



HOYEEE

**Brazil
and Africa
together**
*for the future
of cotton in
the world*





Hoyeee magazine and the teams of the Shire-Zambezi Project, in Malawi, Mozambique and Brazil, pay posthumous tribute to researcher Charles Banda, who died in 2022.

Banda was the project focal point for the *Makoka Agricultural Research Station*, in Malawi, and He was also an enthusiast of the initiative and the work developed with the communities in his country.

Always sharing his knowledge with the scientific community of his institution and with other countries, Charles Banda inspired colleagues and professionals from Malawi. Within the scope of the project, he trained local farmers and contributed to the promotion of food security, leaving an important legacy for the project.

We express our gratitude for the opportunity to have worked with this professional who certainly planted seeds, not only of cotton, but of knowledge, love for science and sense of community.

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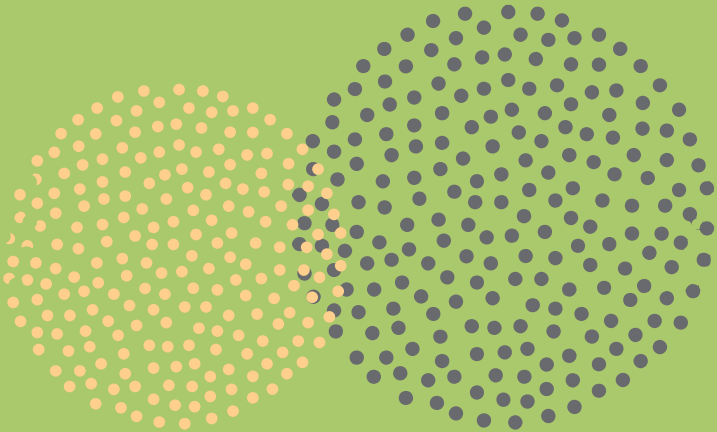
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LETTER TO THE READER



Shire-Zambezi Publication

It is with great pride that I hereby present a successful technical cooperation for development project coordinated by the Brazilian government, through the Brazilian Cooperation Agency (ABC, from the acronym in Portuguese), under the Ministry of Foreign Affairs (MRE, from the acronym in Portuguese): the “Regional Project to Strengthen the Cotton Sector in the Lower Shire and Zambezi Basins”, or simply **Cotton Shire-Zambezi**.

For us at ABC, this publication has great meaning. It is an instrument of dialogue and accountability pertaining to society through which we not only present details of the initiative, but also encourage results of this project coordinated by the Agency, and executed by a Brazilian institution of excellence – a reference in cotton production and a partner in this and many other technical cooperation projects: the Brazilian Agricultural Research Corporation (EMBRAPA, from the acronym in Portuguese).

The results presented here are reflected in the improvement of the institutional capacity of the partner African organizations involved in the last nine years of implementation of the initiative. The quality of life and the increase in income of the leading cotton farmers participating in the Cotton Shire-Zambezi are also an incentive for the replicability of the solutions developed throughout the process.

The exchange of experiences and the implementation of technologies in cotton sowing process also have a result that represents a lot for Mozambique and Malawi: improving the quality of cotton seeds, which is an asset for both nations and a starting point from which other results that impact the economy and society of these countries can emerge.

Based on the results already achieved so far, as well as the possibilities of expanding the actions, the technical teams of the project defined the need for continuity of Cotton Shire-Zambezi in a second phase, which is currently under negotiation.

Then, the HOYEEE magazine was named in honor of the expression of the same name, spoken in Mozambican territory, that means “Hooray!”. It is an interjection used to cheer up and encourage those who participate in a certain group or action, an expression that sustains the connection and gives a sense of belonging to everyone involved, a call to maintain morale and move forward.

It is in this same vein that this publication intends to unite all project participants, government representatives, project analysts, researchers, extension agents and leading farmers to come together on the path towards development, through collaboration, cooperation and exchange! And long live the Cotton Shire-Zambezi Project! Hoyee!

