks.

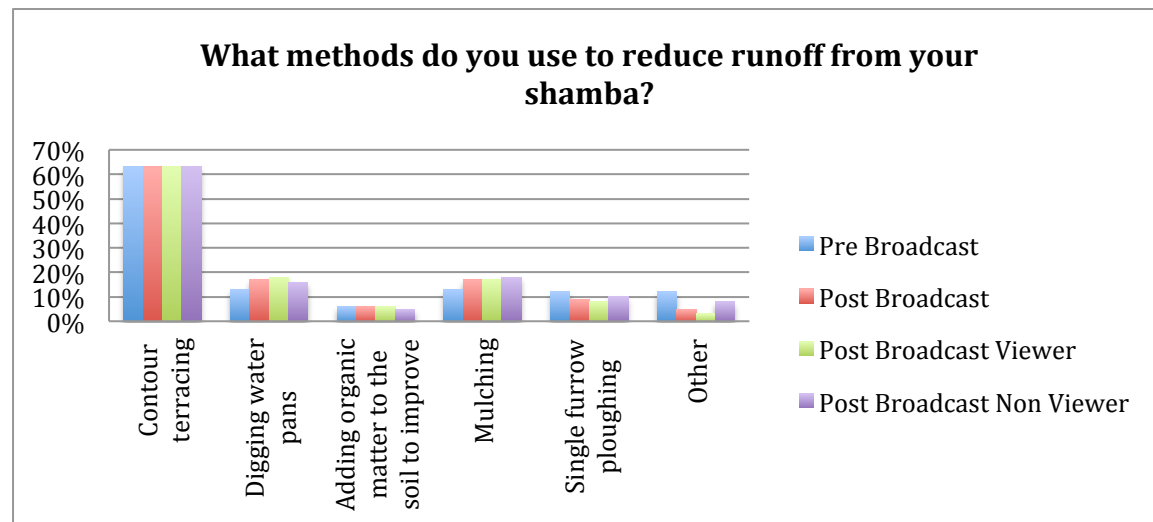


33% of viewers and 27% of non-viewers made a change to their farming as a result of the changing weather patterns. The program advised early maturing, drought resistant varieties, changing crops and planting trees as a way to improve resilience to climate change.



