



Shamba Shape Up Series 8 Knowledge, Attitude and Practices Report

Focus: Mango and Maize Harvest and Post Harvest

2018



RESEARCH METHODOLOGY

The Knowledge, Attitude and Practice (KAP) survey for Series 8 was conducted in two waves. Prior to broadcast in February 2018, the GMaurich Company conducted a field survey with 800 farmers. Post broadcast, in March 2019, GeoPoll carried out a mobile phone survey with 800 farmers.

Pre and post broadcast differences are becoming more challenging to detect over time, as Shamba Shape Up has been broadcast for eight years with a regular viewership of approximately 2.5 million households (4 million viewers) in Kenya and 1.5 million households (3 million viewers) in Tanzania. As a result, finding small holder farmers who have not been exposed to the content one way or another is increasingly difficult to find.

In order to address this problem, Mediae for the first time, commissioned GeoPoll, a leading regional research organization in mobile surveys, to conduct a mobile survey, by sampling people through its extensive database of users across Kenya. This method allowed for a more effective sampling of farmers who have not watched SSU.

A total of 800 respondents were interviewed in both waves. The sample was split between:

1. Farmers who own a TV and watch SSU (Viewers)
2. Farmers who own a TV and have not watched SSU in the past 4 weeks (Non - Viewers)

This excludes a large portion of viewers who do not have a TV and watch SSU outside the home, which according to a report by [Reading University](#) (2014) could be 43% of total viewership.

The pre-broadcast field surveys were conducted in Machakos, Kitui, Bungoma, Embu (Mbeere), Meru, Eldoret, Kitale and Kirinyaga. Participants for the post-broadcast survey were in Eldoret, Kakamega, Nairobi, Bomet, Bungoma, Kiambu, Nyeri, Kitale, Embu, Meru, Kisumu, Muranga, Kisii, Machakos and Makueni.

The different methodologies both have advantages and disadvantages. While the field survey allowed for clarification of questions through local field agents, the mobile survey allowed to reach the targeted number of Non-Viewers in a quick manner, thereby reducing the risk that too much time had passed since respondents watched the programme.

As can be seen in the demographic overview of respondents, the post-broadcast mobile survey is skewed towards younger respondents. This is due to the fact that Geopoll's database has a higher number of young users. Only 16% of post-broadcast respondents fall in to age bracket 34-45 years old, a 0% were above 45 years of age. The majority (44%) of post-broadcast respondents fell in to the age bracket 25-34 years. This is significantly younger than respondents in the pre-broadcast field

survey, where nearly half of respondents (47%) were above 45 years old and only one quarter were 25-34 years of age (see Table 1). Research shows that young farmers are less likely to make changes on their farm, as they typically do not own the land they farm on and need approval from parents or elders. This unequal representation of age groups could severely skew results.

Demographic Overview

Table 1: Age Overview

	Pre Broadcast	Post Broadcast
18 to 24	5%	41%
25 to 34	25%	44%
35 to 45	24%	16%
Above 45	47%	0%

Table 2: Gender Overview

	Pre Broadcast		Post Broadcast	
	Viewers	Non Viewers	Viewers	Non Viewers
Male	43%	39%	36%	65%
Female	57%	61%	65%	36%

Another crucial factor is the representation of women within both surveys. There is a similar representation of both genders between Viewers and Non-Viewers across the two survey waves. As shown in Table 2, in the pre-broadcast survey, 43% of the respondents were men (57% women), and in the post-broadcast 36% of the respondents were men (65% women). This allows at least allows for a better comparison between the male and female Viewers on the one hand and male and female Non-Viewers on the other hand.

Nonetheless, as a result of using two completely different research methods for pre and post-broadcast, Mediae is careful when making comparisons between the two groups of SSU Viewers and Non-Viewers. While results from both survey waves are presented below, it must be noted that changes seen in knowledge, attitudes and practices between pre and post-broadcast could be distorted by the fact that the research methodologies differed.

I) MANGOES

Topic: Mango Growers

As shown in Table 3, mango farmers are equally represented in both pre and post-surveys with a similar percentage of mango growers amongst SSU Viewers (average of 21.5%) and Non-Viewers (23.5%).

Table 3: Do you belong to a farmers group dealing with mangoes?

