



**MID-TERM
EVALUATION**





MID-TERM EVALUATION

South-South Technical Cooperation Project – BRA12/OO2-SO07
Regional Project to Strengthen the Cotton Sector in the Lake Victoria Basin
Basin (Burundi-Kenya-Tanzania) – Cotton Victoria Project

Brasilia | December, 2024

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The Project



Cotton Victoria Project

1. Executive summary

The purpose of this mid-term evaluation is to assess the performance of interventions directly aimed at improving cotton productivity, the implementation of project activities, institutional management, and the uptake/ownership of disseminated technologies under the scope of the “Regional Project to Strengthen the Cotton Sector in the Lake Victoria Basin” (“Cotton Victoria”) during the 2016–2025 period. The conclusions drawn from semi-structured questionnaires completed by project managers, technicians, extension agents, and farmers—both current and former participants—will support enhanced efficiency, effectiveness, and impact of the initiative. Given that the project was extended through December 2026, the findings and recommendations of this evaluation may contribute to refining ongoing activities, deepening knowledge appropriation, and ultimately ensuring the sustainability of project outcomes.

2. Project background

Within the framework of the Brazilian Cotton Initiative, the Regional Project to Strengthen the Cotton Sector in the Lake Victoria Basin - BRA/12/002-S007 (“Cotton Victoria”) - was launched in October 2016 in partnership with the governments of Burundi, Kenya, and Tanzania. With a total budget of USD 5,367,796.66, the project aims to enhance institutional and human resource capacities in the development, dissemination, and adoption of cotton production technologies and seed systems. The main implementing institutions in each country are: Burundi: Cotton Management Company (COGERCO), the Burundi Institute of Agricultural Sciences (ISABU), and the National Office for Seed Certification and Control (ONCCS); Kenya: Agriculture and Food Authority (AFA), Kenya Agricultural and Livestock Research Organization (KALRO), and Kenya Plant Health Inspectorate Service (KEPHIS); Tanzania: Tanzania Cotton Board (TCB), Tanzania Agricultural Research Institute (TARI), and the Tanzania Official Seed Certification Institute (TOSCI).

3. Project Identification

Project **BRA/12/002-S007**, Regional Project to Strengthen the Cotton Sector in the Lake Victoria Basin (Burundi–Kenya–Tanzania) – Cotton Victoria, seeks to improve the competitiveness of the cotton sector in the three participating countries, Burundi, Kenya and Tanzania.

ABC/MRE Coordination: General Coordinating Division for Africa, Asia and Oceania

Coordinator: Nelci Peres Caixeta

Technical Person Responsible: Camila Guedes Ariza



4. Evaluation team:

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5. Collaborators

Camila Guedes Ariza (Project Analyst - ABC)
Márcio Aurélio Fleury (Project Assistant - ABC)



6. Cooperating institutions

BRAZIL

Brazilian Cooperation Agency (ABC), under the
Ministry of Foreign Affairs (MRE)
Federal University of Lavras — UFLA

BURUNDI

Cotton Management Company (COGERCO,
acronym in French + Institute of Agronomic
Sciences of Burundi (ISABU, acronym in French)

KENYA

Agriculture and Food Authority (AFA) - Fibre
Crops Directorate + Kenya Agricultural and Li-
vestock Research Organization – KALRO

TANZANIA

Tanzania Cotton Board (TCB)
Tanzania Agricultural Institute (TARI)
Thematic area: Agriculture (Cotton Farming)



7. Evaluation Mission Schedule

Burundi: November 4–8, 2024
Kenya: November 11–15, 2024
Tanzania: November 18–22, 2024



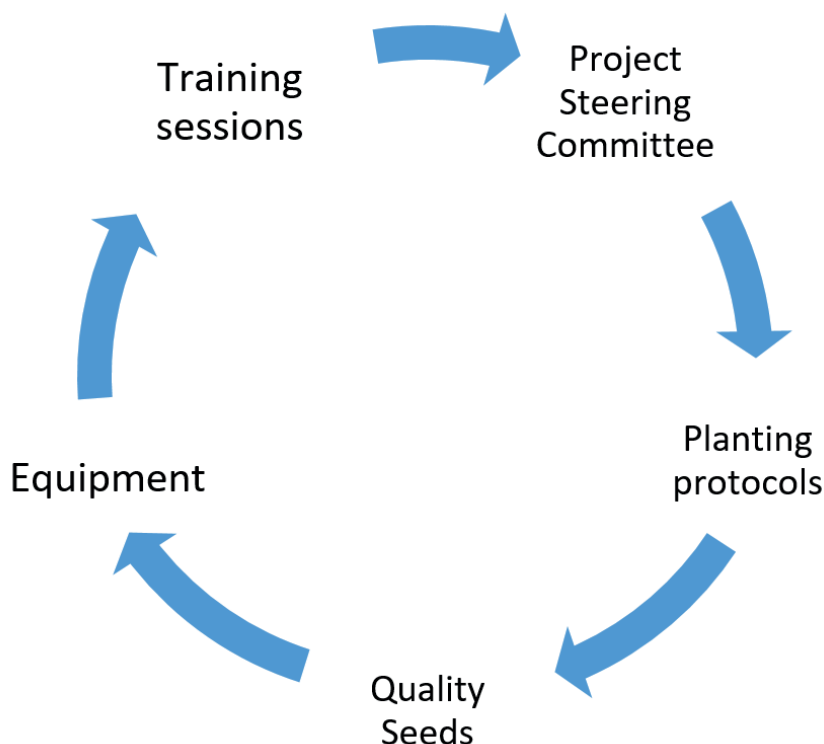
8. Methodology

The Mid-Term Evaluation is an exercise conducted at the midpoint of project implementation, complementing routine monitoring with an explanatory dimension—that is, assessing “how” and “why” the expected outcomes are (or are not) being achieved. It also seeks to determine whether the originally proposed solution to the initial situation/problem remains appropriate to the needs and perspectives of the target beneficiaries. Based on these insights, the evaluation may recommend technical or operational adjustments as needed. The official implementation period of the project runs from October 11, 2016, to December 31, 2026. Following a project review, an extension of the project up to December 12, 2026, was formally approved in 2024.

Key activities to be reviewed during this evaluation mission include:

- Delivery of nine direct training sessions by UFLA on: i) seed analysis techniques; ii) soil and water conservation; iii) rural communication and extension techniques; iv) integrated pest management; v) production of organo-mineral fertilizers; vi) cotton production practices; vii) installation of meteorological stations and data use; viii) growth assessment and control of cotton plants; and ix) agronomic technologies to optimize water use and reduce soil loss;
- holding of seven meetings of the Project's Steering Committee;
- planting protocols for each of the partner countries prepared with a view to their implementation;
- at least one field day held in each country per year;
- at least one meeting of the national technical committee held in each country per year;
- replication of training by counterparts in partner countries;
- donation of equipment;
- donation of 10kg of cottonseeds of a Brazilian variety.

It is important to note that, during the project implementation phase, the COVID-19 pandemic made it impossible to carry out Brazilian missions to partner countries in 2020 and 2021. Even so, ABC kept sending funds meant to cover the costs of implementing activities at the local level. The mid-term evaluation mission will allow for verifying any pending issues, as well as substantiating the results achieved so far, and making suggestions concerning adjustments to the project until the end of its term.

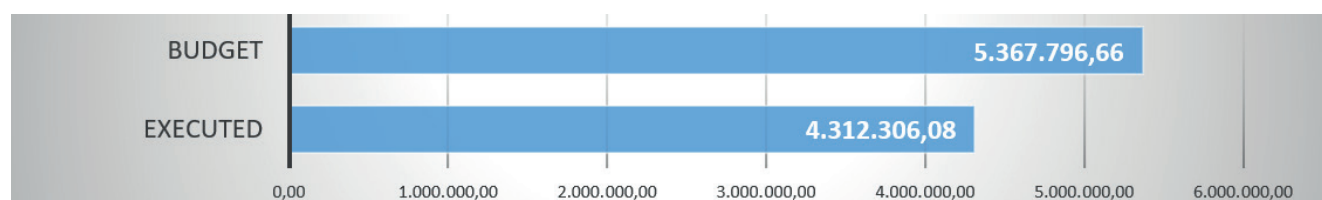


9. Project's financial perspectives

a) Budget table and execution

Subproject	Budget	Executed	%
BRA/12/002-S007 Regional Project to Strengthen the cotton sector in the Lake Victoria Basin (Tanzania-Kenya-Burundi)	5,367,796.66	4,312,306.08	80.34

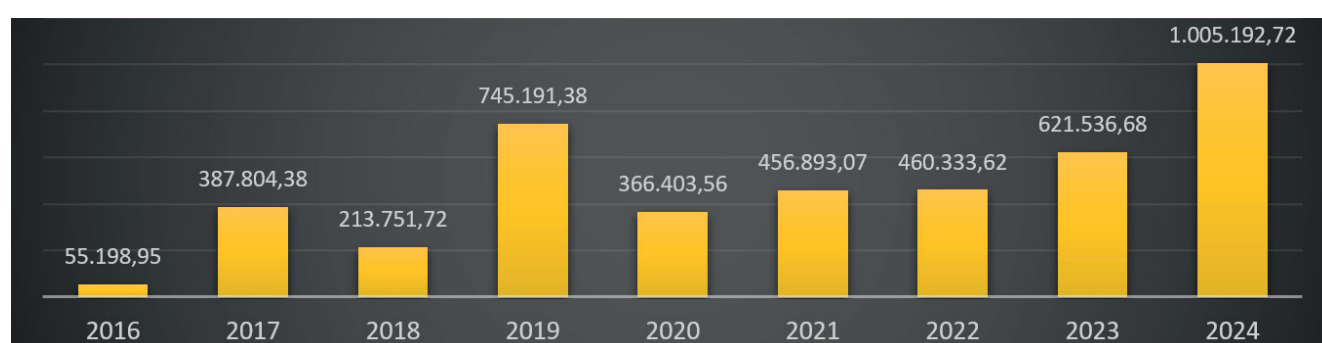
Chart A



b) Financial Execution from 2016 to 2024

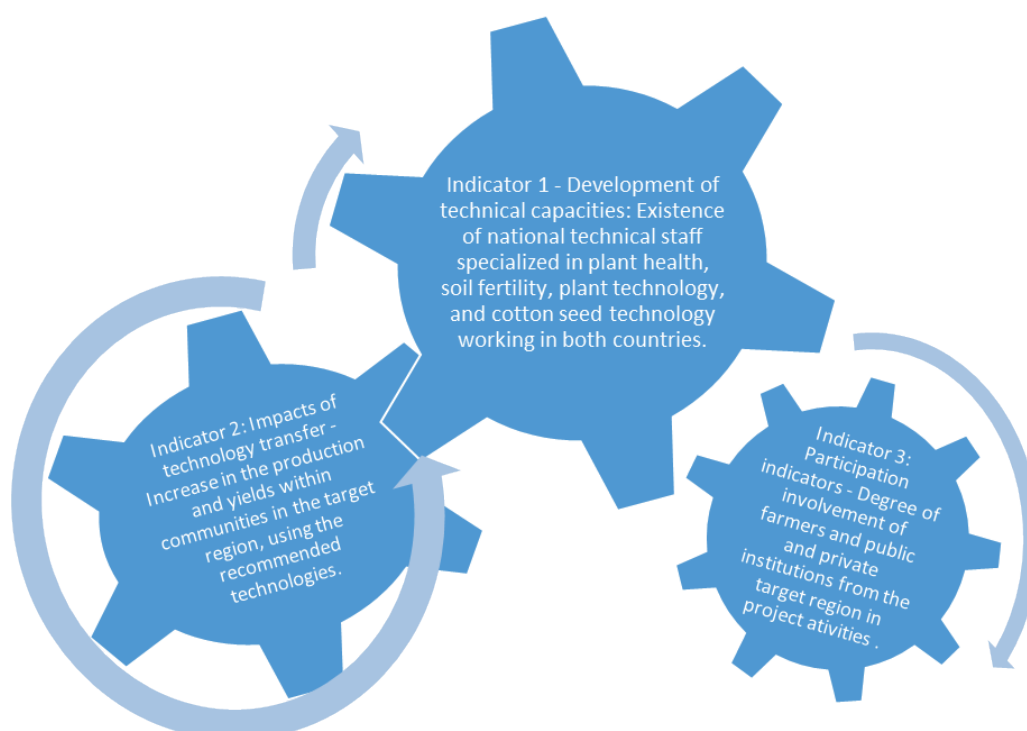
2016	2017	2018	2019	2020	2021	2022	2023	2024	USD Total
55,198.95	387,804.38	213,751.72	745,191.38	366,403.56	456,893.07	460,333.62	621,536.68	1,005,192.72	4,312,306.08

Chart B



10. Objective of the mission

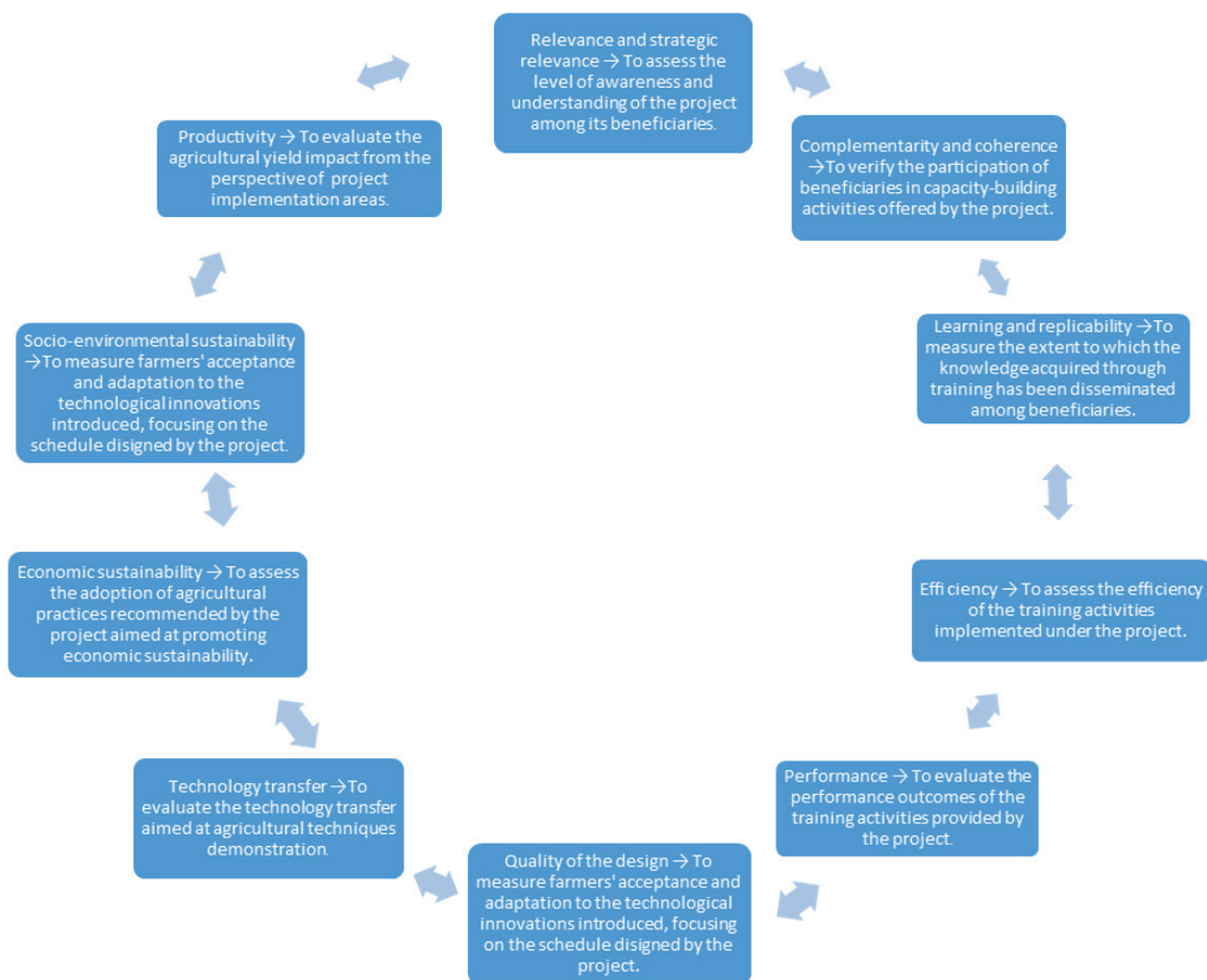
The objective of the mission is to assess the level of progress made and the challenges encountered in achieving the targets outlined in the project's logical framework. The indicators for the development objective are:



11. Matrix of questions

Dimension	Criterion	Question	Objective
Process	Strategic relevance and alignment	Are you familiar with the "Cotton Victoria" project?	To assess the level of awareness and understanding of the project among its beneficiaries.
	Complementarity and coherence	Have you participated in any training courses?	To verify the participation of beneficiaries in capacity-building activities offered by the project.
	Learning and replicability	Have you replicated any of the training courses?	To measure the extent to which the knowledge acquired through training has been disseminated by beneficiaries.
	Efficiency	Have you participated in any training courses?	To assess the efficiency of the training activities implemented under the project.
	Performance	Have you participated in any training courses?	To evaluate the performance outcomes of the training activities provided by the project.
	Quality of project design	Are farmers accepting the changes introduced by the new technologies delivered through "Cotton Victoria" training?	To measure farmers' acceptance and adaptation to the technological innovations introduced, focusing on the schedule designed by the project.
Short- and Medium-Term Results	Development of individual capacities	Are farmers accepting the changes introduced by the new technologies delivered through "Cotton Victoria" training?	To measure farmers' acceptance and adaptation to the technological innovations introduced, focusing on individual capacities.
	Development of institutional capacities	Have you participated in any training courses?	To verify the link between the participation of beneficiaries in capacity-building activities offered by the project in their institutions.
	Technology transfer	Have you taken part in field days or technology demonstrations?	To evaluate the technology transfer aimed at agricultural techniques demonstration.
Long-Term Results	Economic sustainability	Do you apply the planting protocols and spacing guidelines recommended by the project?	To assess the adoption of agricultural practices recommended by the project aimed at promoting economic sustainability.
	Yield	Has yield in the project areas increased or decreased?	To evaluate the agricultural yield impact from the perspective of implementation areas.
	Social and environmental sustainability	Are farmers accepting the changes introduced by the new technologies delivered through "Cotton Victoria" training?	To measure farmers' acceptance and adaptation to the technological innovations introduced, focusing on the schedule designed by the project.