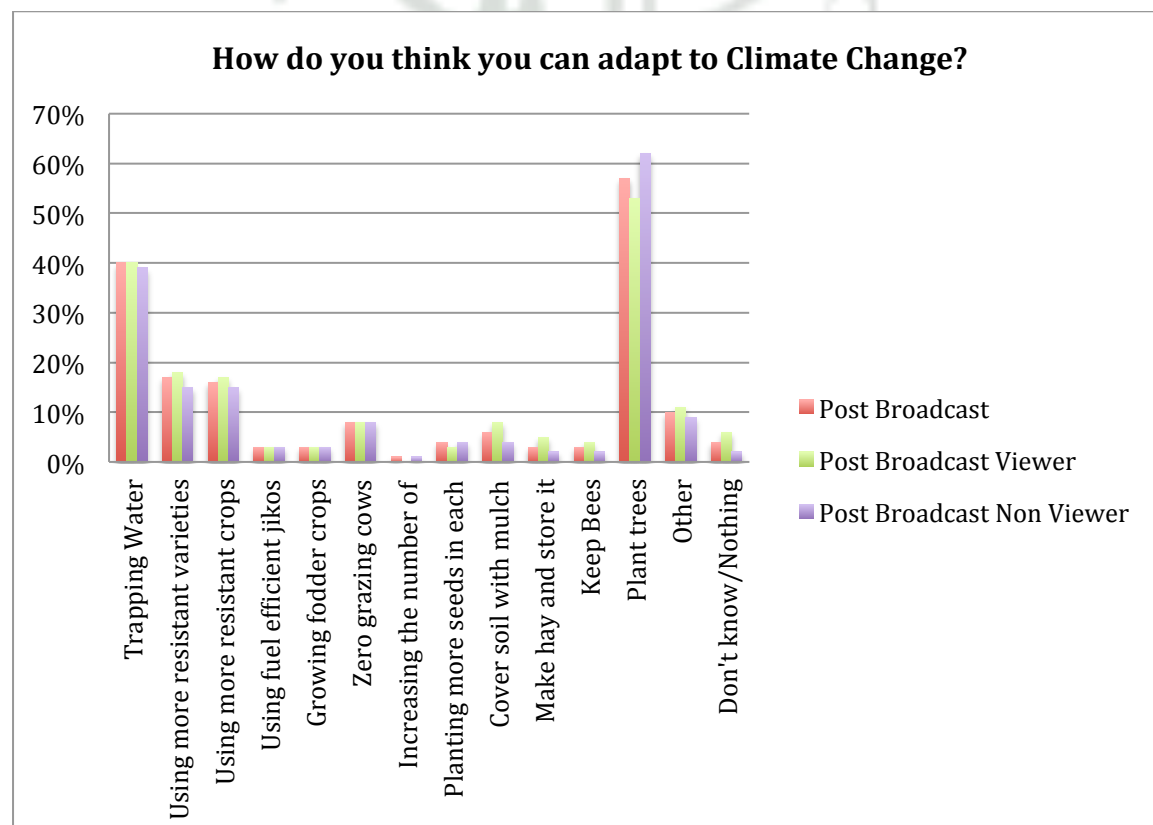
Harvesting water

The majority (average 77%) harvest rainwater from their roof. 53% of viewers and 47% of non-viewers control runoff from the shamba. This was covered several times in the program in the form of water pans and contour terracing.



Adapting to climate change

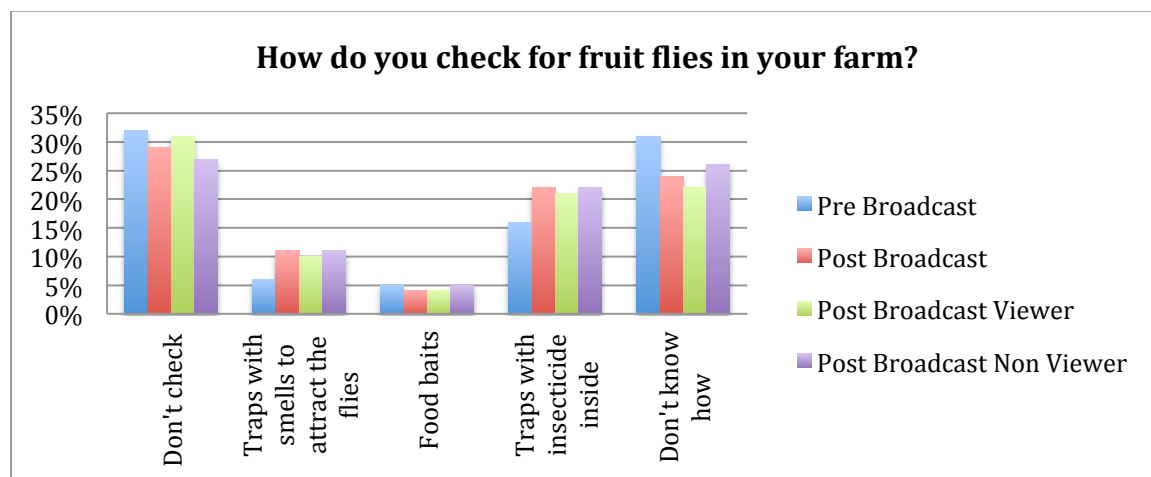
The majority cited 'planting trees' as the way to adapt to climate change. Water harvesting was also cited – though more as a way to reduce workload than as an intended adaptation technique. Other more popular adaptation techniques were to use a drought resistant variety, change the crop type and use zero grazing. All of these were used in the program as a way to adapt to climate change. The difference between viewers and non-viewers was, however, minimal.