	Viewers		Non-Viewers	
	Pre 8	Post 8	Pre 8	Post 8
Yes	20%	23%	20%	27%
No	80%	77%	79%	73%
Total	100%	100%	100%	100%

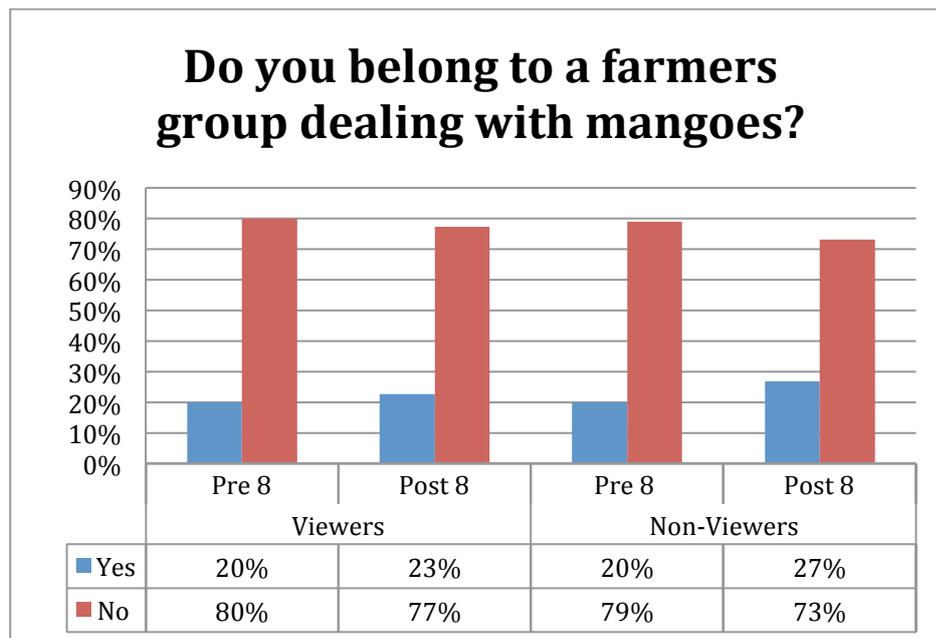


Figure 1: Farmers dealing with mangoes

Topic: Mango Tree Care Practices

Table 4: Mango Tree Care practices

	Viewers	
	Pre 8	Post 8
Prune cut off some branches	50%	71%
Put commercial fertilizer on mango trees	12%	11%
Follow a regular spraying program	44%	19%

A positive change can be observed amongst SSU Viewers who prune and cut off branches between pre and post broadcast. There was an increase of 21% amongst SSU Viewers (see Table 4 and Figure 2). Moreover, there was a decrease in farmers who applied commercial fertilizer on mango trees and farmers who followed a regular spraying program amongst SSU Viewers before and after the show was broadcast (12% to 11% and 44% to 19% respectively). The latter change is especially noteworthy as it signifies a positive change in practice. It indicates that SSU Viewers are applying more of the manual hygiene practices like setting up fruit fly traps that were shown on the programme. Therefore they do not follow spraying programs as much anymore.

