SHAMBA SHAPE UP
KENYA SERIES 14

Impact of Viewing on smallholder Farmers' Knowledge, Attitudes and Practices

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Key Takeaways

Shamba Shape Up (SSU) has been broadcast across Kenya for the past 14 years. It airs on Citizen TV and is one of Mediae's most enduring and successful series, regularly attracting an estimated audience of around 4 million viewers. SSU 14 was 23 episodes long, broadcast in English and Swahili. The English episode aired every Saturday at 1.30pm, and the Swahili version every Sunday at 1.30pm between March and September 2024. Audience data have not been available in Kenya since 2022 and as such there are no reliable audience estimates for series 14.

Knowledge, Attitude and Practice survey data for series 14 were collected in September 2024 at the end of SSU 14's run. The KAP survey was conducted in five counties and comprised 578 in-home face to face interviews with the key decision-makers on smallholder farms of between 0.5 and 10 acres in size. To be included in the survey all respondents had to have access to television, to have watched television in the seven days prior to interview and be SSU 14 viewers in the past six months.

The key takeaways from SSU 14 are:

- Television is the most trusted source of information for farming and agriculture for the vast majority of SSU viewing small-holder farmers (83%) and SSU, specifically, is a highly valued and trusted source
- Many small-holder farmers (50%) continue to make changes in their farming practices as a direct result of the information they learn from watching SSU which, in turn, result in improved incomes and livelihoods. Specific changes mentioned were around planting practices and the use of fertilizer and manure
- Valued topics in SSU 14 were: soil fertility, livestock rearing practices, rearing and improving yields from chickens, good practice with regards to growing and harvesting maize and SSU's information on general farming practices. In future series viewers would like to see more coverage of pest and disease management and cattle rearing practices
- The weather segment in SSU is a valued and trusted component, with requests for greater accuracy and interpretation to guide planting times and growing practices
- There is compelling evidence from the survey that SSU is helping to improve the financial literacy of small-holder farmers and advancing knowledge about the benefits of keeping financial records for planning, budgeting and to help secure loans
- In relation to rearing and keeping chickens, SSU contributed to increased knowledge about good housing and welfare for chickens and improved feeding practices
- Improved learnings around rearing and husbandry for cows were around hygiene, good feeding practices and appropriate housing
- There is evidence from the survey that small-holder farmers' attitudes with respect to planting indigenous trees have become more positive, although actual practice may be slower to influence
- Two-thirds of surveyed small-holder farmers expressed intentions to invest in solar irrigation based on the information they gleaned from viewing
- Similar proportion said they learnt about the benefits of Agsol MicroMill from watching SSU 14 with positive indications of likelihood of purchase

1. Introduction

Now in its 14th series, Mediae's *Shamba Shape Up* (SSU) is one of Kenya's most well-known and successful television series. Broadcast on Citizen TV on Saturday (English) and Sunday (Swahili) lunchtimes between March and September 2024, SSU continues to demonstrate a high degree of success in improving the knowledge, attitudes, practices and livelihoods of its target audience of smallholder farmers.

The programme is backed up by iShamba, a mobile-based farmer information service that disseminates relevant and timely agricultural information to farmers direct to their mobile phones. iShamba also has a call centre staffed with agricultural experts where farmers can SMS and/or call to get instant expert advice six days a week, allowing viewers of the show to get in touch for any questions and more information. Moreover, the programme can be viewed on Youtube, and is further promoted on social media pages, with regular quizzes and short clips posted to increase following and engagement with the show.

The agriculture sector continues to play a vital role in the rural economy of Kenya and supporting smallholder farmers to adapt their farming practices in response to changes in the climate and turn a profit on their farms remains a key objective of SSU. The sector was one of the first to fully devolve the function of service provision to the county governments underscoring the importance of County Governments' role in ensuring food security. Agriculture is key to Kenya's economy, contributing 33 per cent of the Gross Domestic Product (GDP) and another 27 per cent of GDP indirectly through linkages with other sectors. The sector employs more than 40 per cent of the total population and more than 70 per cent of Kenya's rural people.

Providing smallholder farmers with practical, reliable and easily accessible information across a range of platforms – including mainstream television, digital media, social media and interactive platforms, such as iShamba lies at the heart of Mediae's mission to improve smallholder farmers' livelihoods and improve food security.

In recent years, Mediae's successful edutainment formula has extended into Uganda and Zambia where, even in its early years, it is proving equally impactful.

1.1. SSU 14 partners

The table below details the partners for *Shamba Shape Up* 14 and the topics/ subjects they covered.

Table 1: Partners for SSU Series 14

Partner	Topics
Kenchic	•Improved Kienyeji (Kebnro): Benefits & Day-Old Chicks •Naked Neck Broilers •Kenchic Service Centre (Nyeri) •Housing & Biosecurity

Alliance Bioversity International and CIAT (ABC), International Livestock Research Institute (ILRI) Livestock Climate and System Resilience (LCSR)	<u>Climate literacy</u> • Health Livestock, Vector Borne diseases, Migration of livestock •Adopting to climate and making use of resources through diversification •Adopting to climate change through diversification and value addition <u>Financial literacy</u> •Credit Decision Criteria •Appraisals •Borrowing Habits and Doing the Maths
aak-GROW	Safe use of chemicals: 1) Avoidance of counterfeit and use of the poison 2) Waste and container management information centre 3) Spray Service Providers and food safety 4) How to read and understand labels 5) Safe use of chemicals
2Scale	<u>Sorghum and millet</u> •Awareness & access of quality seed •Value addition of millet through baking <u>Dairy farming</u> •Fodder production and management preservation •Silage making •Proper handling and storage of milk •Markets - dairy cooperatives
Bio Foods / Safe Milk Kenya	•Aflatoxins and the impact on herd health and human health •The importance of hygiene to ensure herd health and safe milk •Safe use of antibiotics in dairy production
CKL Africa	Holistic Dairy farming: (Dairy Health, Nutrition, Hygiene - Biosecurity of housing): •Taking care of calves as the foundation of the herd •Breeding for Health and efficiency in a dairy herd •Tips on how to do it right for a healthy cow. To avoid metabolic disorders and get healthy calves •The do's and don'ts of drying off •Disease management via vaccination
Alliance Bioversity International and CIAT (ABC)	Weekly weather forecast
Alliance Bioversity International and CIAT (ABC)	•Planting of indigenous, native trees •Promotion of the "My Farm Trees Platform"
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) with Davis & Shirtliff	•Promotion of solar powered irrigation systems and drip irrigation
GIZ with Solargen	•Promotion of solar powered irrigation systems and drip irrigation
GIZ with Mace Foods	Chili production
GIZ with Agsol Ltd.	Solar Miller

1.2. SSU 14 KAP Survey Methodology

For the SSU 14 KAP study, Mediae returned to the well-established survey practice of in-home face-to- face interviews among the target population of Kenyan smallholder farmers who reside in rural settlements. Alternative data collection methodologies, such as telephone interviews and administering questions through SMS messaging services, have been experimented with and as a result of both the sampling and interviewing limitations of these approaches, Mediae has returned to face-to-face interviewing among a purposively drawn sample with selective stratified sampling techniques. Six counties were selected for the study as they represent different agro-ecological zones that shape their farming practices: Kakamega, Nakuru, Kiambu, Nyeri, Isiolo and Thakara Nithi.

Kakamega is in the Lower Highland and Upper Midland zones, suitable for maize, sugarcane, and dairy farming, while Nakuru lies in the Lower and Upper Highlands, supporting wheat, maize, and floriculture. Kiambu and Nyeri, both in the Upper Highland zones, are known for tea, coffee, and dairy farming. Isiolo is part of the arid and semi-arid zones, focusing on pastoralism, while Tharaka Nithi spans Lower Highland, Upper Midland, and semi-arid areas, allowing for crop farming and livestock keeping. All areas are suitable for rearing chickens.

The smallholder farmers eligible for inclusion in the study were defined as:

- Farming between 0.5 to 10 acres.
- Owners or managers who are the main decision makers of the land farmed.
- Access to television and viewing during the seven days prior to the interview.
- Viewers of *Shamba Shape Up* in the six months prior to the interview.
- Aged 18 and over

The full survey technical report in the appendix explains in full the sampling methodology used from the uppermost level of the administrative units (County) to the smallest unit (the respondent). The final achieved sample was 578 interviews.

The data collection was implemented by Aareton Blue, a Kenyan based research company with a large team of trained and experienced enumerators. Enumerator training and pilot interviews for this study were carried out on September 14, 2024. Data collection took place between September 15, 2024, and September 22, 2024.

The survey was conducted using computer assisted personal interviews (CAPI) using tablets and the STG offline/Online CAPI Platform in English and Swahili. The fieldwork team consisted of 31 personnel organized into 5 teams (each team with a supervisor and a quality control officer and 4 to 5 enumerators). The average interview length was 34 minutes.

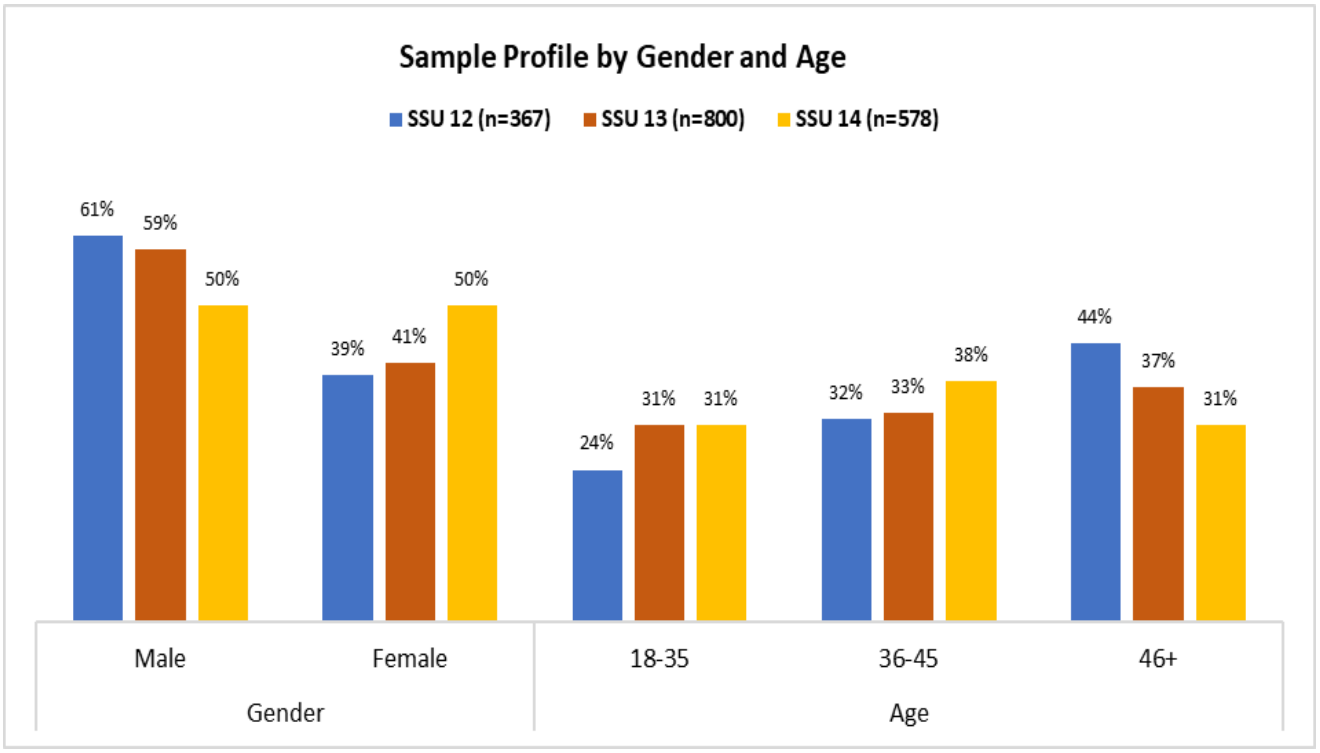
1.3 Sample profile by gender, age, and location

To qualify for inclusion in the survey all smallholder farmers passed the screening criteria and the resultant distribution of the sample by key demographics is shown in the chart below. The achieved sample largely mirrored the profile of smallholder farmers in Kenya. For comparison purposes the chart shows the sample profiles of the last three SSU surveys (SSU 12/ 13 and 14).

The SSU 14 sample was more evenly balanced in terms of gender than either of the previous two surveys (there is a notable male bias in telephone survey compliance among men – hence the male skewed samples when using that mode of data collection). In terms of age the SSU 14 profile was split evenly across all age groups.

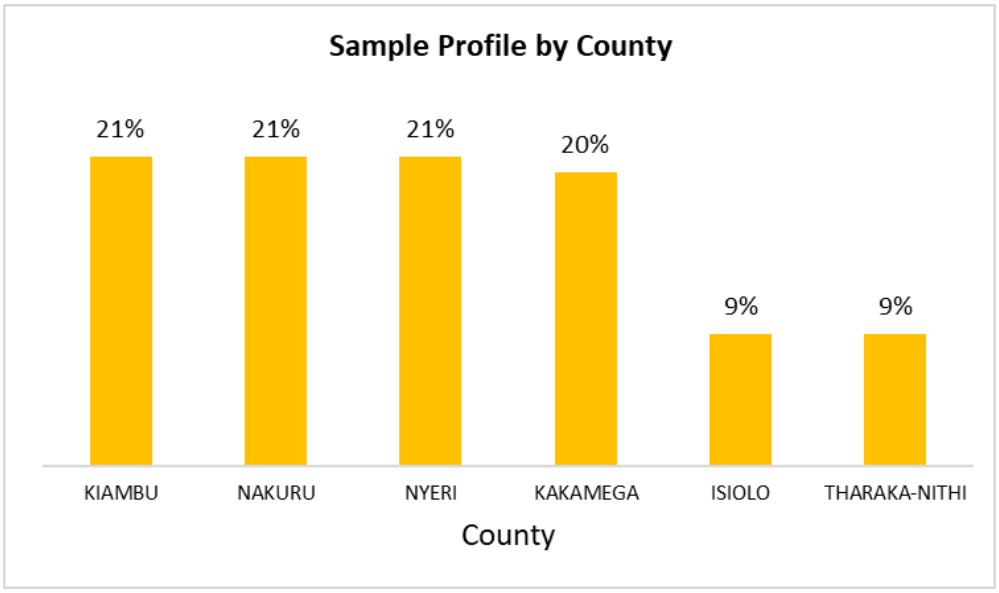
At endline, the age category for those aged 46 and above was further broken down as follows: 45-54 years (20%), 55-64 years (7%), and 65+ years (5%).

Figure 1: Sample Profile by Gender and Age



The sample was focused in and purposively controlled for by county with approximately 100 interviews in each with the exception of the two arid areas of Isiolo and Tharaka where the sample was split into two sub-samples each of around 50 smallholder farmers. In terms of survey location, comparisons cannot be made with SSU 12 and SSU 13 due to the different sampling and data collection approaches.

Figure 2: Sample Distribution among counties

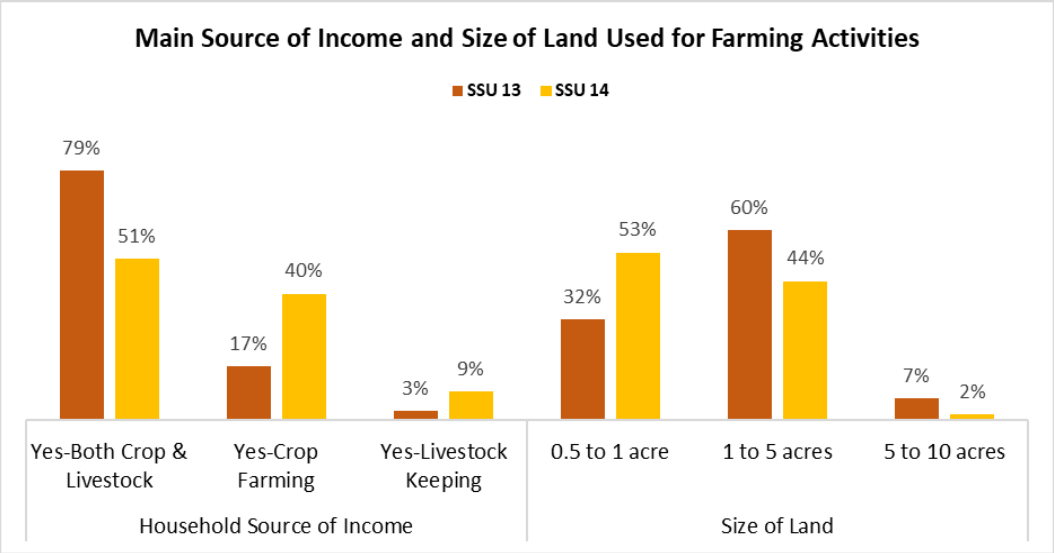


1.3. Main source of income

By design, all the participants had farming as the main source of income for their households. About one half (51%) claimed that their main source of income was from both crops and livestock, four in ten (40%) from crop growing only and just under one in ten (9%) from rearing livestock. This profile is in line with the farming profile in the counties included in the sample.