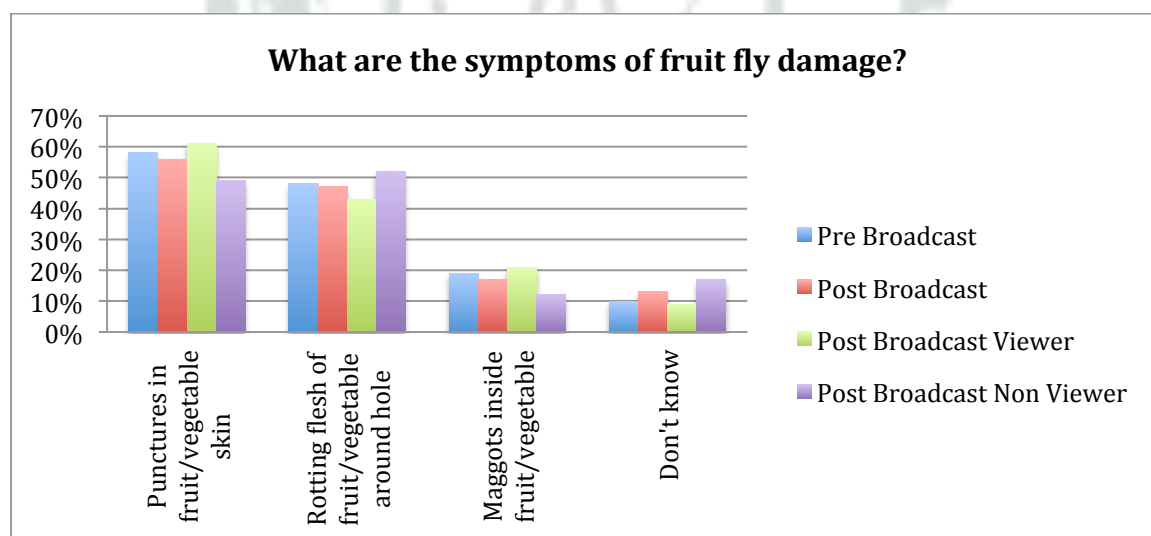
Fruit flies

The program covered trapping and prevention of fruit flies in mangoes in one episode with ICIPE. As the coverage was restricted to this episode, it was expected that there would be little, if any, change in viewers' knowledge of fruit flies.

There was no significant change in those who did not check for fruit flies, or who used food baits. There was a slight increase in those using scent or insecticide traps, though non-viewer knowledge also increased, so the change cannot be attributed to Shamba Shape Up.



There was no significant change in the knowledge of fruit fly damage symptoms – though knowledge was already relatively high.



As expected, most respondents got their information on fruit flies from agrodealers, or always knew it, rather than from TV. Nobody got their information on fruit flies from magazines, newspapers or posters.

For the audience to improve their knowledge of fruit flies, the topic needs to be covered more times and more in depth in the future.

Solar lighting

The program advocated use of solar lights as a healthier, safer alternative to Kerosene, which could also save the household money in reduced spending on Kerosene and mobile phone charging. The company featured was dLight.

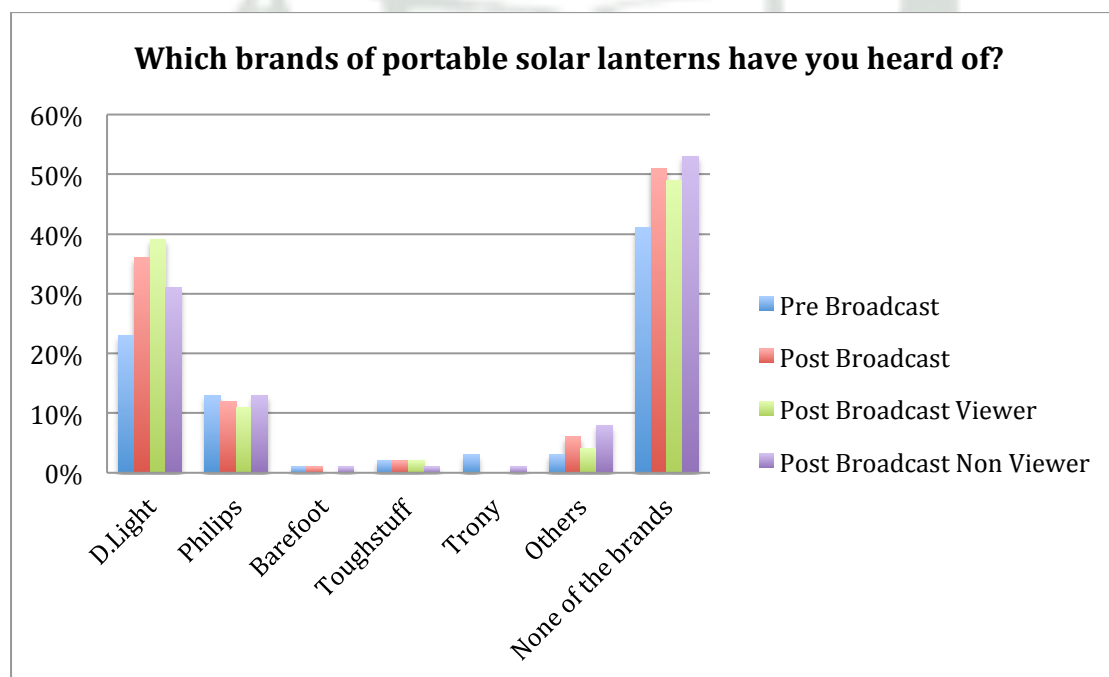
Due to the program being aired on TV, it was expected that most of the audience would have electricity supply to their home. This was true of 77% of viewers who had electricity as their main source of lighting. 14% of viewers used fixed solar installations. Interestingly, there was a reduction overall in the use of Kerosene from 18% pre broadcast to 6% post broadcast for viewers and 15% for non-viewers. This corresponded to an increase in access to electricity from 62% to 69% across the whole sample. This may reflect the locations at which the fieldwork was carried out.