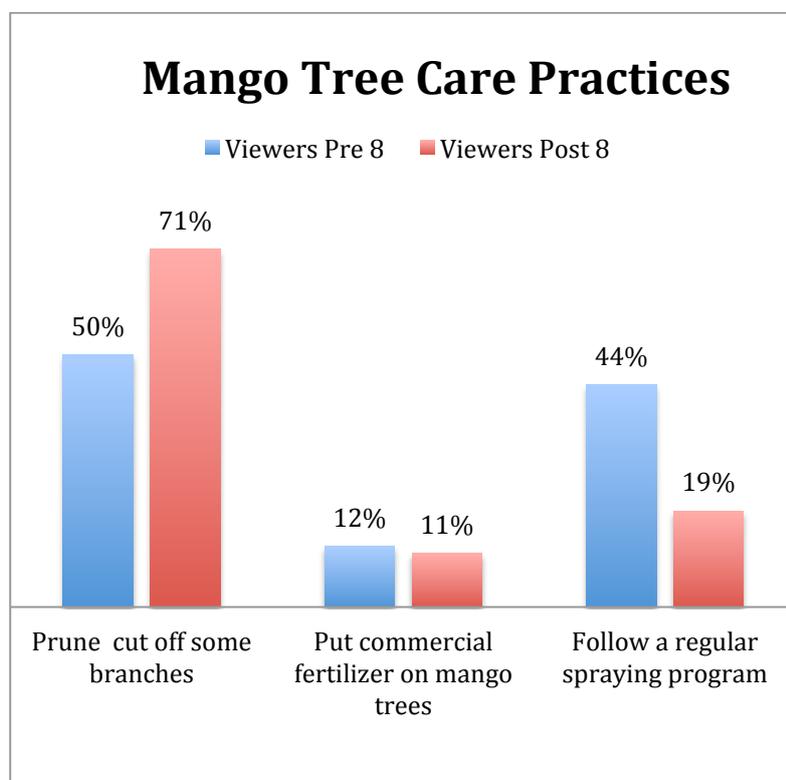


Figure 2: Mango Tree Care Practices

Topic: Mango Harvesting Techniques

Mango harvesting techniques were strongly featured in Series 8 of Shamba Shape Up. In the show, it was suggested that farmers pick mangoes using a stick with an attached net bad, so that the mangoes do not fall on to the ground and get damaged. Moreover, farmers were discouraged from shaking trees and letting ripened fruit fall on to the ground.

The different survey methods between pre and post-broadcast do not allow observing clear changes in practices between pre and broadcast. In the pre-broadcast survey, GMaurich asked respondents to only select one answer, while in the post-broadcast

survey, GeoPoll allowed for multiple selection of answers. Nonetheless, the following harvesting methods can be observed for the post broadcast survey.

While a large number of respondents still reported to “Shake the tree to drop ripened fruit” in the Post-broadcast survey (53% Viewers and 55% Non-Viewers named this as one of their techniques), another commonly reported method was to “Pick it with a long stick with a net bag attached”. 47% Viewers and 43% Non-Viewers reported this technique (see Table 5 and Figure 3). Hence, after broadcast there were a higher number SSU Viewers who reported using the stick and attached net bag method, as recommended on SSU. There were more Non-Viewers claiming to shake and let the mango fruit drop to the ground, which was not recommended on SSU.

Table 5: Post Broadcast: Which of these do you do when it comes to harvesting mangoes?

	SSU Viewer	Non-Viewer
Let them drop on the ground then pick	29%	24%
Shake the tree to drop ripened fruit	53%	55%
Climb tree pick from tree then drop them on the ground	36%	36%
Pick it with a long stick with a net bag attached	47%	43%
Buyers do the way they want	13%	13%
Other	5%	8%

