

BOOMITRA CARBON CREDIT INITIATIVE STUDY REPORT



A FSC doing farmer registration into Boomitra program.



CGA staff, Geoffrey Wanjala doing Boomitra program farmer verification process.

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List of Abbreviations

CGA: Cereal Growers Association

CO₂: Carbon Di oxide

CSA: Climate Smart Agriculture

FSC: Farmer Service Center

FtMA: Farm to Market Alliance

MoA: Ministry of Agriculture

PAFID: Participatory Approaches for Integrated Development

1. INTRODUCTION

1.1. FTMA-BOOMITRA PARTNESHIP ON CARBON CREDIT PROJECT

The Farm to Market Alliance (FtMA) is a public-private sector alliance that works through a network of farmer service centers (FSCs) to support smallholder farmers and transform food value chains. FSCs are key service hubs that provide a variety of services to enhance farmers' productivity, increase market linkages, and encourage farm digitization, with the overall objective of increasing farmers' sustainable productivity and income. The FSC concept is essential for addressing the last-mile farm input delivery and first-mile farm output offtake challenges faced by small-holder farmers and the commercial sector that serves them.

The main causes of low agricultural output among smallholder farmers in Kenya include soil degradation and climate change effects, particularly unpredictable and unreliable weather patterns, drought, poor rainfall distribution, and severe ambient temperatures. In the year 2019, FtMA Kenya enhanced its focus on the implementation of sustainable agricultural practices, primarily climate-smart agriculture (CSA), across the 13 counties to aid farmers in the sustainable improvement of crop productivity and income, adaptation to climate change, and gaining resilience against the shocks of climate change while contributing to climate change mitigation.

In the year 2022, Boomitra, an Indian-based technology company, partnered with FtMA through Kenya's Cereal Growers Association, the main organization implementing WFP's FtMA program in Kenya. The partnership aimed at intensifying CSA adoption among Kenya's smallholder farmers through cropland soil carbon credit incentives for increased sustainable productivity, income, and resilience against the shocks of climate change. Boomitra uses carbon credit intervention to catalyze climate change adaptation and mitigation by removing carbon dioxide gas (CO₂) from the atmosphere on a gigaton scale and sequestering it in on-farm soils through improved agricultural practices.

Soil organic matter and climate change; It is important to note that carbon dioxide is the major greenhouse gas that traps heat in the atmosphere, causing global warming and climate change. Soil organic matter acts as a sink for atmospheric carbon in that it sequesters carbon from the atmosphere. As plants grow, they absorb carbon dioxide gas from the atmosphere and retain it in the soil as they decompose into organic matter and humus. Soil organic matter improves crop productivity through improved soil structure, aeration, water retention, stability, nutrient recycling, and biodiversity. Climate-smart farming techniques restore soil fertility, store carbon in soil and biomass, and sustainably boost agricultural output while considerably reducing climate change.

Carbon credits are measurable, verifiable emission reductions from certified climate action projects around the world, like climate smart agriculture, that avoid, reduce, or remove greenhouse gas (GHG) emissions from the atmosphere. The climate action projects also bring a whole host of other positive benefits, for example, soil fertility regeneration, increasing crop productivity for farmers, empowering communities, protecting ecosystems, restoring forests, or reducing reliance on fossil fuels. Each time a project verifies they have reduced, avoided, or destroyed one metric ton of GHG, one carbon credit is created and sold to voluntary carbon markets around the world. They can be purchased by an individual or, more commonly, a company willing to offset its GHG emission contributions or voluntarily contribute to climate change mitigation through the protection and restoration of natural carbon sinks.

Impact of buying carbon credits; Carbon credits are a transparent, measurable, and results-based way for companies to support activities such as protecting and restoring irrecoverable natural carbon sinks, like forests and arable agricultural lands that keep global climate goals within reach.

Through CGA/FTMA, Boomitra registered farmers in the cropland carbon project; however, the carbon credit concept being new to smallholder farmers, the project needed to understand farmers' perception and understanding of carbon credits, their main expectations as carbon beneficiaries based on recruitment messaging, their level of CSA knowledge, and the challenges faced by both farmers and FSCs during the onboarding and verification processes. This necessitated a survey whose outcome was to aid in designing interventions and tools to streamline carbon farmers' engagement and to provide mechanisms for reviewing future farmer onboarding processes.

2. OBJECTIVE OF THE SURVEY

The main objective of the survey was to.

- Evaluate farmers' perceptions and understanding of carbon credit programs facilitated by Boomitra.
- To find out the benefits that farmers expect from participating in carbon project.
- To identify challenges faced by farmers and FSCs during farmer onboarding and verification process.
- To find out the level of understanding of CSA practices by participants in the project
- Collect suggestions and recommendations for improving the carbon credit program and enhancing farmer engagement.

3. METHODOLOGY

3.1. Sample selection

The survey targeted a purposive sample of farmers who were registered into the Boomitra Initiative within Central Rift Cluster Counties namely, Elgeyo Marakwet, Narok, Nakuru, and Nyandarua counties. The selection was based on the farmers who were onboarded into the project and who are well known by the farmer service centres to provide feedback on the progress and understanding of the project as it begins. A total of 201 farmers and 40 FSCs participated in the interviews.

Table 1: FSCs and farmers interviewed.

Farmers interviewed				FSCs interviewed		
County	Female	Male	Total	Female	Male	Total
Elgeyo Marakwet	11	35	46	3	5	8
Nakuru	14	36	50	1	10	11
Narok	4	54	58	3	10	13
Nyandarua	10	37	47	4	4	8
Total	39	162	201	11	29	40

3.2. Data collection

The survey was administered using the Kobo Collect platform, a digital data collection tool that allows for efficient and standardized data collection. The survey questionnaire was developed to capture feedback from farmers and farmer service centres.

3.3. Data collection process

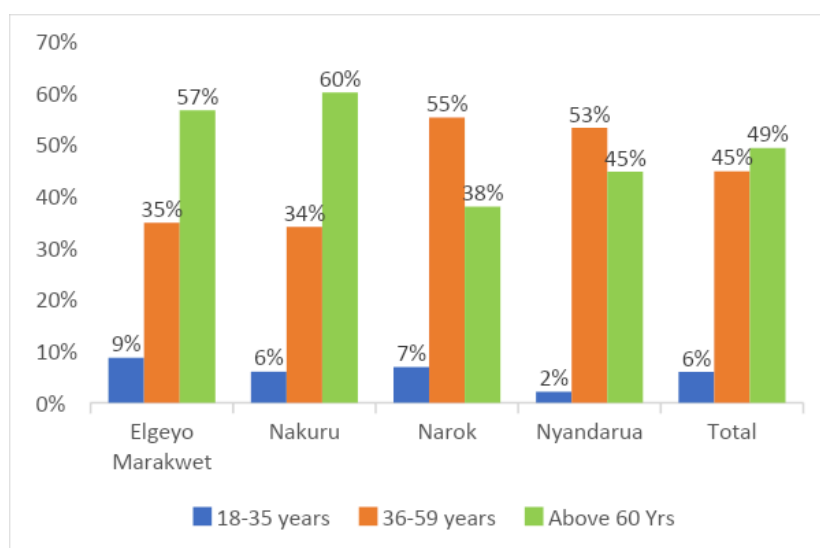
The enumerators scheduled appointments with the selected farmers and FSCs to administer the survey. They used mobile devices equipped with Kobo Collect to enter responses directly into the digital questionnaire. They conducted face-to-face interviews with the farmers and FSCs, allowing for clarifications and additional probing as needed.