Use of solar lanterns

Of those who had bought a solar lantern, more viewers than non-viewers had bought one in the previous 3 months (i.e. as the program was airing). The increase in buying for oneself (as opposed to family elsewhere) was 24%, with more non-viewers than viewers buying for themselves (90%) and more viewers than non-viewers buying for family elsewhere (10%). Over 80% of respondents would recommend the lanterns they bought to somebody else.

Awareness of and attitudes to brands

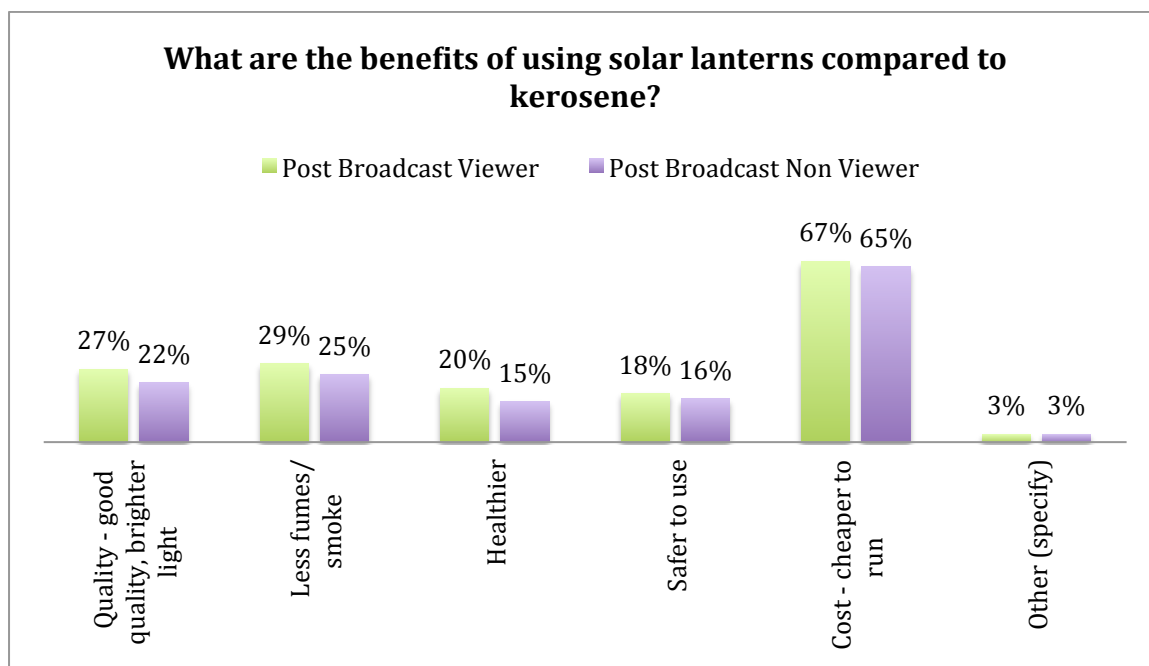
Brand awareness showed a marked increase for dLight from 23% pre broadcast to 36% after broadcast for all respondents. More viewers (39%) than non-viewers (31%) were aware of dLight.