In terms of acreage, just over one half (53%) of sampled smallholder farmers farmed between 0.5 and 1 acre with 44% farming between 1 acre and 5 acres. Women were more likely to have smaller acreage farms (60% between 0.5 and 1 acre compared with 46% of their male counterparts). The smaller acre farmers in the sample were in Kakamega and Tharaka, with the larger acreages found in Nakuru, Isiolo and Nyeri.

Figure 3: Source of income and size of land used for farming activities.

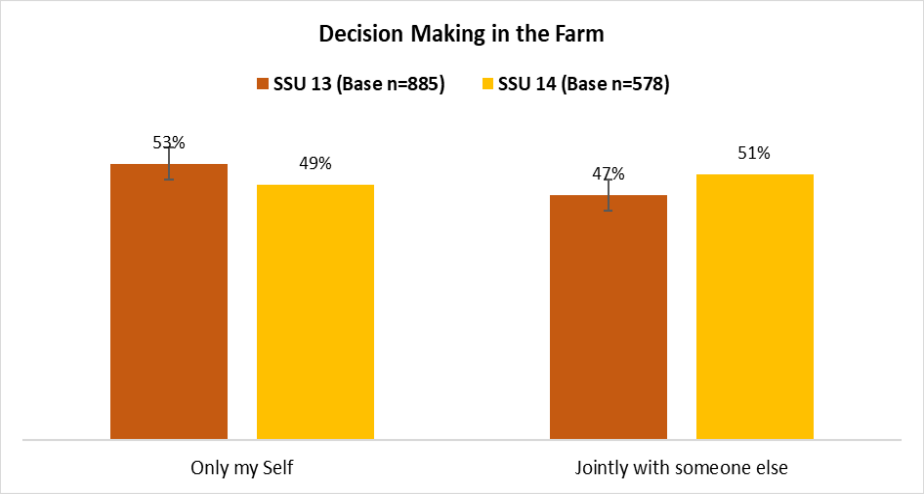


1.4. Decision making

Decision-making on the surveyed farms was split 50/50 between those who said they made the decisions themselves (alone) and those who said they made decisions as couples. Men were much more likely than women to say that they were the sole decision-maker on the farm (60% vs 38% respectively), as were older farmers aged 55 and over (62% of 55+ compared with 40% of those aged 18-34). The balance between solus and joint decision-making on smallholder farms has changed significantly in recent years, with fewer farmers now making decisions on their own. It is also notable that decision-making among younger farmers is now more likely to be done in a joint capacity (60%) than alone.

Most of the farmers surveyed had been farming their land for over five years. Those with less experience tended to be women and younger farmers. As many as four in ten (40%) of those aged 18-34 had farmed their land for less than three years.

Figure 4: Who makes decisions on the farm?

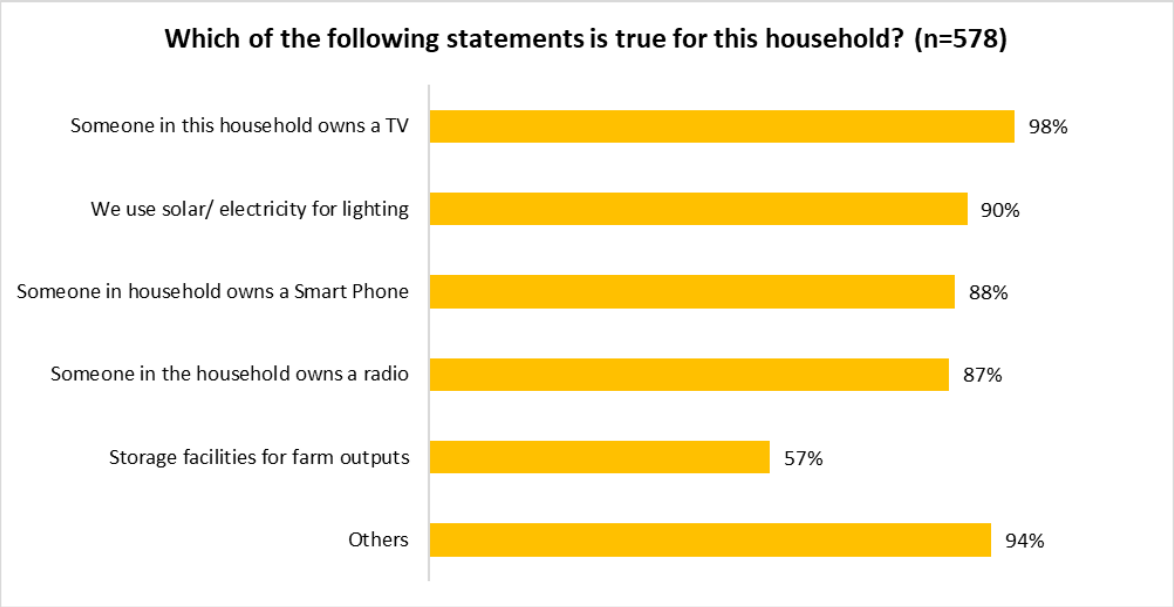


1.5. Ownership of household items

As a proxy for socio-economic status, respondents were asked to say which household items, if any, someone in their household owned. The reason for this being that it is recognized that those smallholder farmers best placed and most able to act on the information and advice given in the programmes are those of modest socio-economic status. Evidence shows that those at the very lowest level of the socio-economic scale tend to be later adopters of change.

In this survey, as shown in the figure below, almost all the smallholder farmers in the survey owned a television set, solar or electricity for lighting and power, a smartphone and a radio set. On the other hand, very few – less than one in ten, owned a motor vehicle.

Figure 5: Ownership of Household Items



Others: Household has Borehole, well or other open water for irrigation, own a motorcycle, Household uses Pump for irrigation, own a vehicle/ car and Household has a Fishpond.

2. Main Findings

2.1. Television viewing

Since 2022 there have not been any industry-wide audience data available to programme producers in Kenya. For previous SSU series audience estimates have been available from either IPSOS or GeoPoll (two global market research companies), but the service has not been available for either SSU 13 or SSU 14. When audience measurement data was last available in 2022, SSU 12 was estimated to attract around 2 million viewers to each of its Saturday and Sunday slots. In this KAP survey all respondents (578) were pre-screened to have watched SSU in the past six months and, as such, the data cannot be used to estimate the size of the audience for series 14.

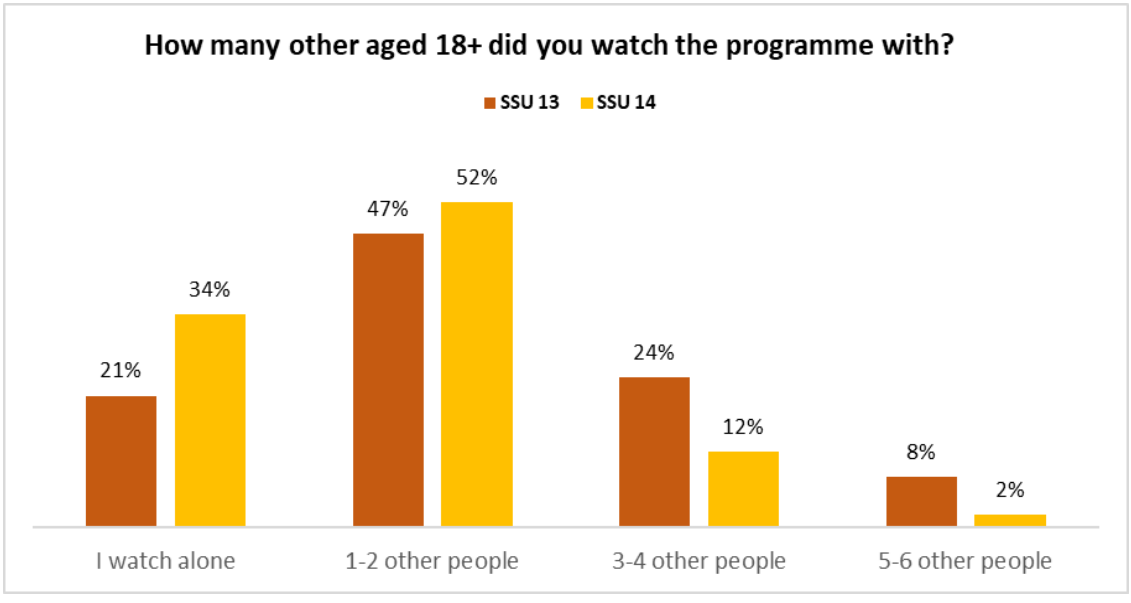
By design, all respondents had to have access to television and be past week television viewers. They were very regular television viewers with as many as three quarters (67%) claiming to watch television every day, with a further 20% claiming to watch on four of five days a week. Those claiming to watch television every day tended to be women (70%), younger (70% of 18-44's) and those farming in Isiolo (88%), Nakuru (77%) and Thakara (75%).

Equally, all respondents had to have been viewers of *Shamba Shape Up* in the past six months (when SSU 14 was on air) and they all said they watched the programme at home on a TV set (99%).

The SSU 14 viewers interviewed in this study said that they watched the programme on a television set and with other people, mainly (52%) with one or two other people. Notably, more SSU 14 (34%) said they viewed alone when compared with those who viewed SSU 13 in the previous survey.

It should be noted that exposure to SSU content is amplified by i. television viewers who view the programs in the company of other people ii. viewing on mobile devices which is not captured through traditional audience measurement surveys and iii. the widespread sharing of content through social media and messaging apps. For future series Mediae will attempt to measure the 'exposure amplifier' effect to provide a more accurate picture of 'exposure to SSU content' in addition to the series reach on television and better reflect the behaviour of audiences to video content.

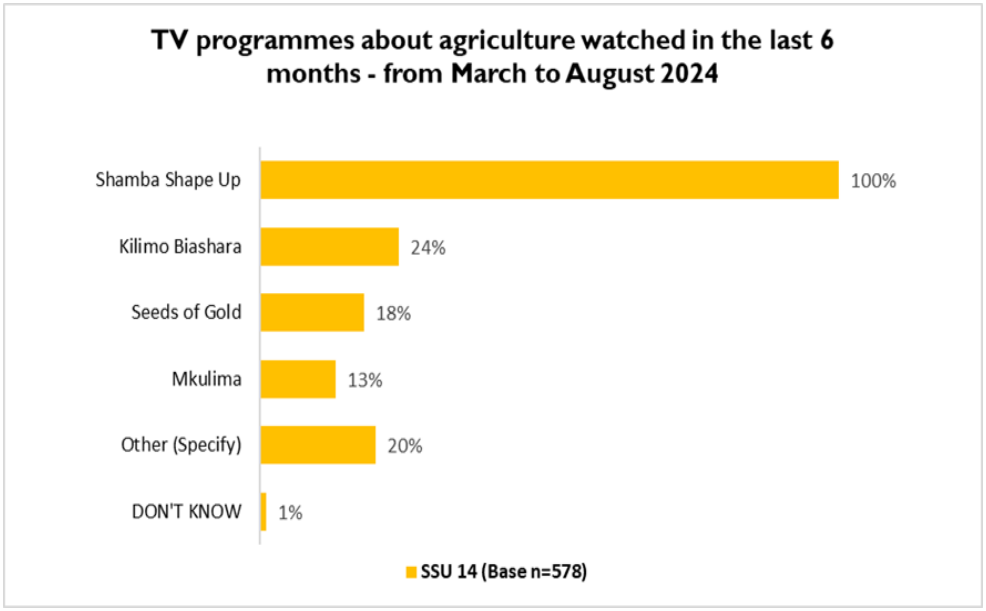
Figure 6: Other people aged 18+ who watched the programme with the respondent.



2.2. Other agricultural programmes watched by SSU 14 Viewers

Beside SSU, other main agricultural programmes SSU 14 viewers claimed to have watched in the past 6 months included: *Kilimo Biashara* on K24 Television (24%), *Seeds of Gold* on NTV (18%) and *Mkulima* on KBC Channel 1 (13%). Many more men than women claimed to have watched *Kilimo Biashara* (30% vs 17% respectively) as did smallholder TV viewing farmers in Isiolo and Thakara.

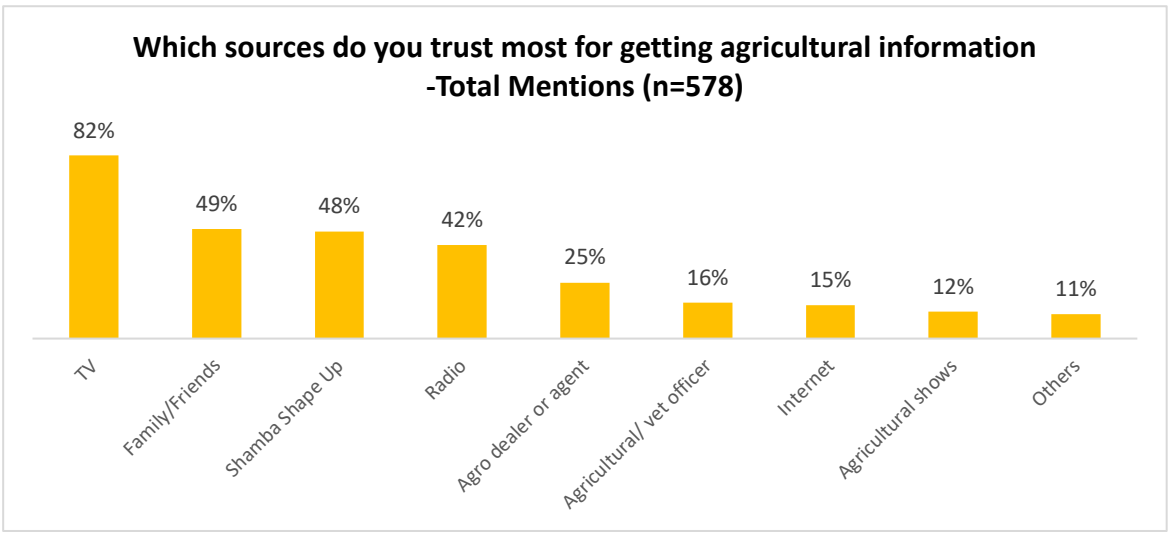
Figure 7: Agricultural programmes watched.



2.3. Most trusted sources of information about agriculture

Eight out of 10 respondents (83%) claimed that they trust TV most as a source of agricultural information, followed by the Internet (30%). When asked about the most important, cumulatively, TV was mentioned by the same proportion (83%). Interestingly, while SSU is not a media channel, 24% mentioned it amongst channels as the most important source of information. Specifically, among programme viewers, 88% mentioned SSU as the most trusted source of agricultural information.

Figure 8: Trusted Sources for Agriculture Information



Not only has television become the most trusted source for farming and agricultural information for Kenyan smallholder farmers, but among the TV programmes available SSU takes pride of place in being the 'most trusted' TV programme. These data illustrate the unassailable position SSU has established in the Kenyan market for being the 'go to and trusted source' of information and advice for the farming sector. As SSU expands onto other delivery platforms, such as digital and social media and podcasts its solid reputation based on the reliability of the television series should ensure that it attracts a new, wider audience base.