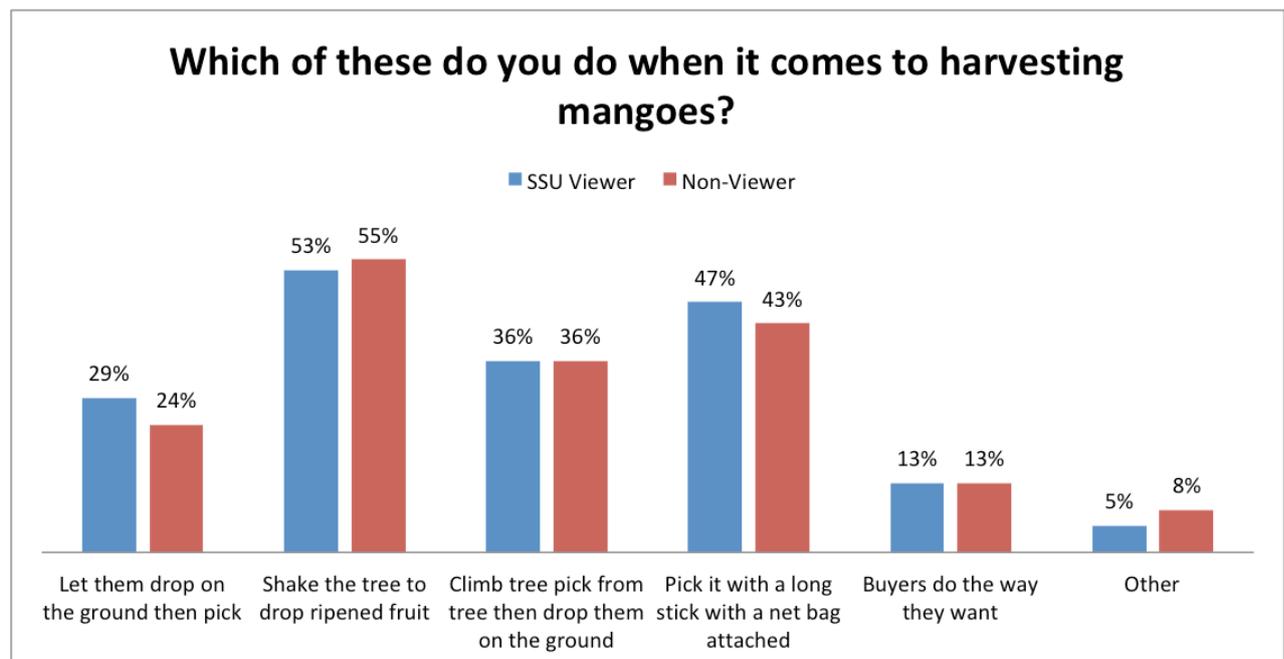


Figure 3: Post-broadcast Mango harvesting practices

Topic: Mango Hygiene and Sale

The programme covered issues around mango hygiene and methods of packaging mangoes for sale. The below survey results shows a significant increase amongst SSU Viewers regarding drying and washing of mangoes. While during pre-broadcast only 3% of SSU Viewers reported washing and drying their mangoes, this figure rose to 24% of SSU Viewers following broadcast of the programming (see Table 6, Figure 4). This signifies a total increase of 22% in this practice. Non-SSU Viewers also increased their washing and hygiene practices, however to a lesser extent (increase by 12%).

Table 6: After harvesting your mangoes do you do the following before selling?

	Viewers		Non-Viewers	
	Pre 8	Post 8	Pre 8	Post 8
Wash and dry your mangoes	3%	25%	4%	16%
Packed them in crates for transport	36%	37%	31%	44%
Pack them in sacks for transport	25%	39%	31%	39%

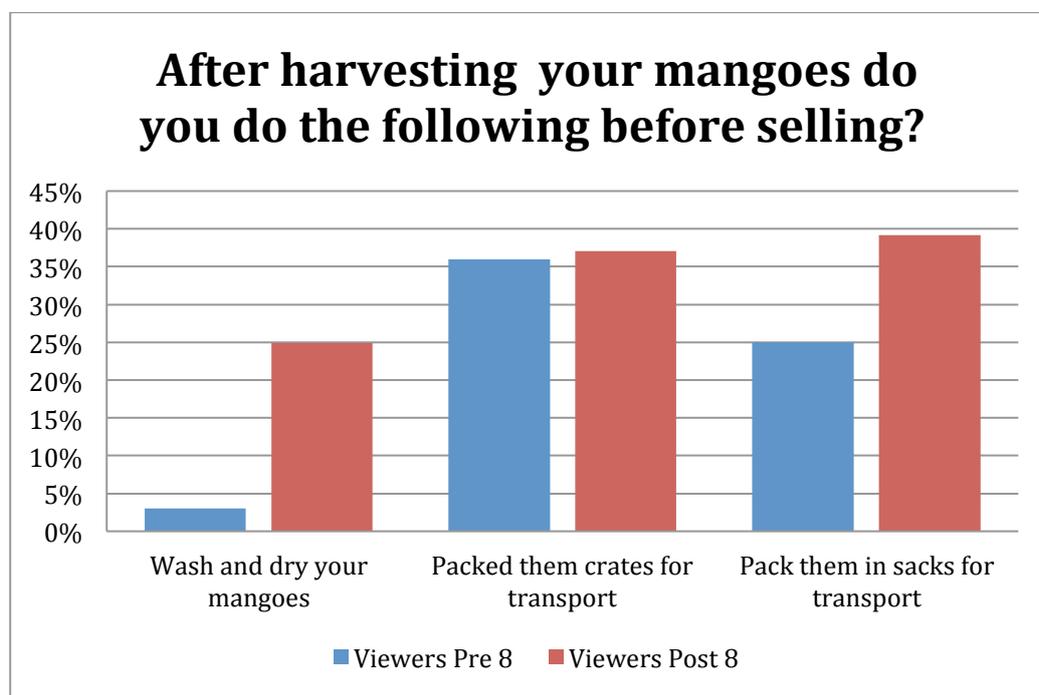


Figure 4: Mango hygiene and sales practices

II) MAIZE

Topic: Maize Growers

As is common to Kenyan farming population, the vast majority of both Viewers and Non-Viewers in pre and post-broadcast surveys grow maize (90% of 1600 respondents = total of 1440 maize growers in accumulated surveys). This is large sample size and good basis on which to analyze subsequent survey results (see Table 7, Figure 5).

Table 7: Did you grow maize last season?