Furthermore, more viewers (28%) than non-viewers (23%) said they would buy a dLight lamp if they bought a solar lantern in the future.

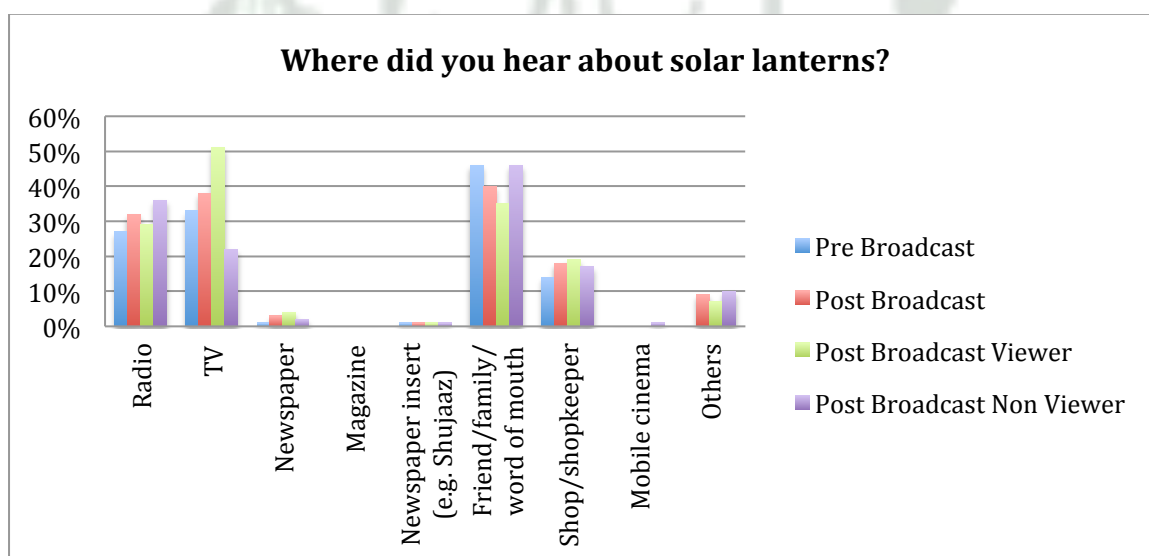
Awareness of benefits of solar

The program advocated solar lights as a way to save time, a safer alternative to kerosene and a healthier option. The quality of light was also emphasised.



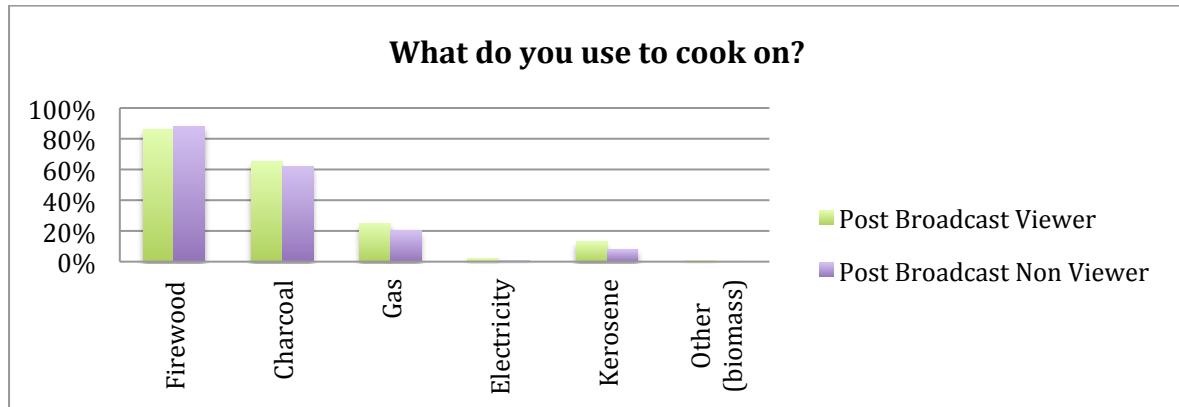
Sources of information on solar lanterns

As expected, the majority of viewers who knew of solar lanterns had gotten their information from TV. More non-viewers had gotten their information on the subject from radio. However, as with soil health, the majority of non-viewers had gotten their information about solar lanterns from their friends and family.