Question cycles:



12. Interview methodology

i) **Formation of the Project Monitoring Committee (PMC)** – composed of representatives from ABC and UFLA not directly involved with the project, to ensure a neutral evaluation of the results.

ii) **Sample definition** – For defining the sample of technicians, the number of individuals who participated in the trainings was considered, ensuring appropriate representativeness (gender, institution, region, function). The sample size for each country was calculated with a 90% confidence level and a 10% margin of error.

The following formula was used:

$$\text{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

Where:

N = population size

e = margin of error (in decimal format)

z = z score (the z -score is the number of standard deviations between a given proportion and the average).

The sample calculation for each country was calculated using the website: <https://pt.surveymonkey.com/mp/sample-size-calculator/>

The coordinating institution in the partner country was asked to schedule interviews based on the defined sample and tried to adhere to the request as closely as possible.

No sample was defined for interviews with rural producers. The focal points were asked to organize meetings with a few representatives of farmers to try to understand how the project is perceived and implemented by them.

iii) Semi-structured interviews – The questionnaire was designed to assess the level of assimilation of technical knowledge shared by the project and the capacity of partner country institutions to implement it. The questions are quantifiable but also allow for qualitative responses. Separate questionnaires were developed for technicians and for rural farmers.

Cotton context in partner countries



Cotton context in partner countries

BURUNDI

Cotton cultivation was introduced in Burundi in 1920 in the Imbo Plain, in the western region of the country. Production was carried out by smallholders cultivating between 20 and 40 hectares. In the 1980s, cotton cultivation expanded to the Moso region in the eastern part of the country. The growth of cotton cultivation has been achieved in areas less suitable for cotton farming thanks to a policy aimed at increasing national cotton production¹.

Until 1992, national cotton production fluctuated between 5,000 and 9,000 tons. From 1993 onwards, however, this production dropped to less than 3,000 tons. Likewise, the area occupied by cotton fields decreased from 11,500 ha in 1961 to 4,000 ha in 2014².

The number of varieties used is very limited. Currently, there are only two varieties cultivated in Burundi: Stam and GIZA. The GIZA variety covers almost all the cotton plantations in the country. In addition to these two varieties, five varieties from Mali are being tested: NTA 93, NTA MS-334, NTA 88, NTA 90, and NTA L 100. These Malinese varieties are in their second year of studies and evaluation³.

The Compagnie de Gérance du Coton (COGERCO) – the Cotton Management Company – is the government institute responsible for centrally managing almost everything related to cotton cultivation in the country. There are designated areas for cotton production that are controlled by the government through COGERCO. Currently, these controlled areas total about 2,100 hectares and are located partly in the western region (along Lake Tanganyika to the Chibitoke province, or Imbo region, near the border with Rwanda) and partly in the eastern region of the country (Rutana province or Moso region, near the Tanzanian border). It is estimated that there are currently only about 8,000 cotton farmers in the country.

Farmers are generally organized into groups or clusters. In the Moso region, there are about 300 producer families, organized into 10 groups with 20 to 30 families each. These groups are organized into farmers' unions, which are further aggregated into regional confederations and a national federation.

COGERCO supplies the seeds and all available inputs (fertilizers and insecticides) with great difficulty. The seeds provided to farmers are of very low quality, consisting only of cottonseeds salvaged at the ginneries receiving the commercial crop. Technicians identify fields with better phytosanitary and productivity conditions, and separate the seeds during the ginning process. These seeds are distributed with lint and without fungicide or insecticide treatment. Due to the low quality, approximately 40 kg/ha are used for planting (by comparison, in Brazil only 15 kg/ha are used). There is no guarantee or control over the genetic purity of the propagation material distributed.

Currently, cotton production in Burundi is at its lowest point. Yields have been steadily decreasing since 1993. The reduction in cultivated areas, poor mechanization, and the financial difficulties of COGERCO are just some of the causes⁴.

1 Agência Brasileira de Cooperação, "Panorama do Setor Algodoeiro na África e no Brasil", 2022.

2 Agência Brasileira de Cooperação, "Panorama do Setor Algodoeiro na África e no Brasil", 2022.

3 Agência Brasileira de Cooperação, "Panorama do Setor Algodoeiro na África e no Brasil", 2022.

4 BurundiEco, "Filière Coton: Une Production marginale", 2021. <https://burundi-eco.com/filieres-coton-une-production-marginale/#:~:text=La%20production%20du%20coton%20au,sont%20quelques%20Dunes%20des%20causes>

In 2021, COGERCO recorded less than 1,000 tons of seed cotton – one of the lowest production levels in the country. By way of comparison, production was estimated at 9,000 tons of seed cotton in 1993⁵.

Among the main reasons for the low production are: reduction in the available cultivation area, low mechanization, and the financial constraints faced by COGERCO. In this context, the area currently available for cotton planting is around 2,000 hectares. In 1961, the area reserved for cotton was 11,500 hectares⁶.

The country currently produces approximately 700 tons of seed cotton and 330 tons of lint cotton. However, this level of production is not sufficient to meet the demand of Afritextile, COGERCO's main client⁷.

One of the government's initiatives to revitalize cotton farming is the National Strategy for the Revitalization of the Cotton-Textile-Clothing Sector. This strategy aims to increase cotton production to meet the needs of the local, regional, and international textile industries⁸.

It is in this context of efforts to revive the cotton sector that the technical cooperation project "Cotton Victoria" is inserted.

Kenya

Cotton is a cash crop grown by smallholder farmers in Kenya, mostly under rainfed conditions. It is considered a strategic crop for ASAL (Arid and Semi-Arid Lands) communities. These zones have limited potential for arable farming and their populations are resource-poor. Cotton, being drought-tolerant, is cultivated in 24 counties within these arid and semi-arid areas. The cotton subsector has the potential to employ 10 million people directly or indirectly, contribute to farmers' income for purchasing food and other household needs, thereby reducing poverty. The subsector also provides raw material to local industries in the textile, edible oil, and animal feed sectors, as well as to export markets, enabling the country to earn much-needed foreign exchange⁹.

There are approximately 40,000 smallholder farmers who make up the cotton industry's production base in Kenya. This is a substantial decrease from the more than 200,000 farmers during the industry's peak in the mid-1980s. The average farm size is less than one hectare, and cotton is occasionally intercropped with food crops. Despite the relatively small area under cotton per farmer, some farmers still earn over 60% of their income from this crop.

5 BurundiEco, "Filière Coton: Une Production marginale", 2021. <https://burundi-eco.com/filie-re-coton-une-production-marginale/#~:text=La%20production%20du%20coton%20au,sont%20quelques%20Dunes%20des%20causes>

6 BurundiEco, "Filière Coton: Une Production marginale", 2021. <https://burundi-eco.com/filie-re-coton-une-production-marginale/#~:text=La%20production%20du%20coton%20au,sont%20quelques%20Dunes%20des%20causes>

7 BurundiEco, "Filière Coton: Une Production marginale", 2021. <https://burundi-eco.com/filie-re-coton-une-production-marginale/#~:text=La%20production%20du%20coton%20au,sont%20quelques%20Dunes%20des%20causes>

8 BurundiEco, "Filière Coton: Une Production marginale", 2021. <https://burundi-eco.com/filie-re-coton-une-production-marginale/#~:text=La%20production%20du%20coton%20au,sont%20quelques%20Dunes%20des%20causes>

9 Ministry of Agriculture, Livestock, Fisheries and Irrigation, "Status Report on Kenya Cotton Sector", 2021. https://icac.org/Content/EventDocuments/PdfFilesb2a9cdd2_68aa_474c_9150_b49724805967/Kenya_Country%20Report.pdf

Although in the past (as of the 2020 season), all cotton farmers received free seeds from the government, they continue to obtain inputs from agro-input dealers and occasionally from local ginning companies, often at high costs. Cotton is 100% handpicked and sorted according to quality before being sold to ginneries and agents¹⁰.

Cotton production in the country declined from a peak of 13,000 MT (70,000 bales) in 1986 to an average of 2,000 MT (10,000 bales) over the past two years. In 2021, annual lint consumption by textile mills was estimated at 8,000 MT (41,200 bales), while the potential demand to meet all national needs is around 26,000 MT (140,000 bales). The country has the potential to produce up to 37,000 MT (200,000 bales) of fiber annually from 385,000 ha of arable land suitable for cotton cultivation. However, only about 20,000 ha are currently under cotton cultivation by approximately 40,000 farmers¹¹.

The cost of cotton production in Kenya is comparatively high due to low productivity. Average yields are lower than those of other producers, mainly due to poor-quality seeds, reliance on rainfed agriculture, high pest pressure, inadequate financial resources, and poor management practices. Between 2006 and 2018, the average lint yield in Kenya was 196 kg/ha. Kenyan farmers lack the internal support systems needed to access proper inputs and improve productivity in order to reduce production costs per unit and increase farm revenues.

Tanzania

Cotton is a commercial crop that generates income and well-being for over 250 million farmers worldwide. In Tanzania, cotton is a strategic crop as it substantially contributes to export revenues and employment in the two main cotton-growing zones, namely the Western Cotton Growing Area (WCGA) and the Eastern Cotton Growing Area (ECGA)¹².

Cotton in Tanzania is predominantly grown by smallholder farmers. The area under cotton production ranges from 0.4 to 40 hectares, with an average of 1.5 hectares and a yield of about 750 kg of seed cotton per hectare. Smallholders use a limited amount of inputs, including seeds and pesticides, and most of them use hand hoes and animal traction for tillage¹³.

Additionally, smallholders tend to make their farming decisions based on rainfall patterns in Tanzania. Due to price fluctuations, some farmers tend to move in and out of cotton cultivation, opting instead for competing crops such as pigeon peas and sunflower, which are sold at higher prices at the end of the previous season. Consequently, the total area planted with cotton fluctuates between 350,000 and 450,000 hectares per season, with corresponding impacts on the total harvest¹⁴.

10 Ministry of Agriculture, Livestock, Fisheries and Irrigation, "Status Report on Kenya Cotton Sector", 2021.https://icac.org/Content/EventDocuments/PdfFilesb2a9cdd2_68aa_474c_9150_b49724805967/Kenya_Country%20Report.pdf

11 Ministry of Agriculture, Livestock, Fisheries and Irrigation, "Status Report on Kenya Cotton Sector", 2021.https://icac.org/Content/EventDocuments/PdfFilesb2a9cdd2_68aa_474c_9150_b49724805967/Kenya_Country%20Report.pdf

12 UNCTAD, "Cotton and Its By-Products in Tanzania", 2017. https://unctad.org/system/files/official-document/suc-misc2017d12_en.pdf

13 UNCTAD, "Cotton and Its By-Products in Tanzania", 2017. https://unctad.org/system/files/official-document/suc-misc2017d12_en.pdf

14 UNCTAD, "Cotton and Its By-Products in Tanzania", 2017. https://unctad.org/system/files/official-document/suc-misc2017d12_en.pdf

Tanzania's cotton production reached 282,510 tons in 2023/2024. Furthermore, during this period, cotton productivity increased from 0.6 tons per hectare to 1.34 tons per hectare in 2023/2024, representing 45% of the potential yield of 3 tons per hectare¹⁵.

Despite progress made in Tanzania's cotton sector, the International Cotton Advisory Committee (ICAC) report highlights significant challenges in both agricultural and textile aspects. In this context, low productivity stands out as a significant problem, stemming from reliance on rainfall, limited inputs, inadequate mechanization, fragmented land, and insufficient access to financial credit.

¹⁵ Tanzaniainvest, "Cotton", 2024. <https://www.tanzaniainvest.com/cotton>

Quantitative data analysis



BURUNDI

In Burundi, 91 individuals participated in various training sessions. This demonstrates the country's concern with building a qualified technical workforce. A sample of 29 individuals to be interviewed was calculated. COGERCO was requested to organize interviews with technicians while maintaining the representativeness of the different groups.

The sample size for farmer interviews was not specified. However, meetings were requested with individuals who could serve as good representatives of this group.

The interviews were organized as shown in the following tables and charts.

Table 1: Sample by region in Burundi

Region	Number of participants	% General	Number of Respondents
Bujumbura	15	17%	5
Gitega	11	10%	3
Gisozi	1	3%	1
Cibitoke	39	41%	12
Moso	6	7%	2
Rutana	3	3%	1
Bubanza	14	14%	4
Mishiha	2	3%	1
Total	91	100%	29

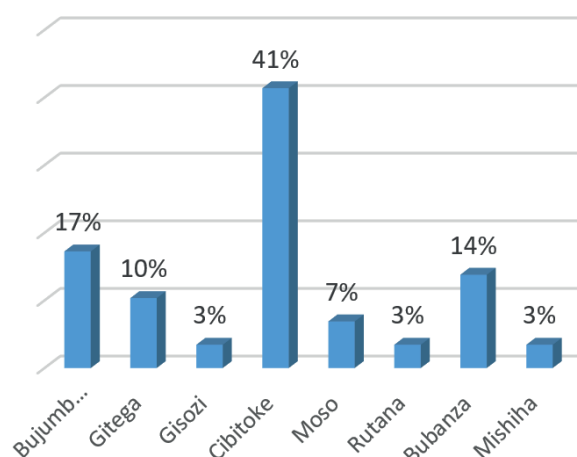


Table 2: Sample by institution in Burundi

Institution	Number of participants	% General	Number of Respondents
COGERCO	63	69%	20
ISABU	15	10%	3
ONCCS	10	10%	3
MINAGRIE	2	7%	2
IGEBU	1	3%	1
Total	91	100%	29

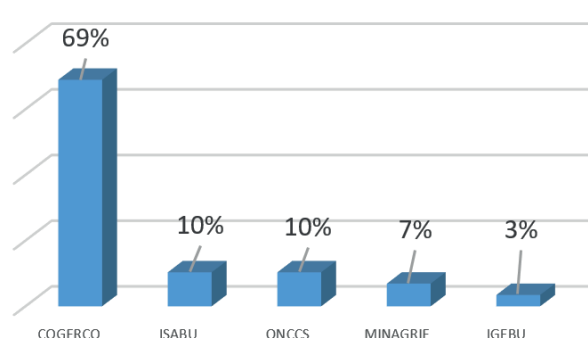


Table 3: Sample by function in Burundi

Function	Number of participants	% General	Number of Respondents
Agronomist	2	3%	1
Imbo Sub Region Chief	1	3%	1
Moso Region Chief	1	3%	1
Researcher	13	10%	3
Laboratory Technician	1	3%	1
Mechanic	2	3%	1
Meteorologist	1	3%	1
Technician	14	14%	4
Extension agent	50	55%	16
Total	91	100%	29

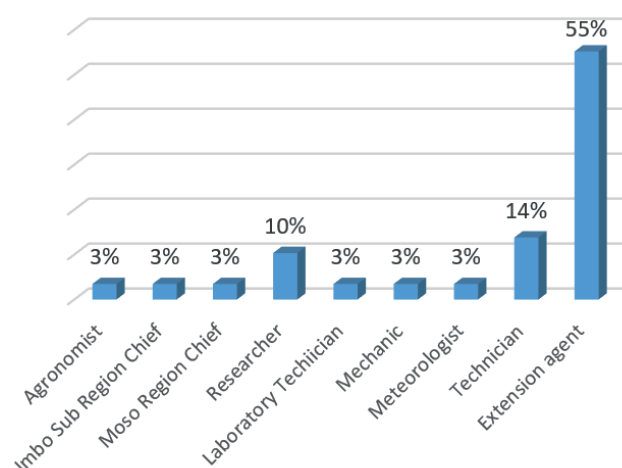
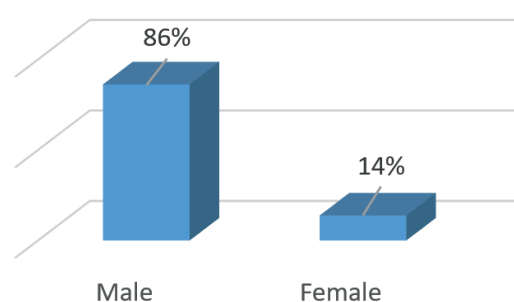


Table 4: Sample by gender in Burundi

Gender	Number of participants	% General	Number of Respondents
Male	78	86%	25
Female	13	14%	4
Total	91	100%	29



Group of interviewers, in Burundi.

1: Are you familiar with the Cotton Victoria project? What do you know about the project?

All respondents answered this question affirmatively, demonstrating above all an understanding of the project's objective. Among the Burundian institutions, COGERCO stands out as a partner of the Brazilian Government and, at times, of ABC, while the other institutions were seen more as playing supporting roles in the process. Professors from UFLA were also mentioned in responses as the knowledge facilitators.