1. SURVEY FINDINGS.

1.1. Demographic characteristics of the interviewed respondents

1.1.1. Survey participants by age

Majority of the interviewed farmers were of the age group above 60 years at 49%, followed by 36-59 years age group at 45% and the least being the youth (18-35 years) age group at 6%. Nakuru and Narok had the highest number of farmers above 60 years interviewed at 60% and 57% respectively while Narok and Nyandarua counties had farmers interviewed of the age group 36-59 years as the majority at 55% and 53% respectively. This is an indication that in By incorporating these considerations, it's possible to create an inclusive and supportive environment for participation and contribution to sustainable agricultural practices. To get the age group there needs to be tailored approaches that suit their needs and goals.



Nakuru and Elgeyo Marakwet most of the farmers participating in the project are of retirement age who might have limited energy to practice CSA practices wholesomely. It's important to recognize the unique circumstances and needs of older farmers while implementing CSA projects.

Figure 1: FSC age groups

1.1.2. Interviewed FSCs age groups

Overall, highest percentage (55%) of interviewed FSCs were of between 36-59 years followed by youths at (35%). Nakuru and Nyandarua counties had the highest number of FSCs within 36-59 years age category at 82% and 75% respectively. Narok and Elgeyo Marakwet had the highest number of interviewed FSCs at 62% and 50% respectively.

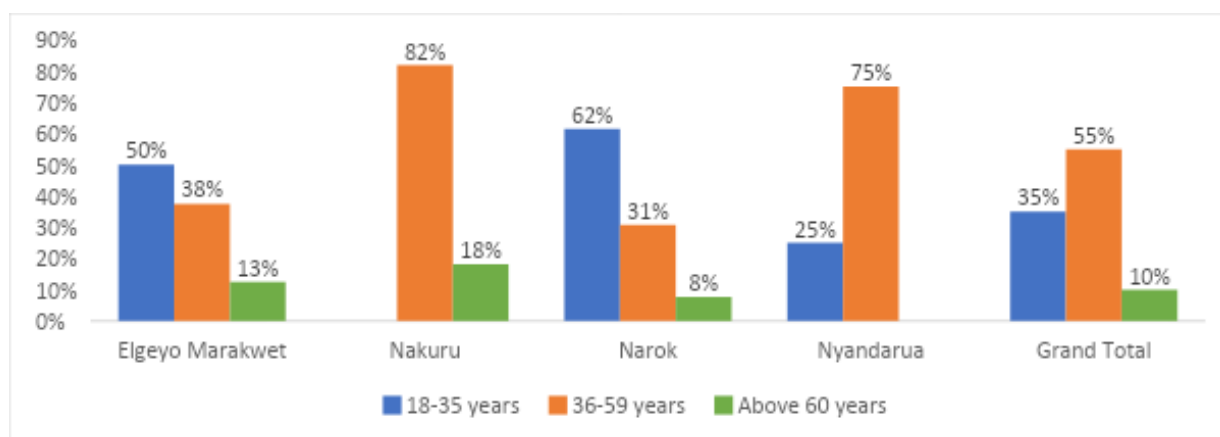


Figure 2: FSC age groups

1.2. Survey participants gender

1.2.1. Farmers respondents by gender

Overall, Majority of the farmers 81% are male while females interviewed are only 19% across the counties. Male gender has dominated in terms of participation in the project compared to their female counterparts. One of the requirements of participating in the Boomitra program is access to a title deed for the land owned which is mostly owned by male. This may be the largest contributing factor for the results observed.

Narok county had the least number of females participating an indication that the project is mainly led by men in the county. This could be mainly because of the Maasai tribe Culture which limits women participation in farm activities. Enhancing the involvement of women in Climate-Smart Agriculture (CSA) activities is crucial for promoting sustainable and inclusive agricultural practices. Some of the ways the project can enhance involvement of women is through:

- Providing women with equal access to land, credit, inputs, and technologies. This may involve addressing legal and cultural barriers that restrict women's rights to land ownership and control.
- Offering training programs specifically designed for women, focusing on CSA techniques, sustainable farming practices, and climate change resilience.
- Strengthening extension services to reach women farmers with relevant information, advisory support, and technical assistance. This can be achieved through female FSCs who can better understand the specific needs and challenges faced by women farmers.
- Highlighting successful women farmers and leaders in CSA as role models to inspire and encourage other women to engage in agricultural activities.

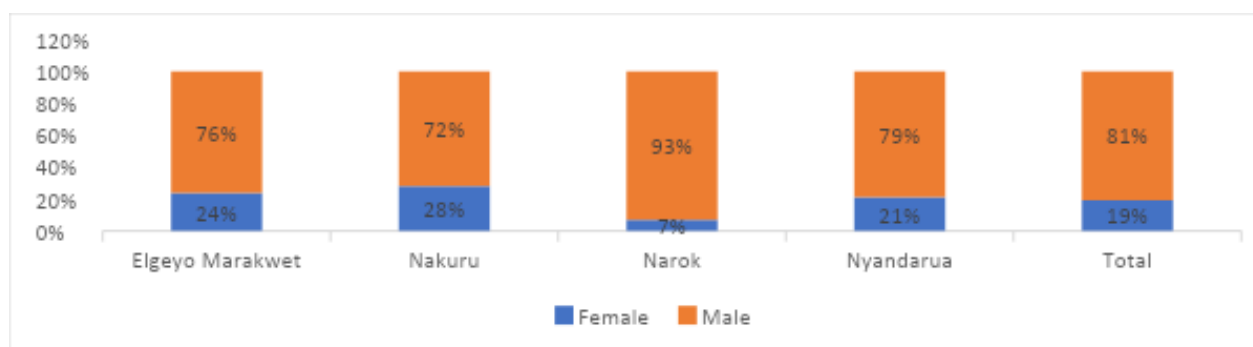


Figure 3: Farmer respondents by gender

1.2.2. FSCs respondents by gender

Majority of the interviewed FSCs are males at 73% and females at 28%. The difference in the level of participation of both genders is mainly influenced by the selection of the FSCs to participate in the interview which was done by Agribusiness Coordinators.

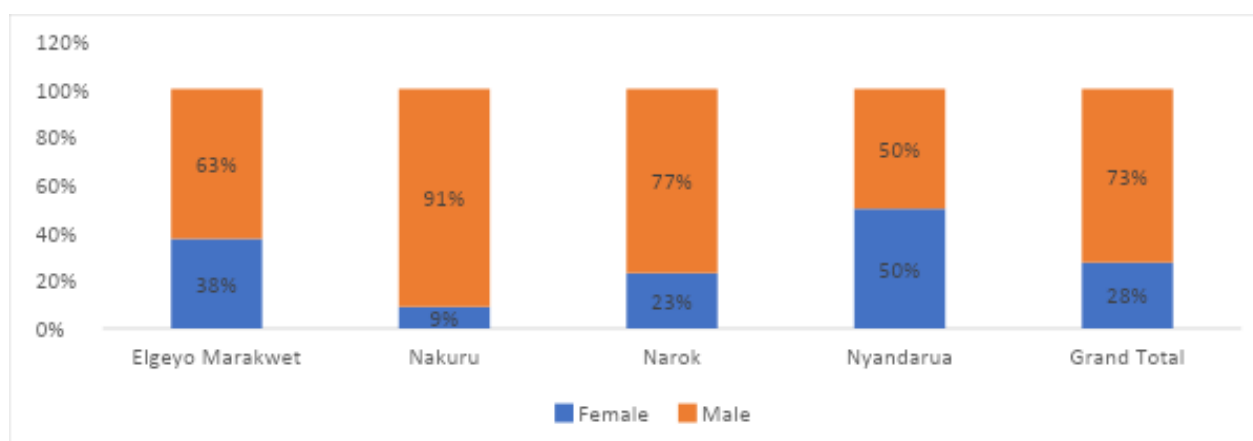


Figure 4: FSC respondents by gender

1.3. Knowledge of FtMA project and Boomitra company

The majority of farmers (97%) have heard of the Boomitra carbon credit initiative, while 3% have not. Many of the farmers (82%) have heard of FtMA through farmer service centers, while 18% have not heard of the Project.