	Viewers		Non-Viewers	
	Pre 8	Post 8	Pre 8	Post 8
Yes	96%	85%	99%	82%
No	4%	15%	1%	18%
Total	100%	100%	100%	100%

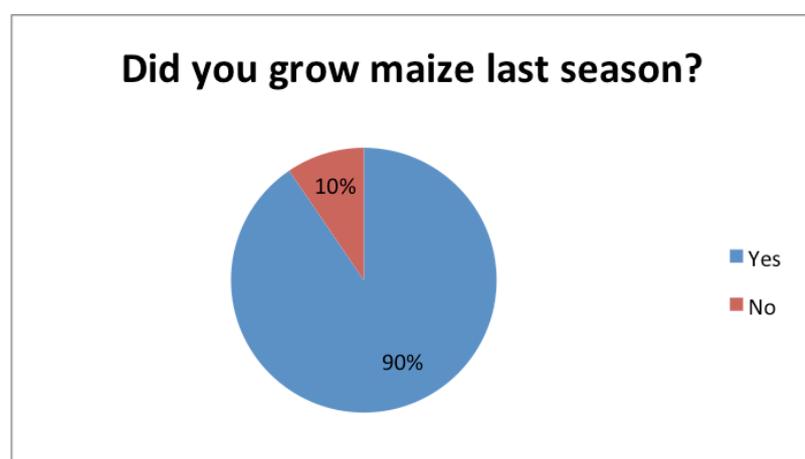


Figure 5: Total portion of respondents growing maize

Topic: Maize Seed Varieties Grown

Table 8: In the last season, what seed variety did you grow?

	Viewers		Non-Viewers	
	Pre 8	Post 8	Pre 8	Post 8
Improved/certified variety [comes in bags]	91%	75%	90.50%	70.50%
A traditional variety	5%	14%	5.50%	16.00%
Reused/recycled previous harvest	4%	11%	4.00%	13.50%

Total	100%	100%	100%	100%
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Shamba Shape Up strongly promoted the use of improved and certified seed varieties. Generally, the programme discourages the repeated use and recycling of seeds from previous harvest. Between pre and post broadcast one can observe a reduction in use of improved/certified seed varieties for both SSU Viewers and Non-Viewers (reduction of 16 % and 20 % respectively) (see Table 8, Figure 6). Notably, SSU Viewers used improved certified/seeds to a larger extent than their non-viewing counterparts. Nonetheless, as this drop can be observed for both groups, there could be different reasons for the declining trend. For example, Kenya suffered from a major drought in 2017/8 and farmers generally experienced larger crop losses compared to the previous years. The result of this could be that farmers could not afford to buy improved/certified seeds.