Figure 9: Most trusted source of agricultural TV programmes

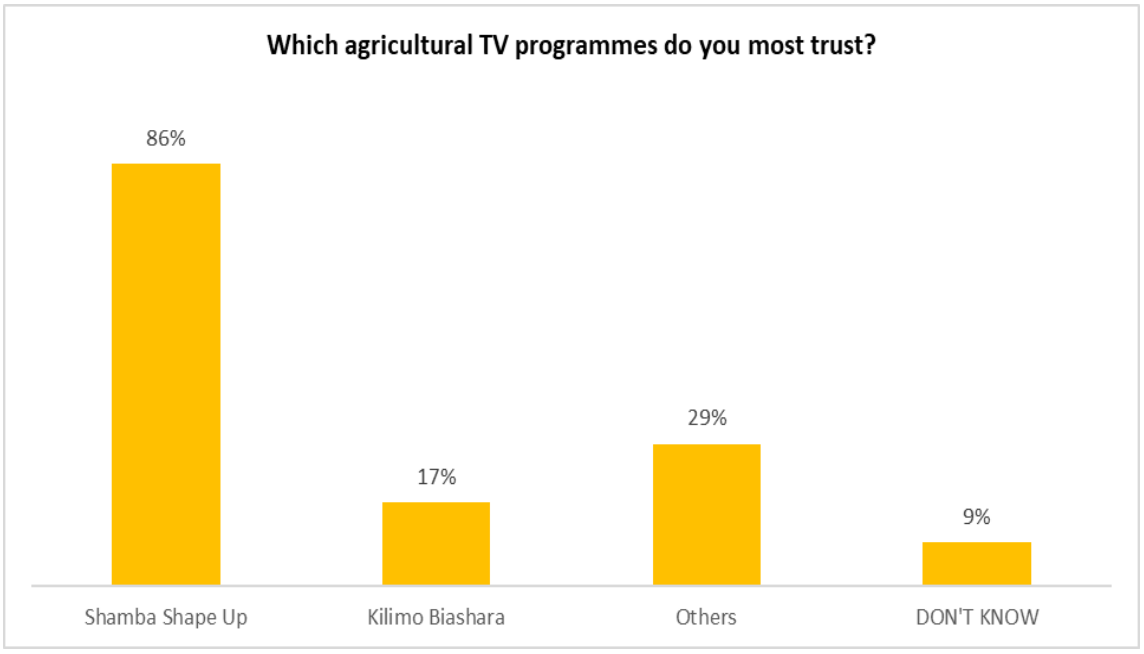
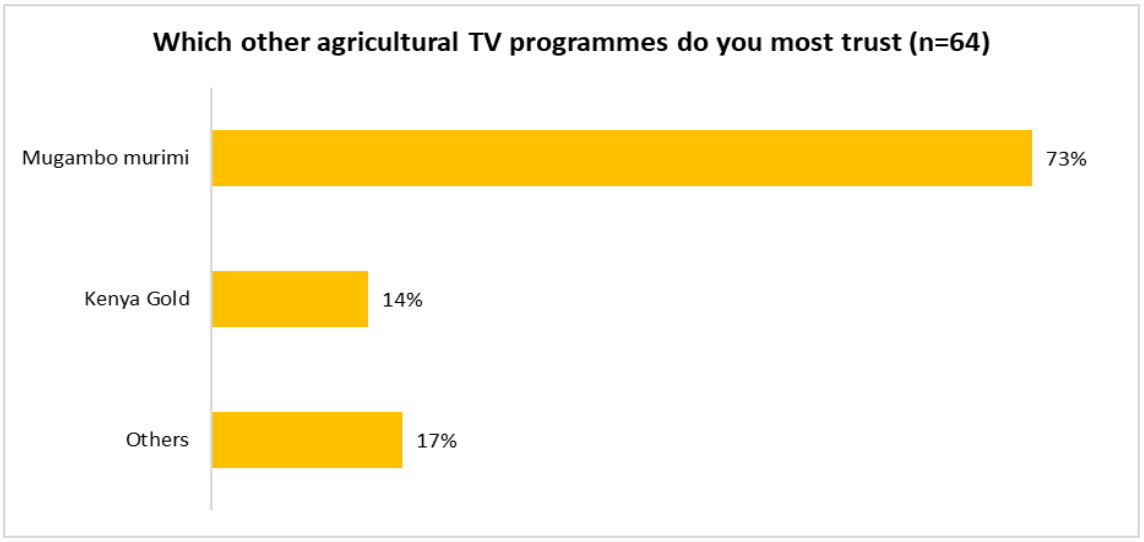


Figure 10: Other Trusted Agricultural TV Programmes



The Swahili broadcast of the programme appears to be gaining in popularity – with as many as 7 in ten viewers claiming to watch the Swahili language broadcast on Sundays at 1.30pm. According to these data viewing to the English language broadcast of SSU on Saturdays at 1.30pm has

dropped significantly between SSU 13 and SSU 14 and increasingly fewer said that they watched both the English and Swahili broadcasts. This too has implications for SSU's expansion onto other platforms as it appears that smallholder farmers increasingly prefer to access the content in Swahili.

Figure 11: When do you mostly watch SSU

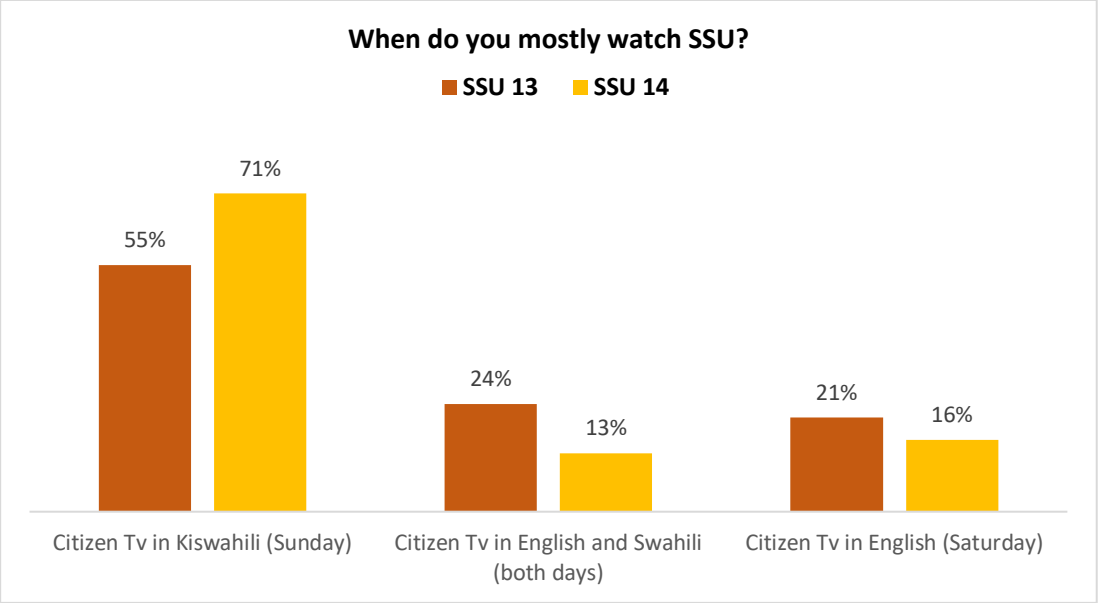
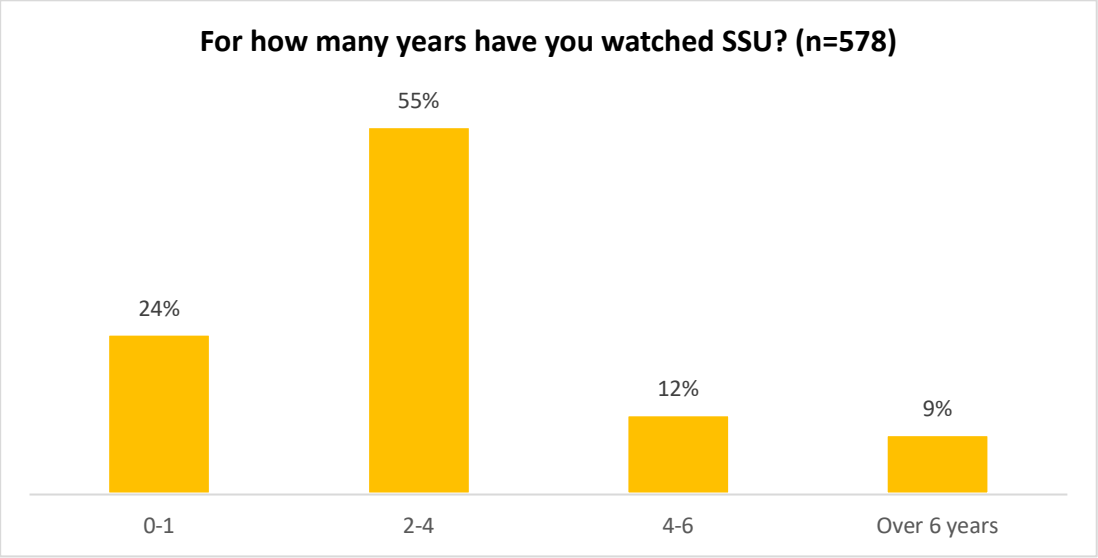


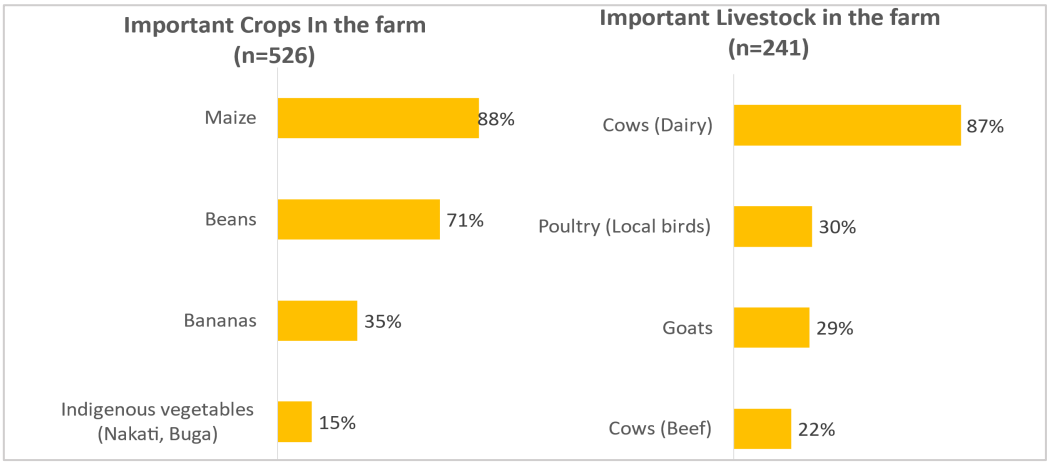
Figure 12: For how many years have you been watching SSU?



2.4. Crops grown, livestock reared and interest in SSU topics

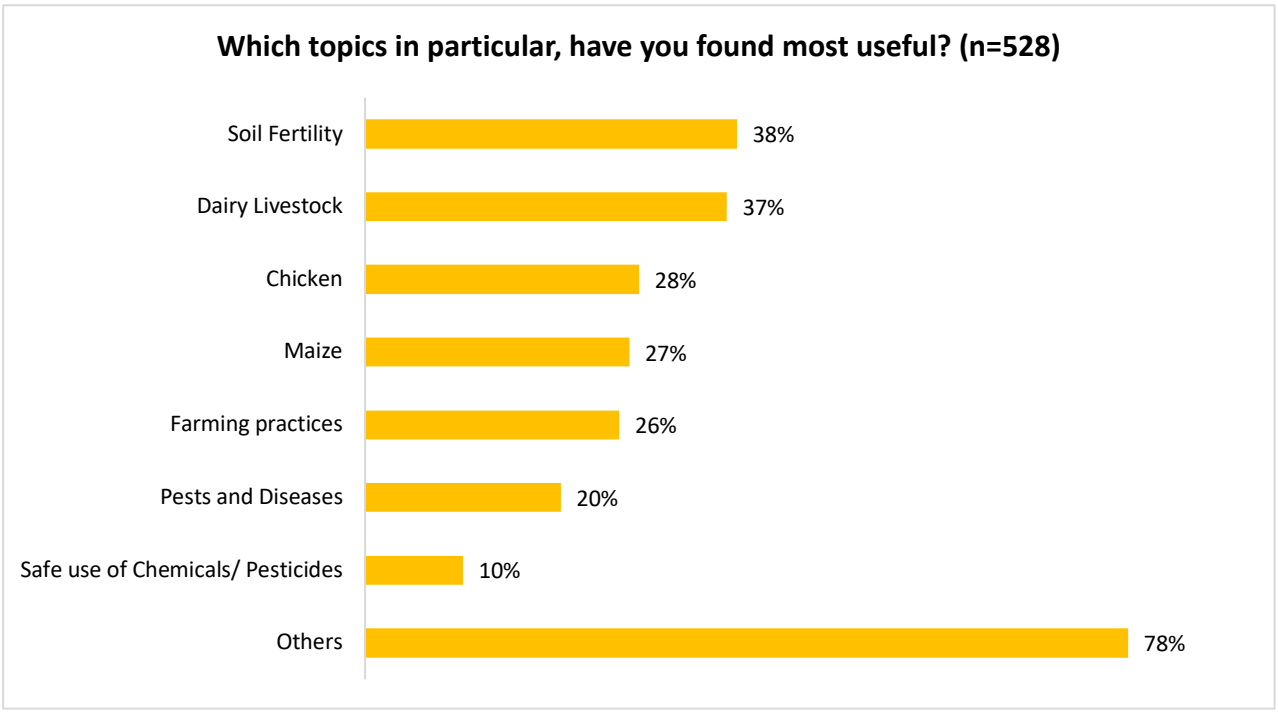
The most important crops grown on the farm were maize (88%), beans (71%) and bananas (35%). Many other crops were cultivated including vegetables such as potatoes, cabbages, tomatoes, green grams, and sweet potatoes and onions. For livestock, as with SSU 13, the most important among this sample of smallholder farmers were dairy cows (87%), chicken (Kienyeji, layers and broilers) (30%) and goats (29%). The crops grown and livestock reared are largely reflected in the topics enjoyed in the current series and those of interest in future SSU series.

Figure 13: Most important crops and livestock



When asked about the most useful topics (and allowed multiple mentions) covered in SSU 14 four out of ten (38%) viewers said soil fertility (38%), while 37% said dairy livestock and 28% chickens. There were no significant demographic or location differences between the perceived usefulness of the topics covered in SSU14.

Figure 14: Topics described as most useful



Others: Climate change, Solar, Credit and insurance, Tomatoes, iShamba, Nutrition, Seeds, Procurement, Sweet Potatoes, Pressure cooker, Record Keeping, Mangoes, Financial literacy, Conservation agriculture, Avocado, Calliandra, Income and Mobile money.

2.5. Changes made as a result of watching SSU 14

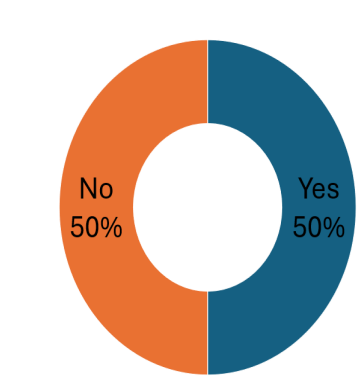
When asked if they had made any changes as a result of watching SSU 14, exactly one half said they had made changes as a result of watching and the other half said they had not made any changes. Women were significantly more likely than men to say they had made changes as a result

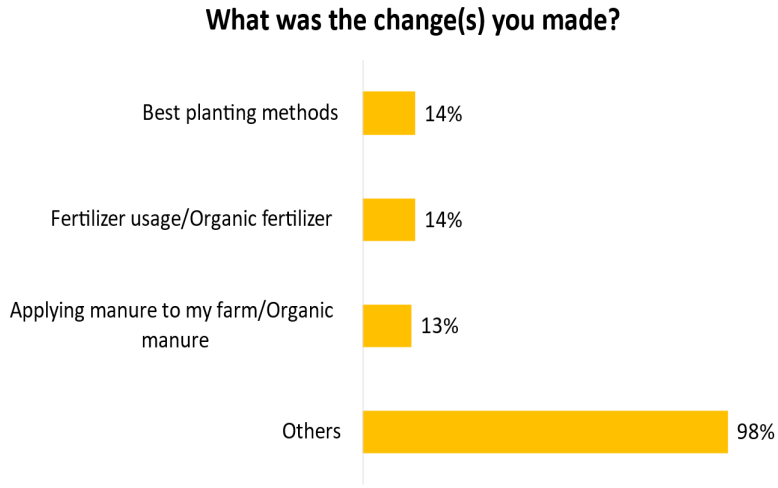
of watching SSU 14 (54% vs 45%) as were those farming in Kakamega (72%), Thakara (66%), Nyeri (57%) and Nakuru (56%). Only 8% of those farming in Isiolo said they had made any changes to their farming practices as a result of watching SSU 14.