Ruy Pereira
Ambassador
Director of the Brazilian Cooperation Agency



INTERVIEW

Nelci Caixeta and Alberto Santana



Necungas Community, Moatize, Mozambique

ABC: 35 years of Brazilian cooperation for the progress of mankind

The Brazilian Cooperation Agency (ABC, from the acronym in Portuguese), of the Ministry of Foreign Affairs, (MRE, from the acronym in Portuguese) was established in 1987. It brings together dozens of national, public and private partner institutions around nine thousand projects developed in 110 countries in Af-

rica, Latin America, Asia, Oceania and Europe. For more than a decade, ABC and the Brazilian Institute of Agriculture (IBA, from the acronym in Portuguese), have implemented the Brazilian Program to Support the Strengthening of Cotton Farming in African Developing Countries. The action focuses on supporting fam-

ily farmers that grow cotton in the region, with the support of the United Nations Development Program (UNDP).

The Brazilian Agricultural Research Corporation (EMBRAPA) – one of the main partner institutions of Brazilian international cooperation – has been at the

forefront of actions that have driven the resumption of Brazilian cotton farming in the last 20 years. A successful trajectory. According to the United Nations Food and Agriculture Organization (FAO), in 2020 Brazil reached the position of second largest exporter and fourth largest producer of that fiber in the world, only behind China, India and the United States – countries that account for almost 2/3 of world production (FAO, 2021).

To report on such a fruitful partnership, the general coordinator of South-South technical cooperation for Africa, Asia and Oceania, **Nelci Caixeta (NC)**, on behalf of ABC, and the researcher in Ecology and Agricultural and Rural Development, **Alberto de Santana (AS)**, on behalf of EMBRAPA, spoke to HOYEEE Magazine about the importance of this cooperation project, the expansion of exchange, generation, dissemination and use of technical knowledge, the training of human resources and the strengthening of the institutions involved.

📌 **What is ABC and what is its importance for the development of Brazilian foreign policy?**

Nelci Caixeta: The Brazilian Cooperation Agency, under the Ministry of Foreign Affairs, is responsible for coordinating the entire international cooperation system. In addition to humanitarian cooperation, we provide bilateral

and trilateral technical cooperation. These are three areas of activity considered of great importance for Brazilian foreign policy.

📌 **How does ABC operate and what is its main commitment to the nations with which it establishes collaboration?**

NC: The Agency works to strengthen relations between countries, deepening diplomatic relations. To develop its mandate and competence, ABC establishes partnerships with national institutions in the public and private sector and with partner institutions in the countries with which we cooperate. By promoting institutional strengthening, ABC also acquires equipment and offers infrastructure strengthening to some institutions, with a view to contributing to the improvement of their technical capacity, so that they seek solutions to their development challenges, by themselves.

📌 **Brazil and Africa have been developing a new model of south-south relationship. What does this cooperation consist of and what is its practical importance?**

NC: South-South cooperation focuses on the exchange of experiences, knowledge and good practices for sharing technologies that were developed by Brazilian institutions for the social and economic development of the countries with which Brazil

cooperates. In practice, this activity translates into many short and medium duration courses, carried out in Brazil and also abroad by Brazilian specialists from various public and private sector institutions. South-South cooperation also promotes technical missions that contribute to the institutional and individual strengthening of the specialists who participate in these activities, whether they are training or technical visits.

📌 **In which countries and on which continents is Brazilian cooperation present?**

NC: We operate on all continents, but with more emphasis on Africa and Latin America for reasons of territorial and cultural proximity with Brazil. With the other regions, cooperation is a little less intense, but also of great importance for Brazilian international relations.

📌 **When did Brazil and Africa start cooperation in cotton cultivation? And what are the main achievements of this partnership?**

NC: For more than a decade, Brazil has been developing cooperation projects in the cotton sector in Africa. It is a demand driven bilateral South-South cooperation initiative. It means that the fact that it is carried out upon request by countries is a characteristic of our way of cooperating. In addition, for more than three de-

acades, ABC has accumulated experience and a portfolio of more than nine thousand projects. The main result of this accumulation of experiences is certainly the fact that the Agency can inspire other younger agencies to work together and promote this additional co-operation strengthening.