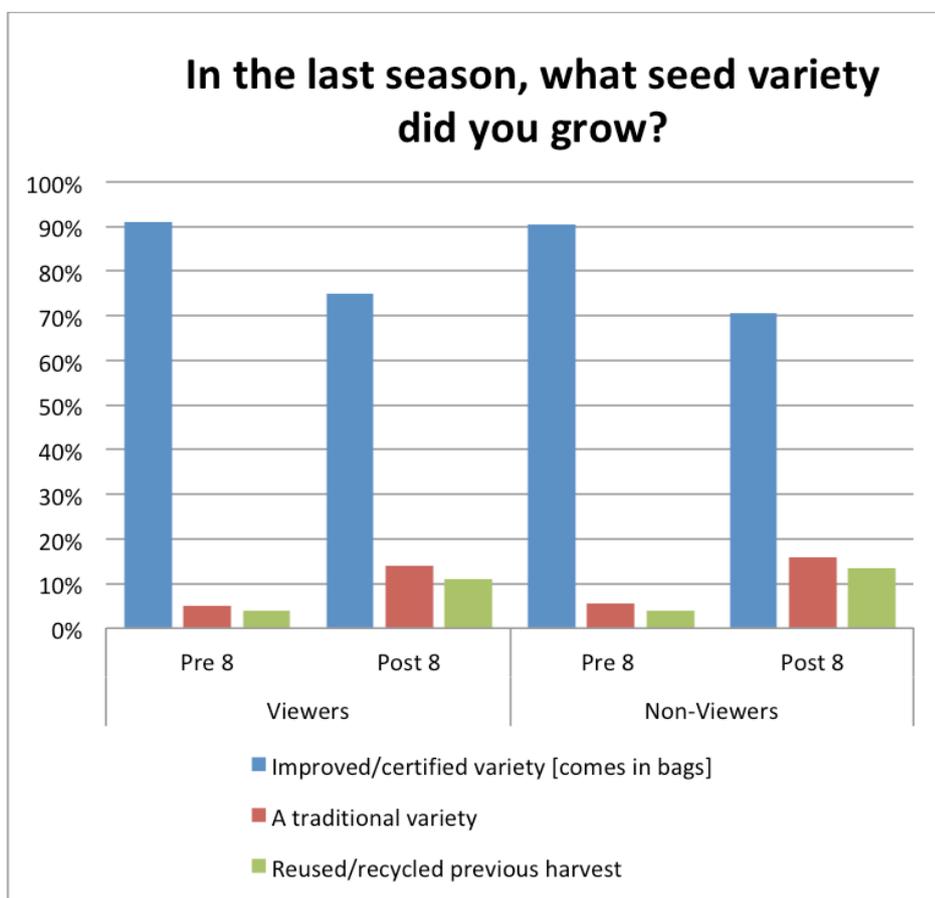


Figure 6: Seed varieties grown in last season

Topic: Harvesting / drying techniques

Shamba Shape Up strongly promoted that farmer's shell and spread maize on a tandarua (canvas sheet) in order to dry them. The programme discouraged farmers from spreading maize on ground directly, as this could cause damage to maize or attract pests and insects.

Positive changes regarding drying of maize on the tandura can be observed between pre and post broadcast of the programme. The figure of SSU Viewers who shelled and spread maize on tandarua rose by 25% between pre and post broadcast (see Table 9 and Figure 7).

Table 9: How do you dry your maize after harvesting?

	Pre Viewers	Post Viewers
Shell and spread on tandarua	37%	62%
Shell & spread on ground	6%	11%
Spread on ground with cob	10%	7%
Other	47%	21%
Total	100%	100%

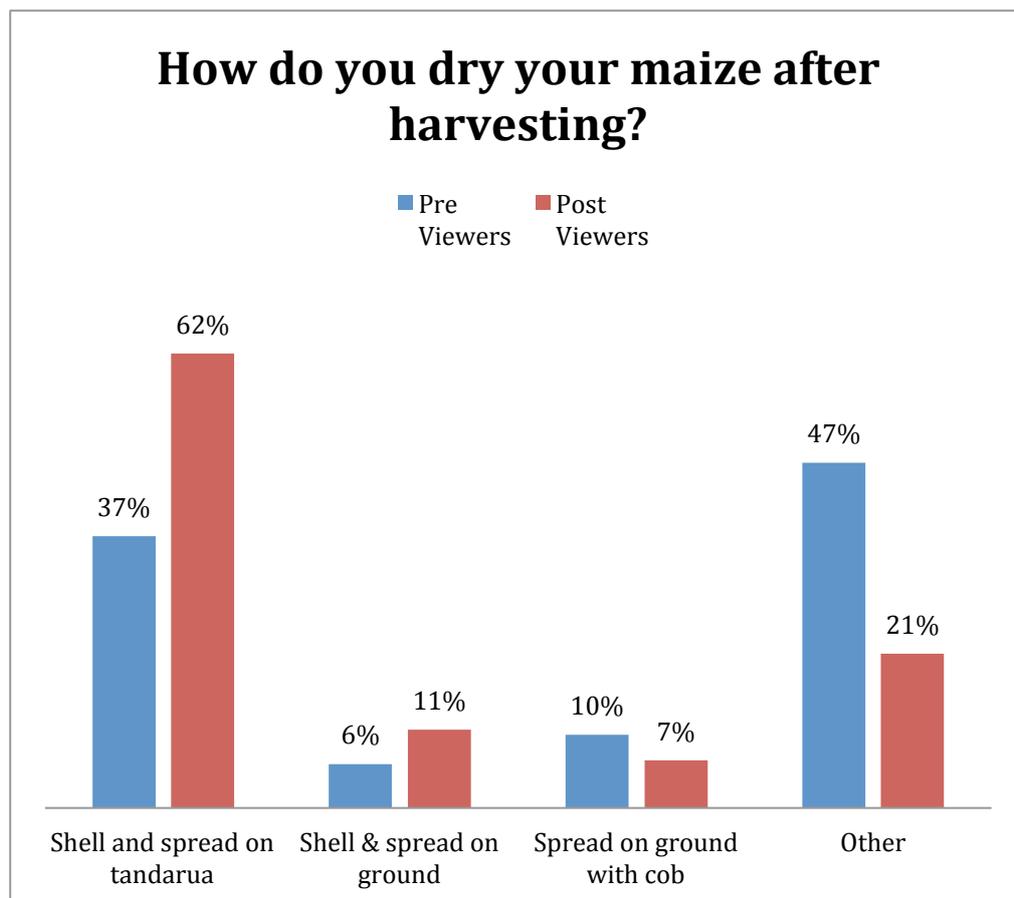


Figure 7: SSU Viewers: Maize drying techniques

Topic: Shelling Maize

Shamba Shape Up strongly promoted shelling maize with a mechanical sheller and discouraged farmers from beating the maize with a stick, or going through the strenuous process of shelling by hand. The percentage of both Viewers and Non-Viewers who use a mechanical sheller rose between pre and post broadcast (an increase of 6% for SSU Viewers and 6% for Non-Viewers) (See Table 10). In a similar trend, the proportion of farmers beating maize with a stick decreased by 9% for SSU viewers and 6% for Non-Viewers. As this is a crucial topic that can both save on labour costs and increase the quality of shelled maize, it needs to be a continuous focus of the SSU programming.