The main changes these farmers claimed to have made were around 'soil management' and 'planting methods'. The results of the changes made as reported by those who made changes were to see higher yields and improved incomes. This is a very encouraging finding for SSU 14 and further underlines the impact of the series on improving the yields and livelihoods of smallholder farmer viewers.

Moreover, over half of viewers (57%) reported that their incomes and livelihoods had improved 'a lot' as a result of watching SSU – with a further 40% reporting a more modest improvement. Almost no viewers (only 3%) reported seeing no difference in their incomes and livelihoods as a result of watch SSU.

Figure 15: Changes made due to watching SSU





Others			
How to get more yield	Hygiene while handling dairy cattle	Started planting avocado	Started planting trees
Crop rotation	Testing soil before planting	Changed my cows to better breeds	How to transfer seedlings
Poultry rearing	How to increase soil fertility in the farm	Use of solar energy in the farm	To separate aflatoxin Maize from the good ones
Pests and disease control by spraying	Early preparation on land that kills pest on the land	Started vaccination on my poultry	How you can use rabbit urine as foliage to spray crops
Feeding animals	Planting vegetables	How to treat chickens if they become sick	Better cowshed
Proper crop spacing	Addition of top dressing fertilizer	Prevention of soil erosion	How to do mulching
Construction of poultry house	Getting good variety of certified maize seeds	Soil management	Cleaning of poultry house
Intercropping	Chemicals to use	Renovation of cows house structure	Biogas installation
Record keeping	Using PPE's	Deworming my animals	How to plant fruits
Pesticide selection	Rain water harvesting	Bigger storage for my harvest to ensure food security	Water management in the farm

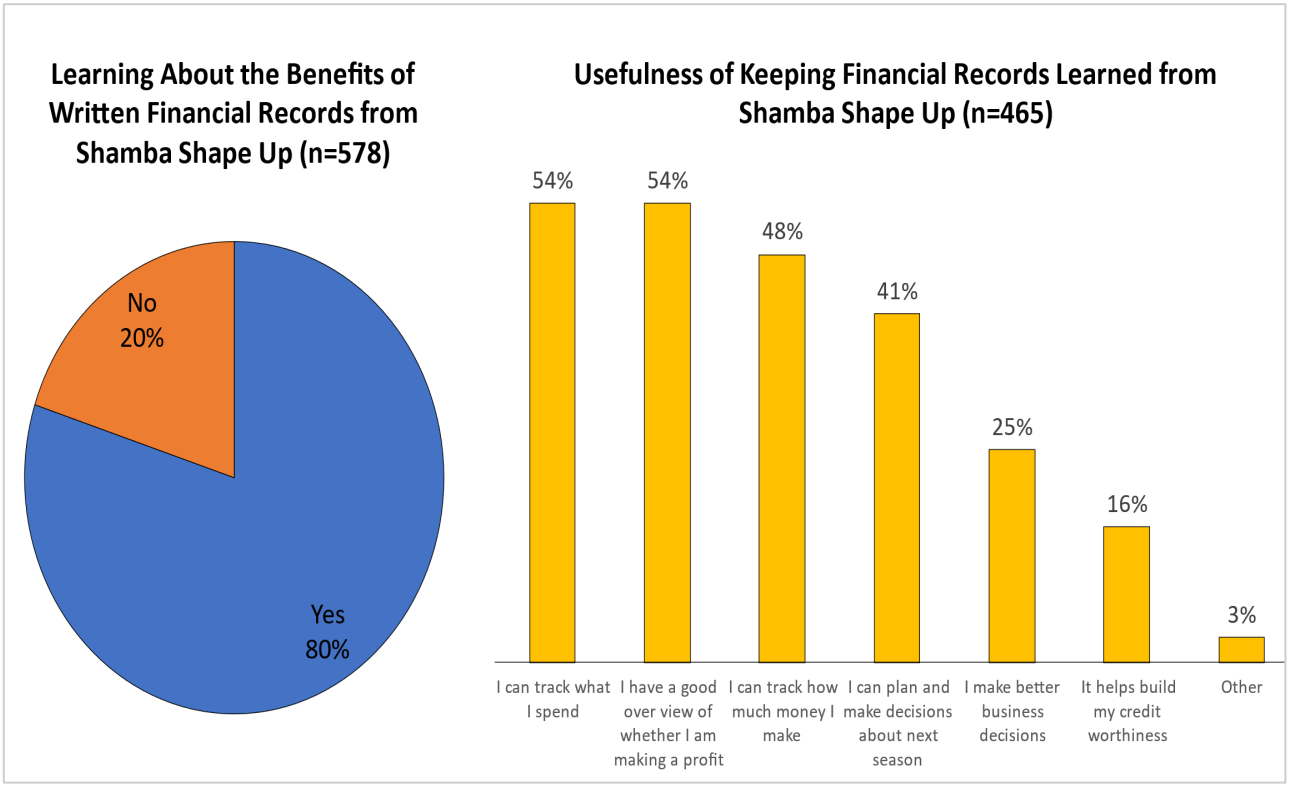
3. Main Findings: SSU 14 Specific Topics

3.1. Keeping written financial records and securing loans

Just under six in ten (58%) of SSU 14 viewing farmers said they kept written financial records. This practice was significantly higher among men (64%) than women (52%), among younger farmers (63% of 18-34's compared with 46% of those aged 55+) and among farmers in Tharaka, Nyeri and Kiambu. Those farming in Kakamega were the least likely to keep written financial records for their farms (32%). However, the overwhelming majority of over 90% said that they intended to keep financial records in the future as a result of watching SSU 14.

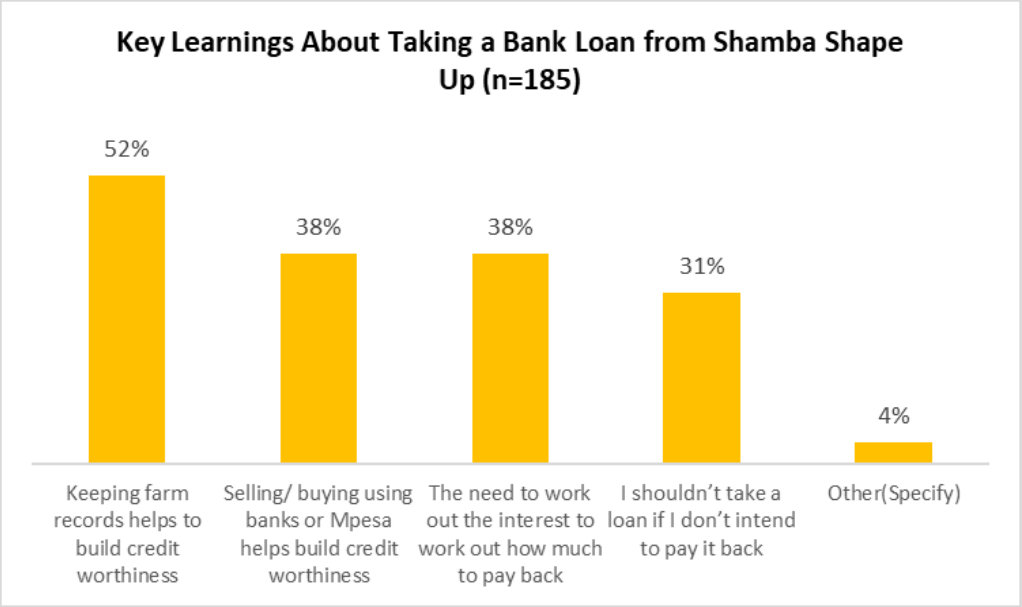
Over the years, SSU has played a key part in informing farmers about the benefits of keeping financial records and has made a major contribution in changing behaviour in favour of keeping financial records which help farmers to see if they are profitable, enabling them to keep track of their spending and make decisions based on sound financial information.

Figure 16: Benefits of written financial records



Around a third (32%) said that they learnt something about taking out a loan from a bank from watching SSU 14. There were no gender differences but learning increased with age and was greatest in Nyeri and Nakuru. The specific learnings from this latest series were around 'building up credit worthiness' and 'working out the interest required to pay back the loan'.

Figure 17: Key Learnings About Taking a Bank Loan from Shamba Shape Up



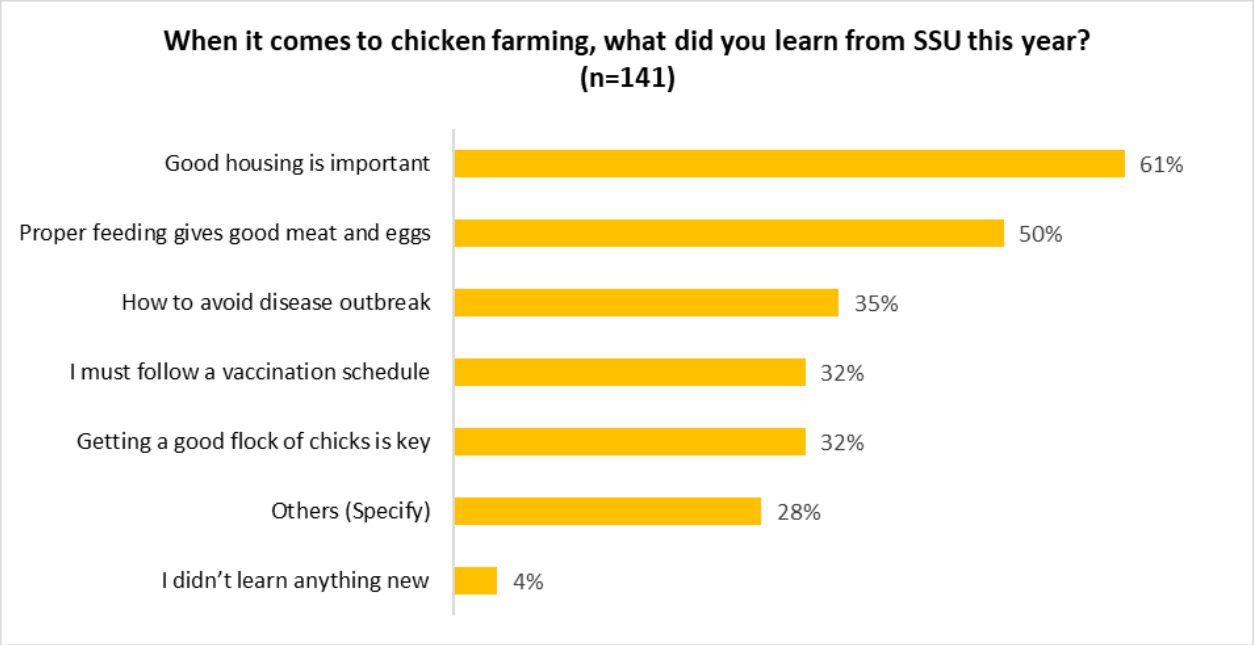
3.1.1. iShamba Traffic: Record keeping and loans

After the episodes on financial inclusion, iShamba received 638 inquiries, with 82% coming from farmers eager to learn where they can get loans for their agribusinesses and the eligibility requirements. These farmers were advised on how to reach out to the banks or SACCOs where they have accounts, as well as to Chamas (table banking roups) for loan assistance. Additional inquiries were on record-keeping and budgeting for their existing or prospective agribusiness ventures.

3.2. Chicken Farming

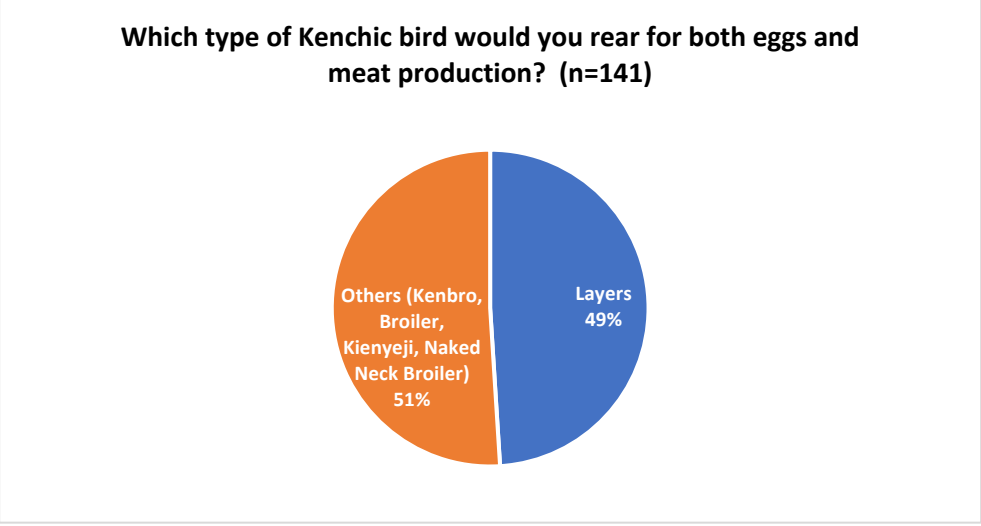
The majority of SSU 14 viewers who kept chickens (61%) learnt about the importance of 'good housing' for their chickens from watching the series. These were disproportionately women (65%), those aged 35-44 (68%) and those farming in Nyeri (84%). Other important learnings centred on the effects of 'good feeding for better meat and eggs', 'following a vaccination programme' and 'having a good and healthy flock'.

Figure 18: Key Insights from SSU 2024 on Chicken Farming Practices



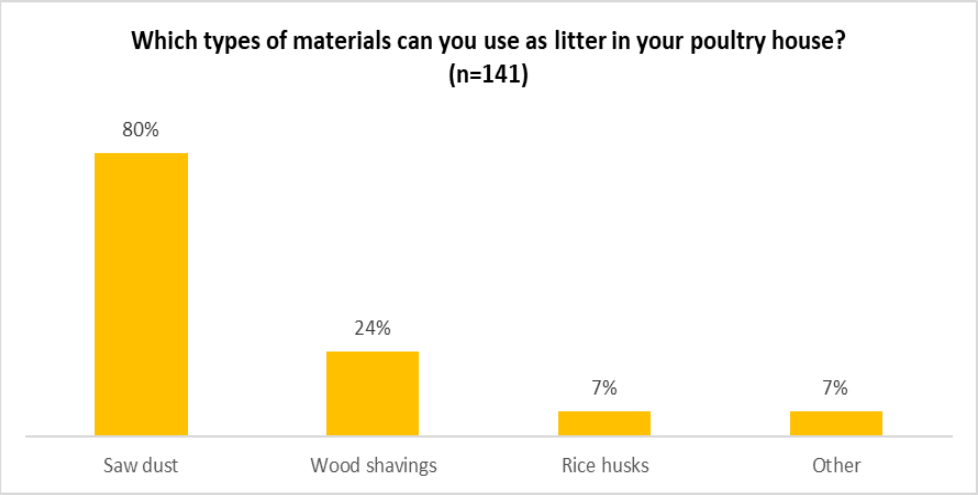
The data reveals a nearly balanced distribution between poultry types, with 49% categorized as "Layers" and 51% representing other breeds, including Kenbro, Broiler, Kienyeji, and Naked Neck Broiler. This distribution suggests a trend toward diversified poultry choices, with a slight preference for breeds in the "Others" category. The Kenbro breed, notable for its dual-purpose capabilities, stands out among the "Others" group. Unlike conventional "Layers," Kenbro offers both egg production and meat, providing farmers with flexibility across product lines. This adaptability can be particularly advantageous for those looking to manage income variability through both meat and egg sales, rather than specializing in one area alone. The distribution further highlights a potential interest among farmers in breeds that offer dual benefits, suggesting that a gradual shift toward these multi-functional breeds could be emerging, especially if farmers view them as resilient options in fluctuating markets. The near-even split in the data may reflect a broader trend where multi-purpose poultry breeds are gaining traction, potentially influencing the balance between specialized and dual-purpose birds in the future.