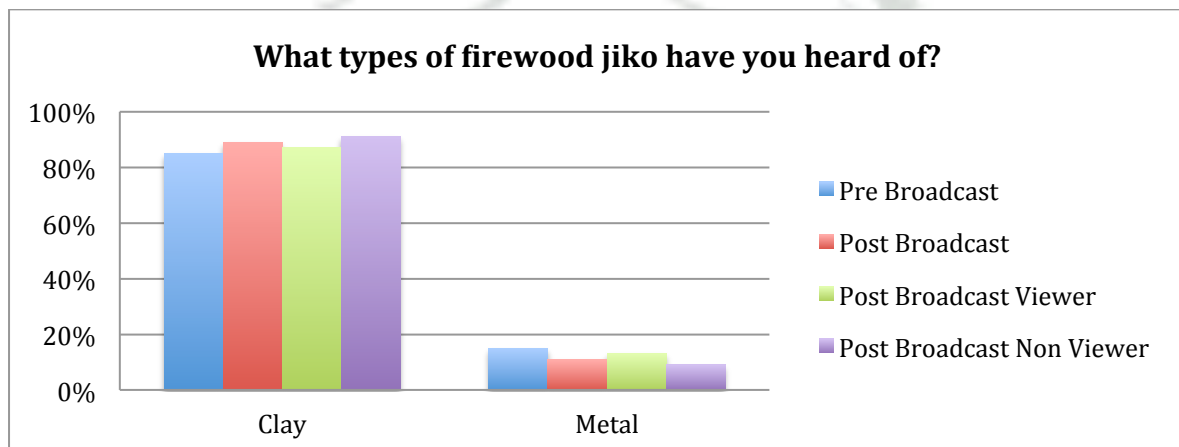


Fuel efficient jikos

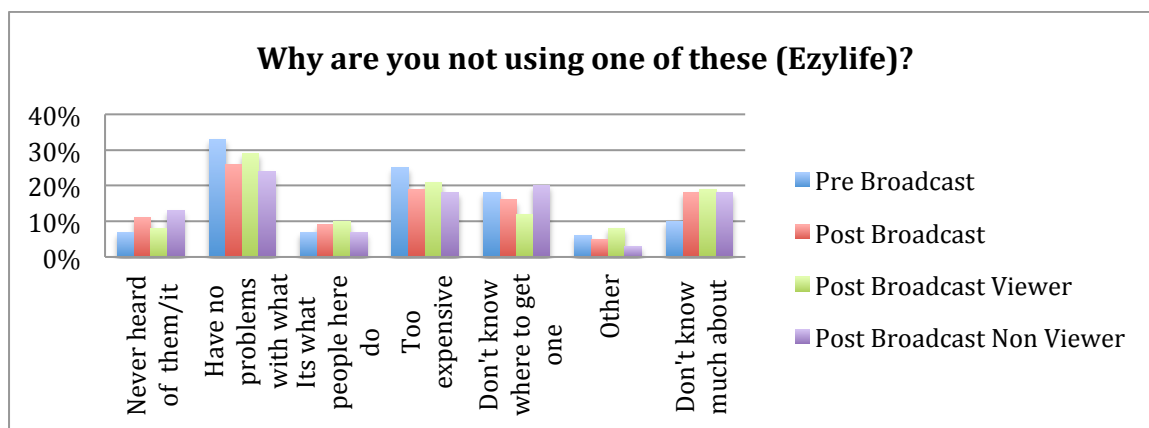
The majority of respondents to the survey use firewood to cook on, followed by charcoal. On average, 75% use 3 stone fires and only 25% use improved clay lined fireplaces. 14% use clay jikos and only 5% use metal jikos.



Of those who do not use metal firewood jikos, more viewers than non-viewers had heard of other, new types of firewood jikos (67% vs. 55%). More viewers were aware of metal firewood jikos.