Table 10: How do you mainly get the maize off the cob?

	Pre 8		Post 8	
	Viewers	Non-Viewers	Viewers	Non-Viewers
Use a mechanical sheller	38%	37%	44%	43%
Shell by hand	29%	29%	32%	29%
I beat it with a stick	33%	34%	24%	28%
Total	100%	100%	100%	100%

Topic: Knowing When Maize is Dry

Table 11: How do you mainly know if your maize is dry enough?

	Pre Broadcast		Post Broadcast	
	SSU Viewers	Non Viewers	Viewers	Non Viewers
I bite it	42%	45%	43%	44%
I just know	22%	22%	31%	31%
Use moisture meter	2%	1%	15%	16%
Use a bottle and salt method	1%	1%	6%	4%
Other	33%	31%	5%	5%
Grand Total	100%	100%	100%	100%

When it comes to knowing whether maize is dry enough, respondents referred to a range of methods. Shamba Shape Up promoted the “bottle and salt method”, whereby you put maize in a glass or bottle that has salt in it, and shake it. If the maize does not stick then it is dry. SSU further promoted the biting test, as well as the use of a moisture meter. A pre and post broadcast comparison shows that more respondents (both Viewers and Non-Viewers) tended to use a moisture meter compared to the pre-broadcast respondents (see Table 11, Figure 8). While this stands out, the other figures remain mostly the same. As indicated in the beginning of

this report, the post-broadcast respondents skewed towards younger respondents. Therefore, it is also possible, that this moisture meter is simply preferred by younger farmers.

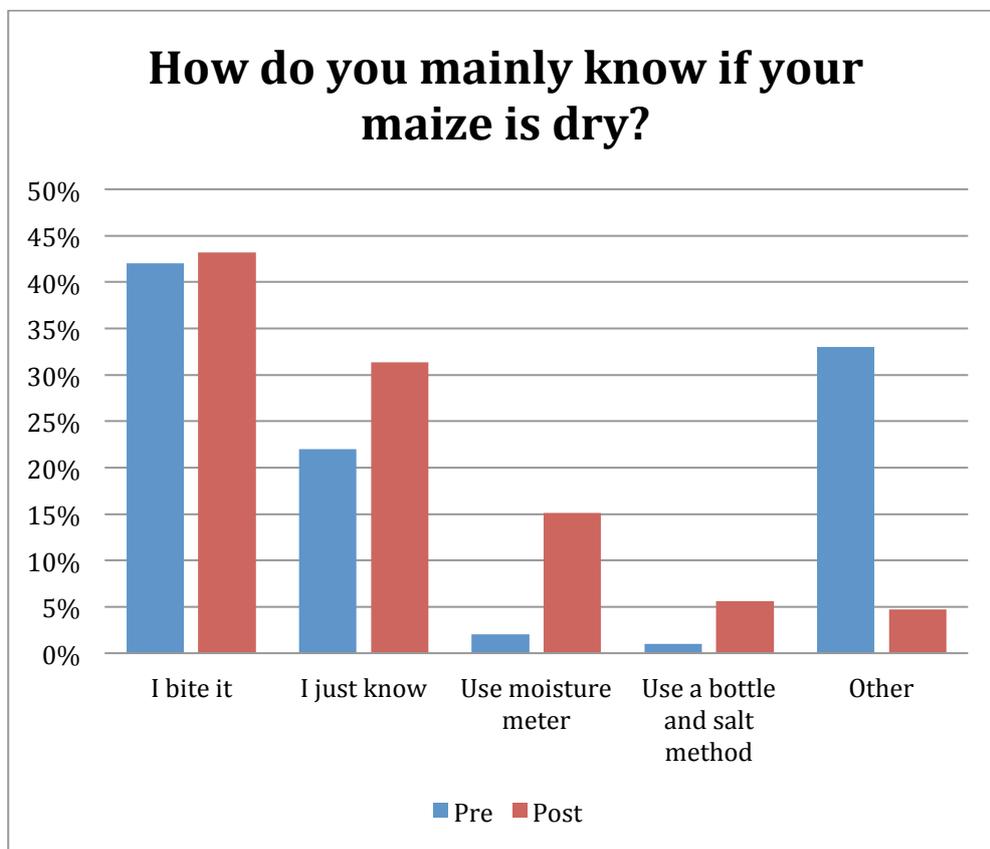


Figure 8: Knowing when maize is dry enough

Topic: Maize Storage

Table 12: What types of bags do you use to keep maize?