For the farmers who have heard of the carbon credit initiative, they had the following key thoughts about what Boomitra is all about:

- It's a company that pays farmers for planting trees.
- It's a company that pays farmers for sinking carbon.
- It's company that pays farmers when they practice climate smart agriculture.
- It's a connection between farmers and polluters of the environment.
- It's a company that helps farmers to take care of the environment.

Farmers should gain a better understanding of carbon credits, their role in mitigating climate change, and the opportunities they present for sustainable farming practices. Empowering farmers with knowledge about carbon credits can encourage their active participation in climate change mitigation efforts and contribute to the transition toward a more sustainable agricultural sector. The graph below (figure 5) shows different percentages of what farmers think Boomitra is all about.

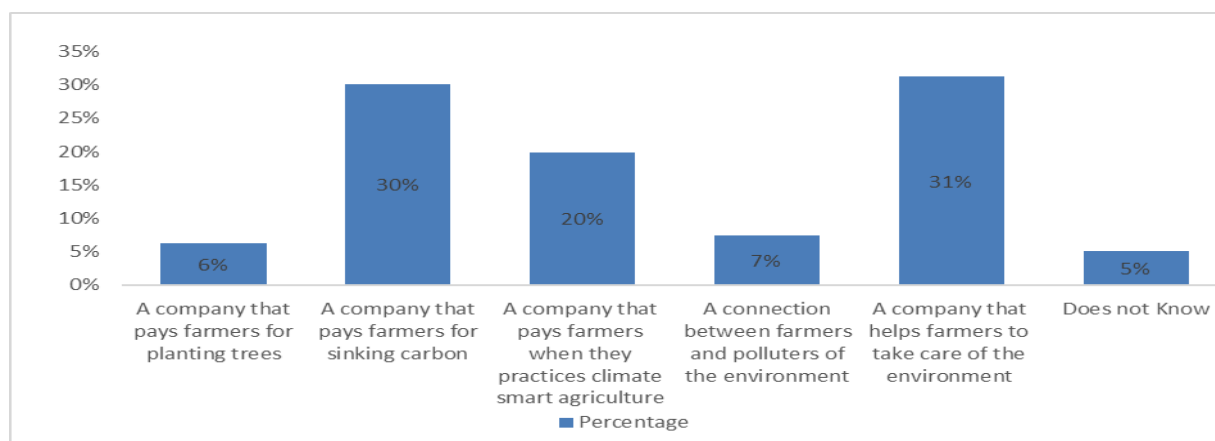


Figure 5: Farmers Perception about Boomitra

1.4. Source of information about Boomitra

Farmer Service Centers have been the major channel of transmitting information about Boomitra Carbon Credit initiative followed by FtMA project Staff. The proximity and trust between FSCs and farmers can facilitate effective communication and engagement, leading to increased awareness and adoption of carbon credit practices among agricultural communities. Table 2 below shows farmers source of information about Boomitra.

Table 2: Source of information about Boomitra

County	FSC	FtMA Staff	Boomitra Staff	MoA Staff
Elgeyo Marakwet	93%	4%	2%	0%
Nakuru	94%	6%	4%	12%
Narok	84%	19%	0%	0%
Nyandarua	98%	36%	0%	0%
Total	92%	16%	1%	3%

By leveraging the existing network and infrastructure of FSCs, farmers can access the necessary knowledge and support to better understand Boomitra carbon credits and participate effectively in related projects.

FSCs were also asked to mention the how farmers get information about Boomitra program. They reported that the main sources of information about the Boomitra program among the farmers was from the FSCs (88%) and FtMA staff (33%). Other sources included the Boomitra staff, government staff and other sources such as radio and television (figure 6).

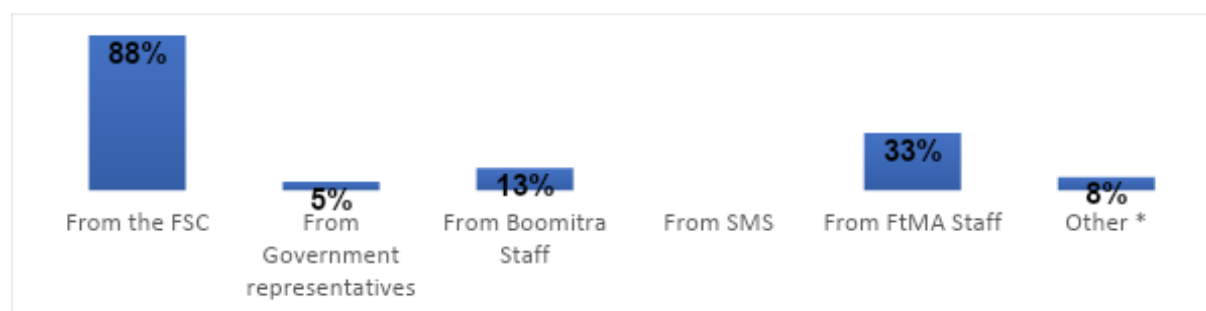


Figure 6: Sources of information about the Boomitra program

1.5. Acreage registered under Boomitra

97% of the farmers that were interviewed are registered on Boomitra. On average, 18 acres have been registered with Boomitra with **Narok county having the highest average of 51 acres**. This is because most farmers in the county generally have large sizes of land. Of the registered acres, on average the registered acreage to Boomitra that is under crop farming is 8 acres as shown in table 3 below.

Table 3: Acreages registered under Boomitra

County	Number of farmers registered with Boomitra	Average acres registered with Boomitra	Average registered acreage to Boomitra that is under crop farming	Average years acres under crop farming
Elgeyo Marakwet	46	7	4	16
Nakuru	44	5	5	15
Narok	58	51	18	11
Nyandarua	46	8	6	19
Grand Total	194	18	8	15

1.6. Farmers expected benefits and confidence with the Boomitra program.

Most farmers, 59%, stated that carbon credit payouts are the biggest benefit they anticipate. 89% of farmers interviewed were from Elgeyo Marakwet county who stated they anticipated receiving payments for their carbon credits under Boomitra. Farmers anticipating an increase in productivity

because of participating in Boomitra initiative were 35% of the interviewed farmers. Majority of those farmers are in Nyandarua county at (50%) of the farmers who expect higher farm productivity because of participating in the initiative. Only 40% of the farmers responded positively when asked about their level of confidence in the Boomitra program, followed by 33% who stated they were extremely optimistic. While most farmers in Nyandarua county led with farmers who are confident that the project will help them at (57%) and Elgeyo Marakwet having farmers who are extremely confident that the project will help them at (59%).

Table 4: Main benefit expected by farmers and their confidence with the Boomitra program

		Elgeyo Marakwet	Nakuru	Narok	Nyandarua	Total
Main benefit expected by farmers from Boomitra	Carbon credit payouts	89%	45%	55%	48%	59%
	Getting recognized under FtMA	0%	45%	0%	0%	1%
	Increase in farm productivity	7%	45%	40%	50%	35%
	Other benefit	4%	45%	5%	2%	5%
Farmers' confidence with the Boomitra program	Confident	30%	30%	43%	57%	40%
	Neutral	7%	34%	21%	32%	23%
	Not confident	2%	2%	3%	0%	2%
	Not very confident	2%	2%	0%	2%	1%
	Very confident	59%	32%	33%	9%	33%

1.7. Rating of Boomitra program by FSCs and farmers

All the FSCs (100%) participated in supporting Boomitra to onboard farmers into the carbon credit program. Most FSCs reported that the process of onboarding farmers into the program was **moderately difficult to very difficult, as reported by about 83%** (moderate-45%, difficult-15%, very difficult-23%). A relatively high proportion of FSCs in Nyandarua and counties reported that the process was very difficult as shown in figure 7. The challenges faced by farmers onboarding into Boomitra program are discussed under the challenges section (5).