Can we say that projects to support the cotton chain in Africa are the biggest milestone of Brazilian international cooperation?

NC: One of the biggest. We started a project called Cotton-4 with four countries. It became an inspiration for other cotton-producing countries to request Brazil's support for the development of the cotton sector. Hence, several new initiatives emerged in Malawi and Mozambique, gathered in the Cotton Shire-Zambezi project. Together with another initiative involving Burundi, Kenya and Tanzania - "Cotton Victoria" - today

we have a list of 17 African countries that are partners of Brazil's technical cooperation in the cotton area.

What are the challenges encountered in cotton farming in Mozambique and Malawi?

AS: The studies and observations conducted were conclusive: the low competitiveness of the sector is not directly related to the lack of knowledge and technical recommendations, but rather to the inability of farmers to use such information, either for cultural reasons, or due to the inability to bear the additional costs required.

Theoretical estimates indicated that, if there was an adequate supply of superior quality seeds of the varieties recommended by the research, current agricultural yields would be immediately doubled. If each farmer, when using these seeds, followed the recommendations of the institutions involved, the yields of the sector

would be immediately increased by at least 40%.

What was the inspiration for EMBRAPA's technical planning to guarantee the success of the actions in the Cotton Project?

AS: We conclude that it is not about the development of new technologies, nor the use of technological models developed for the technical and cultural conditions of the Brazilian farmer. This is because the adoption of a different agricultural production system by the actors of a given rural productive sector requires the employment of certain types of resources, which the local farmer does not have. The land + labor + hoe equation prevails. The employment of other means of production did not exist due to the enormous increase in costs arising from the farmer's inability to manage them without an adequate training process; and also due to the general inability to operationalize them in cases of need for energy, fuels and maintenance services.

However, the main highlight of the project was the direct participation of the farmer in all steps, from the initial phase, so that, by internalizing the entire process, they became the best selected seeds providers in the region, with extraordinary results once those seeds were used by the others.



Farmer families selling what they produced to the Shire-Zambezi project



Makoka Agricultural Research Station: Malawi cotton cultivar IRM 81

Since May 2004, that is, for 20 years, you have coordinated the south-south technical cooperation for Africa, Asia and Oceania. On that journey, what would you highlight as lesson learned that can contribute to the advancement of cooperation in Brazil?

NC: My experience as General Coordinator of South-South Technical Cooperation for Africa, Asia and Oceania has been a very great personal and professional opportunity. In that time I have been able to dedicate my work to multiple projects of technical

cooperation based on the experience obtained. It made it easier for me to deal with the themes I believe, so that they stand out in the applicability of all technical knowledge and in the coordination of these projects with different institutions. I emphasize here the importance of the principles of south-south co-operation for the good progress of our projects.

For you, what is the main legacy of the Cotton Shire-Zambezi Project?

NC: Especially about Cotton Shire-Zambezi, the highlight is the organization of the quality cotton seed

production system for both countries, especially because it can serve as a model for other countries in the continent.

AS: It is not only about knowing, comparing and evaluating the social, economic and environmental impacts and disseminating the results obtained with the introduction of a new technology, with reference to the information on the knowledge traditionally used by the participating farmers. The greatest lesson is the understanding, by the farmers, that it is up to them to decide whether they want to grow socially or not. Each farmer needs to decide whether or not

to adopt the procedures that they find the most convenient for their family or the community to which they belong. Today, the technical teams in Malawi and Mozambique no longer rely on external technical support. I consider this to be the main legacy.

📍 For you, Alberto, what is the feeling of participating in this project in Malawi and Mozambique?

AS: In Brazil and Latin America I worked on numerous agricultural and rural development projects, mainly in the northeast of Brazil. As I did not know Africa or its people, except for literature, I thought of taking my knowledge and lessons learned in our environment. However, I soon noticed that they did not apply there. The challenge, then, was to help those people to improve their lives through their own ways of understanding, seeking solutions appropriate to the reality of each community. The experience that led me to a new vision and a new conduct in dealing with the development of our most vulnerable rural agglomerations: quilombo communities, indigenous peoples and traditional communities that, in general, produce only for subsistence.