Regarding the project's objective, it is clear to the interviewees that the project provides technologies aimed at improving cotton productivity in the country:

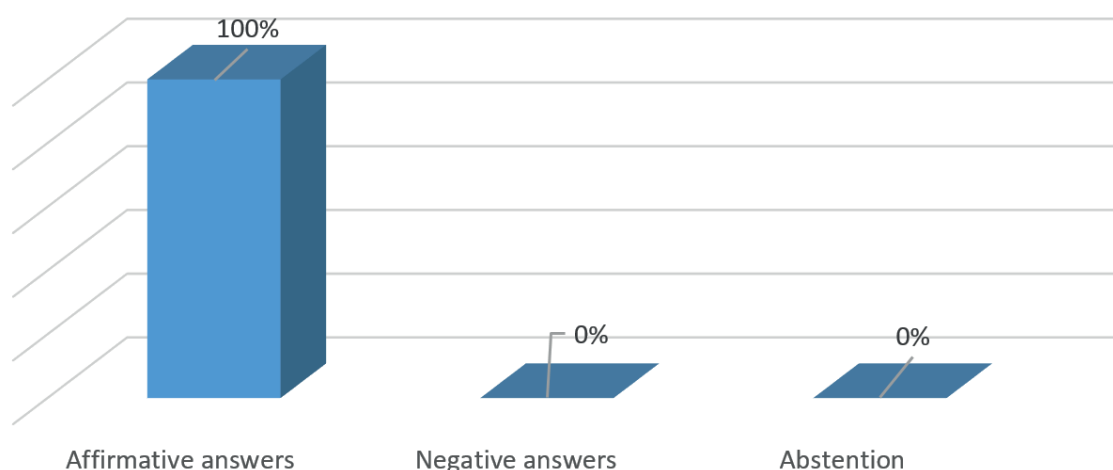
"It is a project that came to build the capacities of our technicians to pass on knowledge to farmers." (Agronomist from COGERCO)

"It is a project developed within the framework of Brazilian South-South cooperation." (Technician from ONCCS)

"The project teaches us how to achieve good yields, through methodologies taught by the University of Lavras." (Agronomist from COGERCO)

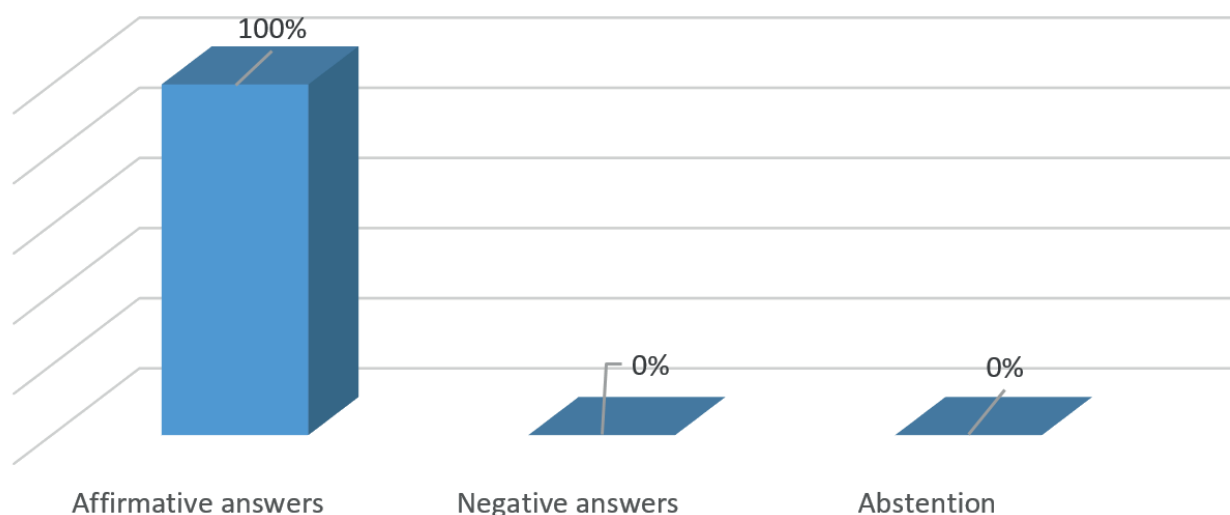
"Yes, it is a Brazilian project supporting COGERCO, aimed at developing cotton production." (Agronomist from ISABU)

"COGERCO acts as the host institution for this project. In this context, ISABU conducts field tests on seeds. Before the seeds reach the cooperatives, they must be certified by ONCCS. ISABU conducts the seed trials." (Director of COGERCO)



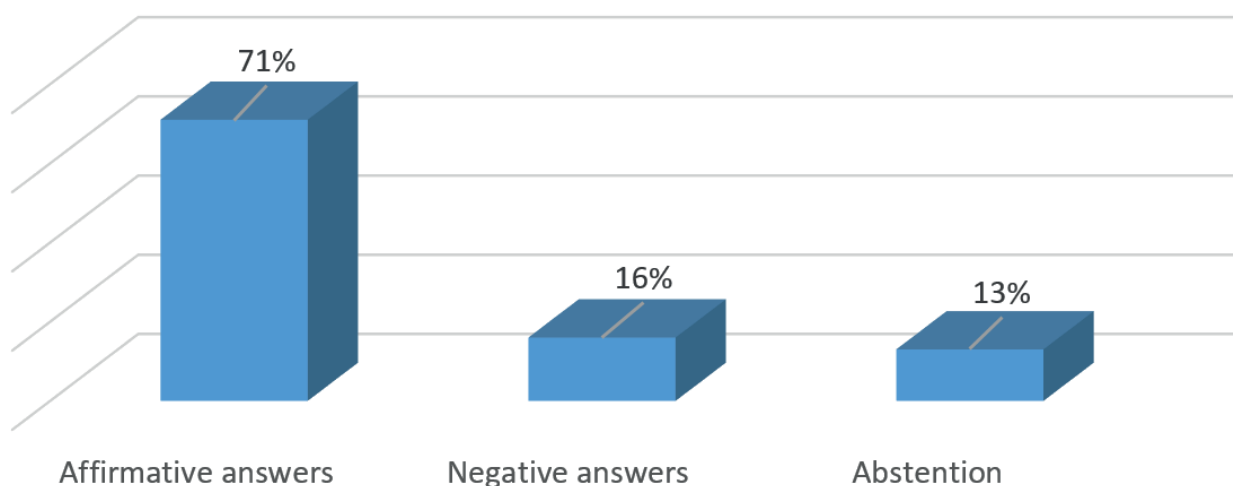
2. Have you participated in any training courses? How many? Which ones?

All respondents participated in training sessions, and some of them attended all the sessions, which demonstrates a strong interest in building the technical staff's knowledge. All institutions involved in the project (COGERCO, ISABU, ONCCS, and IGEPU) took part in the trainings, with COGERCO having the highest number of participants and IGEPU participating only in the training on meteorological stations.



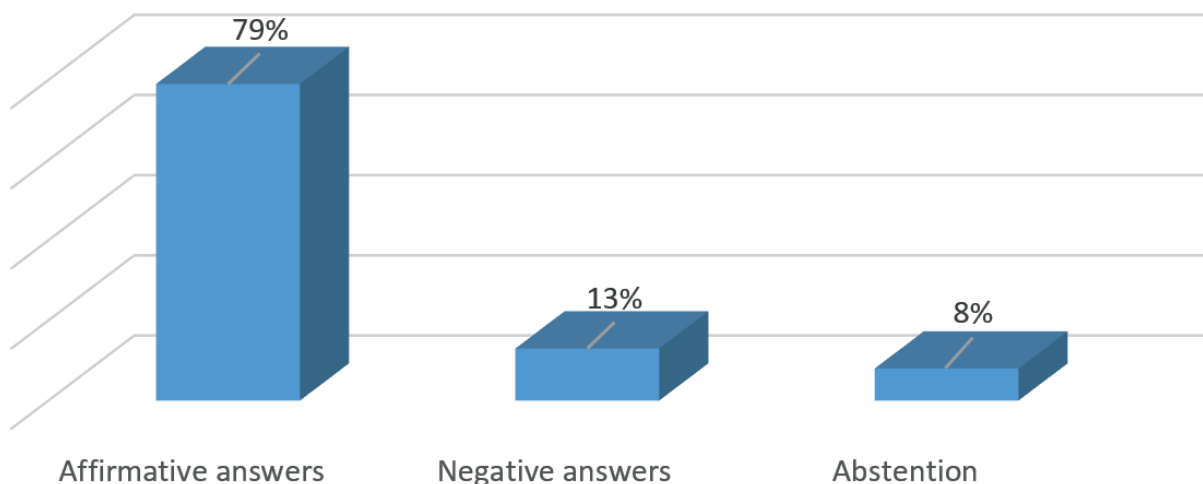
3. Have you participated in any field days? How many? When?

Most respondents participated in the field days. These activities are organized annually by COGERCO in the Imbo and Moso regions to demonstrate technologies to farmers. Therefore, most of the technicians who took part are from COGERCO itself; among the interviewees, there was only one participant from ISABU and one from ONCCS.



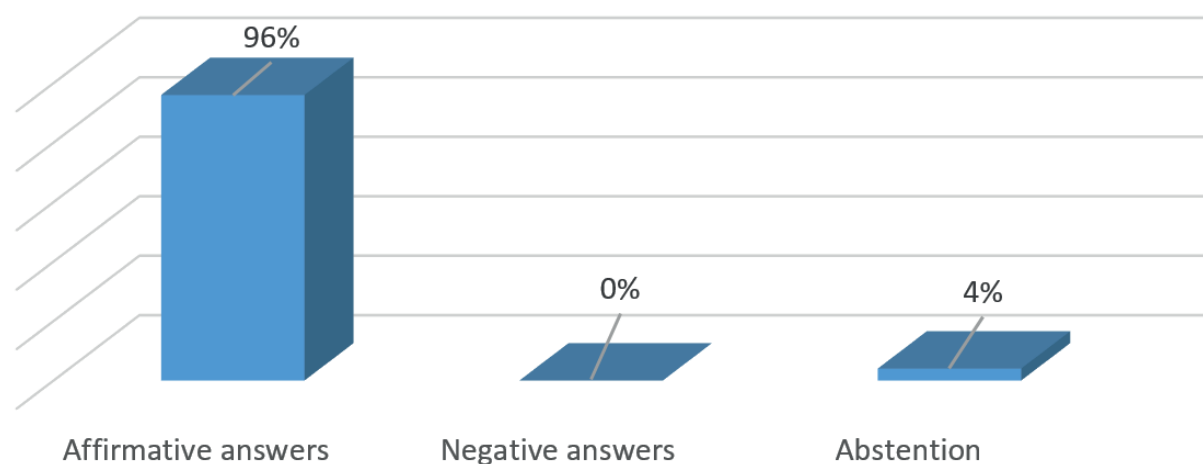
4. Have you delivered any training courses? Which ones? When?

More than half of the interviewees reported having already replicated the content from the courses they attended. COGERCO technicians organize workshops and meetings with farmers and co-operatives at specific moments during the growing season (usually at the beginning), using these opportunities to replicate the training. However, there are no formal knowledge-sharing sessions with other technicians within the company who did not attend the trainings. The same applies to the other institutions — at ISABU and ONCCS, the technicians reported applying the knowledge gained from the courses, but only a few share it informally with colleagues.



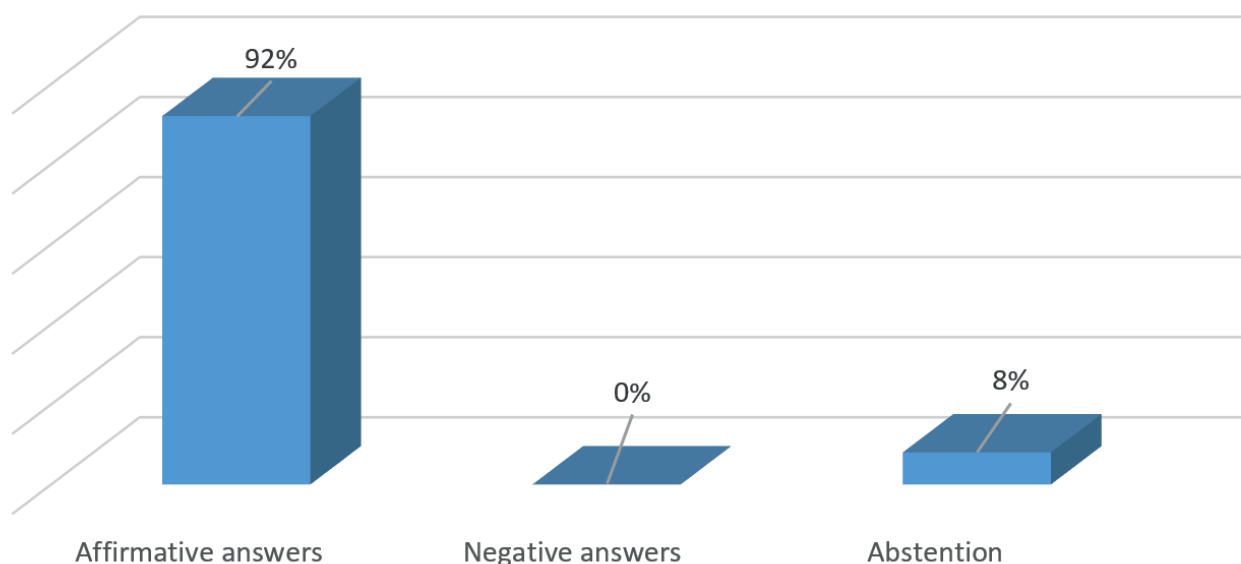
5. Are the planting protocol guidelines clear?

Most interviewees stated that the protocol guidelines are clear. The technicians understand the guidance well, but sometimes farmers struggle to assimilate the information — some resist changes while others have difficulties understanding the instructions. Recommendations that do not require financial investment (such as spacing and planting dates) are more readily adopted. Guidance involving the use of fertilizers and chemical products is less assimilated due to limited access.



6. Has the guidance provided to farmers changed after the Cotton Victoria training sessions?

Most respondents confirmed that the guidance provided to farmers had changed following the recommendations of the “Cotton Victoria” project. COGERCO, which has more direct contact with farmers, was better positioned to respond to this question. The main changes in guidance were related to: spacing (plant density), pest management, planting date, number of seeds per hole, and composting — all of which have been well assimilated by the farmers. Despite recommendations to the contrary, intercropping cotton with maize continues to face strong resistance.



7. Has there been an increase in yields in the project areas?

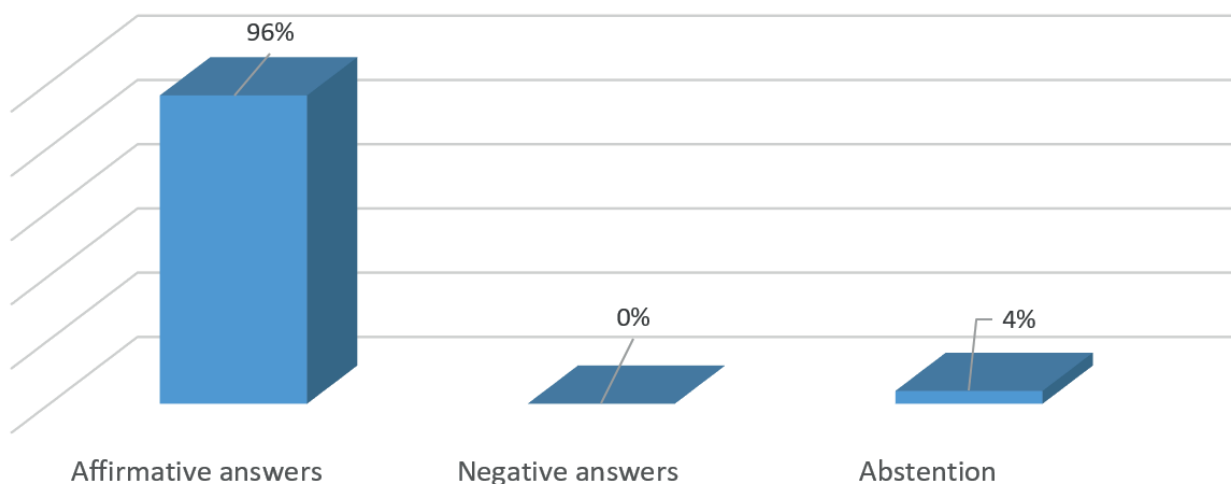
Most interviewees directly involved in cotton cultivation and productivity expressed a positive view regarding the increase in yields. Most attributed this improvement to the agricultural technologies implemented, although they also highlighted the introduction of new seeds and the improved quality of these seeds as important contributing factors. Some respondents were unable to specify exact figures, while others reported that productivity had increased by approximately 50%. Moreover, since the interviews took place before the harvest was complete, many participants did not yet have concrete figures to share.