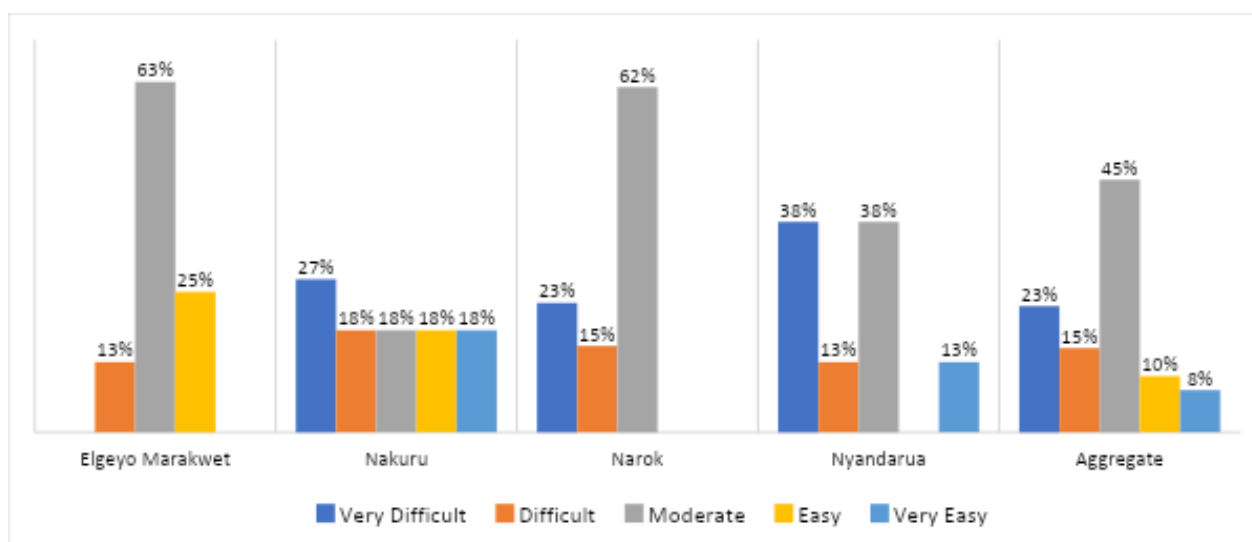


Figure 7: Ease of onboarding farmers into the carbon credit program among the FSCs

Aspects of the onboarding process which worked well among the FSCs included.

- **Support from the chiefs leading to increased trust from farmers**
- **Cooperation from farmers and partners**
- **Digitalization of the onboarding process**
- **Support from Boomitra**
- **Training on climate smart agriculture**
- **Payouts to farmers**

1.7.1. Farmers rating aspects of Boomitra Programme

Aspects of the program were rated by the farmers on a scale of 1 to 5 (1 being very poor, 2 being poor, 3 being good, 4 being very good, and 5 being excellent). **Most respondents that were Farmers (37%) ranked the ease of the registration process as Very good**, with Elgeyo Marakwet providing the highest rating at (52%). Support and guidance offered by the FSC, and program team was assessed as very good at an average percentage of 42%, with Nyandarua county scoring 64% having FSCs offering support to FSCs. The FSCs and program team's communication and information exchange were assessed as very good (38%), with Nyandarua county rating the highest (57%). Only 35% of program requirements and expectations were assessed as good, with Nyandarua providing the highest rating (53%) even though Elgeyo Marakwet farmers rated the aspects as very good. Figure 8 below shows rating the aspects of the program on a scale of 1 to 5.

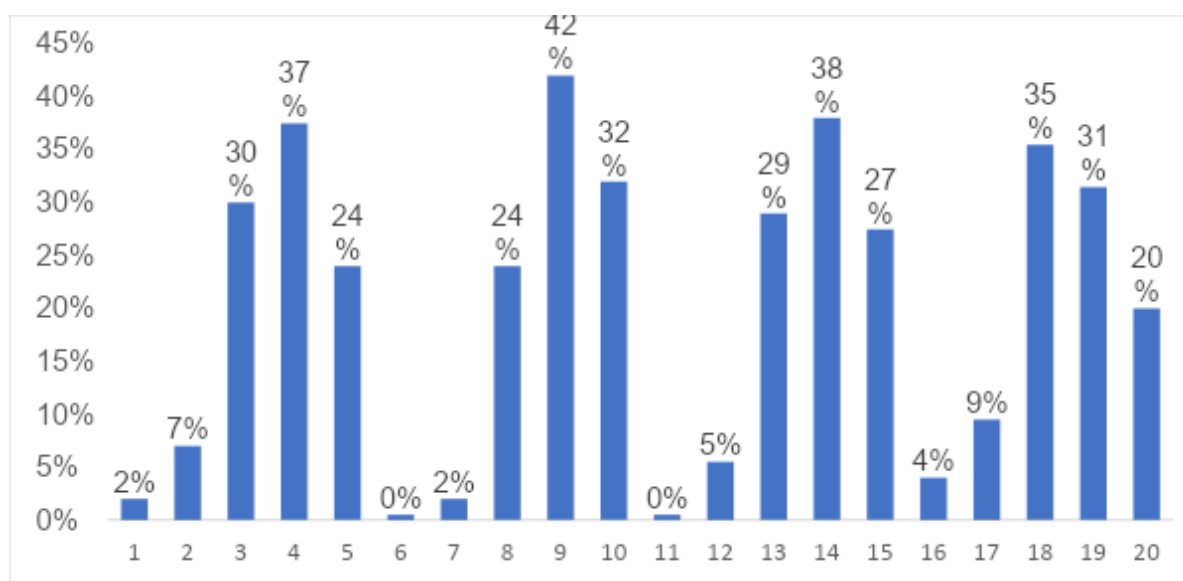


Figure 8: Rating the aspects of the program on a scale of 1 to 5

Table 5: Rating the aspects of the program on a scale of 1 to 5 per County per

Program aspects	Rating	Elgeyo Marakwet	Nakuru	Narok	Nyandarua	Total
Ease of registration process	Very Poor	0%	2%	0%	6%	2%
	Poor	7%	2%	3%	17%	7%
	Good	9%	14%	59%	32%	30%
	Very Good	52%	36%	21%	45%	37%
	Excellent	33%	46%	17%	0%	24%
Support and guidance provided by the FSC and program team	Very Poor	2%	0%	0%	0%	0%
	Poor	2%	0%	5%	0%	2%
	Good	11%	14%	40%	28%	24%
	Very Good	46%	34%	28%	64%	42%
	Excellent	39%	52%	28%	9%	32%
Communication and information sharing from the FSC and program team	Very Poor	0%	0%	0%	2%	0%
	Poor	4%	4%	3%	11%	5%
	Good	9%	18%	55%	28%	29%
	Very Good	50%	38%	12%	57%	38%
	Excellent	37%	40%	29%	2%	27%
Clarity of program requirements and expectations	Very Poor	0%	12%	0%	4%	4%
	Poor	0%	4%	9%	26%	9%
	Good	11%	32%	43%	53%	35%
	Very Good	59%	28%	24%	17%	31%
	Excellent	30%	24%	24%	0%	20%

1.8. Understanding how the carbon credits works

By participating in the program, farmers earn carbon credits, which represent a reduction or removal of greenhouse gas emissions from the atmosphere. These carbon credits can then be sold or traded

on the carbon market, also providing financial benefits to farmers while promoting environmental sustainability. When asked if they understood how carbon credits would be distributed, 38% said they did understand how the payments will be done. Narok county had the highest number of farmers who understood the method at 55%. Only 19% of farmers were able to determine how much carbon credits are paid per acre. Only 7% of farmers are aware of any additional carbon credit compensation partners in their area that work with farmers. **The additional carbon credit compensation partners mentioned are Tiste, Akili and Komaza.**