This learning gave me the conviction that we can no longer discuss

the generation and transfer of agricultural technologies without previously discussing the quality or the degree of adequacy of these technologies to the social, economic and environmental reality for which they are intended. In this case, technical support actions must be understood as a process that allows each community to reflect on the relevance of changes and, also, which changes are feasible, that is, they are in perfect coherence with the production systems they have practiced for generations.

📍 Alberto Santana, do you consider that the project is changing the lives of farmers? How?

AS: Yes. The extraordinary social and economic changes are still restricted to the farmers involved in the project. In financial terms, this means, in practice, the sale for five times more value of the fiber to the ginneries, with a bonus of 20% on the proven quality, and the sale of delinted cottonseeds. In addition, there is the visibility achieved, as the universe of local technical professionals and farmers involved expands. At least 1,450 people participated passively or actively in carrying out program actions: 497 trained people of all levels; 26 Brazilian technical professionals; 25 local technical pro-

fessionals and instructors; in addition to a thousand visitors in demonstration fields.

The results achieved demonstrated the rapid adoption of the recommended methods and practices, proven by the immediate increase in the average yield obtained by the farmers involved: 2.5 tons per hectare, five times higher than the 500 kilos per hectare obtained in previous agricultural seasons.

📍 Over these 35 years of ABC, is there any important aspect in the Agency's performance that Mr. Nelci would have to emphasize?

NC: The most important aspect in the trajectory of ABC over all these years is the valuable work carried out in order to promote an increasing integration between countries, so that they can walk alone or interlinked in the development of the various sectors of agriculture and other areas, whether in education, health or educational training. In this sense, the cooperation work carried out by the Agency is of paramount importance for Brazil and also for these countries.

LEARN MORE ABOUT THE REGION

Africa is one of the largest and most diverse continents on Earth, bringing together approximately 1/7 of the world's population, on 20.3% of the planet's land area.

3RD largest continent on Earth

Approx. 30 million Km²



1,340,598,000 inhabitants
(Source: UN, 2019)

54 independent countries

5 large regions*

*The United Nations Geoscheme is a system used by the UN to classify countries into regional and subregional groups. Some alternative clustering tools to this system include the CIA World Factbook regions and the World Bank regional classification.

In Southeast Africa, the Lower Shire and Zambezi Basin was chosen to implement the project



- ▶ The region is bounded on the east by the Zambezi river bank in Mozambique and on the west by the Shire river in Malawi.
- ▶ High potential for cotton production due to agroclimatic conditions.
- ▶ Existence of more fertile areas.
- ▶ Expanding agricultural area, with potential for greater acceptance by farmers of new arrangements and production systems to be recommended by Brazilian experts.

MALAWI

Malawi is a country of small territorial proportions that is known as the 'warm heart of Africa', thanks to its friendly and warm people. The population is young, with an average age of 17 and, according to 2018 World Bank data, it has an annual growth of 2.9%, higher than the African average (2.7%) and the world average (1.2%).

With no access to the sea and 20.6% of its territory occupied by water, the country is an adventure tourist destination that attracts for its rich wildlife, freshwater beaches and beautiful landscapes. Lake Malawi extends through the entire country and is the third longest in Africa.

 **19,889,742**
population (2021)

68% living in rural areas

 Area **118,484** Km²

TROPICAL CLIMATE

with an average annual temperature of 30oC in the north

- Capital - Lilongwe
- Languages – English and Chewa
- Independence from the United Kingdom in 1964



The districts directly involved with the project in Malawi are Chikwawa, Balaka, Ntcheu and Salima.



LILONGWE

Sources: Word Bank, IBGE and ABC.

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MOZAMBIQUE

With its extensive coastline washed by the Indian Ocean, Mozambique has some of the best natural ports of Africa, playing an important role in the maritime economy of the region. Its beautiful white sand beaches attract tourists and the fertile soils in the north and central areas produce a varied and abundant agriculture.