Figure 19: Ideal Kenchic Bird Breed for Dual Purpose: Eggs and Meat Production



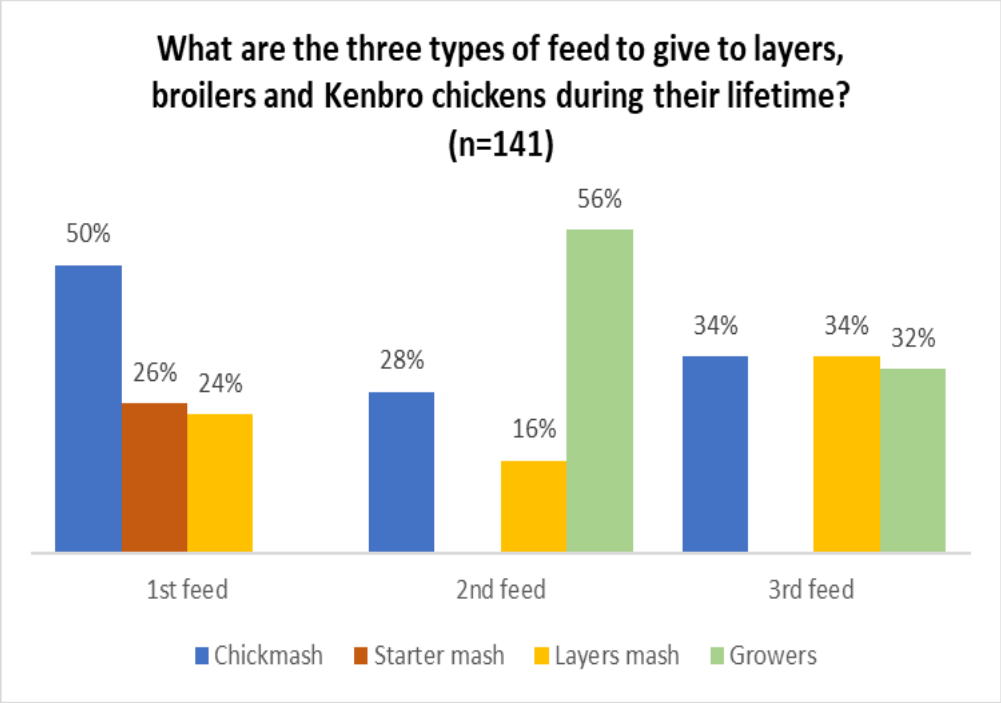
SSU viewers have learnt about the importance of chicken housing over the years and 80% of SSU 14 viewers incorrectly said that sawdust was the material they can use as litter in their poultry houses, with only a quarter mentioning (the correct answers of) wood shavings and hardly anyone mentioning rice husks.

Figure 20: Common Materials Used for Poultry House Litter



Communication messages around the types of feed to give to chickens also seem to have been effective in improving knowledge as illustrated in the chart below.

Figure 21: Types of Feed for Layers, Broilers, and Kenbro Chickens at Different Life Stages

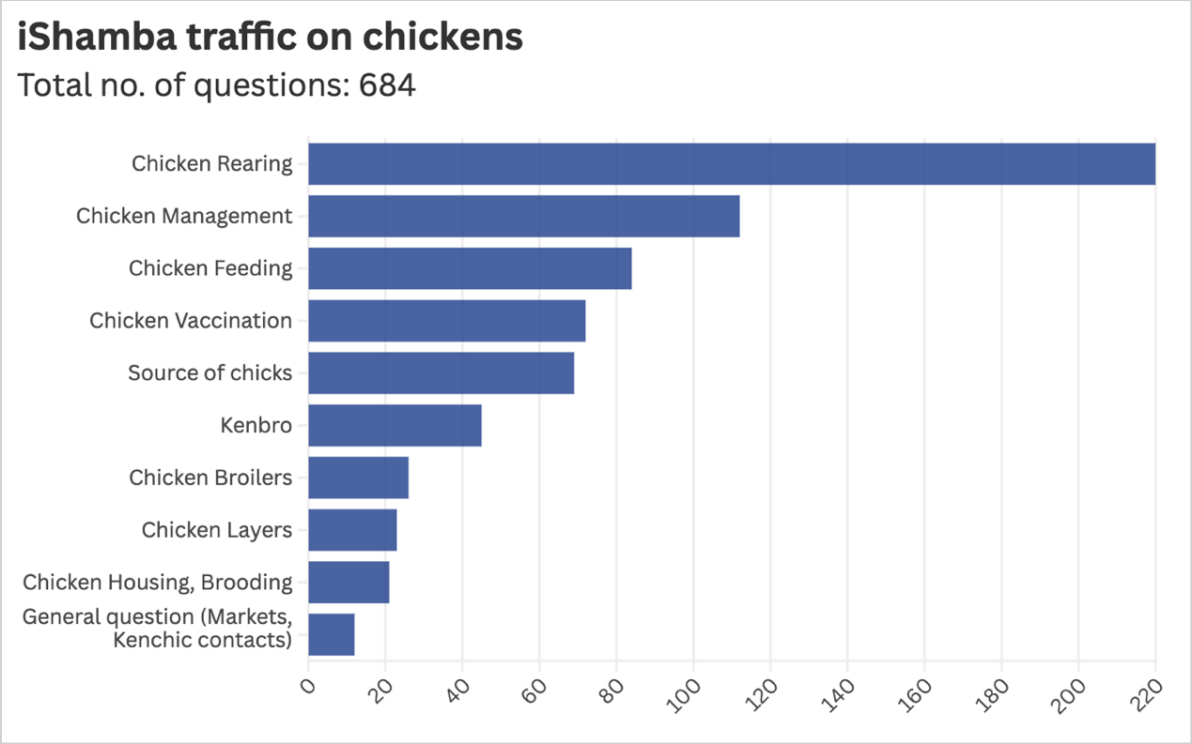


3.2.2. iShamba traffic: Chicken farming

Chicken farming content covered topics like brooding, house placement, feeding, weight management, biosecurity, Kenchic services, and record keeping, focusing mainly on broiler chickens and the Kenbro breed.

From the episodes, iShamba received 684 questions related to the topics covered. 32% of inquiries came from first-time farmers curious to learn how they can start a successful chicken business, breed selection, growth rates, and market conditions. Existing farmers mostly asked questions on management issues such as coccidiosis, biosecurity, and disease control. Further questions addressed feeding regimes, vaccinations and where to buy chicks. Interest in the Kenbro breed accounted for 7% of the questions, while 4% focused on broilers and 3% on layers.

Figure 22: iShamba questions on chickens



3.3 Dairy Cow Management

There were significant learnings about dairy cow management practices resulting from viewing SSU 14, most especially around hygiene practices, feeding and housing. There were small differences in learnings between men and women, but a significant increase among younger cattle farmers.

3.3.1. iShamba: Livestock and dairy management

CKL Africa educated farmers on dairy management practices such as how to take good care of calves, feed formulation for dairy cows, poultry health and nutrition, proper management of goats and sheep. From these episodes, iShamba received a total of 685 questions related to the topics covered. Most of the questions, 18% (122 questions), focused on the best dewormer to use, proper deworming techniques and the withdrawal period. Chicken management was the second most popular topic, with 16% (111 questions) around proper chicken feeding, how to clean and disinfect the chicken house. Dairy management accounted for 14% (95 questions), with farmers particularly interested in managing illnesses such as mastitis, East Coast Fever (ECF) and its vaccination.

Questions related to proper dairy feeding made up 13% (90 questions), covering issues like types of feed for dairy or beef cows and proper feed formulation. Dairy farming inquiries, including

starting and managing a zero-grazing system and sourcing the best breeds, accounted for 9% (57 questions). Questions on breeding and artificial insemination (A.I.) services comprised 8% (54 questions) with another 8% (53 questions) focusing on proper housing for dairy cows. The right mineral supplements for livestock accounted for 7% (50 questions). Questions on steaming up, drying off, and calving down represented 6% (43 questions) and the last 2% (10 questions) were on proper care, feeding and management of calves

Figure 23: iShamba traffic for CKL Africa

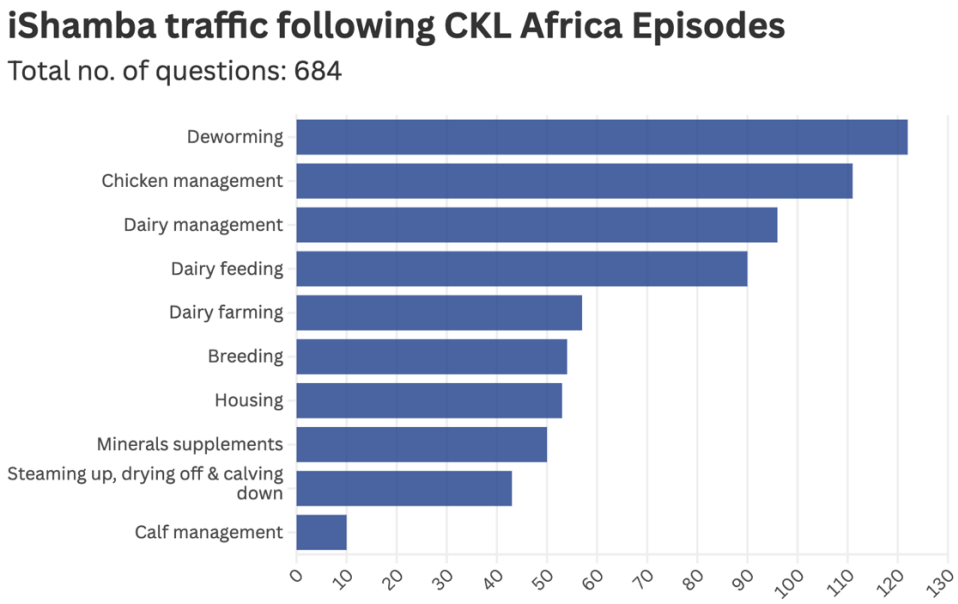
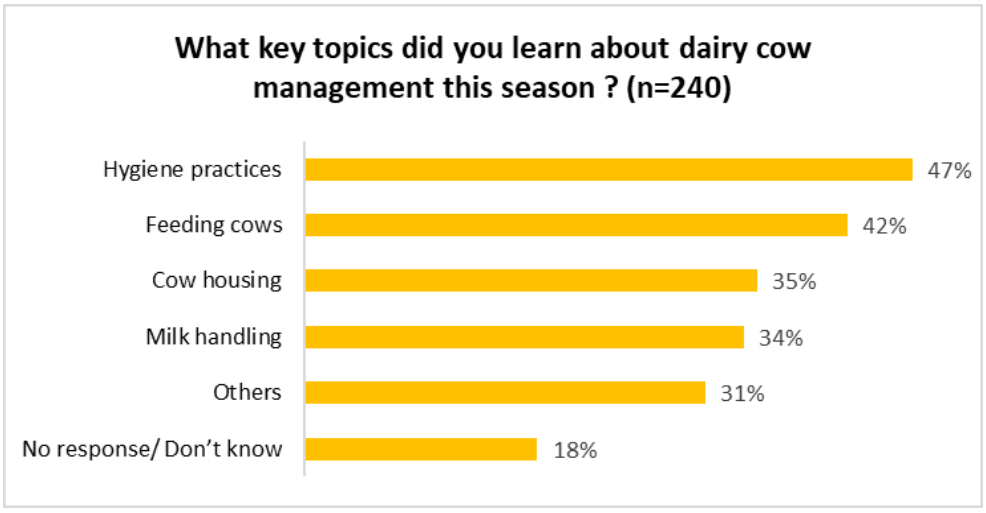
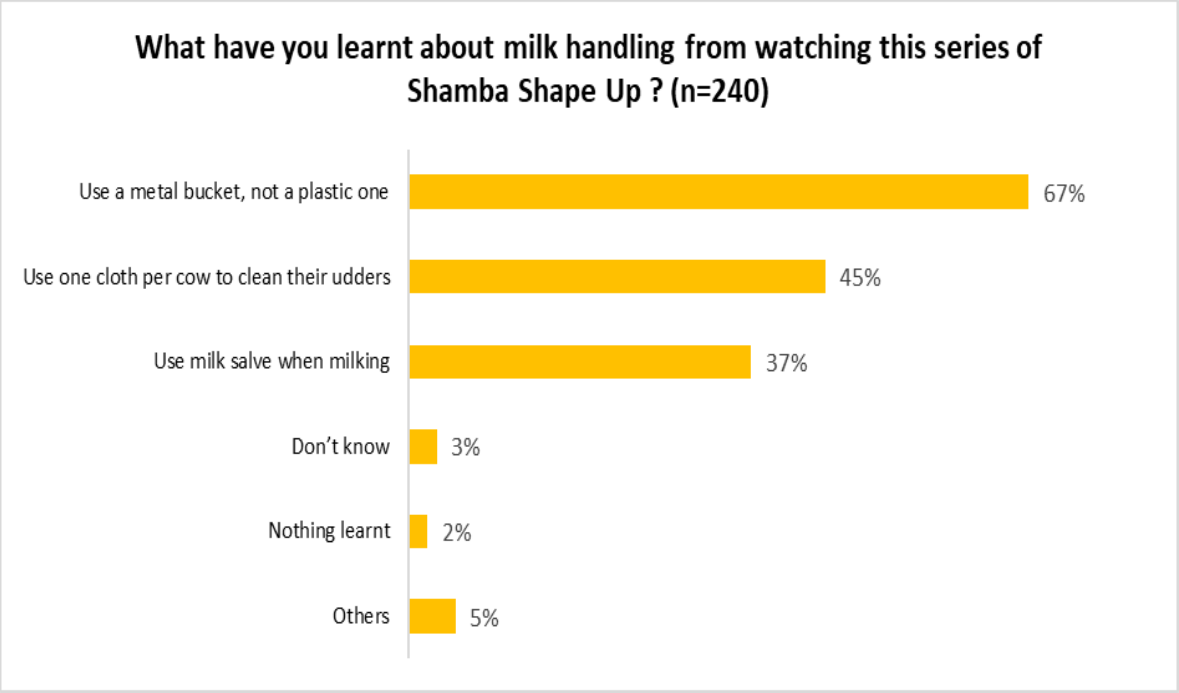


Figure 24: Key Dairy Cow Management Topics Learned This Season



Specific learnings on milk handling learnt from watching SSU 14 were to use a metal (not a plastic) bucket, to use one cloth per cow when cleaning their udders and using milk salve during the milking process.

Figure 25: Milk Handling Lessons Learned from Shamba Shape Up.



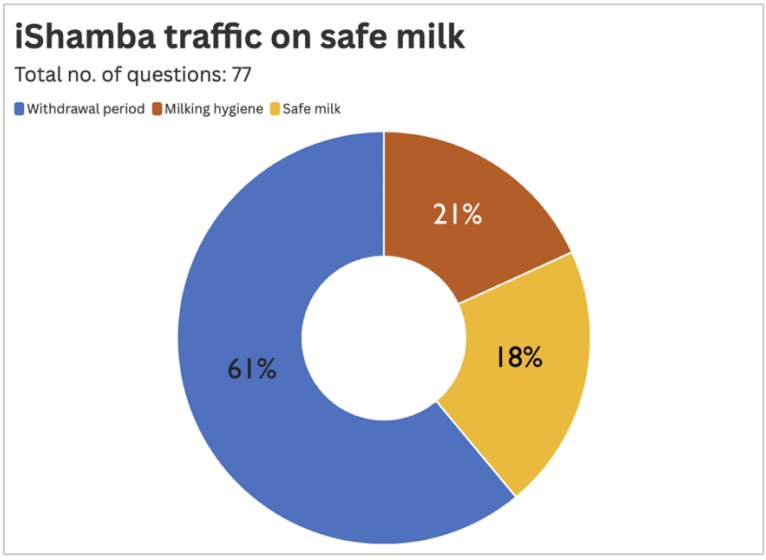
3.3.2. iShamba Traffic: Safe Milk (Bio Foods)

The content on safe milk by Bio Foods focused on aflatoxins in milk, hygiene, and antibiotic use in lactating cows. iShamba received 77 questions related to these topics.

Over half, 61%, of the received questions were on the correct withdrawal period after deworming cows and when milk becomes safe for consumption. Safe milk inquiries accounted for 21%, with farmers curious to know how to check milk safety, reasons for a 'light' appearance or sour taste and the safety of milk from cows with mastitis.

The remaining questions focused on milking hygiene, including preparation, the milking process, and cleaning milking equipment.