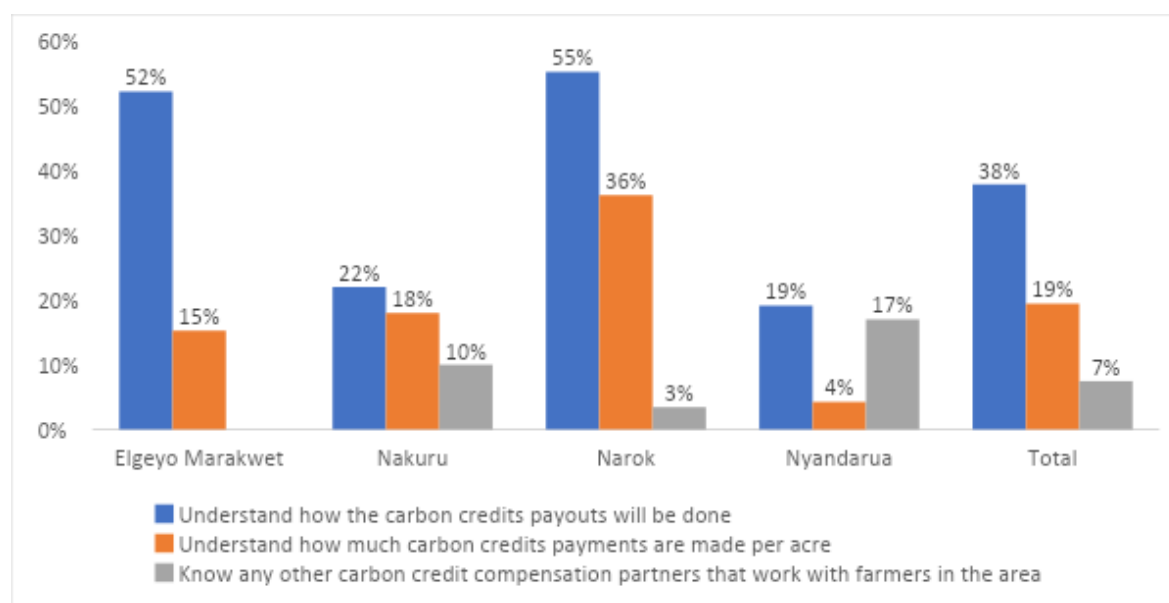
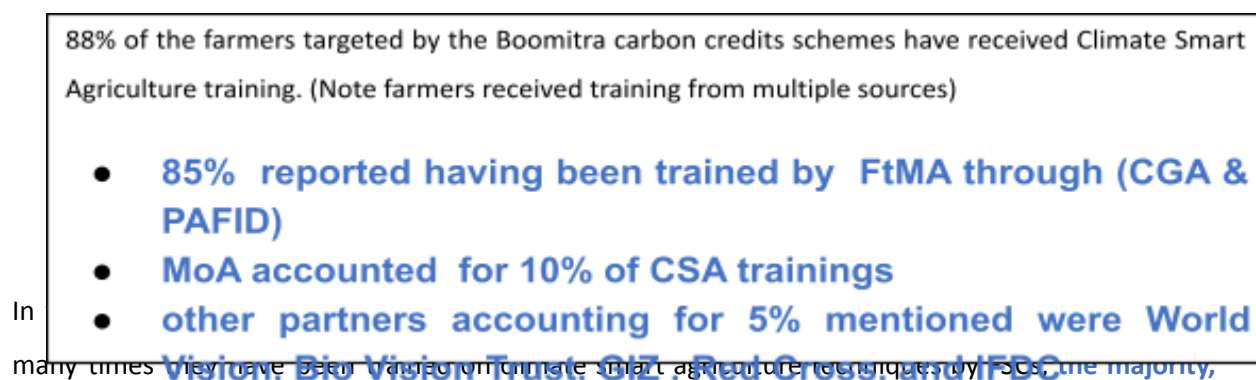


Figure 9: Understanding how the carbon credits works

1.9. Farmers Training on Climate Smart Agriculture techniques to farmers

Farmers were asked if they had received Climate Smart Agriculture training and who had instructed them.



In many times they have been trained on climate smart agriculture techniques by JCS, the majority, 21%, responded three or More than Five times respectively. Most farmers trained three times were in Elgeyo Marakwet county, while those trained more than five times were in Narok county.

Table 6: Training on Climate Smart Agriculture techniques per county

Category	Elgeyo Marakwet	Nakuru	Narok	Nyandarua	Total
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If farmers were trained on CSA techniques	Farmers who received CSA training	80%	100%	81%	89%	88%
Trainer of CSA techniques	FtMA/CGA/PAFID	100%	86%	72%	83%	85%
	MoA	0%	4%	26%	10%	10%
	Other organization	0%	10%	2%	7%	5%
Number of times farmers have been trained on CSA techniques by FSCs	Five times	0%	6%	6%	2%	4%
	Four times	3%	10%	6%	36%	14%
	More than five times	19%	18%	32%	14%	21%
	Once	19%	18%	15%	17%	17%
	Thrice	38%	16%	15%	19%	21%
	Twice	22%	32%	26%	12%	23%

1.10. CSA practices trained by FSCs to farmers

FSCs were asked to mention the CSA practice they had taught to farmers. **Conservation agriculture techniques (ripping, zai pits, crop rotation, cover cropping, and mulching) was cited as the most common Climate Smart practices taught to farmers by FSCs at 97%.**

Water and energy saving technologies (Solar irrigation) were listed as the least key taught practice at 24%, with just 9% of FSCs in Nakuru reporting to have trained the CSA practice, most likely due to a skill gap on the part of the FSCs.

Table 7: CSA practices trained by FSCs and farming practices farmers reporting to have been trained

Practice		Elgeyo Marakwet	Nakuru	Narok	Nyandarua	Total
Climate Smart practices trained by FSCs to farmers	CA (Ripping, Zai pits, crop rotation, Cover cropping, Mulching)	100%	100%	92%	100%	97%
	Soil testing	14%	45%	42%	38%	37%
	Use of water and energy saving technologies (Solar irrigation)	14%	9%	25%	50%	24%
	Integrated pest management	43%	73%	50%	38%	53%
	Integrated soil fertility management (application of compost manure)	86%	82%	42%	88%	71%
	Other	29%	18%	8%	13%	16%

1.11. CSA practices farmers reporting to have been trained on

Farmers were asked to mention the farming techniques which had been taught to them. Agroforestry was highlighted by 84% of farmers as one of the farming practices in which they had been taught. **At**

27%, the application of green manure was the least mentioned practice by farmers as shown in table 8 below.

Table 8: Farming practices farmers reporting to have been trained on

	Practice	Elgeyo Marakwet	Nakuru	Narok	Nyandarua	Total
Farming practices farmers reporting to have been trained	Compost manure	57%	66%	60%	67%	63%
	Crop rotation	81%	76%	81%	67%	76%
	Application of green manure	49%	32%	17%	14%	27%
	Cover cropping	54%	60%	60%	57%	58%
	Minimum tillage	49%	76%	38%	93%	64%
	Integrated Pest management	35%	44%	21%	36%	34%
	Agroforestry	86%	70%	96%	83%	84%
	Crop residue retention	35%	60%	32%	19%	38%
	Other practice trained	3%	10%	2%	0%	4%

1.12. Farmers farming practices before and after training

Farmers are trained in a variety of agriculture operations to efficiently practice them. The adoption of all farm practices was substantial.