 **32,077,072**
population (2021)

63.5% living in rural areas

 Area **799,380** Km²

TROPICAL CLIMATE

with a dry and a rainy season throughout the year

- Capital: Maputo
- Language: Portuguese
- Independence from Portugal in 1975



Districts with family farmers participating in the project in Mozambique are Guro, Bárue, Moatize, Cahora Bassa and Mágoè.



MAPUTO

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LEARN MORE ABOUT THE COTTON PRODUCTION CHAIN in Malawi and Mozambique

Cotton is among the most important fiber crops in the world. The information is provided by the Brazilian Cotton Farmers Association (ABRAPA), in 2022, the average area planted worldwide was 35 million hectares.

With a gradual increase in global demand, since the 1950s, the average annual growth of cotton farming is 2%, which is reflected in the world trade of the product, moving

annually about US\$12 billion and involving more than 350 million people in its production process, from the field to the infrastructure of logistics, ginning, processing and packaging. Released data also indicate that, currently, cotton is produced by more than 60 countries on five continents.

More specifically, in both Malawi and Mozambique, the cotton production chain brings together tech-

nical knowledge that, in proper use, has produced positive responses in the productivity and competitiveness of the cotton sector. Knowing the specificities of the two countries helps to understand the reality of this scenario of enormous challenges, which has been supported by the actions of the Cotton Shire-Zambezi Project to overcome them.

With information provided by EMBRAPA – Secretariat for International Relations.

ABOUT THE COTTON PRODUCTION CHAIN IN MOZAMBIQUE



94.6%

of the cotton
production made
by family farming

remaining
5.4%

are private smallholder
farmers, organized in
associations

average cultivated areas of

0.7
hectares
per family

good fiber quality, with about

80% of the production of tall
branches and grains

fully absorbed by the agri-food
and soap industry



organized in associations, groups and forums, have required: supply of inputs for late payment; technical assistance, machinery, agricultural implements, sacks, pesticides and other inputs; and market through guaranteed sale and minimum price negotiated between companies and farmers, under the supervision of MINAG and approval by the Council.

*Under the
coordination of
a collegiate that
includes*

the Mozambican Cotton and Oilseeds Institute (IAOM, from the acronym in Portuguese), the Cotton Association of Mozambique (AAM, from the acronym in Portuguese) and the National Forum of Cotton Farmers (FONPA, from the acronym in Portuguese), the governance of the sector is exercised by the Mozambique Cotton Institute, created by Decree No. 7/91, which approved the Cotton Farming Regulation, and the Technical Guidelines to be complied with to ensure good yields in the sector in the short and long terms.