Responses on national production varied, with the amount of seed cotton increasing from:

- 800 tons to 1,900 tons
- 800 tons to 2,000 tons
- 700 tons to 2,000 tons

As for yields, the reported figures also varied:

- from 500 kg/ha to 850 kg/ha
- from 500/600 kg/ha to 1,000 kg/ha
- from 600 to 800 kg/ha for over 1,000 kg/ha
- from 550 kg/ha to 720 kg/ha
- from 700 to 800 kg/ha to 1,000 kg/ha



FARMERS' GROUP

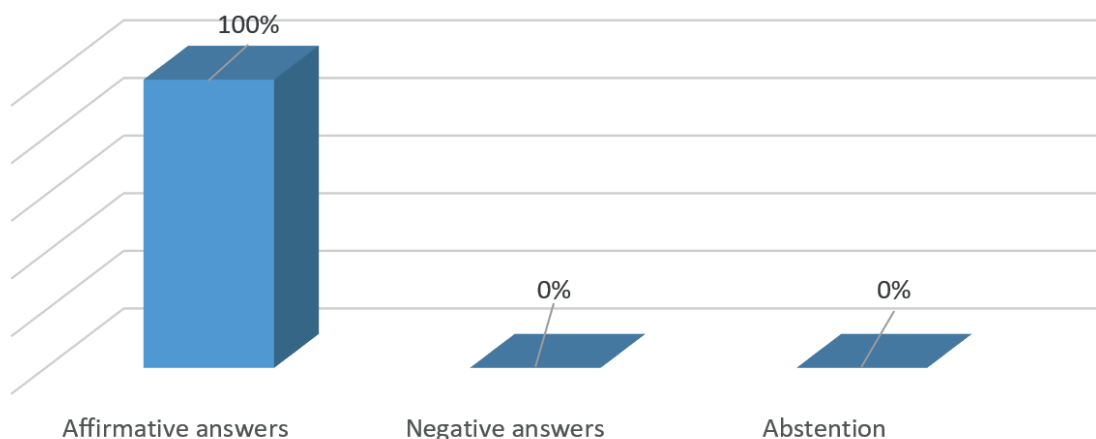
1: Are you familiar with the Cotton Victoria project? What do you know about the project?

All interviewees were familiar with the project. They also mentioned all the techniques promoted by the project.

Statements from interviewed farmers include:

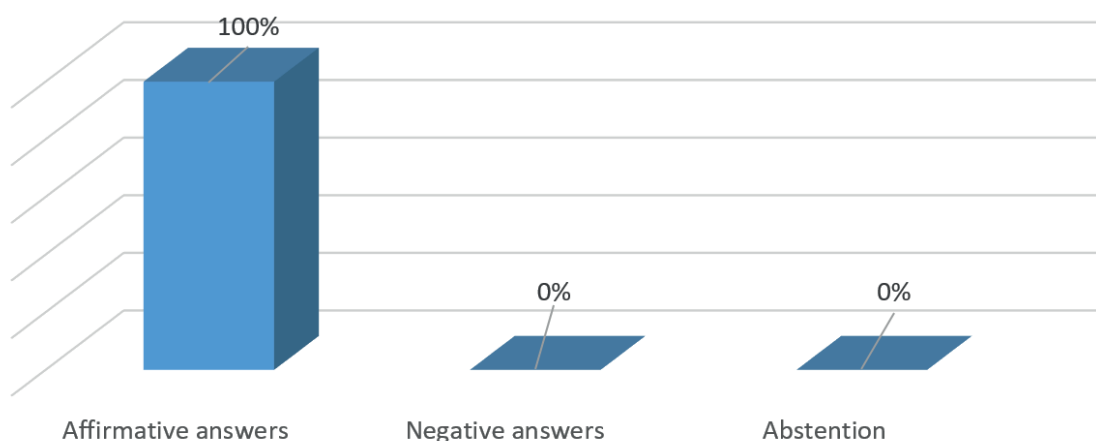
"Yes, I know the project very well, considering the benefits it brought us. The first thing we learned was how to plant at the right time — not too early, not too late." (Farmer from Cibitoke)

"Before the project arrived, cotton was on the verge of disappearing. Thanks to the project's activities, cotton can be revived." (Farmer from Moso)



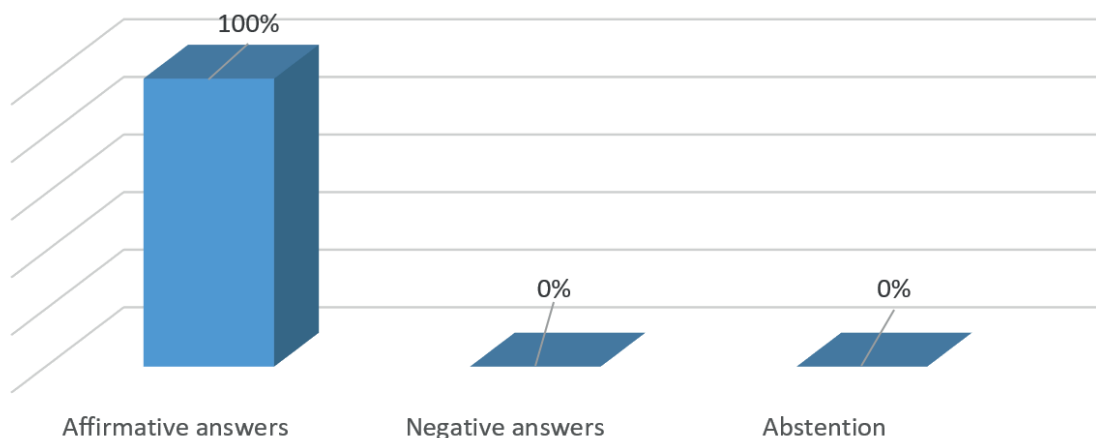
2. Have you participated in any training courses? How many? Which ones?

All interviewees participated in at least one training session; some had the opportunity to attend more often than others. There were also reports of farmers participating in trainings two or more times per year, at different points in the production cycle.



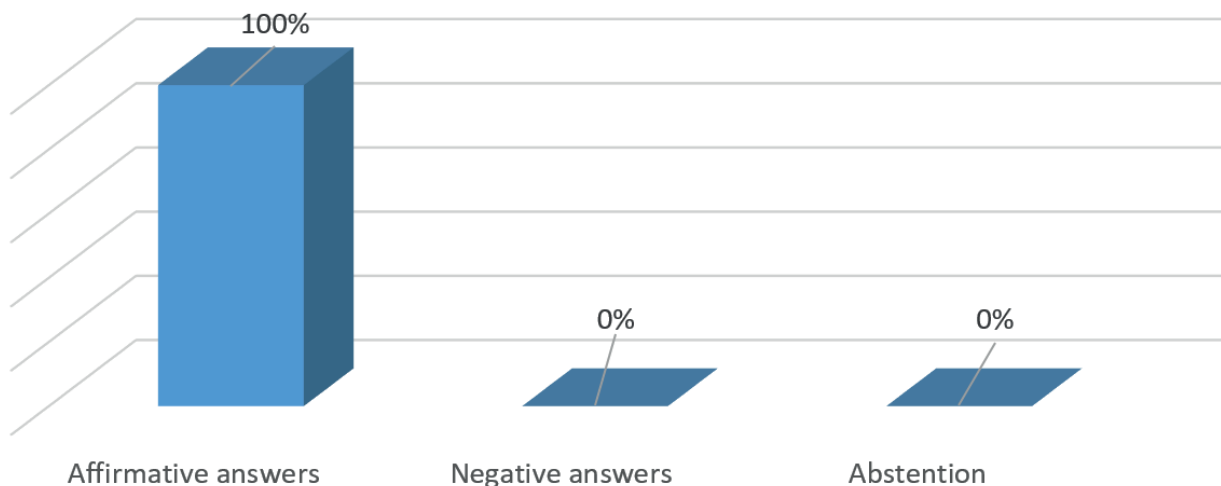
3. Have you participated in any field days? How many? When?

All respondents took part in field days. These activities are organized annually by COGERCO to demonstrate technologies to farmers in the two project regions.



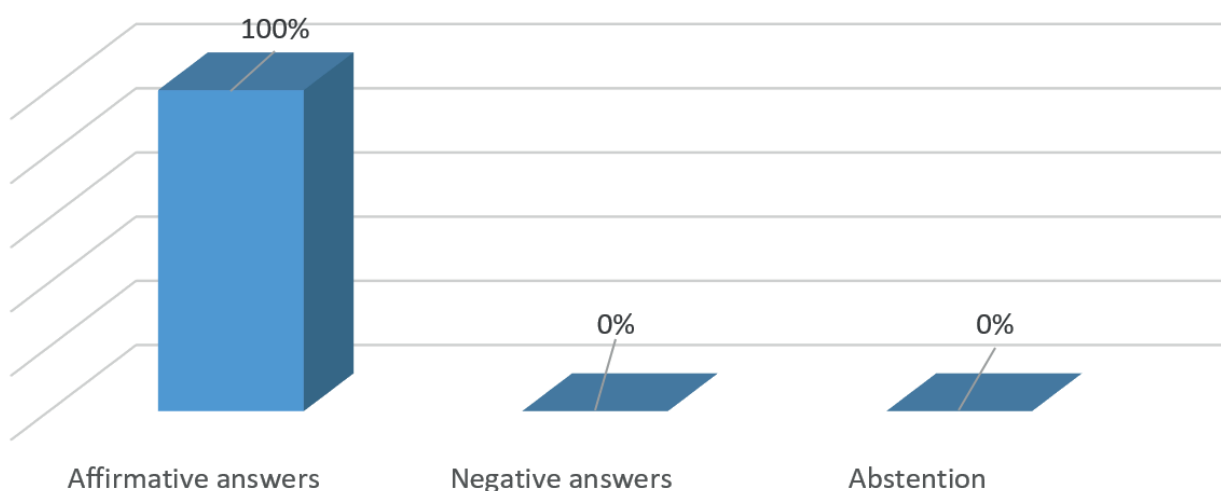
4. Was your transportation covered so you could take part in activities organized by the local partner institution? How was it?

All respondents stated that they received some form of support from the COGERCO-project to cover the costs of participation.



5. Are you applying any new techniques?

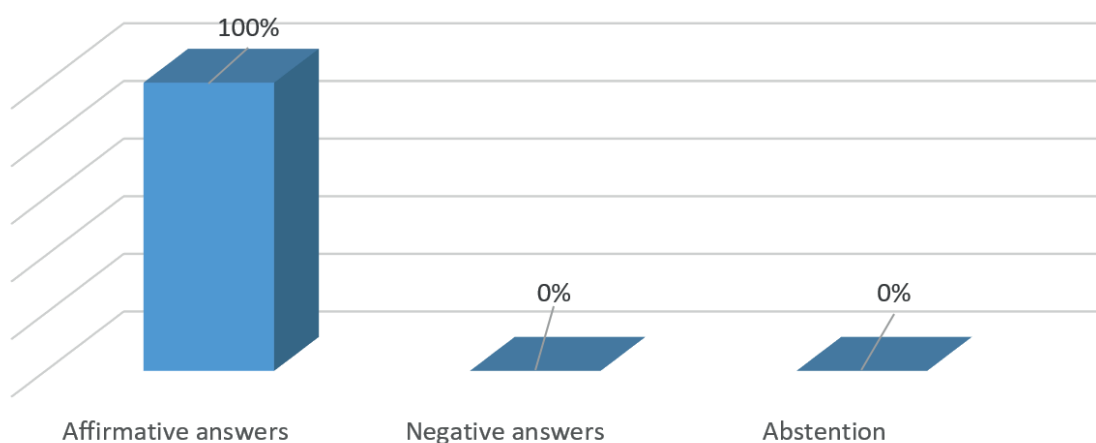
All interviewees reported applying techniques learned during the training sessions promoted by the project. The most frequently mentioned was plant density control (spacing between plants), but others included organic fertilizer production, seed multiplication, proper planting time, and the introduction of new seed varieties.



6. Have you noticed any difference in your field results?

All interviewees stated that the benefits were clear. They highlighted the value of the training sessions and visits to the technical demonstration units, which helped them improve productivity in the field. Reported changes in cotton cultivation practices included: standardized spacing, row planting, and proper thinning of plants. These techniques helped increase plant population and, consequently, yields. Some farmers also expressed concerns about access to fertilizers and the price paid for cotton.

“In my cooperative, we used to produce 3 tons of cotton. Today, we produce 34 tons, with only one additional hectare of land (total area: 18 hectares). The cooperative includes 32 women and 18 men.” (President of a cooperative in Cibitoke)



Kenya

In Kenya, 267 individuals participated in the various training activities. When excluding those who attended more than once, the total number drops to 148, which reflects a high turnover rate among participants. This may pose challenges for the formation of a stable and qualified technical workforce.

The sample in Kenya consisted of 48 planned interviewees. AFA managed to conduct interviews with 30 people, achieving a high level of representativeness in relation to training participants.

Table 5: Sample by region in Kenya

Region	Number of participants	% General	Number of Respondents
Busia	15	13%	4
Homabay	28	20%	6
Kisumu	57	30%	9
Migori	19	17%	5
Siaya	19	20%	6
Total	138	100%	30

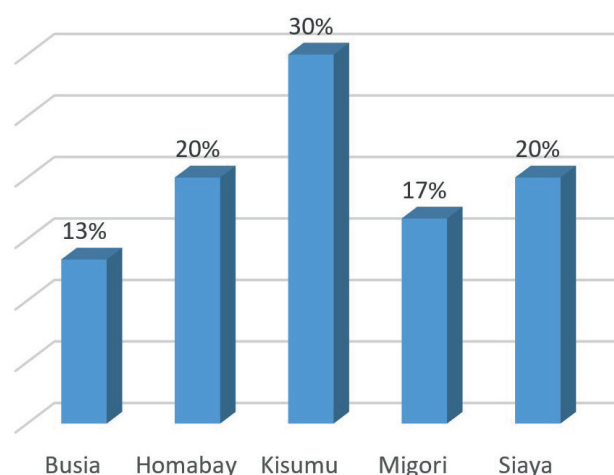


Table 6: Sample by institution in Kenya

Institution	Number of participants	% General	Number of Respondents
AFA	12	7%	2
KALRO Kibos	38	23%	7
KEPHIS	3	7%	2
LGA	2	7%	2
LGA / Busia County government	11	10%	3
LGA / Homabay County government	20	7%	2
LGA / Kisumu County government	13	3%	1
LGA / Migori County government	15	17%	5
LGA / Siaya County government	18	17%	5
Rift Valley products Ltd	2	3%	1
Total	134	100%	30

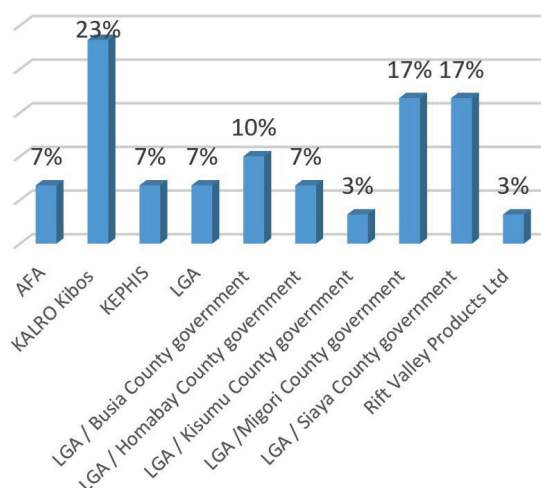


Table 7: Sample by function in Kenya

Function	Number of participants	% General	Number of Respondents
Extension agent	85	53%	16
Farmer	6	17%	5
Technician	11	7%	2
Researcher	42	17%	5
Seed Inspector	2	7%	2
Total	146	100%	30

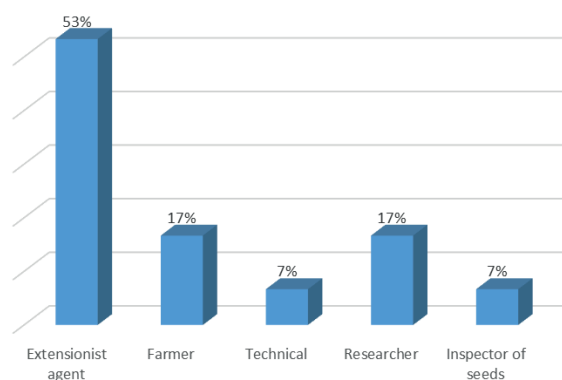
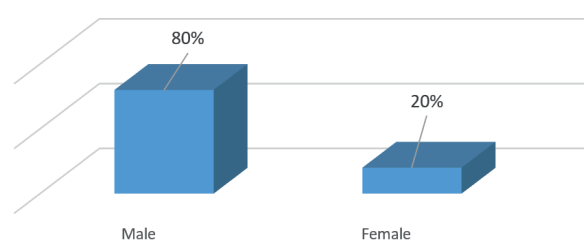


Table 8: Sample by gender in Kenya

Gender	Number of participants	% General	Number of Respondents
Male	110	80%	24
Female	38	20%	6
Total	110	80%	30



1: Are you familiar with the Cotton Victoria project? What do you know about the project?

All interviewees were familiar with the project's activities within their respective areas of operation. The technical staff and researchers from KALRO demonstrated deeper knowledge, which was further enhanced through the introduction of new techniques disseminated by the project.