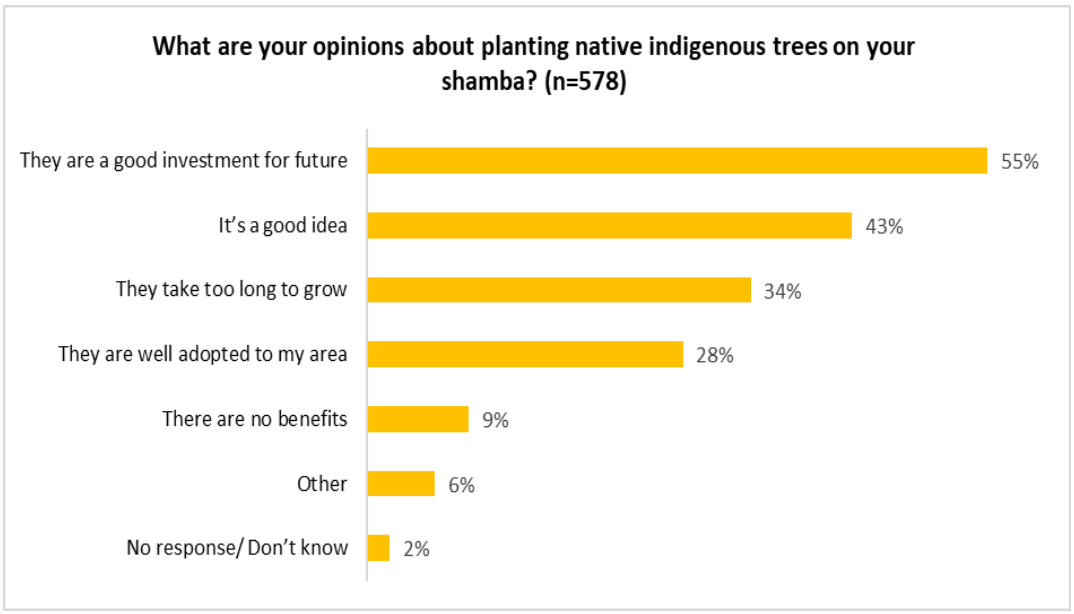
Figure 26: iShamba traffic: Safe Milk (Bio Foods)



3.3. Planting Indigenous Trees

SSU 14 contained information to change farmers' opinions of planting indigenous trees on their farms and the results were very positive. As shown in the chart below, over one half (55%) are now of the opinion that planting these types of trees represents a good investment for the future and over four in ten (43%) think that planting indigenous trees is 'a good idea'. Both men and women shared similar opinions, younger farmers were slightly more positive in their opinions than older farmers and those in the semi-arid areas of Isiolo and Tharaka held the most positive views (those in Kiambu held the least positive views!)

Figure 27: Opinions on Planting Native Indigenous Trees on the Shamba



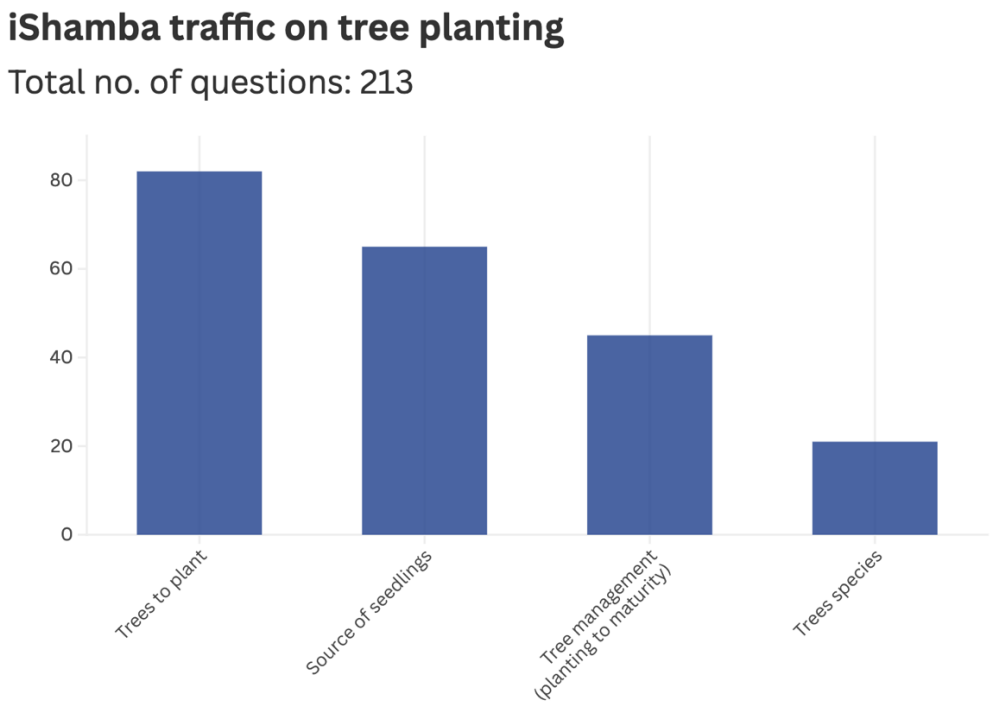
Others: Helps to avoid soil erosion, Makes environment look beautiful, It's a good idea, They are medicinal, Good for natural shade, They attract rain, There are no benefits, Good for timber, Seedlings are not easily accessible, Good for firewood, It's not favourable with this weather, They regulate water flow, They're good in land/swamps reclamation, They take a lot of space on my shamba and In plots we can't plant trees.

3.3.1. iShamba traffic: Planting indigenous trees ('My Farm Trees' project)

The episodes on indigenous trees aimed to educate farmers on the importance of planting indigenous trees, how to collect seed to tree nursery establishment and the My Trees app.

iShamba received 213 related questions, 39% focusing on suitable tree species for specific areas and 31% on sourcing healthy seedlings. Farmers were encouraged to download the My Trees app to see which indigenous species they can plant in their area and locate nearby nurseries. The remaining questions addressed planting techniques, including spacing, manure use and specific species like blue gum and fodder trees.

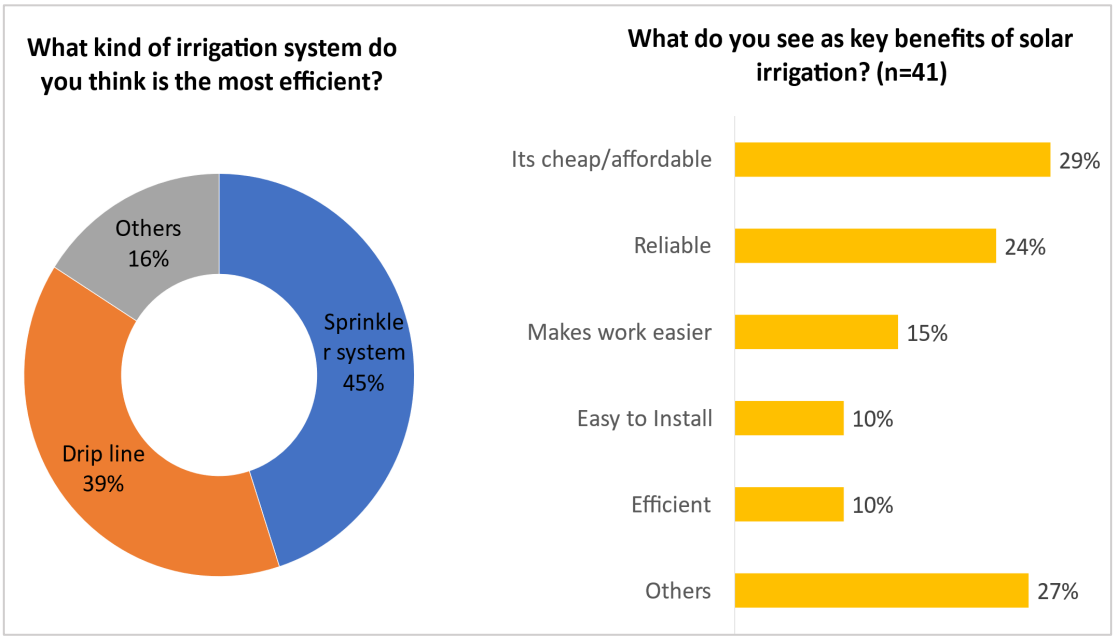
Figure 28: iShamba traffic: Planting indigenous trees



3.4. Solar Irrigation

As many as two-thirds (65%) said that they intended to get a solar irrigation system based on what they saw in SSU 14. The perceived efficiency of a sprinkler system and a drip line were largely similar (45% and 39% respectively) with the key benefits being no fuel bills (70%), easy to maintain (47%) and good for the environment (34%)

Figure 29: Kinds and usefulness of irrigation system



3.4.1. iShamba: Traffic on solar irrigation

Sponsored by GIZ, SolarGen and Davis & Shirtliff with the main content meant to educate farmers on sustainable farming practices through solar-powered drip irrigation.

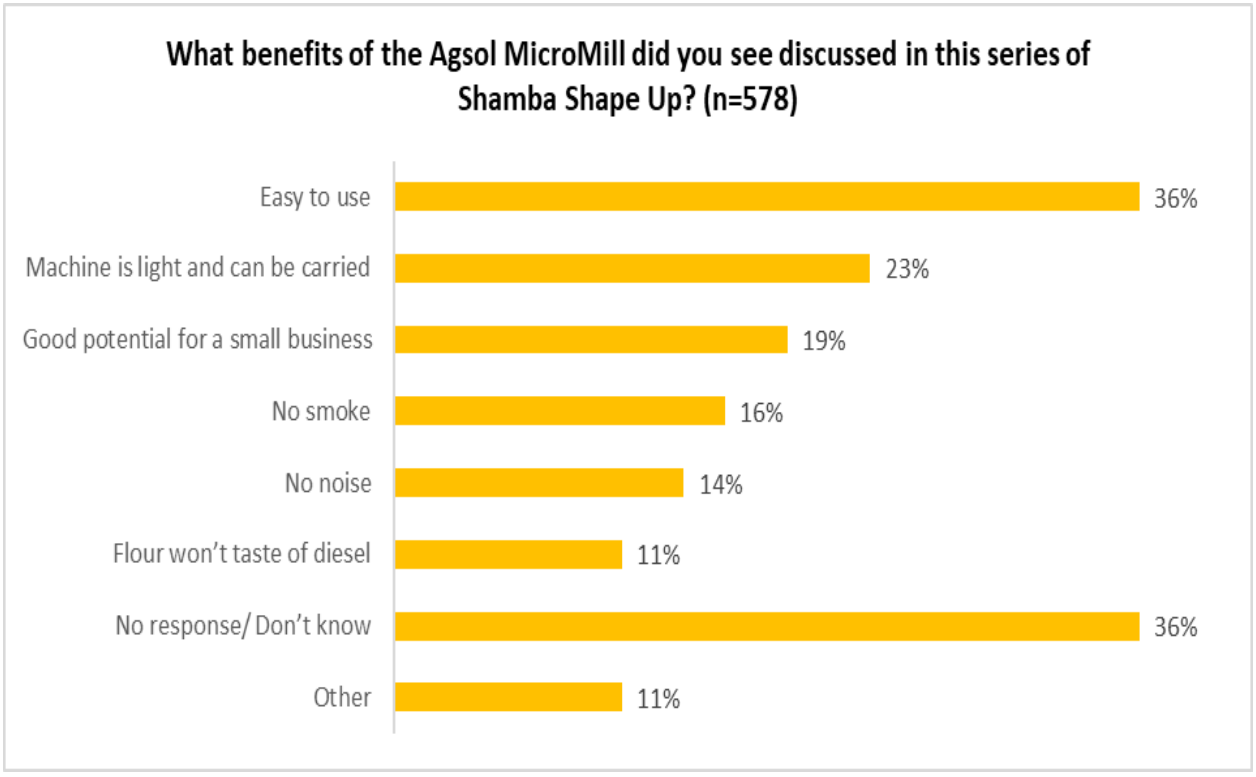
Following the broadcasts, iShamba received 33 inquiries from farmers wanting to know where they could purchase the irrigation system. These inquiries were directed to the nearest Davis & Shirtliff offices, and farmers were also provided with contact details for SolarGen.

3.5. Agsol's MicroMill

Agsol's MicroMill is a solar-powered electric mill. Compared to diesel mills they are more affordable, more profitable, fully automated, maintenance-free, and produce better quality flour.

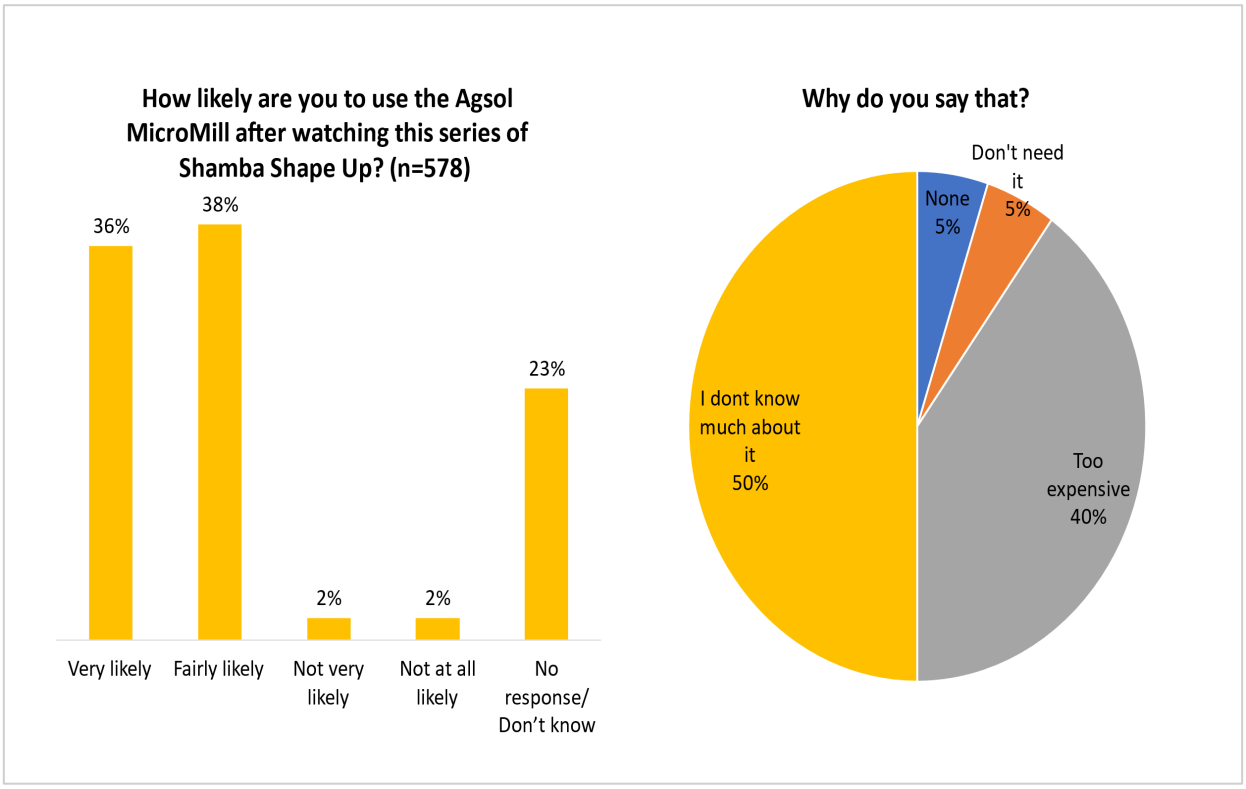
A very significant proportion of around two thirds of SSU 14 viewers (64%) learnt something about the benefits of Agsol's MicroMill from the programme. Learnings were around 'ease of use' (36%), 'portability' (23%), 'no smoke' (16%) and 'no noise' (14%).

Figure 30: Benefits of the Agsol MicroMill Discussed in Shamba Shape Up



Likelihood of purchase increased significantly as a result of SSU 14 – as many as 36% said they were 'very likely to purchase' now that they had seen them in SSU 14 and a further 38% said they were 'fairly likely' to make a purchase. Men were slightly more likely than women to consider making a purchase as were those in Nakuru and Nyeri. The least likely farmers to consider making a purchase were those in Kakamega. Barriers to consider making a purchase were centred around "I don't know much about it' (50%) and "too expensive" (40%). This positive response and need for more information and explanation argues for including this topic in the next SSU series.