Following training, when comparing before and after training, **minimum tillage recorded the highest change by 43% followed by cover cropping recording a change of 30%. Compost manure and green manure application were the least used practices recording a change of 11% each. Agroforestry is the highest farming technology practiced by 85% of trained farmers.**

The figure below depicts farm practices prior to and following training to farmers.

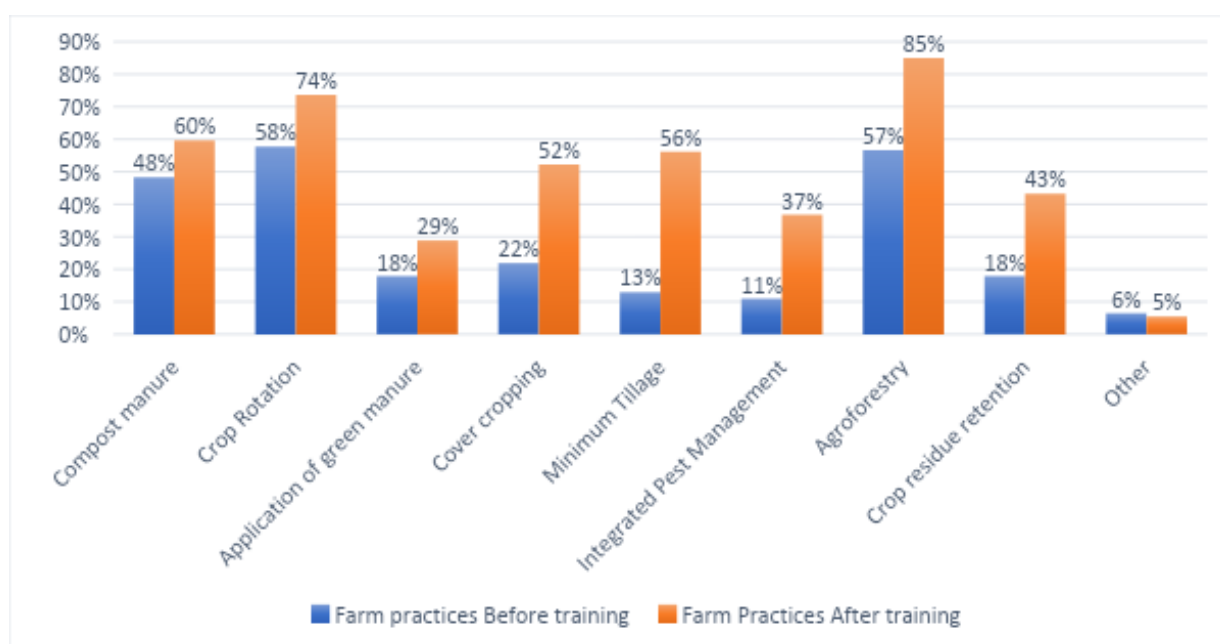


Figure 10: Farming practices before and after training

Table 9: Farming practices done by farmers BEFORE and AFTER training

	Elgeyo Marakwet		Nakuru		Narok		Nyandarua		Total	
Farming practices	Before	After	Before	After	Before	After	Before	After	Before	After
Compost manure	30%	46%	58%	66%	43%	62%	62%	64%	48%	60%
Crop rotation	76%	78%	66%	74%	62%	69%	26%	74%	58%	74%
Application of green manure	24%	39%	22%	38%	21%	28%	4%	11%	18%	29%
Cover cropping	37%	50%	28%	64%	19%	41%	4%	55%	22%	52%
Minimum tillage	17%	35%	8%	70%	19%	36%	6%	87%	13%	56%
Integrated Pest Management	20%	22%	6%	60%	16%	21%	2%	47%	11%	37%
Agroforestry	83%	93%	40%	84%	72%	81%	30%	83%	57%	85%
Crop residue retention	17%	33%	20%	72%	22%	38%	11%	30%	18%	43%
Other	0%	0%	2%	8%	9%	9%	15%	4%	6%	5%

1.13. FSC rating farmers' understanding and application of sustainable climate smart practices

Farmers' knowledge of sustainable climate smart practices was rated by the FSCs. **Overall, 47% of the FSCs assessed the smallholder comprehension as partial understanding**, with 88% of the FSCs in Nyandarua evaluating it as good.

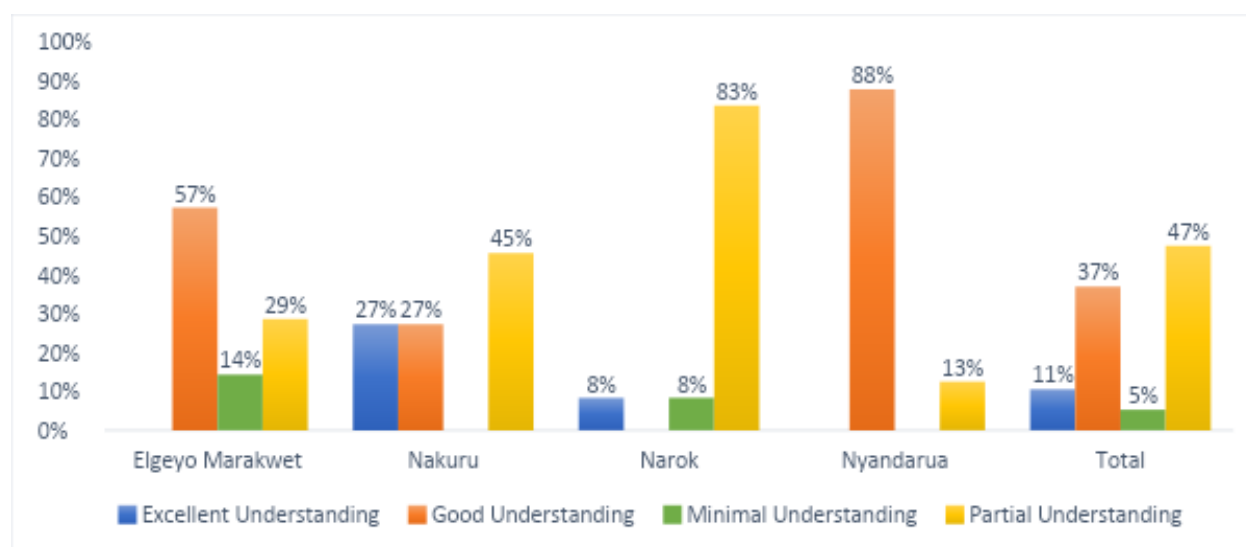


Figure 11: Knowledge of sustainable climate smart practices

In terms of use of sustainable CSA practices by farmers the FSCs rated them as either average, excellent, good, or minimal. The majority **of 45% FSCs assessed the uptake of CSA practices by farmers as average**, with Narok county having the highest proportion of FSCs (75% rating the CSA practice by farmers as average).