"The project works with knowledge transfer units ('demo units'). Farmers learn by seeing and doing." (Extension officer from Busia)

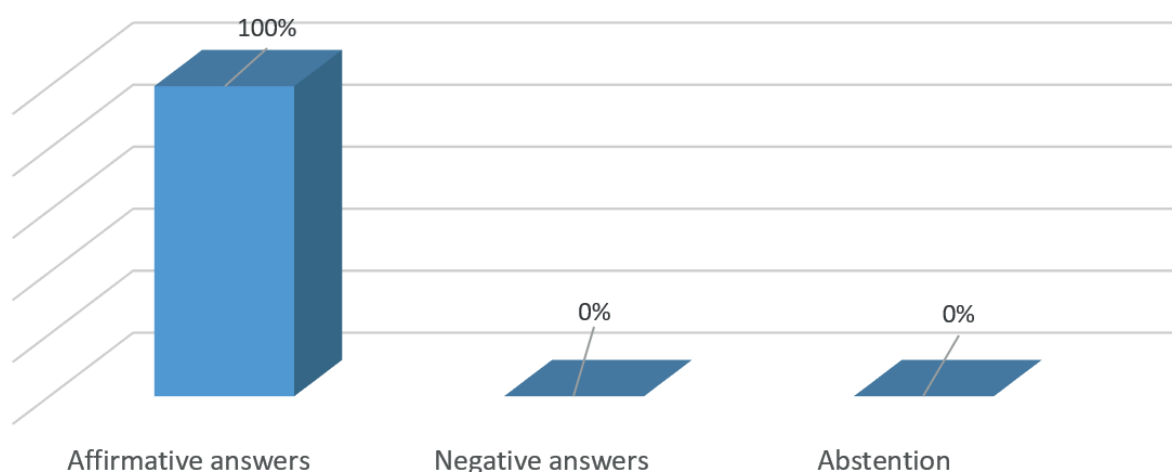
"We gained a lot of experience from the Brazilian professors." (Extension officer from Busia)

"It's a project aimed at helping farmers increase productivity. Through the trainings received by the extension officers, they can then train farmers, who in turn can improve their subsistence levels." (Extension officer from Homabay)

"The project gave us access to new technologies, which we were then able to share with cotton farmers." (Researcher from KALRO)

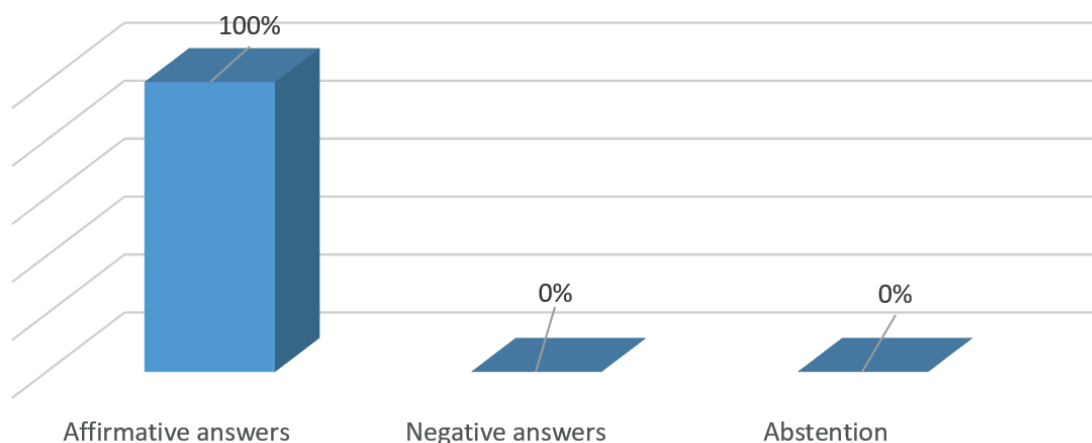
"The goal of the project is to train technical staff so they can help farmers increase their yields by using the new techniques disseminated through the project." (Technician from KALRO)

"This project came to help the country revitalize cotton production and increase its productivity. With the project, cotton production resumed. Before that, the crop was practically abandoned. The project changed that." (Extension officer from Migori)



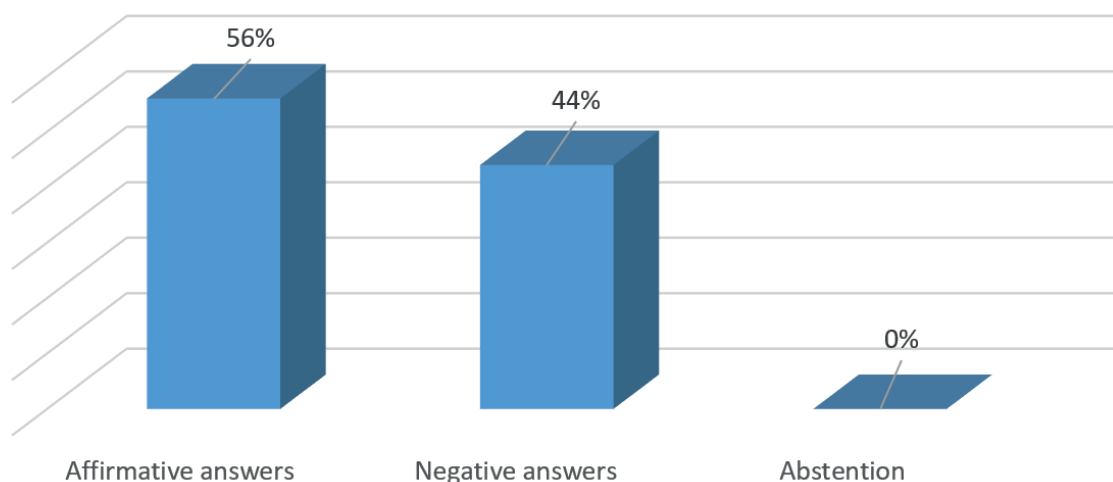
2. Have you participated in any training courses? How many? Which ones?

All respondents participated in at least two training sessions directly conducted by UFLA. Some technicians and researchers attended only one session, specific to their area of expertise, such as meteorological station training (KALRO researcher) and seed production training in which KEPHIS inspectors participated.



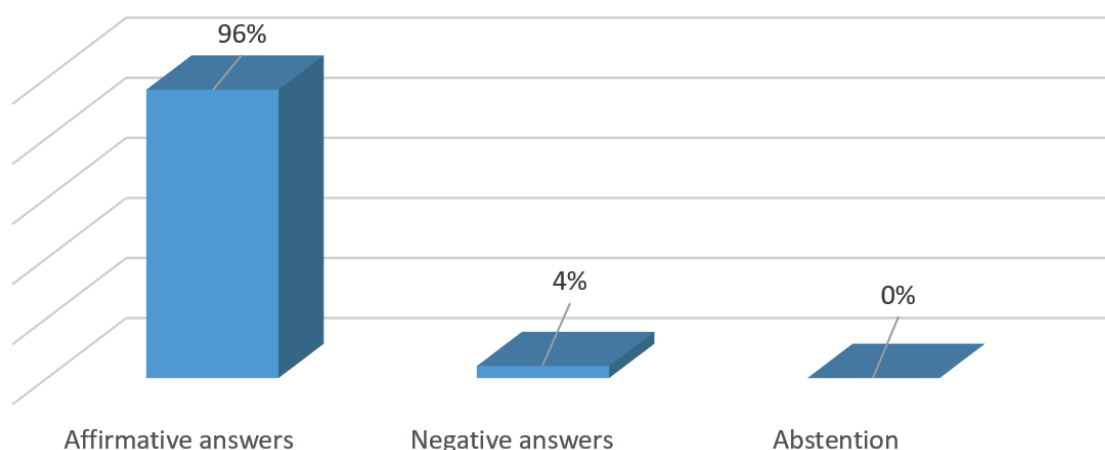
3. Have you participated in any field days? How many? When?

Among the interviewees, 56% participated in field days — events where stakeholders including traders, universities, and local government representatives interact to present innovations and technologies aimed at improving cotton cultivation. The remaining respondents had not yet had the opportunity to attend a field day.



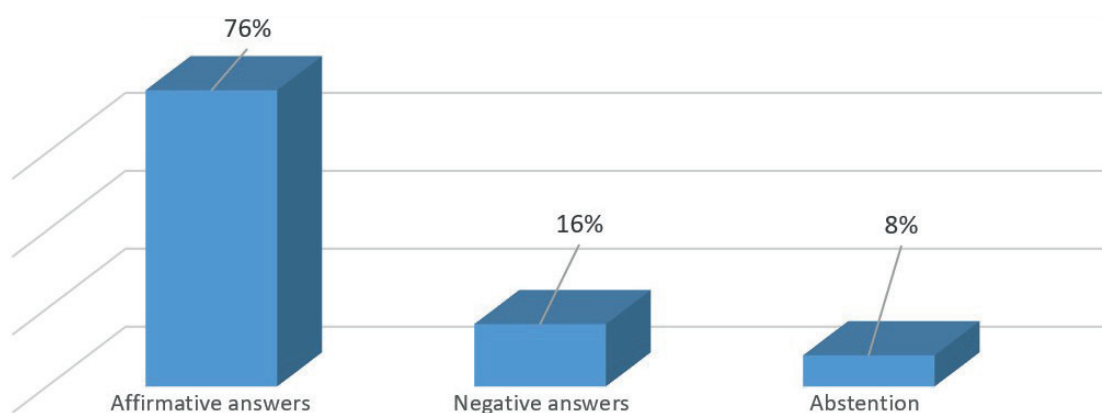
4. Have you delivered any training courses? Which ones? When?

The vast majority had the opportunity to replicate the trainings they received. This replication occurs in various ways, such as: sharing content in formal meetings with colleagues who did not attend trainings, informal exchanges among coworkers, organizing trainings for farmers, and demonstrating techniques during farm visits or at technical demonstration units (TDUs).



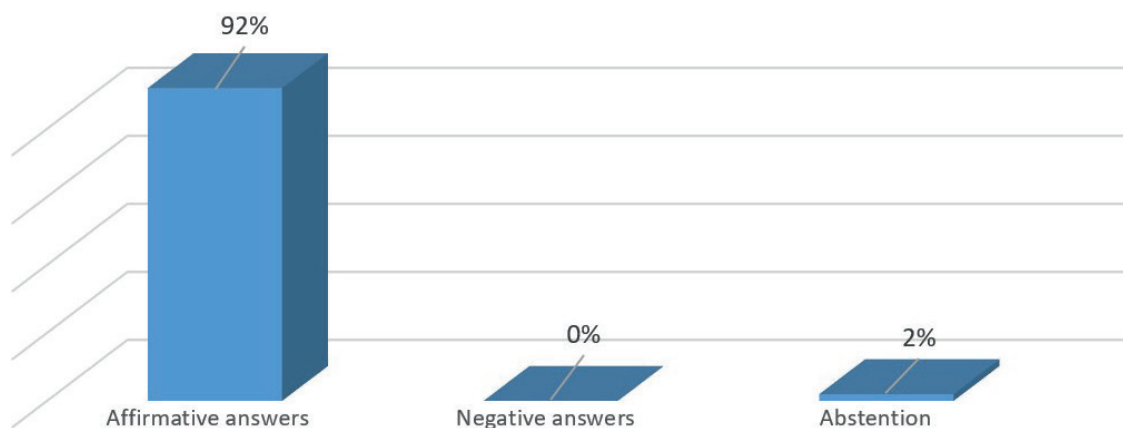
5. Are the planting protocol guidelines clear?

For 76% of respondents, the planting protocol guidelines are clear, even for those who had not received the formal document. They reported being familiar with the directives and felt capable of advising farmers (particularly the extension officers). Those who stated they were unfamiliar with the protocol were professionals who do not work directly in field activities.



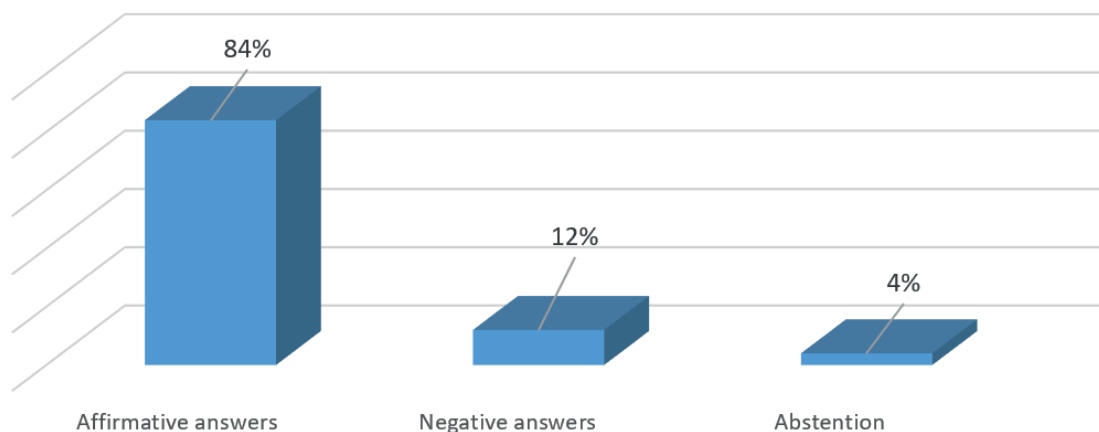
6. Has the guidance provided to farmers changed after the Cotton Victoria training sessions?

Most of the interviewees reported that they changed their guidance to farmers after participating in trainings under the project. The most frequently mentioned planting technique was plant spacing. Other cited techniques included the appropriate number of seeds per hole, proper use of fertilizers and agrochemicals, manual weed control, weeding, row planting, soil preparation, and the use of certified seeds. It is important to note that the traditional planting method involves intercropping cotton with food crops, particularly maize. Although there is still resistance to changing this practice, significant progress has been made in discouraging intercropping with cotton.



7. Has there been an increase in yields in the project areas?

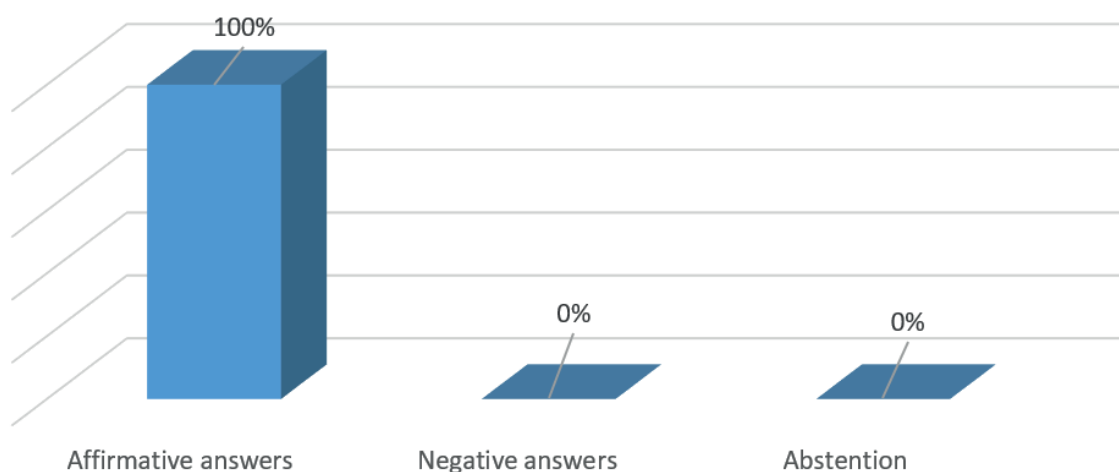
Eighty-four percent (84%) of respondents confirmed an increase in productivity. Many were unable to quantify the increase precisely. In Busia, it was reported that total production rose from 35 to 100 tons, with specific examples of increases from 741 kg/ha to 1,236 kg/ha, 494 kg/ha to 1,977 kg/ha, and from 494–741 kg/ha to 1,853–1,977 kg/ha. In Homabay, total production increased from 100 tons to 600 tons, and yield rose from 1,483 kg/ha to approximately 2,224 kg/ha. Other cases cited, without specifying locations, included increases from: 618 kg/ha to 3,212 kg/ha (with only a change in spacing), 741 to 2,965 kg/ha, 741–865 kg/ha to 1,853–1,977 kg/ha and 741 to 1,236–1,483 kg/ha.



FARMERS' GROUP

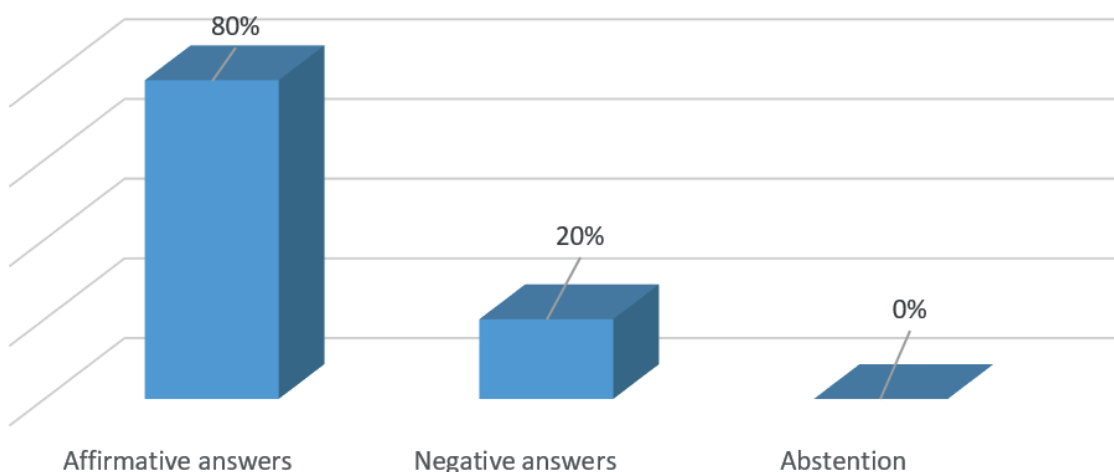
1: Are you familiar with the Cotton Victoria project? What do you know about the project?

All interviewees were familiar with the project, even if only superficially, recognizing it as an initiative that teaches cotton farming.