Figure 31: Likelihood of Using the Agsol MicroMill after Watching Shamba Shape Up



3.5.1. iShamba traffic on Agsol's MicroMill

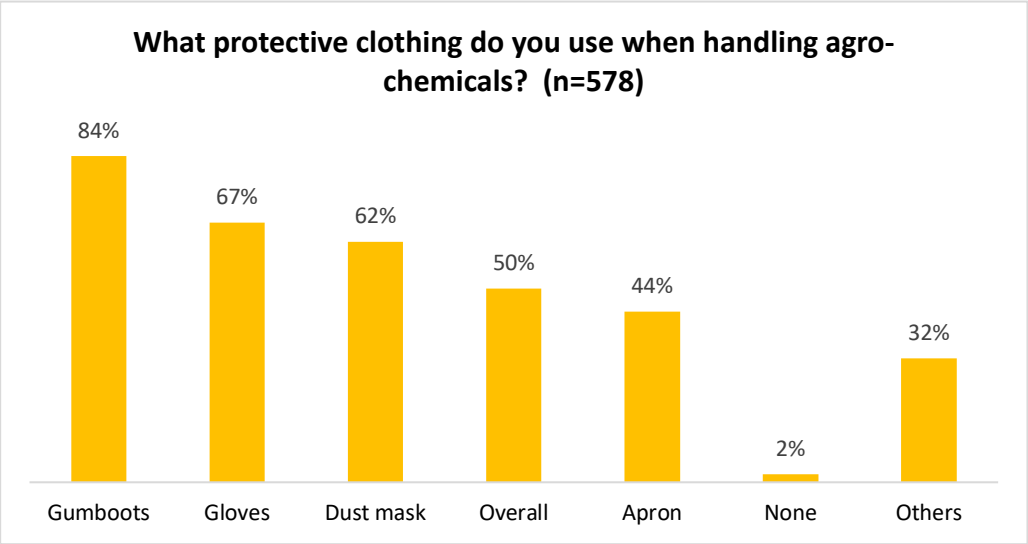
From the broadcast, iShamba received a total of 376 calls, with 100 farmers inquiring about where to purchase the machine and its pricing. Others asked the kind of power that the mill uses i.e., whether it is solar-powered or uses electricity.

Additionally, iShamba received 40 questions on the iShamba platform and via the WhatsApp groups, mostly on the price of the mill and how to acquire it. On social media, the episode had a total reach of 1,361 and 89 engagements.

3.6. Safe use of agro-chemicals

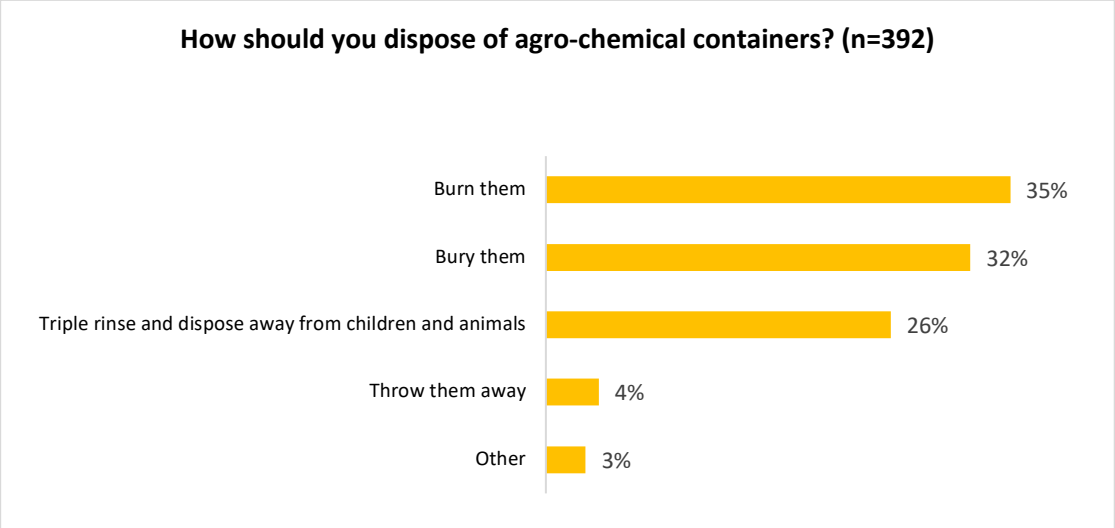
Messaging around wearing protective clothing when handling agro-chemicals has long been a feature of SSU series, with measurable levels of success. The vast majority of farmers, irrespective of gender, age or location, now say that they wear gumboots (84%), most wear gloves (67%) and dust masks (62%) when handling these items.

Figure 32: Protective Clothing Used When Handling Agro-Chemicals



Two thirds said they learnt something about spray service providers from SSU 14 and how to dispose of agro-chemical containers – burn them (35%), bury them (32%) and keep them away from children (26%). These numbers may be considered to be on the 'low-side' for such an important topic and may require more messaging and coverage in future SSU series.

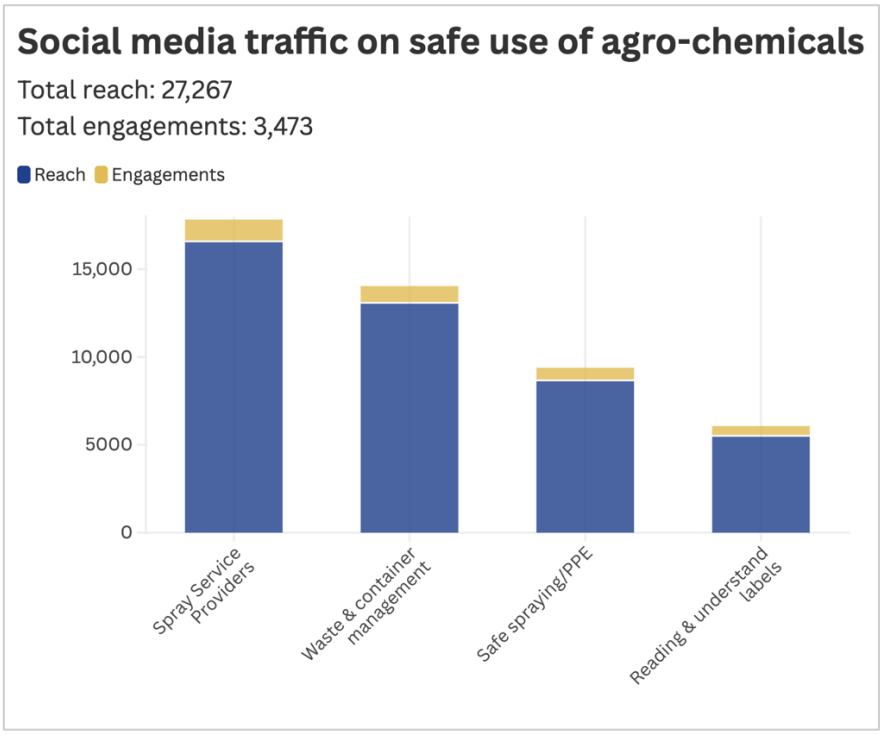
Figure 33: Proper Disposal Methods for Agro-Chemical Containers



3.6.1. iShamba traffic: Safe use of chemicals (aak-Grow)

iShamba promoted the episodes on safe use of chemicals on the Shamba Shape Up Facebook page, which has 94,000 followers. The most popular episode was the one on Spray Service Providers, reaching 16,588 people with 1,240 engagements. "Reach" indicates the number of viewers, while "engagements" include likes, shares, and comments. The second most popular episode covered waste and container management, reaching 13,086 with 955 engagements. Following that, the episode on safe spraying and PPE use reached 8,670 people with 720 engagements and the one on reading pesticide labels reached 5,511 with 558 engagements.

Figure 34: Overview of social media reach on promoted clips on safe use of chemicals



3.7 iShamba Traffic: Contract farming for Chili's (Mace Foods)

Sponsored by GIZ, Mace Foods had two episodes aimed at educating farmers on contract farming for chilies, highlighting the contracting process.

From the broadcasts, iShamba received 32 inquiries from interested farmers who were keen to learn how they can get into this kind of agreement and what it entails. The farmers were given Mace Foods' contacts so that they can reach out and a USSD code for self-registration.

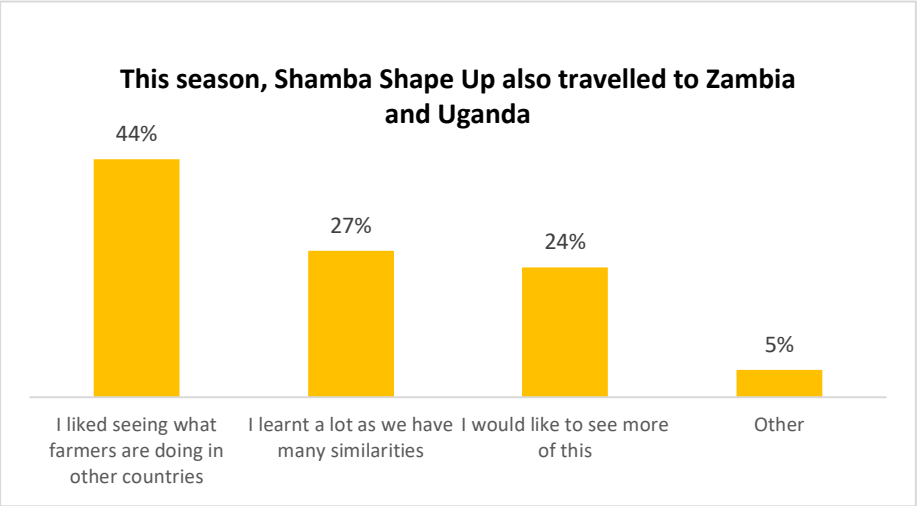
Figure 35: Social Media overview (Mace Foods)

Channel	**Total reach/Impressions**	**Engagements**
Facebook	2,475	106
Twitter	261	41
Totals	**2,736**	**147**

3.8 SSU expansion into Zambia and Uganda

SSU has recently finished its third series in Uganda and its second series in Zambia. In both countries the series has researched very positively, attracting good audience numbers and the improving knowledge, attitudes and practices of local farmers. Some of the content from these countries is also shared on SSU 14 in Kenya and has met with approval. Over four in ten Kenyan smallholder farmers said they 'liked seeing what farmers in other countries were doing' (44%), and a quarter said that they 'learnt a lot as there are many similarities' (27%) and that they 'would like to see more from these countries' (24%). Showing content from these other countries is both interesting and instructive and is recommended for future series.

Figure 36: Viewers' Opinions on Shamba Shape Up Episodes in Zambia and Uganda



4. Main Findings: Future for SSU

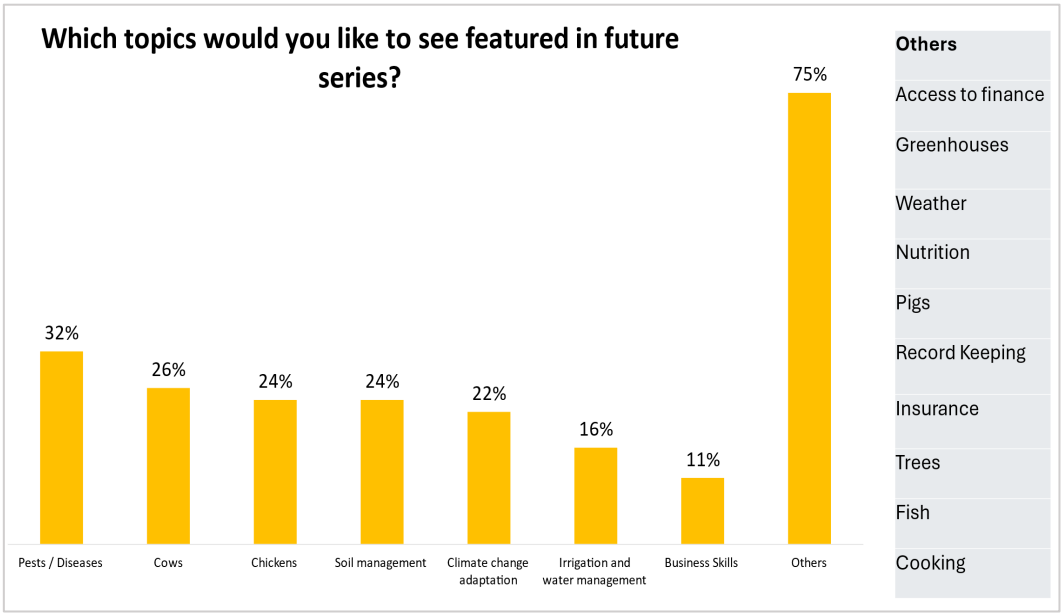
4.1. Topics for future SSU series

When asked what they would like to see in future series the most requested topics were:

- Pest and disease management
- Rearing cows
- Keeping chickens
- Climate change
- Irrigation

All other topics were requested by fewer than 10% of these sampled smallholder farmers

Figure 37: Topics of interest in future

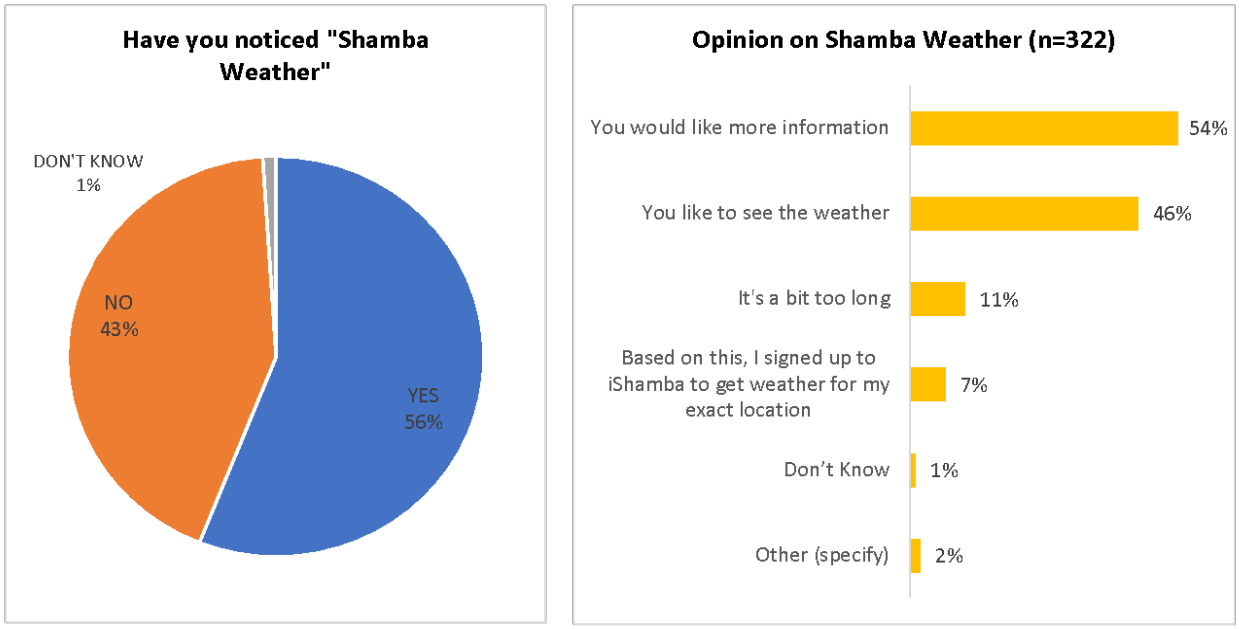


4.2. Shamba Weather

Shamba Shape Up Weather is a 2-minute component in each episode in which the weather forecast for the coming week is presented. The weather forecast is presented by a live presenter using a moving weather map. Relevant advisory is given depending on the predicted weather forecast e.g., if the seasonal weather predictions shows that there will be a lot of rain ahead, the programme may recommend that farmers can start planting. In SSU 13 44% of respondents says they had noticed this segment, in SSU 14 this figure rose to 56% - a significant and welcome increase. Men (60%) were more likely to claim to have noticed the weather segment than their female counterparts (51%) as were farmers living in Nyeri (70%) and Nakuru (73%). Just over one half of those who were aware of it said that they 'would like more weather information' (54%) with just under a half (46%) saying that they enjoyed seeing the weather forecast. Localized weather is important to these smallholder farmers, and it would appear that they are making critical decisions based on the weather forecasts.

These data suggest that the weather segment is a valuable and trusted component of SSU and that it has the ability to influence and change planting patterns in-line with the more unpredictable weather patterns facing farmers.