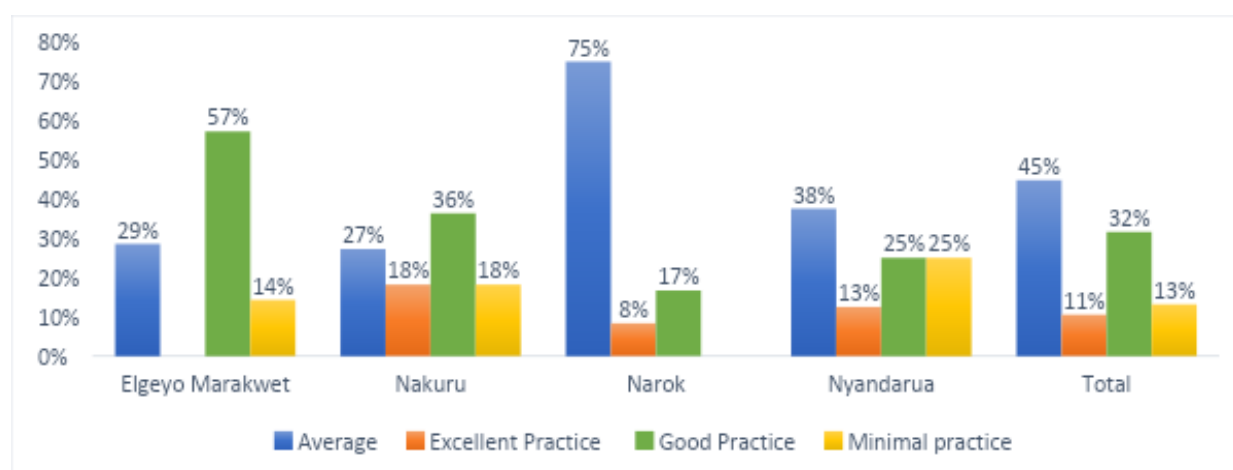


Figure 12: FSC rating farmers' application of sustainable climate smart practices

Some of the justifications given by farmers for using the climate smart agriculture techniques encouraged by FtMA include:

- Effects of Climate change
- Increase in yields and soil fertility
- Practices help conserve moisture in the soil hence better harvest during drought
- High production and low cost of production
- Less labor required because of the minimum tillage
- Carbon credit payments
- They are environmentally friendly
- Soil conservation as it helps improve soil fertility and productivity
- The anticipated increase in farm produce
- Less use of labor and high quantity of products



Figure 13: FtMA Showcasing Agroforestry

1.14. Farmers' understanding of carbon credit programs

1.14.1. Farmers awareness

79% of the farmers targeted by the Boomitra carbon credit initiatives have heard of carbon credits overall. On the other hand, about 72% are fully aware of what they must do to take advantage of carbon credit schemes. Most farmers in Narok (88%) and Elgeyo Marakwet (85%) counties are aware

of Boomitra's carbon credit initiatives. Elgeyo Marakwet county (85%) has the highest percentage of farmers who are aware of what they should do to gain from carbon credit schemes. Nakuru county has the lowest proportion of farmers informed about carbon credits programs. Most farmers are aware that carbon credits seek to reduce carbon dioxide emissions from the environment and provide some compensation in the form of payments, commissions, and incentives to farmers that use climate-smart agricultural techniques.

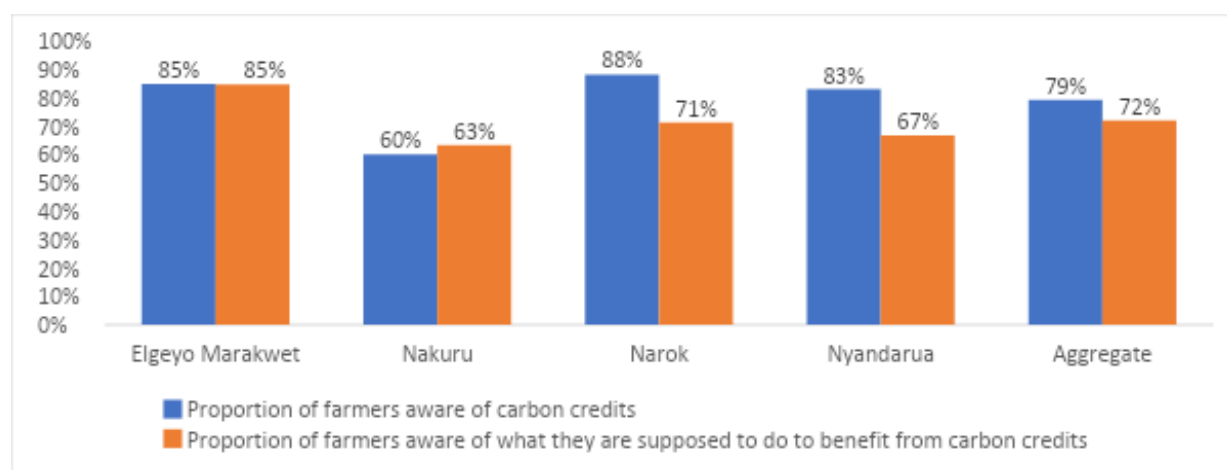


Figure 14: Proportion of farmers informed about carbon credit programs

Farmers anticipate a number of advantages from taking part in the Boomitra carbon credit initiatives, including;

- Carbon credit payouts leading to additional income from the farm
- Benefit from inputs such as fertilizers, seeds, tree seedlings and other farm inputs
- Ability to adopt more CSA technologies such soil fertility management and conservation agriculture
- Increased area under production and CSA technologies.
- Better and cleaner environment
- Increased crop production and better yields
- Clean farm products free of chemical contamination
- Increased tree cover
- Motivation to work harder in the farm and conserve the environment

1.14.2. Farmers clarity on the Boomitra programs

About 65% of farmers said there were certain aspects of their involvement in the Boomitra initiative that they were unclear about. These farmers are concentrated mostly in the counties of Nyandarua

(94%) and Nakuru (80%). Farmers in Narok (63%) and Elgeyo Marakwet (24%), respectively, lack clarification about their involvement in the Boomitra project

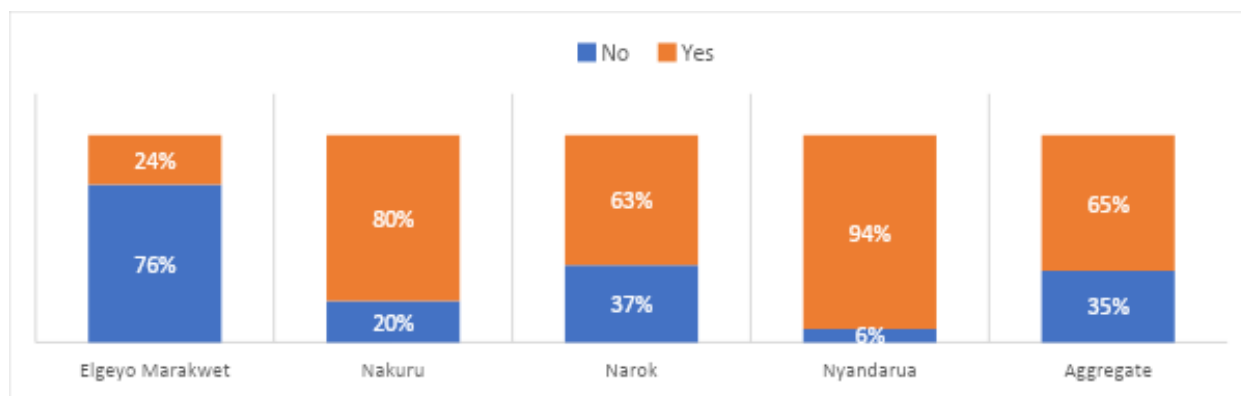


Figure 15: Farmers clarity on the Boomitra program

The main areas of concern highlighted by farmers include;

- General information about the program and how they should be involved.
- Carbon credits payout models and requirements.
- Amounts to be paid for participation.
- Farming practices which qualify to reduce carbon dioxide from the environment.
- Other services offered by the Boomitra program other than the carbon credits.
- Reasons for requiring private documents such as land title deeds and how the information is being used.
- Modes and frequency of providing trainings on carbon credits to farmers.

To overcome these challenges, farmers propose the following solutions;

- Improvement of the Boomitra mobile application and SMS system
- Prompt payment of carbon credits
- Minimize documents required for registration, especially the need for land title deeds which are not mostly available
- Provide farmers with equipment for recording carbon credits data
- Provide clarity on the security of land title deeds
- Intensify trainings and follow-ups on farm technologies and carbon credits
- Clarify on the timeframe of the program

1.15. Farmers' recommendation on carbon credit programs to other farmers

Most farmers (65%), especially in Elgeyo Marakwet, would advise other farmers to participate in the Boomitra Carbon Credit Initiative. Approximately 26% of respondents, primarily in Nyandarua county,

are unsure if they can suggest Boomitra carbon credit scheme to other farmers, while 9% of respondents, primarily in Narok and Nakuru counties, would not (figure 15).