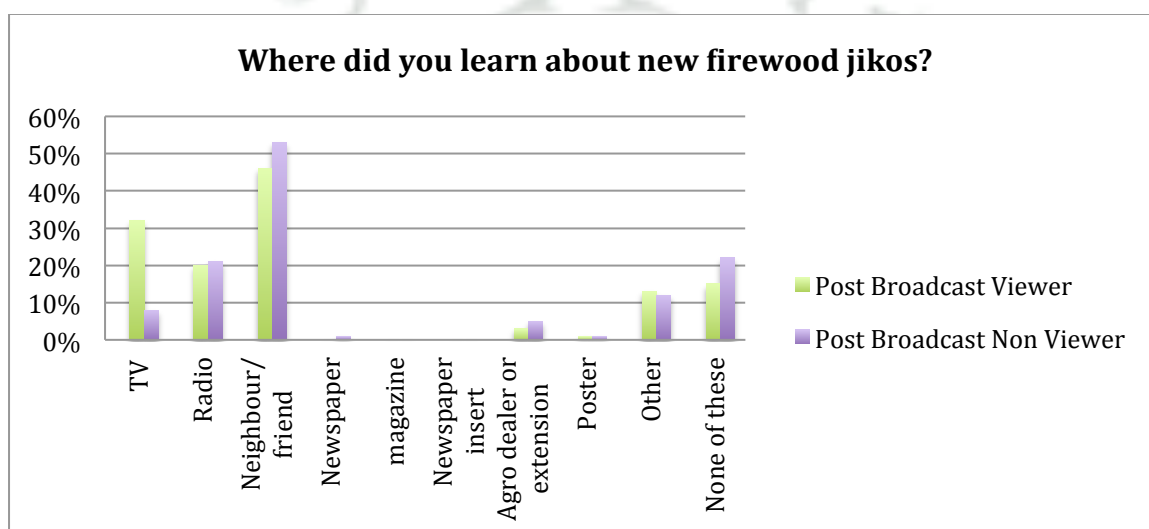
When asked why they do not use metal jikos (at which point they were shown a picture of an EzyLife stove), the majority responded they had no problem with what they use now. Less viewers than non-viewers used 'never heard of it' or 'don't know where to get one' as a response.



Benefits of firewood jikos.

The benefits of improved firewood jikos include reduced fuel use, less smoke and safety. More viewers were aware of the fuel saving benefits of the new firewood jikos; more viewers also thought that open fires were bad for their health.

Most people got their information on jikos from their friends and neighbours, which is to be expected. After that, viewers got their information on jikos from TV, and non-viewers from nowhere or from radio.



Summary

The level of change in series 2 and 3 is higher than series 1 (46% vs. 36%) which indicates that a longer running series (i.e. 6 months of broadcast rather than 3 months) is more effective in providing the audience with information and stimulating a change.

The audience are most interested in poultry, dairy, crop protection and soil fertility, and are most likely to make changes in those activities according to the changes and demand for information from these two series.

The impact on viewer KAP is higher when the subject is (a) of interest to the audience and (b) is repeated several times across the show. There was little uptake on the SRI system for rice and fruit fly trapping – both of which were only covered once. However, there was better uptake for soil fertility, dairy and chicken feeding, and solar lighting – which were all covered at least 6 times in the two series. This suggests that, for better uptake of knowledge and change of attitude and practices, topics should be covered more than once, and preferably 5-6 times in a series.

The vast majority of those who changed said that the change had improved their productivity and/or incomes for the household – when asked how much more income they had made as a result of the change, the average improvement was KSH 10,770, equivalent to USD 128 – this is an indicative number, to estimate the real value of change a targeted, more in-depth survey is needed.

The large response for the potato farmer group indicates that the program can be used to create nationwide farmer cluster groups or information groups on specific topics by directing the audience to a contact point. This may be of use for research or new projects, which need to generate a target group.

The two series broadcast in 2013 have been successful in generating interaction with the audience, improving brand awareness for featured organisations, increasing the level of change and adoption of new practices and thereby improving the livelihoods of the audience who adopt new practices and the access to information for the entire audience.