ABOUT THE COTTON PRODUCTION CHAIN IN MALAWI

94.5%

of the cotton production made by family farming

remaining

5.5%

are private smallholder farmers, organized in associations



The cotton business management in Malawi

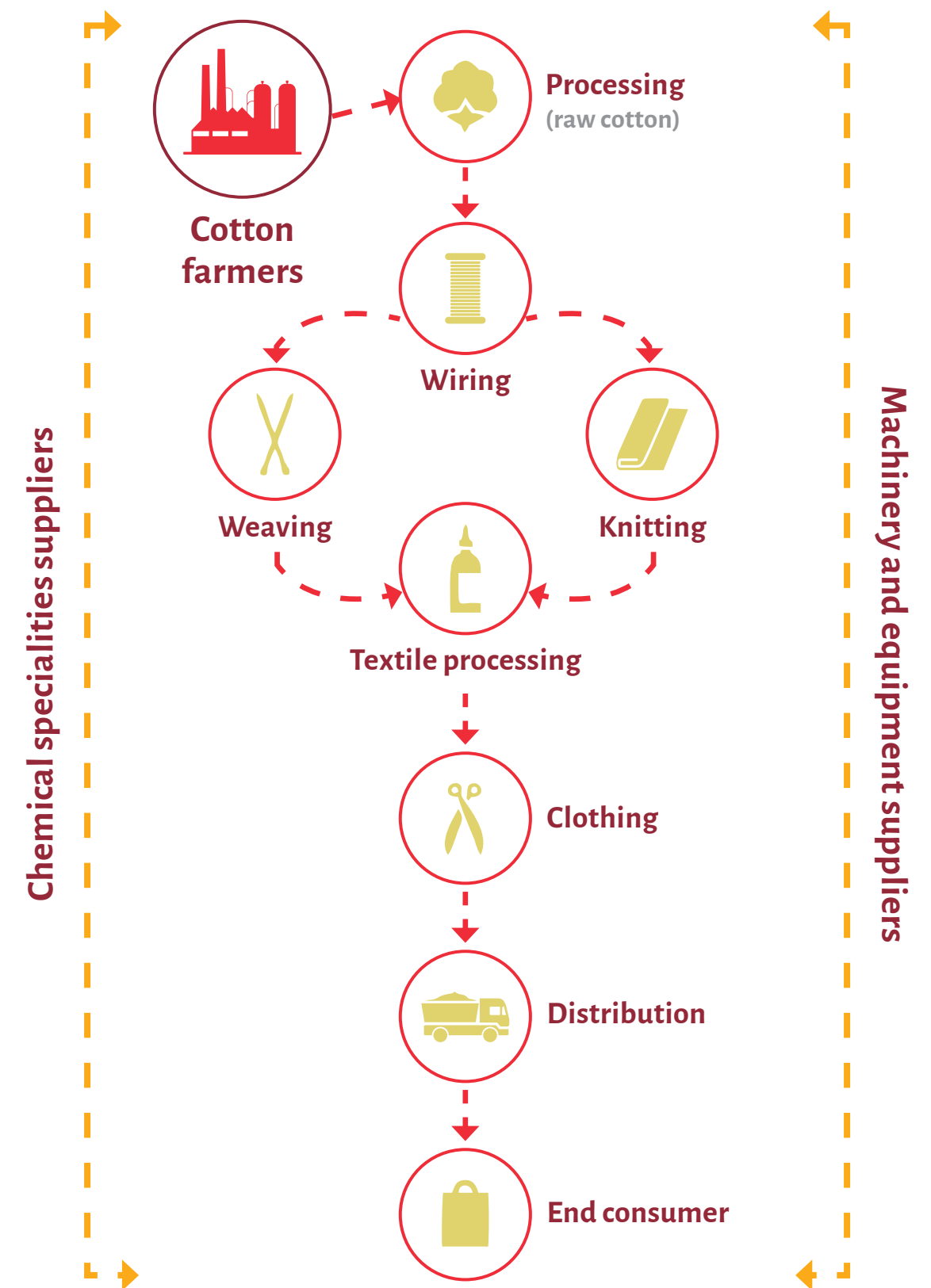
is the responsibility of the Ministry of Agriculture, Water and Irrigation Development, through its Department of Agricultural Research and Technical Services (DARS).

Both fiber and grains are fully traded by ginning companies, which purchase from about

200,000 farming families



COTTON PRODUCTION CHAIN



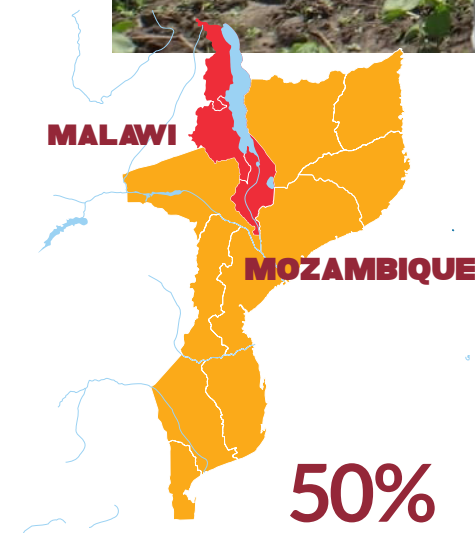
BRAZIL AND AFRICA

together for the future of cotton in the world

Technical cooperation promotes integration of Brazilian sustainable technologies with traditional African knowledge in cotton farming, boosting the economy and improving the lives of family farmers in the Shire River Valley, in Malawi, and Zambezi, in Mozambique.