	Pre Broadcast		Post Broadcast	
	Viewers	Non Viewers	Viewers	Non Viewers
Nylon sacks-no plastic liner	65%	68%	39%	40%
Sisal sacks	2%	2%	28%	31%
Nylon sacks-two plastic liners	25%	23%	29%	20%
Plastic container	0%	0%	4%	4%
Sheet in store	0%	0%	1%	4%
Other	8%	7%	0%	0%
Grand Total	100%	100%	100%	100%

Topic: Maize Selling Practices

Table 13: Which of these statements best describe what you do with your maize in terms of sales?

	Viewers	
	Pre	Post
Keep and sell when prices go up	49%	64%
I dont sell my maize	41%	20%
Sell just after harvest	10%	16%
Grand Total	100%	100%

Shamba Shape Up encouraged farmers to store their maize in hermetic bags in a clean storage room and off the ground, so that they could then sell their maize when prices go up. The programme discouraged farmers from selling right after harvest, as prices are lowest at this time. As seen in Table 13 and Figure 9, the proportion of SSU Viewers who sold their maize when prices went up was higher post broadcast than pre broadcast (increase of 15 %). While the number of SSU Viewers who claimed no to sale their maize at all decreased by 21%.

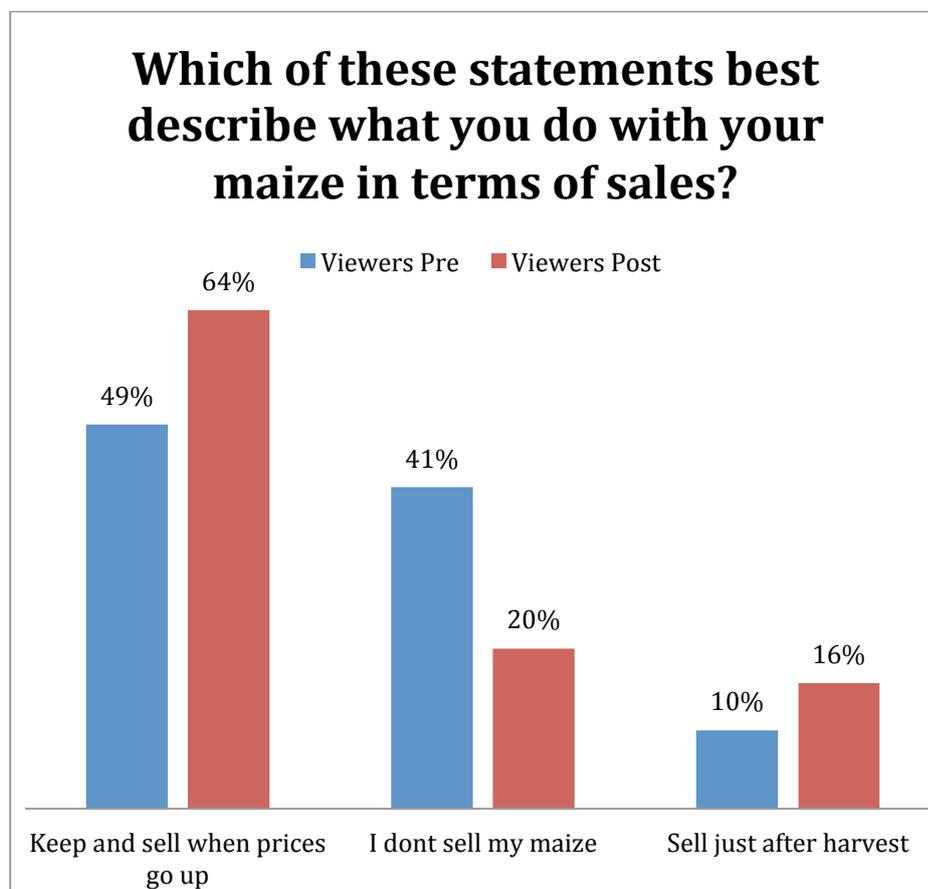


Figure 9: Maize selling practices