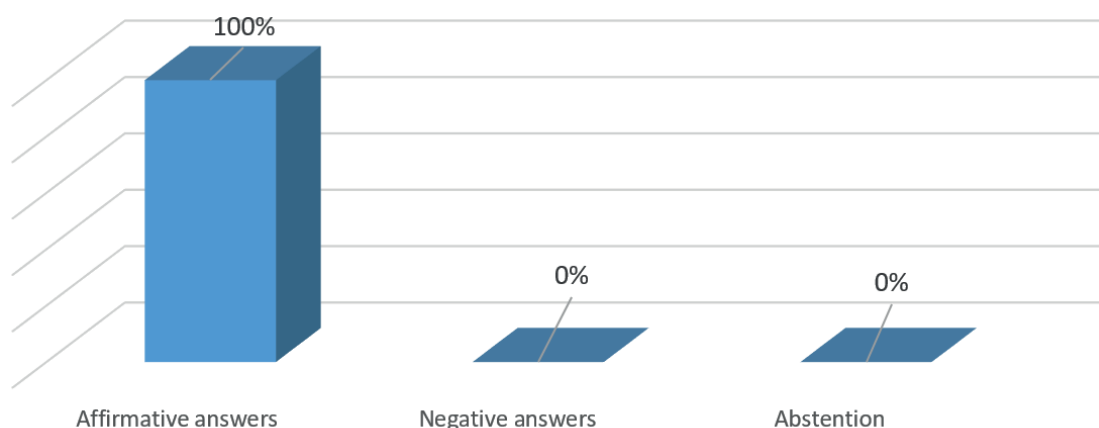
2. Have you participated in any training courses? How many? Which ones?

Most interviewees participated in training sessions organized by the partner institution and/or received guidance on cultivation techniques during extension officer visits.



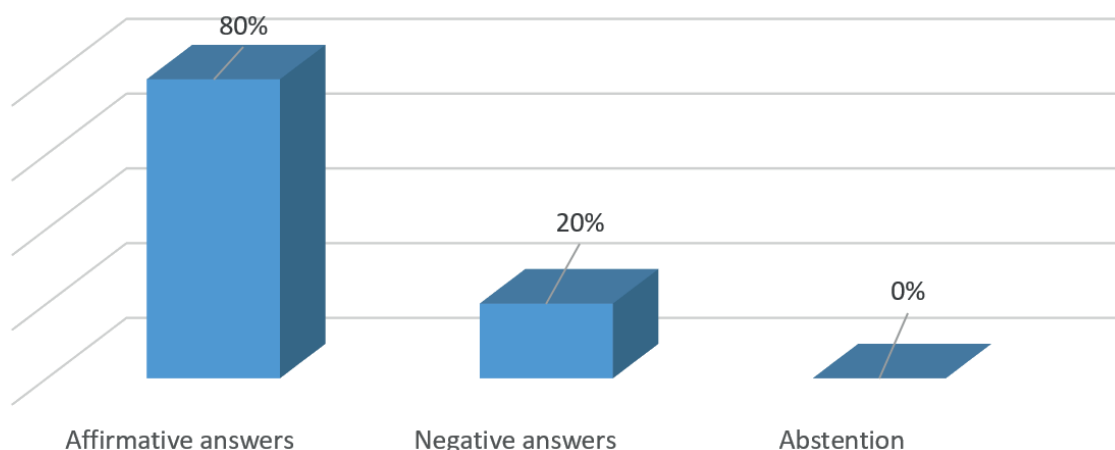
3. Have you participated in any field days? How many? When?

All interviewees reported having participated in at least one field day.



4. Was your transportation covered so you could take part in activities organized by the local partner institution? How was it?

Most interviewees received transportation stipends to attend the events and/or were provided with meals on site. One farmer stated not having received transportation assistance but claimed that snacks were offered during the event.

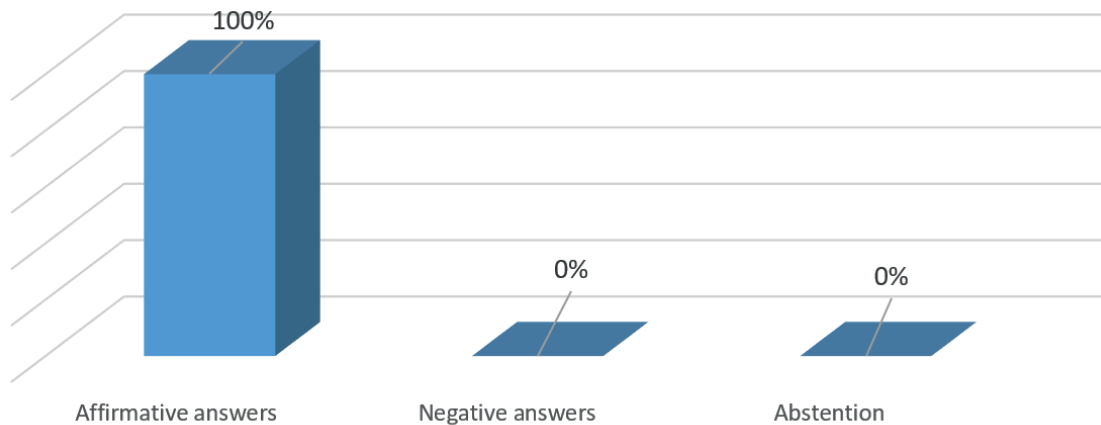


5. Are you applying any new techniques?

All interviewees stated they had adopted one or more new technologies as a result of the trainings or activities promoted by the Cotton Victoria project. The techniques mentioned included:

- adequate spacing,
- row planting,
- discontinuation of intercropping,
- number of seeds per hole,
- use of insecticides and fertilizers.

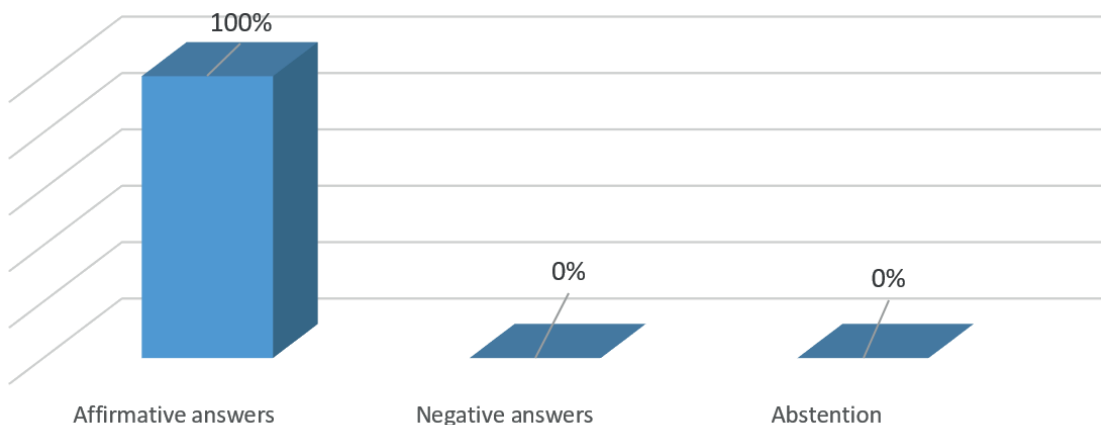
"Many people try to learn from me. I visit other cooperatives, other associations, and I tell them that the only way to move forward successfully is to plant cotton the Cotton Victoria way." (Farmer - Kimira Cooperative)



6. Have you noticed any difference in your field results?

All interviewees reported noticeable differences in their fields. One farmer said cotton grows faster now, and productivity has increased, currently reaching 494 kg per hectare, leading to increased profits. Yields had an increase from 1,483 kg/ha to 2,681 kg/ha. A different farmer reported going from 988–1,483 kg/ha to 4,480 kg/ha, and yet another from 741–1,236 kg/ha to 2,471 kg/ha.

“Then came the following year, 2023. As you keep going, you gain experience. So, in my 1 acre, I harvested 1,330 kg (3,287 kg/ha), and put money in my pocket — 86,000 Kenyan Shillings. Now, other farmers wait to see me prepare my land before they start planting. Work well-done is rewarded by the plant. After planting, you can’t just abandon the crop — you need to take care of your land, replant where seeds didn’t germinate, weed, thin, control pests with the chemicals we learned to use with Madame Tereza, and apply foliar fertilizers. My friend, when you do all that, each plant can yield 50 to 60 bolls. Today, I’m able to grow cotton twice a year.” (Farmer - Kimira Cooperative)



Tanzania



In Tanzania, 220 individuals participated in various training sessions. Upon analysis, considering that some technicians attended multiple activities, the number is adjusted to 106 participants. This demonstrates that the partner institution has made consistent efforts to build a qualified technical team. Accordingly, a sample of 43 individuals was selected for interviews, as shown in the following tables:

Table 9: Sample by region in Tanzania

Region	Number of participants	% General	Number of Respondents
Buchosa	3	1%	1
Geita	7	4%	5
Katavi	2	2%	2
Magu	2	2%	2
Mara	1	1%	1
Mwanza	84	20%	22
Shinyanga	4	4%	4
Singida	1	1%	1
Simiyu	5	2%	2
Iguanga	1	1%	1
Itilima	1	1%	1
Urambo	1	1%	1
Total	112	38%	43

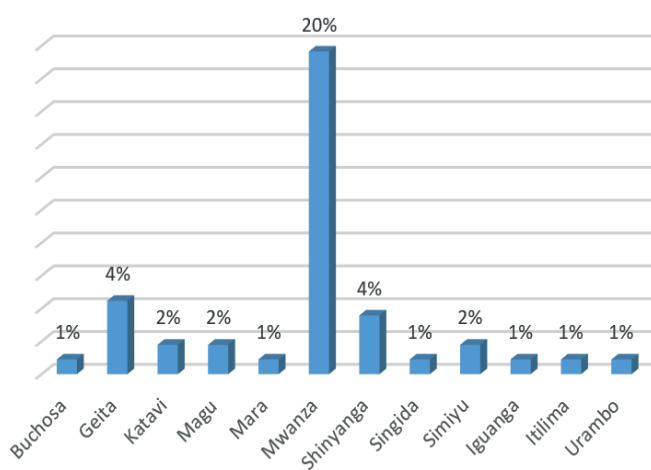


Table 10: Sample by institution in Tanzania

Institution	Number of participants	% General	Number of Respondents
LGA	24	21%	24
TARI	79	11%	12
TCB	7	5%	6
TOSCI	2	1%	1
Total	112	38%	43

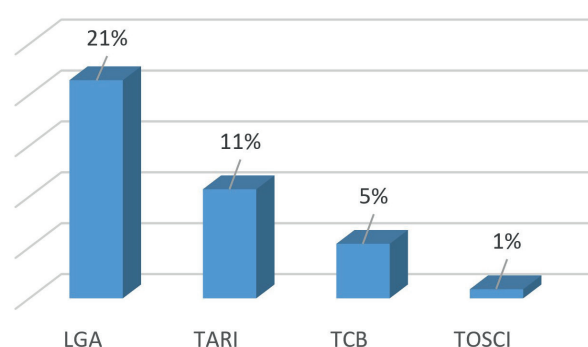


Table 11: Sample by function in Tanzania

Function	Number of participants	% General	Number of Respondents
Extension agent	63	21%	23
Farmer	6	4%	4
Technician	24	2%	2
Researcher	9	4%	5
Assistant researcher	8	6%	7
Focal point	1	1%	1
Meteorological officer	1	1%	1
Total	112	38%	43

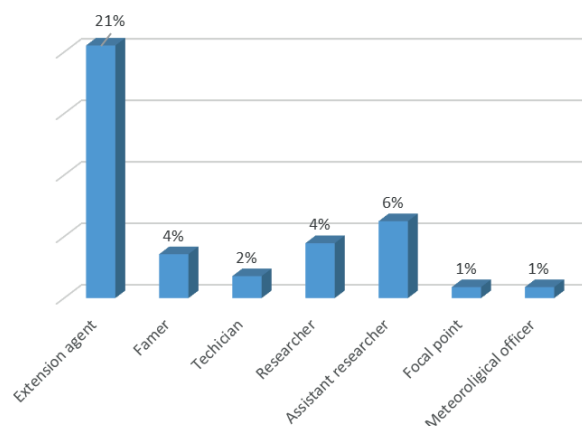
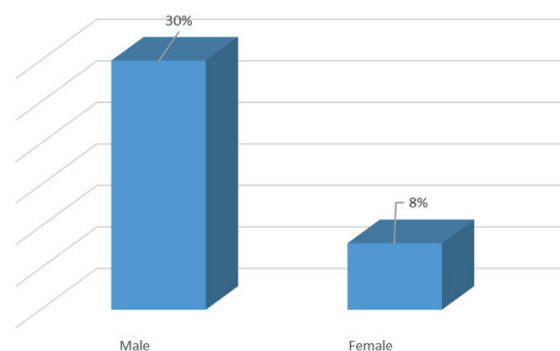


Table 12: Sample by gender in Tanzania

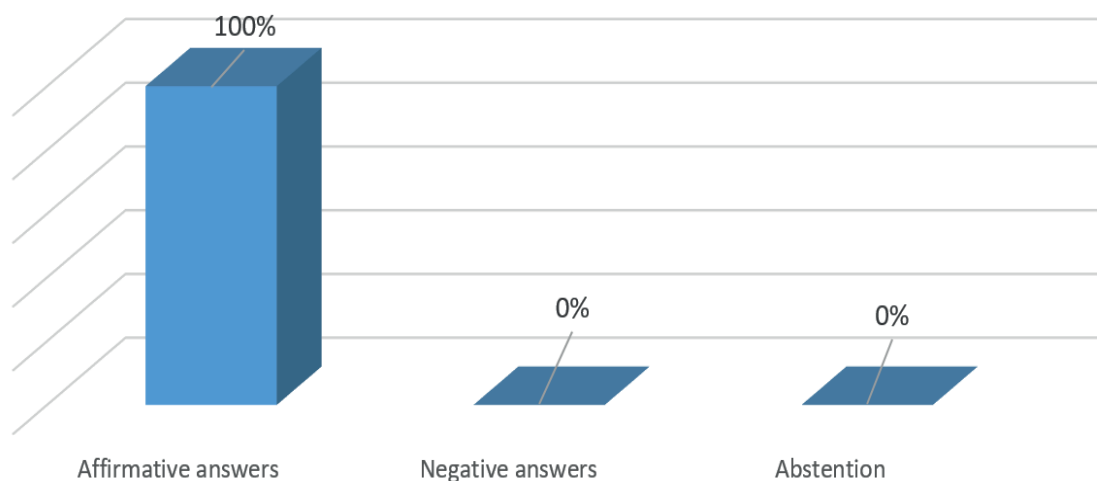
Gender	Number of participants	% General	Number of Respondents
Male	76	30%	34
Female	36	8%	9
Total	112	38%	43



TECHNICIANS' GROUP

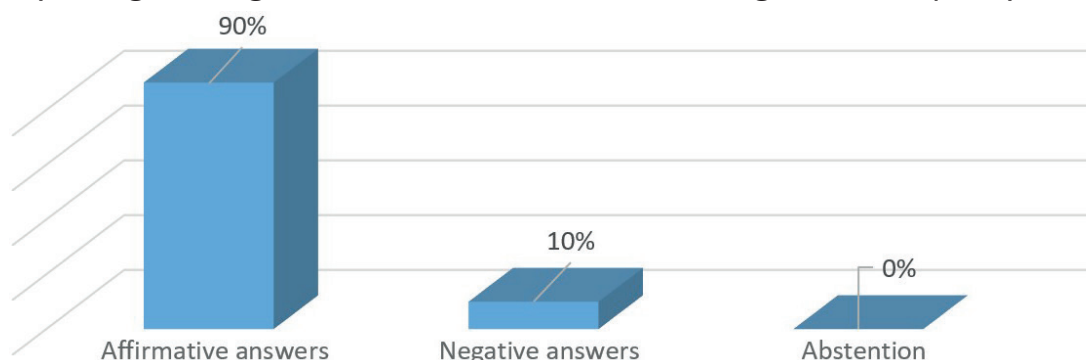
1: Are you familiar with the Cotton Victoria project? What do you know about the project?

All interviewees are familiar with the Cotton Victoria project. Some provided more comprehensive responses, while others demonstrated more limited knowledge of the project's activities, but all understood it as a partnership between the Tanzanian and Brazilian governments aimed at increasing cotton productivity.



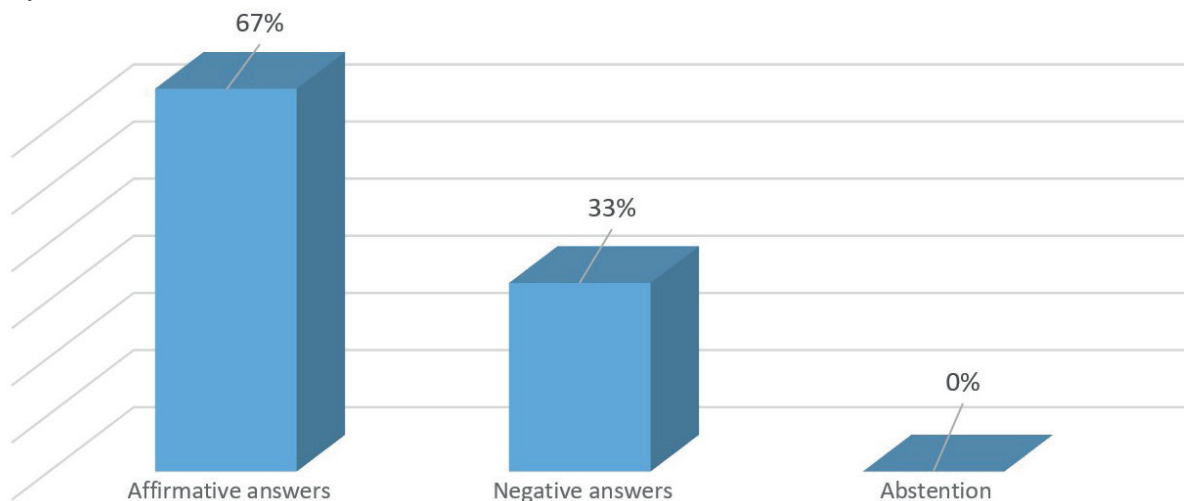
2. Have you participated in any training courses? How many? Which ones?