Seed production field in Moatize, Mozambique



50%
of the active
workforce
has cotton farming
as their main
economic activity

From Malawi to Mozambique, the waters of the Shire river, in the interior of the African continent, and the Zambezi river, close to the Indian Ocean, water the crops, guaranteeing work, income and more food for the cotton families beneficiary of the Cotton Shire Project. The union between Brazil and the two countries, formalized by this important south-south cooperation project, has resulted in initiatives to share knowledge and technologies for the strengthening of the cotton sector.

The fruitful process of integrating knowledge and initiatives between the three countries has disseminated sustainable production seeds, empowering rural men and women, contributing to the reduc-

tion of rural poverty, strengthening food and nutritional security and generating work and income in the countryside.

The path is challenging. However, the results converge to the goals of the Sustainable Development Goals (SDGs), established by the United Nations Organization and the signatory countries of the 2030 Agenda.



Cotton farming is the main economic activity for more than 50% of the active workforce in both countries. The soft fiber, which grows and surrounds the seeds of the plant scientifically called *Gossypium*, is one of the main products of this small shrub, native to tropical and subtropical regions located throughout the planet.

Data collected by the project indicate that about 200,000 families in Malawi and 250,000 in Mozambique each allocate up to 1.5 hectares for the growing of food, many of them associating the crop with food crops. Altogether, in both countries, about two million people have found in the production of the fiber an alternative to living, earning income and improving access to food.

The strength of partnerships in transforming the Lower Shire and Zambezi scenario

Despite the inherited vocation of ancestral activities and the high productive power of cotton in the region, the main challenges faced by farmers in the attempt to evolve

cotton crops in the region are the low quality of seeds, degraded soils, the use of inadequate production systems and difficulties in the management of pests and diseases.

Faced with this challenging scenario in the region, in 2014, the “Regional Project for the Strengthening of the Cotton Sector in the Lower Shire and Zambezi Basins” began, coordinated by the Brazilian Cooperation Agency (ABC, from the acronym in Portuguese), of the Ministry of Foreign Affairs (MRE, from the acronym in Portuguese), in partnership with the governments of Malawi and Mozambique. A work carried out in an integrated manner with, on the Brazilian side, the participation of Brazilian Agricultural Research Corporation (EMBRAPA, from the acronym in Portuguese) at the head of the sharing of technical knowledge, alongside the local partner sector institutions: the Mozambican Cotton and Oilseeds Institute (IAOM, from the acronym in Portuguese) and the Department of Agricultural Research Services of Malawi (DARS).

The initiative, which is funded by the Brazilian Cotton Institute (IBA, from the acronym in Portuguese), and with institutional support from the United Nations Development Program (UNDP), aims to expand the institutional capacity and technical knowledge of national human resources (researchers, extension workers and leading farmers of Malawi and Mozambique) in the use and diffusion of food production technologies in small properties, focusing on the production of quality seeds.

In addition to investing in technology and resources, the program promotes productive arrangements adapted to the cultural and socio-economic dimensions of local realities, contributing to the improvement of the living conditions of families and, at the same time, stimulating the competitiveness of the cotton sector in the region.

To guide the actions, a general training program was elaborated, with the purpose of training farmers and extension workers. In addition to this rich process of learning



ABC coordinator, Nelci Caixeta, with Malawian farmers, at the experimental station

and knowledge sharing, the regulatory framework for the production of certified seeds in both countries was jointly created and implemented, in addition to the implementation of technological centers – the Technical Demonstration Units (TDUs) – to demonstrate and share agricultural techniques.

The final evaluation process of the project, carried out in 2019, dem-

onstrated increases in terms of production and income in the communities involved. These are signs of an ongoing transformation process, which is reflected not only in the economic dimensions, but also in social, environmental and institutional dimensions. They demonstrate the importance and relevance of the Cotton Shire-Zambezi Project with the farming families that grow cotton in both countries.