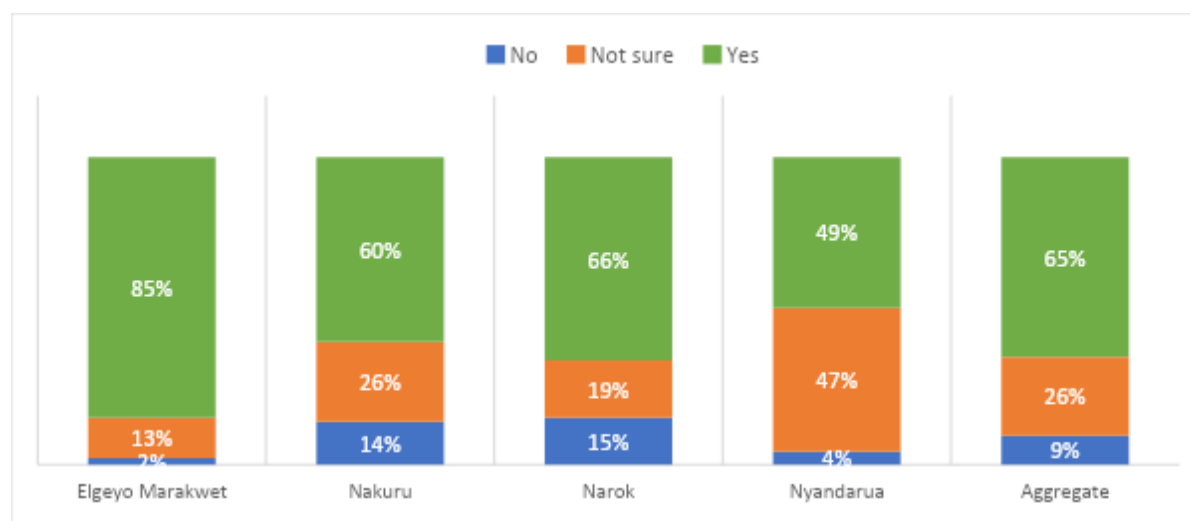


Figure 16: Proportion of farmers who can recommend Boomitra carbon credit initiative to other farmers

The reasons why some farmers would recommend Boomitra initiative to other farmers include:

- The initiative has some benefits to the environment
- The initiative has benefited them financially
- The initiative has helped the farmers to increase their yields
- The initiative has helped the farmers improve their soils
- So that other farmers can benefit from the training on conservation agriculture

The reasons why some farmers would not recommend Boomitra carbon credit initiative other farmers include:

- Lack of adequate information about the initiative
- Uncertainty in the future of the program
- Lack of benefit and support from the program
- Lack of trust, especially with the custody of land title deeds
- Un-met promises by Boomitra program
- Too much documentation required in the program
- Lack tangible results to convince other farmers about the success of the program

2. CHALLENGES

2.1. Challenges or difficulties experienced by farmers while participating in the Boomitra program

Some of the challenges mentioned by farmers while participating in the Boomitra program are:

- Inadequate information about the program
- Need of sensitive documents required for registration (Doubts about the security of documents like title)
- Inadequate information on payment (Delayed payment)
- Most of the land ownership is not in the hands of the owners
- Network problems during registration
- Need for training to understand how this carbon credits will become a benefit
- Unavailability of equipment to adopt recommended practices
- Lack of follow ups by the team after registration
- Lack of better training on the whole Boomitra and it's credits payouts
- Very hard to understand and adopt the process of onboarding
- Farm measurements and amount payment per acre
- Link sent via SMS is not working
- Registration to boomitra (Code delays and lack of understanding on how to use it to access the boomitra app)
- Onboarding requirements as very sensitive documents are required by farmers

2.2. Challenges faced during farmer verification process by FSCs

- Facilitation challenges on transport and data/credit to verify the farmers
- Late payments
- Farmers were not willing to come out for the trainings
- Not easy for farmers to understand and adopt boomitra due to sensitive documents required
- System failure in verification process due to Network challenge
- Farmers were not willing to give out their details Some farmers do not have title deeds.
- The farmers are reluctant to give out their documents (lack of trust)

2.3. Challenges faced by FSCs in registering farmers to Boomitra carbon credit program

The main challenges faced by FSCs in registering farmers to Boomitra carbon credit program included;

- Lack of confidence and trust from farmers
- Inaccessibility of farmers due to long distances and bad terrain
- Verification of information and documentation provided by farmers
- Approximation of land sizes
- Delays in the online registration process due to the instability of the mobile application
- Unmet promises e.g., supply of tree seedlings

- Lack of funds for mobility and internet connectivity
- Request for sensitive documents e.g., title deeds and identification cards
- High expectations from farmers
- Land and border disputes among farmers
- Lack adequate information about the carbon credit concept
- Lack of motivation from Boomitra

2.4. Challenges experienced by FSCs while engaging with partners

The main challenges experienced by FSCs while engaging with partners included lack of familiarity of the program and trust since the partners were new to each other and the concept was not clear. Some partners were also not readily available or did not have time to support the FSCs. Some of the proposal provided by the FSCs to improve the engagement of partners included increasing the number of Boomitra staff to support the FSCs and capacity building/sensitization of the partners on the program.

2.5. Strategies proposed by FSCs

Some of the strategies proposed by the FSCs to make farmer onboarding more efficient included;

- More training on conservation agriculture
- Awareness creation and sensitization of farmers and partners on the program, especially through the local leaders
- Improve communication and feedback from Boomitra
- Reduce the items required for registration
- Prompt payout to farmers and FSCs
- Facilitate FSCs logistics during the onboarding process
- Improve the online registration system

3. CONCLUSION AND RECOMMENDATIONS

Based on the above feedback from farmers and FSCs about the Boomitra program below are the key conclusions and recommendations:

- Compared to their female counterparts, men have participated in the initiative at a higher rate than women. The promotion of inclusive and sustainable farming practices—which will raise women's engagement in the carbon credit initiative—requires increasing the participation of women in Climate-Smart Agriculture (CSA) activities.
- Only 40% of the farmers responded positively when asked about their level of confidence in the Boomitra program, followed by 33% who stated they were extremely optimistic. This

calls for more follow-ups to ensure farmers are more confidence hence ownership and adoption of the Boomitra program.

- Approximately 83% of FSCs said that the process of integrating farmers into the program was fairly challenging to extremely difficult. This demonstrates that the initiative should act promptly and simplify the process so that more farmers may readily enroll in the program.
- On evaluating farmers' perceptions and understanding of carbon credit programs facilitated by Boomitra, only 38% of farmers responded that they understood how carbon credits would be distributed, and only 19% of farmers were able to calculate how much carbon credits are paid per acre, even though the bulk of program components received extremely high ratings from farmers.
- There must be greater follow-up on the carbon credit components in order to provide farmers and FSCs with more appropriate information and training and to solve the challenges that both experiences as mentioned under the challenges section. This is also backed up by 65% of farmers who said there were still some aspects of their participation in the Boomitra initiative that they were unclear about, which should be addressed for the program to be fully adopted. This is despite the fact that 79% of the farmers targeted by the Boomitra carbon credit initiatives had heard of carbon credits and that about 72% were fully aware of what they must do to take advantage of carbon credit schemes.
- Key suggestions and recommendations for improving the carbon credit program and enhancing farmer engagement have been given by both the farmers and the FSCs. Improving communication and feedback is a key recommendation cutting across as well as clarification on the sensitive documentation like the use of title deeds required for onboarding. Improving the registration process will also make the onboarding process easy and efficient.