Most of the interviewees have participated in training sessions, either those delivered directly by UFLA or indirectly through training-of-trainers sessions in which knowledge was subsequently shared.



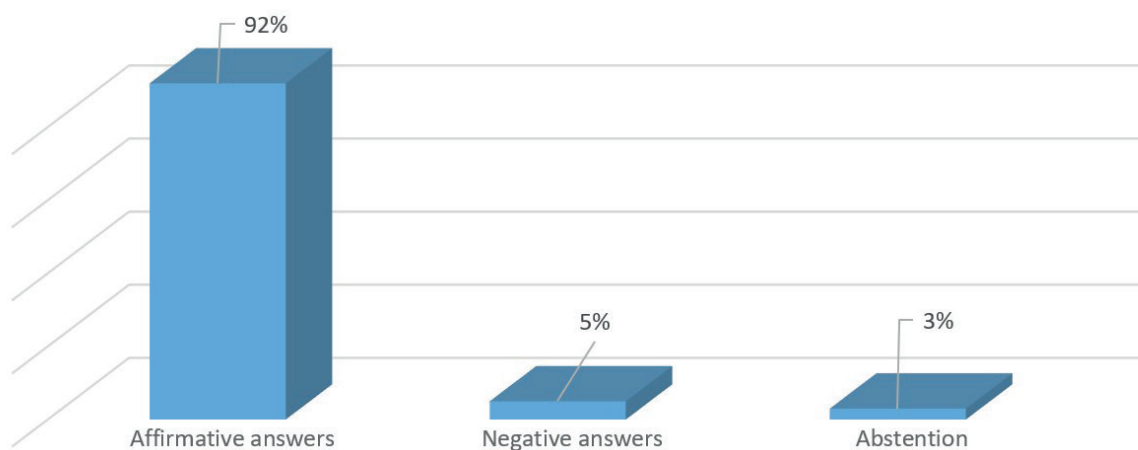
3. Have you participated in any field days? How many? When?

Among the respondents, 67% participated in at least one field day. These activities are usually held in July (around the harvest period) and aim to demonstrate various agricultural techniques to participants.



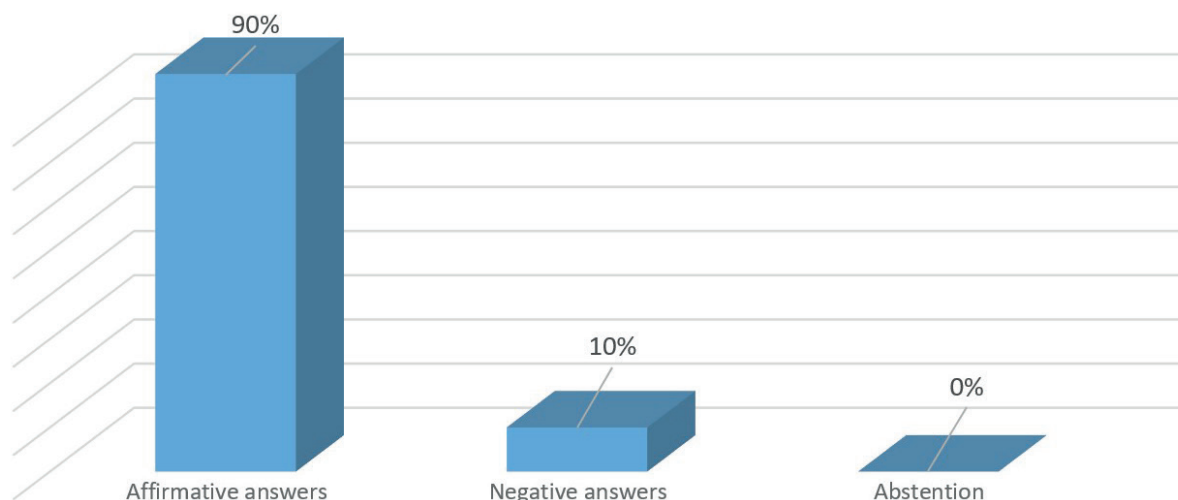
4. Have you delivered any training courses? Which ones? When?

In Tanzania, knowledge dissemination is highly valued and widely practiced. After completing the courses, participants conduct training sessions for other farmer groups, allowing a greater number of individuals to benefit from the knowledge shared by the project.



5. Are the planting protocol guidelines clear?

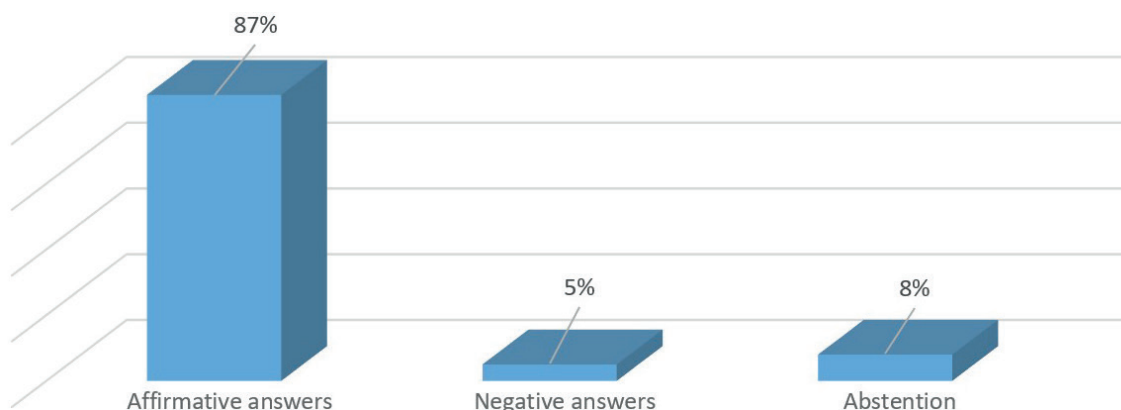
Most respondents stated they are familiar with the planting protocol guidelines. Not all have read the document itself, but the key directives are clearly understood. All respondents are capable of implementing the guidelines and providing orientation to both technicians and farmers.



6. Has the guidance provided to farmers changed after the Cotton Victoria training sessions?

Most interviewees reported that the guidance provided to farmers has changed. Initially, there was resistance among farmers; however, after the first year and the demonstration of results at the TDUs, the new techniques introduced by the project were gradually adopted. According to information relayed by the project focal point at TCB, today, 87% of cotton farmers in Tanzania are using techniques introduced by the project.

The most significant change involved the adoption of a 60cm x 30cm spacing pattern. Other positively mentioned changes included the number of seeds per hole, use of foliar fertilizers (provided by the government), production and use of organic fertilizers, and overall crop planning.



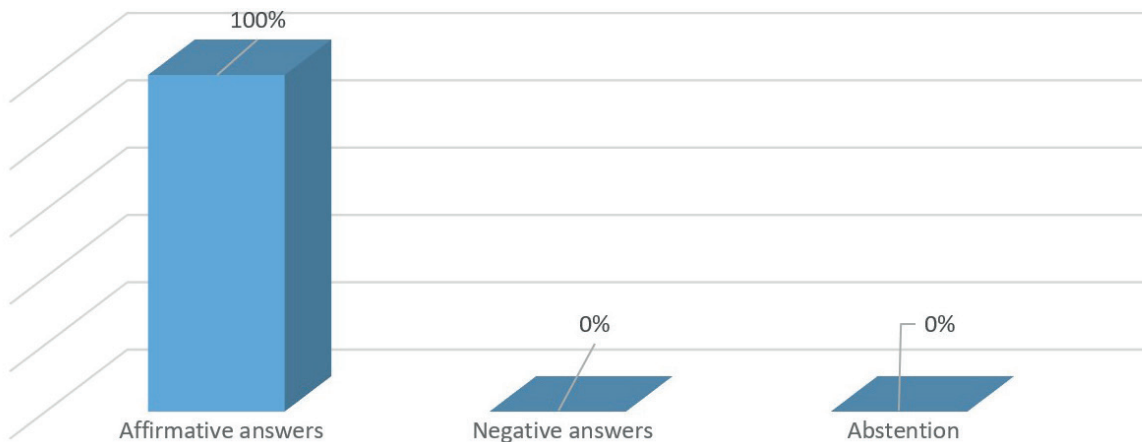
7. Has there been an increase in yields in the project areas?

All respondents reported an increase in productivity, attributing it to the adoption of techniques introduced by the project.

Notable examples include:

- from 247 kg/ha to 1,977 kg/ha;
- from 1,236-1,483 kg/ha to an average of 1,977 kg/ha, which may reach 3,707 kg/ha in some cases;
- from 1,977 kg/ha to 4,942 kg/ha;
- from 247-494 kg/ha to 2,471 kg/ha, reaching 5,931 kg/ha for more dedicated farmers;

- from 741 kg/ha to 5,931 kg/ha;
- from 494 - 618 kg/ha to 2,965 kg/acre;
- from 741 kg/ha to 1,977-2,471 kg/ha;
- from 494 kg/ha to 2,224 kg/ha;
- from 371-494 kg/ha to 2,224-2,965 kg/ha.

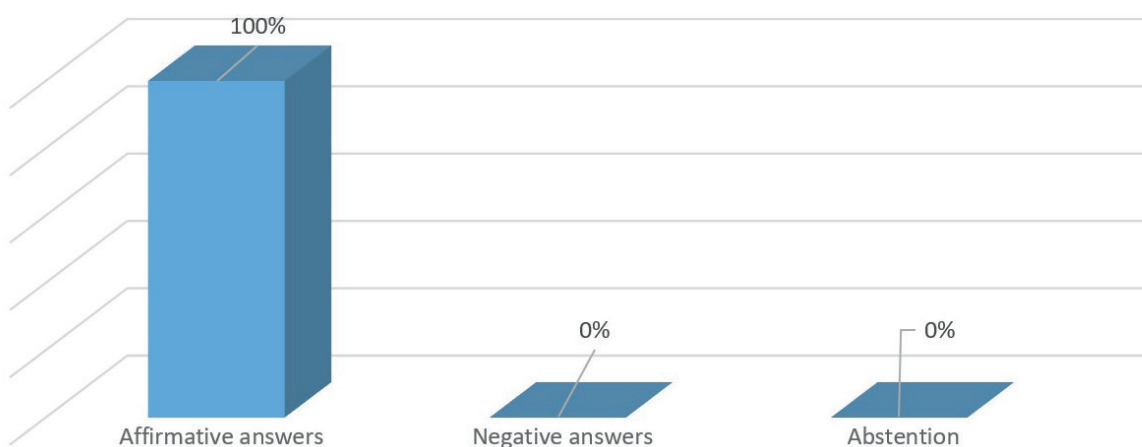


FARMERS' GROUP



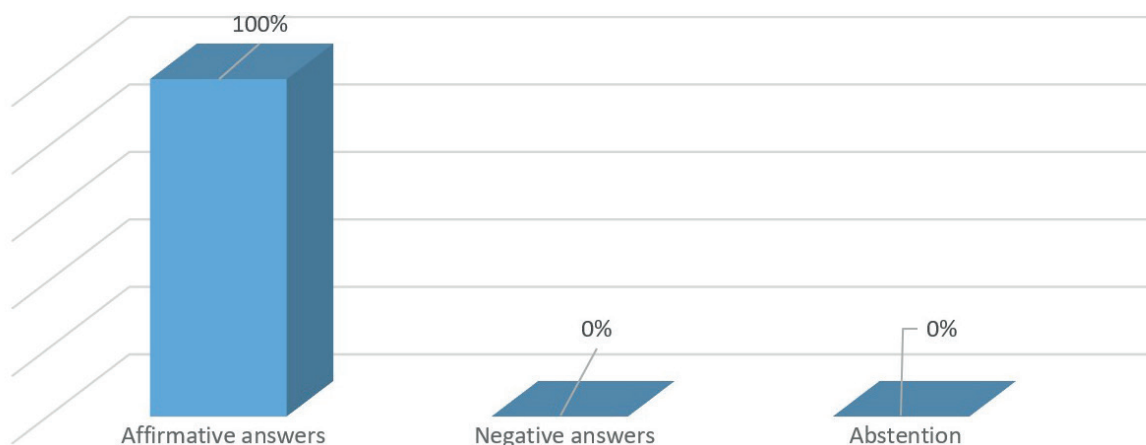
1: Are you familiar with the Cotton Victoria project? What do you know about the project?

The farmers interviewed recognize the Cotton Victoria project as an initiative aimed at increasing productivity through the introduction of new technologies.



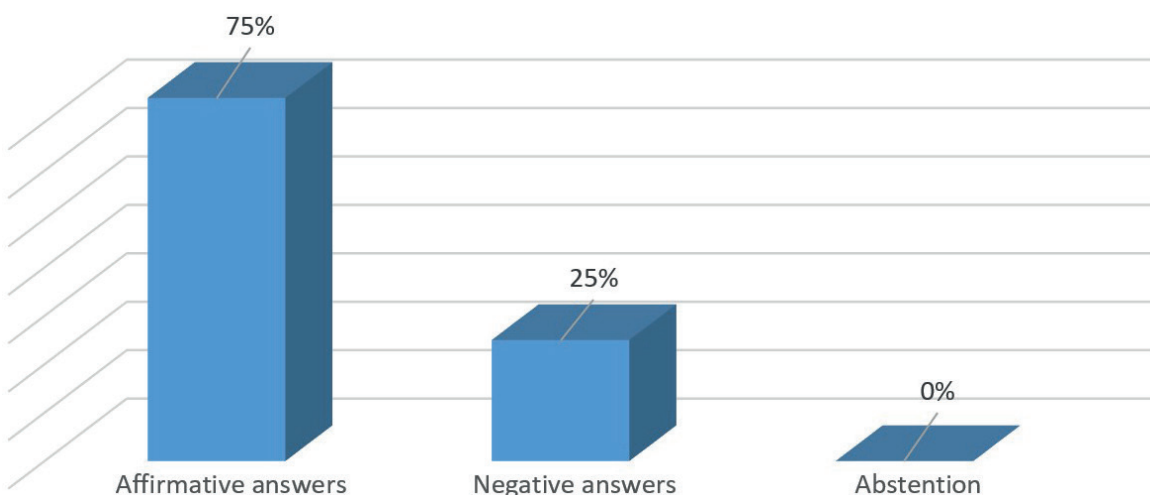
2. Have you participated in any training courses? How many? Which ones?

All interviewed farmers reported attending between two and four training sessions.



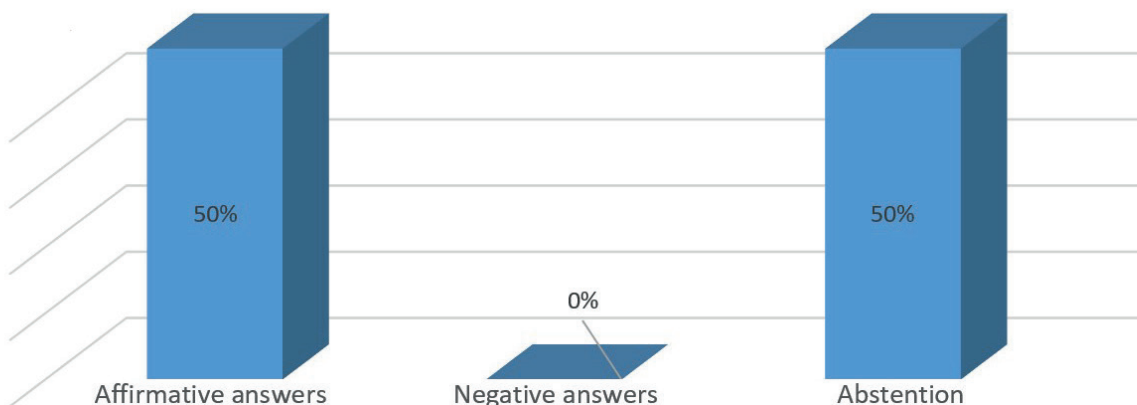
3. Have you participated in any field days? How many? When?

Most respondents participated in at least one field day.