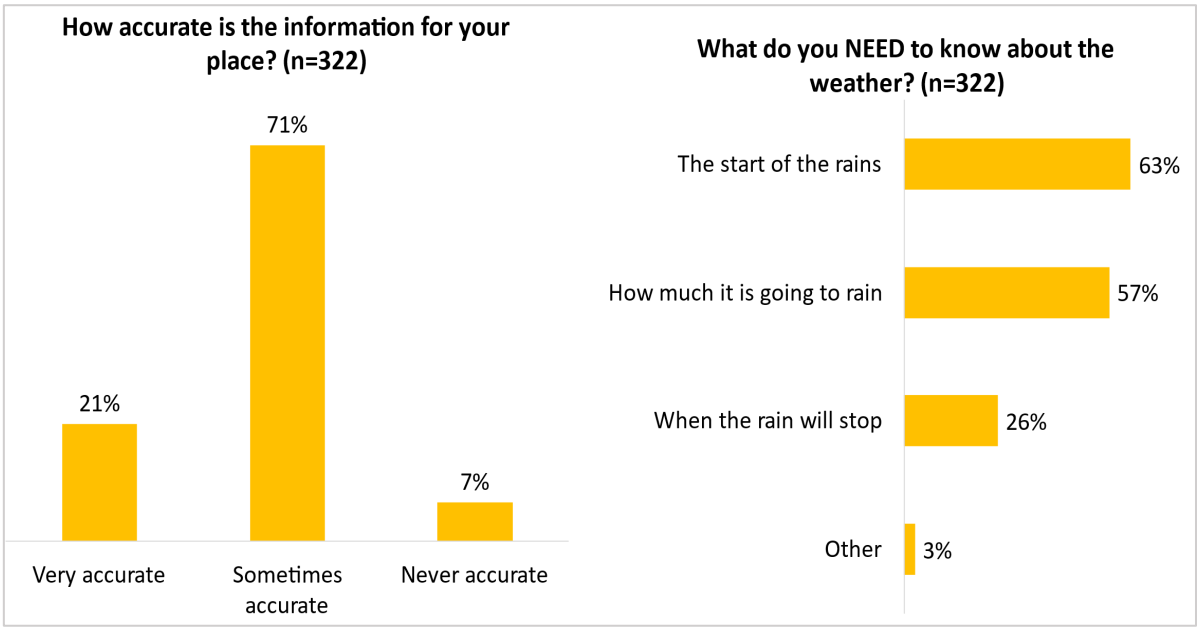
Figure 38: Awareness and opinions of Shamba Weather



For viewers who were aware of "Shamba Weather" only one fifth (21%) said it was 'very accurate', while over 70% said that the information was 'sometimes accurate'. While it is difficult to verify these opinions, they do suggest that there is an increasing reliance on weather forecasts – especially rainfall - to inform farmers about when to prepare their soil and plan for planting. Further, when asked what information they would like presented, the top three topics were all about rainfall, namely: the start of rains (63%), amount of rain (57%) and the end of the rainy season (26%).

The key message about Shamba Weather is that of accuracy and possibly more information about how to interpret and use weather information to benefit crop growing and planting timings and practices.

Figure 39: Accuracy and information needs on "Shamba Weather".



4.3. iShamba

The free mobile based farmer information service providing information directly to farmers was launched in 2015 and just under one in ten (8%) of the farmers interviewed in this study said they had *ever used* it. The relatively few who said they had used iShamba were recent users (in the past three years) and used it mainly for Agri Tips and weather forecasts. iShamba is proving itself to be an increasingly valuable source of regular information and advice for farmers. Providing daily weather forecast information might be the trigger to increasing overall and frequency of use of iShamba.

The iShamba platform shows impressive engagements during and after every show with a total of 69,118 engagements being recorded. Of these, over three quarters (86%) were SMS questions received from farmers, 10% were incoming calls made through the call centre and 4% were WhatsApp questions.

The platform saw a huge engagement of interested who would SMS in their questions, call or send WhatsApp inquiries amounting to 69,188 total, on which SMS is the most popularly used (86%), following by calls (10%) and WhatsApp questions (4%).

Further details about iShamba and the social media statistics are in the appendix.

Figure 40: Awareness and how long viewers have used iShamba

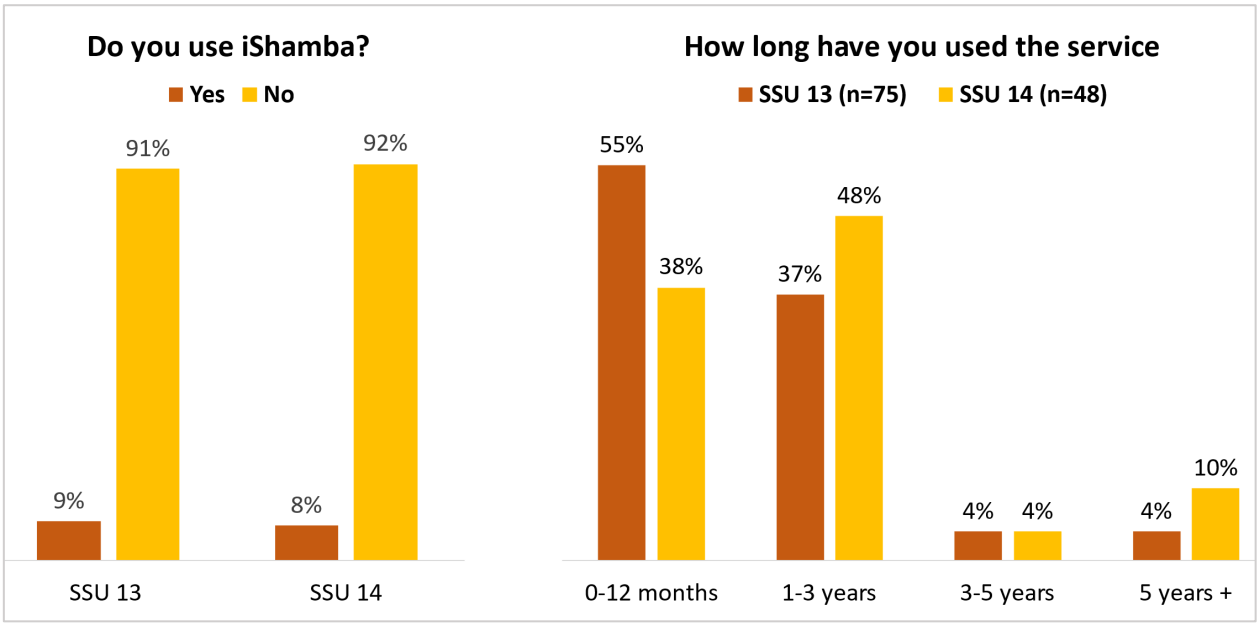
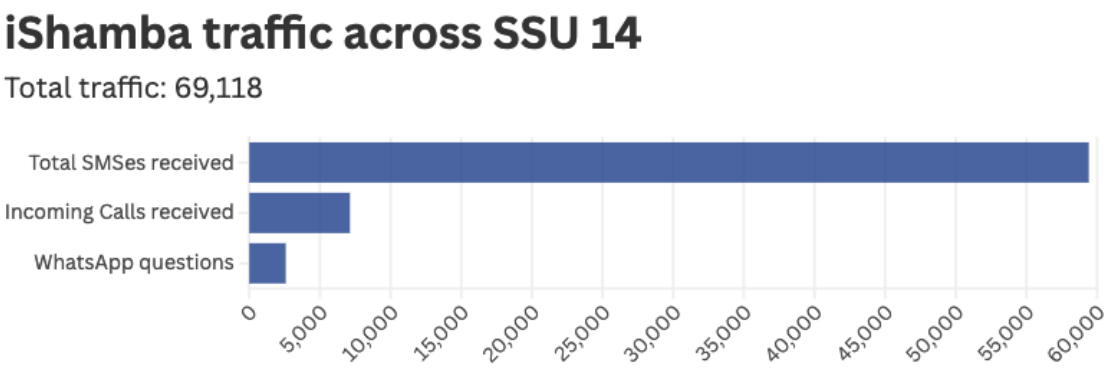


Figure 41: Engagements from iShamba platform



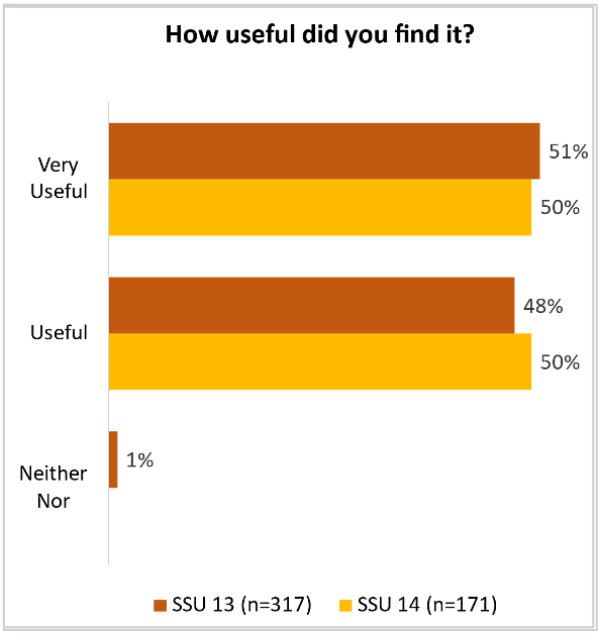
Item	Total number	Percentage
Total SMSes received	59,411	86%
Incoming Calls received	7,125	10%
WhatsApp questions	2,582	4%
Total	**69,118**	**100%**

4.4. SSU Podcast

The SSU podcast is available on Spotify and can be downloaded to phones and other digital gadgets. Respondents that had listened to the podcast, say that they found it useful – 50% saying 'very useful' and 50% saying 'useful'. The main topics they would like to see covered in future podcasts included 'pest and disease control' (23%), 'poultry farming' (13%) and 'livestock husbandry' (13%). There is clearly a market for SSU Podcasts which provide an alternative channel

for providing farmers with farming tips and information. One of the advantages of the podcast format is that they can often be listened to in conjunction with doing other activities, they can expose listeners to a range of views and opinions and include practical testimonials from fellow farmers which tend to be impactful because of the need for farmers to have evidence of success in order for them to be persuaded to change well-established practices.

Figure 42: Shamba Shape Up Podcast



5. Conclusions

Shamba Shape Up remains a popular and enduring television series having aired on Citizen Television, Kenya's most popular television channel, for the past 14 years. The series is aired on Saturday and Sunday lunchtimes and has become the most used, valued and trusted source of information about farming and agricultural practices in Kenya. Its impact over the years it has been broadcast has been considerable and each new series evidence new learnings and improved practices among small-holder farmers which result in improved incomes, livelihoods and more sustainable practices. The small-holder farmers interviewed in this study reported improved planting and soil practices through better use of fertilisers and manure which have resulted in higher yields. Based on farmers' positive experiences, these practices are likely to continue resulting in healthier soil management.

Among the specific topics covered in SSU 14 planting, harvesting and livestock rearing are among the most valued and contribute considerably to increases in knowledge leading to improved practices. Additionally, the weather segment is a valued and trusted practical component of the series and used by small-holder farmers to guide their planting times and inform their growing practices.

The evidence from this survey shows that small-holder farmers have benefitted from all of the topics and information covered through advancing their knowledge and impacting their

behaviours. In particular, financial literacy among small-holder farmers continues to improve overtime with better record keeping and financial management. Animal husbandry, including chickens and cows continues to improve through better hygiene, feeding and housing practices.

Climate change issues remain very 'top of mind' for small-holder farmers and learnings around mitigation strategies are valued. For example, the majority of SSU 14 viewers expressed intentions to invest in solar irrigation systems as a direct result of the information and examples given in the programs.

Survey data and anecdotal evidence suggest that the impact of SSU over the years has been considerable. The series is the most valued and trusted source of information for small-holder farmers in Kenya. Further, there is a proven strong relationship between viewing SSU content and making changes which positively impact livelihoods, improve overall farming practices, lead to intentions to make changes with regards to financial management, planting (including indigenous tress), improved and sustainable irrigation and harvesting practices. Improved practices with regards to the health and welfare of livestock have also been positively impacted by *Shamba Shape Up.*

Small-holder farmers look forward to the next series and make many suggestions for the topics they would like to see covered. The edutainment format of the program has been a proven success over time and extending the exposure of SSU content through digital media channels (iShamba, Podcasts, YouTube) will grow audiences and escalate changes in knowledge and practices with resultant positive impact on the livelihoods of Kenya's small-holder farmers.

Annex 1: SSU 14 iShamba Traffic

Timeframe: March 2024-September 2024

Ep.	Broadcast Date	No. of New farmers	SMSes received following the broadcast	Incoming calls following the broadcast	Average duration of call (Sec)	Total Traffic (SMS & Calls)
		Span of 1 week	***Span of 1 week***	***Span of 1 week***	***Span of 1 week***	***Span of 1 week***
1	09/03/2024	1,777	18,102	349	33	18,451
	15/03/2024	494	8,461	513	30	8,974
2	23/03/2024	272	2,315	261	40	2,576
3	30/03/2024	244	3,414	315	29	3,729
4	06/04/2024	152	937	124	27	1061
5	13/04/2024	986	2,891	191	30	3,082
6	20/04/2024	148	1,030	76	29	1,106
7	27/04/2024	332	623	506	39	1129
8	04/05/2024	88	264	170	54	434
9	11/05/2024	139	691	244	30	935
10	18/05/2024	257	706	368	25	1074
11	25/05/2024	1,163	439	148	30	587
12	01/06/2024	166	1,730	239	24	1,969
13	08/06/2024	798	551	544	22	1095
14	15/06/2024	201	371	354	18	725
15	22/06/2024	120	244	152	17	396
16	29/06/2024	192	472	126	23	598
17	06/07/2024	185	901	239	18	1140
18	13/07/2024	201	271	314	18	585
19	20/07/2024	88	371	189	42	560
20	27/07/2024	132	1,048	155	25	1,203
21	03/08/2024	73	724	141	48	865
22	10/08/2024	127	450	179	47	629

23	17/08/2024	72	508	104	42	612
24	24/08/2024	414	3,125	384	30	3,509
25	31/08/2024	1,052	8,772	740	32	9,512
Total		**9,873**	**59,411**	**7,125**	**802**	**66,536**

b) Summary of iShamba Traffic

Total SMSes received	59,411
Incoming Calls received	7,125
WhatsApp questions	2,582
Total	**69,118**

c) Summary of iShamba traffic per week

SMS Questions received per week (Average)	2,376
Incoming Calls received per week (Average	285
WhatsApp questions received per week (Average	103
Total	**2,764**

d) iShamba customers

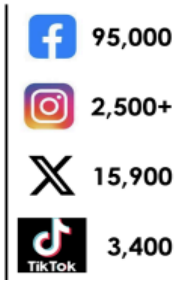
Subscription Type

Freemium farmers	554,370
Premium farmers (Active)	1,368
Total	**555,738**

Annex 2: SSU 14 Social Media Report

Shamba Shape Up's current social media reach

Shamba Shape Up is currently on the following social media platforms with current follows (as of September 2024):



The current social media strategy for Shamba Shape Up is as follows:

1. Weekly promo clips on Facebook, X and Instagram. A weather update is posted every Monday, farmers use this weekly weather update as a guide in planning their activities. An episode promo clip is posted every Friday across SSU's social media platform.
2. In random order, Shamba Shape Up posts fun facts for farmers and essential farming tips across social media accounts. This breaks the monotony in the content type.
3. Short promotional videos on different agricultural topics are shared across farmers' WhatsApp groups weekly. This ensures farmers understand the agricultural topics in depth and boost their farming techniques.

Facebook

- Shamba Shape Up's Facebook page has a total of **95,000** followers. Between January and September 2024 the page had an audience reach of **1.2 million.** This is a **32.6% increase** in reach as compared to 2023.
- The content interactions on Facebook cumulate to **40,100** with a percentage increase of **29.2%** as compared to last year. Moreover, the Shamba Shape Up Facebook gained a total of **10,508** new followers between January and September 2024

Instagram

- The Instagram page for Shamba Shape Up has a total of **2,505** followers. Between January and September 2024 it had an audience reach of **2,700**.
- The content interactions on Instagram tally up to **159** showing an increase in percentage by **100%** as compared to last year. Additionally, this Instagram page has a total of **200** new followers between January and September 2024

X

- On X, Shamba Shape Up has a total of **15,900** followers.

TikTok

- On TikTok, Shamba Shape Up has a total of **3,400** followers. Between January and September 2024 it had an audience reach of **10,421**.
- The tallied video views of Shamba Shape Up content on TikTok is a total of **23,435** views, relatively an increase in views as compared to 2023. The TikTok page also has an increase of **1,396** followers as of January 2024.