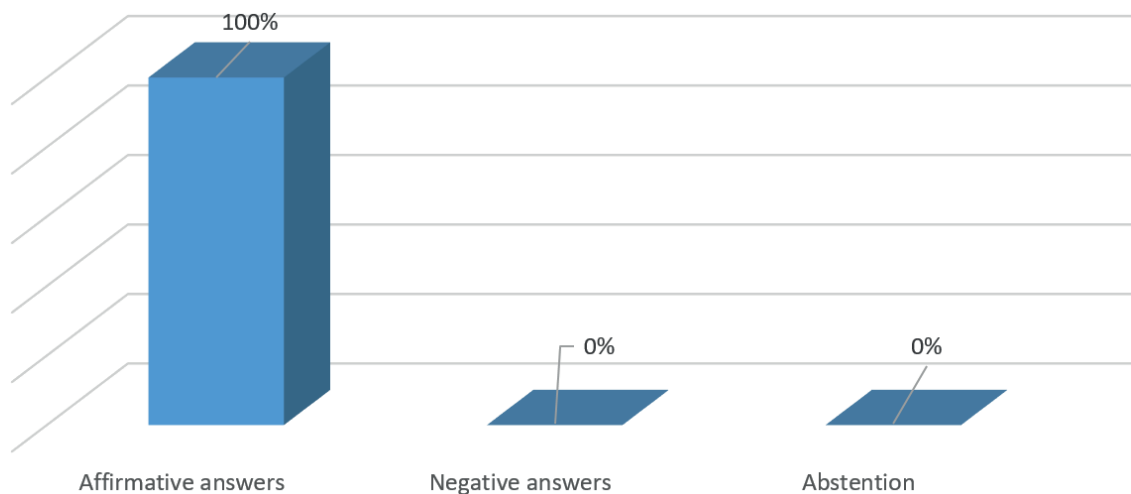
4. Was your transportation covered so you could take part in activities organized by the local partner institution? How was it?

In two cases, interviewees noted that when training sessions are held outside their village, transportation and meal allowances are provided. In the other two cases, since extension workers travel to the farmers' properties, no support was needed.



5. Are you applying any new techniques?

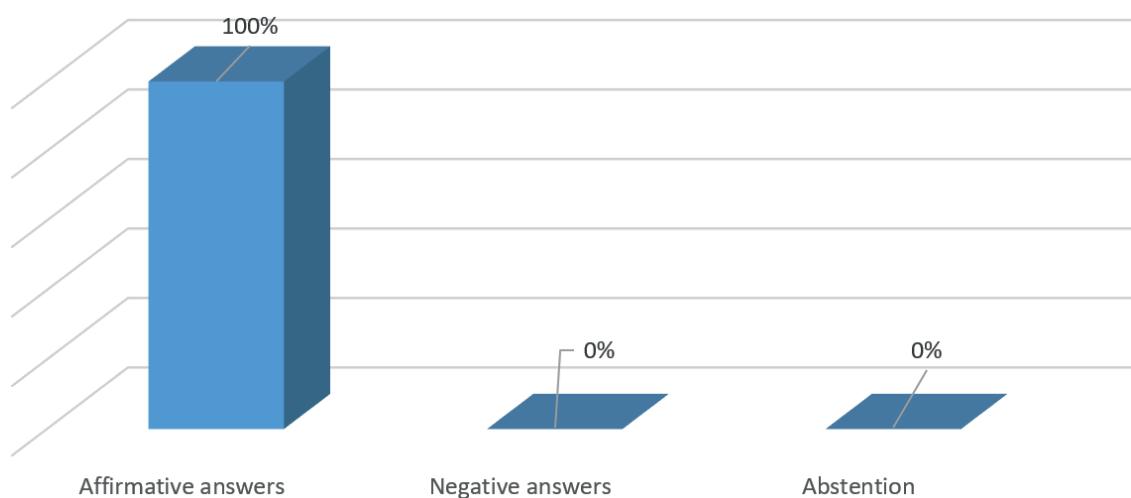
All respondents adopted new techniques introduced by the project into their cotton cultivation practices. Techniques mentioned include: pruning to regulate plant growth, foliar spraying of agro-chemicals, weeding, use of fertilizers and recommended spacing.



6. Have you noticed any difference in your field results?

All farmers reported an increase in productivity, with the following examples cited:

- from 494 kg/ha to 6,671 kg/ha (the Tanzanian Government awarded this farmer from Mwanza with an 850 horsepower tractor as a reward for achieving the highest productivity in the country)
- from 741 kg/ha to 5,931 kg/ha;
- from 741 kg/ha to 2,965 kg/ha;
- from 494 kg/ha to 4,942 kg/ha.



Key findings



Key findings

The cotton sectors of the countries participating in the “Cotton Victoria” project face common challenges. During the interviews conducted with managers, technicians, extension agents, and farmers, the most frequently cited issues included low productivity and mechanization levels, rudimentary production techniques, unavailability of adequate inputs, and poor seed quality.

Despite these obstacles, the formulation of government policies and the establishment of partnerships to support the cotton sector have been prioritized by the governments of Burundi, Kenya, and Tanzania to revitalize the sector. It is within this context that the “Cotton Victoria” project is situated. This is a South-South partnership aimed at capacity development and technology transfer for the partner countries.

Based on this overview, the following stand out as the main conclusions of the mid-term evaluation:

Conclusions:

C1. The project is widely known among partners (managers, technicians, farmers, and extension agents) in Burundi, Kenya, and Tanzania. However, there is no full clarity regarding its objectives and the methodologies adopted in South-South Cooperation.

The interviewees are generally aware that it is a cooperation project developed in partnership with Brazil to support the cotton sectors of the partner countries. Although some stakeholders are not fully familiar with the project’s specific details, the vast majority recognizes the management practices developed under the project as being responsible for the increased productivity in cotton farming. Therefore, in general, the project is perceived positively regarding its impact on revitalizing the cotton sector in each participating country.

However, there is limited understanding of the project’s concrete results, outputs, and activities. Furthermore, local managers do not seem to have a clear understanding of the methodologies employed in South-South Cooperation, particularly regarding the joint formulation and implementation of activities and potential local contributions. The issue of shared costs, to the extent possible for each country, also does not appear to have been incorporated into project management by the institutions of the partner countries.

C2. The project has delivered excellent results in terms of agronomic management practices and technologies disseminated through the initiative.

The project has been successful in terms of its technology transfer strategies, with significant outcomes regarding assimilation and replication. The replication of management techniques has occurred in a widespread and structured manner among farmers and extension agents. Beyond the training activities organized by governments and the project, the replication of practices has also taken place spontaneously among technicians and farmers, thus ensuring the dissemination of techniques introduced through project-led training. Although this has occurred spontaneously and effectively, there is no structured strategy within the project for broader diffusion of practices to other stakeholders across the cotton value chain.

C3. The project has contributed to increased productivity, but there is no formal quantification or systematization documenting productivity gains in the countries.

The interviews confirmed a substantial increase in productivity in all countries, following the adoption of the planting protocol developed by the Federal University of Lavras (UFLA). In this context, Tanzania achieved higher results than the other countries, which appears to be associated with the dedicated involvement of the Tanzania Agricultural Research Institute (TARI) in project implementation, as well as the daily presence of the project's Regional Coordinator in project activities.

Despite interviewees reporting yield gains in cotton production, there were inconsistent records regarding the figures, indicating inaccuracies and even a lack of technical knowledge for correct calculation. The absence of proper records and systematization of productivity increases hinder a more precise evaluation of the project's impact on cotton production in the countries.

C4. The project has contributed to the development of technical staff in the countries, but there remains a need to diversify both the technicians and farmers involved in the training sessions, as well as the UFLA team responsible for the training.

The vast majority of technicians and farmers interviewed took part in nearly all training sessions offered by the project. This suggests continuity and progression in their knowledge and skills. However, it may also indicate an excessive focus on the same individuals, which limits the wider dissemination of knowledge to a larger group of people.

The UFLA team, responsible for training in all three countries, has delivered high-quality work with a strong commitment to results. Nonetheless, the assignment of the same professionals for all training sessions imposes limitations on the implementation of the regional project and hinders the diversification of knowledge sources.

C5. The project has made efforts to ensure the participation of women in its activities. Nevertheless, male participation remains predominant.

The project's design stipulates that 30% of participants in the activities and training sessions should be women. However, men still constitute the majority. To ensure greater participation by women—and consequently more gender equity—the project could further encourage female participation in its activities.

C6. Communication with ABC and UFLA is fluid but could be strengthened through the adoption of communication protocols to allow closer monitoring of activities by the Brazilian coordinating and cooperating institutions.

In general, managers, technicians, and farmers reported that communication with ABC and UFLA is fast and accessible. Regarding technical execution, communication often occurs informally, particularly via the use of WhatsApp. While this approach ensures quick communication and direct access for technicians and farmers to Brazilian specialists, such exchanges are not properly recorded, which undermines institutional memory and limits consultation by other stakeholders.

C7. The protocols and other technical documents developed under the project are clear but need to be disseminated more widely among project beneficiaries.

Technicians and farmers stated that the management techniques disseminated through the project are communicated in a clear and objective manner by UFLA specialists. However, not all participants have access to the protocols and other technical documents. Access to these materials would enhance the transparency of the guidance provided and would facilitate consultation when questions arise.

C8. The project supports the transportation of partners to attend training sessions and other planned activities. However, each country defines how this support is provided. Broader farmer participation could be achieved with more predictable institutional support.

Managers, technicians, and farmers stated that they receive financial support from the project to participate in scheduled activities. However, the extent of this support is not defined by the Regional Project, resulting in a lack of standardization across the different countries. Some countries offer transportation, meals, and per diem for certain training sessions, while others provide only transportation, for example. These dynamic limits the participation of more vulnerable farmers.

Recommendations



Recommendations

R1. Design and implement a communication strategy across the three countries to promote dissemination of the project's general guidelines, main objectives, results, and involved stakeholders, highlighting the specificities of South-South cooperation.

Response to Conclusions C1 and C2.

Developing a comprehensive communication strategy tailored to the realities of the three partner countries will enhance the visibility of the regional project, including its techniques and achieved results. This will allow broader dissemination not only of Brazil's role in South-South cooperation, but also of the “modus operandi” of initiatives carried out under this cooperation modality. Greater awareness of the underlying principles and the roles and responsibilities of the parties involved in South-South initiatives will contribute to more effective and efficient project implementation.

The communication strategy should also include the dissemination of agronomic management techniques and best practices developed within the initiative, thus contributing to the sustainability of these practices beyond the project's lifecycle.

R2. Design and implement a strategy, in collaboration with partner countries, to measure increases in cotton productivity throughout the project.

Response to Conclusion C3.

Measuring productivity gains is a key strategy—alongside other indicators—for assessing the impact of the agronomic management techniques promoted by the project. The proposed strategy will be more effective if it is tailored to each country's context, acknowledging the unique characteristics of each cotton sector. Standardizing the methodology for productivity measurement, as well as planning for simultaneous implementation in all three countries, will allow for timely course correction of project activities when needed.

Considering the evaluation revealed differences in productivity levels across the three countries, including a comparative analysis in the measurement strategy will foster the exchange of experiences and lessons learned. This will support the identification of successful approaches and enhance the impact of project implementation on the cotton sector.

R3. Develop, in collaboration with partner countries, a set of criteria for selecting participants for training sessions and other project activities.

Response to Conclusions C4 and C5

The selection criteria should prioritize the inclusion of women and participants with high potential to replicate the knowledge gained, bearing in mind the limited number of individuals who can be trained by the project. The participation of managers and technicians in key positions should be considered strategic. Leading farmers should be prioritized so that they can demonstrate the planting techniques on their own farms and potentially showcase improvements in productivity.

Aligned with these criteria, it is recommended that the project promotes diversity among participants in its training sessions and activities to ensure broader outreach and contribute to the long-term sustainability of the initiative.

R4. Discuss and establish a strategy with UFLA to ensure the inclusion of diverse specialists in the delivery of training and other planned activities.

Response to Conclusion C4.

Mapping UFLA faculty members with various areas of expertise across the cotton value chain will facilitate diversification among the specialists involved in training activities, thus enriching the content provided.

In addition to the benefits of thematic and methodological diversity brought by a broader pool of experts, the training sessions may be implemented more fluidly across the three partner countries.

R5. Discuss and develop communication protocols between Brazilian and African partners to strengthen oversight and ensure institutional memory and document accessibility.

Response to Conclusions C6 and C7

Discussing, developing, and adopting communication protocols—and formally recording exchanges—would help streamline communication and preserve the project’s institutional memory. This would allow additional stakeholders to access relevant documents, protocols, and recommendations, thus broadening access to information.

Disseminating these protocols and documents during training sessions and project activities would reinforce the contents covered and clarify best practices to be adopted. Finally, making such documentation available would further support the dissemination and replication of practices, even among those who were not directly involved in the project activities.

R6. Discuss and establish a unified protocol for supporting the participation of managers, technicians, and farmers in project activities.

By adopting a common project-wide protocol to support participants’ involvement in project activities, the initiative can ensure greater predictability and, consequently, broader and more meaningful participation—particularly from more vulnerable target audiences.

Conclusion



Conclusion

Burundi

Objectives Achieved:

Technology transfer: Training of technicians and farmers on practices such as appropriate spacing (60x16 cm for poor soils; 70x20 cm for fertile soils), planting date (November–December), thinning, and organomineral fertilization.

Infrastructure: Implementation of Technical Demonstration Units (TDUs) and Knowledge Transfer Units (KTUs) for validation and dissemination of technologies.

Seeds: Introduction of Brazilian (BRS 293) and Malian seed varieties, increasing the availability of certified seeds (250 tons in 2024).

Quantitative Results:

Yield: Increase from 700 kg/ha to 1,200–2,000 kg/ha in adopting areas.

Training: 40 interviewees (ISABU researchers, COGERCO extension agents, lead farmers).

Regions: Imbo and Moso, focusing on acidic soils and cotton-maize intercropping.

Challenges:

Structural limitations: Lack of ginning equipment, mineral fertilizers, and insufficient rural extension services.

Partial adoption: Only 50% of farmers follow recommendations due to traditional habits.

Sustainability: Dependence on imported seeds and the need to strengthen the local input supply chain.

Kenya

Objectives Achieved:

Agronomic management: Adoption of 70x20 cm spacing, row planting (avoiding maize intercropping), and scheduled weeding (15–21 and 45–60 days after emergence).

Equipment: Donation of cotton processing machines (extruder, oil filters).

Training: Capacity building on Integrated Pest Management (IPM), seed production, and soil conservation.

Quantitative Results:

Yield: Increase from 250–500 kg/acre to 700–1,300 kg/acre (exceptional cases: 1,800 kg/acre).

Training: 35 interviewees (KALRO technicians, government extension agents, cooperative farmers).

Regions: Kisumu, Busia, Homabay, and Siaya districts.

Challenges:

Cultural resistance: Farmers are hesitant to abandon intercropping and density planting.

Pests: BRS 293 variety susceptible to jassids (*Amrasca biguttula*).

Logistics: Limited access to inputs and technical assistance in remote areas.

Tanzania

Objectives Achieved:

Validated technologies: Reduced spacing (60x30 cm), apical pruning, use of biofertilizers, and delinted seeds.

Effective extension services: “Cotton ambassadors” network multiplying knowledge (average of 200 farmers/extension agents).

Government recognition: Awards for farmers (e.g., tractor given to lead-farmer who achieved 2,700 kg/acre).

Quantitative Results:

Yield: Increase from 200–400 kg/acre to 800–2,400 kg/acre (average: 1,200 kg/acre).

Training: 35 interviewees (TARI researchers, LGA (local governmental authorities), extension agents, model farmers).

Regions: Mwanza, Geita, Shinyanga, and Simiyu.

Challenges:

Scale: Expand adoption to 100% of cotton farmers (currently at 60%).

Fiber quality: Need to avoid post-harvest wetting to preserve fiber value.

Sustainability: Maintenance of equipment and continuation of training post-2026.

Overall conclusion

The Cotton Victoria Project has successfully delivered on its core pillars—technology adaptation, knowledge transfer, and value chain analysis—in all three countries, with productivity increases ranging from 50% to 300%. Common challenges include:

Strengthening the local input supply chain (seeds, fertilizers); expanding extension services to consolidate best practices; and ensuring post-project sustainability through public policies and local partnerships.

Final recommendations

Burundi: Invest in ginning/delinting infrastructure and improve access to fertilizers.

Kenya: Develop pest-resistant varieties and increase frequency of field days.

Tanzania: Formalize post-harvest protocols and replicate award-based models.

The Cotton Victoria Project has demonstrated significant impact on the cotton sector in the Lake Victoria Basin, aligning closely with its three main axes:

1. Development and adaptation of local technologies: Introduction of appropriate spacing (60x30 cm in Tanzania, 70x20 cm in Kenya, 60x16 cm in Burundi), integrated management techniques (IPM, apical pruning, biofertilizers), and improved seeds (BRS 293 and Malian varieties), all tailored to each country's agroecological and socioeconomic context.

2. Technology transfer: Capacity-building for technicians and farmers via TDUs and field days has led to widespread adoption of innovative practices, as reflected in the average productivity increase of 116%.

3. Economic sustainability: Productivity gains have generated additional income for farmers (e.g., Burundi increased from 700 kg/ha to 1,200 kg/ha) and strengthened local value chains such as seed production and cottonseed oil processing.

Parameters	Burundi	Kenya	Tanzania	Total
Technicians interviewed	18	22	35	75
Farmers interviewed	12	15	20	47
Yield before (kg/ha)	500-700	250-500 (kg/acre)	100-200 (kg/acre)	-
Yield after (kg/ha)	1,000-1,200	700-1,300 (kg/acre)	800-2,700 (kg/acre)	+116% (average)
Farmers reached	~5.000*	~10.000*	~25.000*	~40.000

Note:

Unit conversion: 1 acre = 0.4 hectare.

Estimates based on reports from extension agents and cooperatives.

Highlight: In Tanzania, farmers such as Zakaria Walwa reached yields of 2.700 kg/acre (6.750 kg/ha), exceeding the Brazilian average.

Persistent Challenges:

- Access to inputs: Shortages of delinted seeds, fertilizers, and equipment.
- Infrastructure: Limitations in storage and market access.

Ongoing training: Need to expand rural extension services to consolidate productivity gains.