The scenario of good prospects pointed to a new moment in the project. By 2026, structural actions for institutional strengthening and human resources should intensify. “The purpose is to reduce financial support in order to encourage the autonomy of the new production chain”, points out the General Coordinator of technical cooperation with Africa, Asia and Oceania of ABC, Nelci Caixeta.

COTTON SECTOR SCENARIO IN THE REGION OF MOZAMBIQUE AND MALAWI

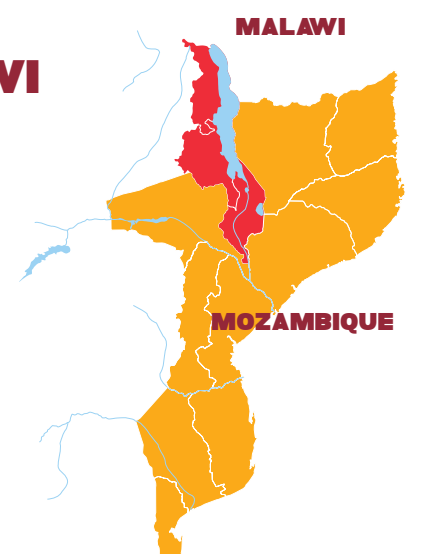
Tropical climate Malawi is located in the center of the African continent, and it is marked by wet season between May and October, with topography extending between the fertile plains of Shire River to the Zambezi River, which is located in the territory that belongs to the neighbouring country, Mozambique. It's geography is strongly characterized by Lake Malawi, third largest in Africa, which occupies a quarter of the country's territory, establishing the border with Mozambique and with Tanzania. In this scenario, cotton emerges among the most important subsistence crops in the country, grown in small farms.

As one of the six countries in Lusophone Africa – African countries that have the Portuguese language as an official language, alongside Angola, Guinea-Bissau, Cape Verde, São Tomé and Príncipe and Equatorial Guinea (which recently adopted the Portuguese language as an official

language) - the geography of Mozambique is made up of river valleys, fertile, coastline extensive plains and the Zambezi River. In the enormous river valleys, at the margins of this important irrigation source, since 1930, cotton is produced – as a strategic subsistence crop for families.

In general, the cotton sector in the region faces strong challenges, such as difficulties in accessing certified seeds and low final sales values, when compared to those practiced in the international market, in addition to difficulties in accessing credit and good agricultural production practices. However, local initiatives in both countries have created an environment that contributes to positive changes in this scenario.

In Malawi, the local government seeks to implement actions focused on the sustainable transformation of agriculture and water development in the country,



a process for which cotton cultivation contributes significantly to agricultural diversification, the ability to expand between commercial crops and value-added activities, especially between smallholder farmers. In Mozambique, the local government works to promote the integration of family farming into productive value chains, focusing on sustainable agriculture and improving the quality of life of families in rural areas.

In this context, south-south cooperation has contributed significantly, by sharing knowledge, respecting national sovereignty and adapting processes to the national policy of each country.

Cotton Shire-Zambezi project on the road towards regional development

Focusing on the development of cotton farming in the region, through the Cotton Shire-Zambezi Project, in partnership with local institutions, cotton research centers were structured in the two African countries.

In 2015, with the installation of the Regional Cotton Technology Transfer Center (CRETTA, from the acronym in Portuguese), linked to the Mozambican Cotton and Oilseeds Institute (IAOM, from the acronym in Portuguese), the implementation of institutional strengthening activities began. In Malawi, the Knowledge Transfer Unit (KTU) was established, linked to the Makoka Agricultural Research Station, of the Department of Agricultural Research Services, of the Ministry of Agriculture (DARS).

These structures have allowed researchers and technical professionals from Brazil, Malawi and Mozambique to carry out tests, select sustainable cultivation methods, organize consultations and share knowledge about sowing, food intercropping, soil recovery techniques, management and control of pesticides and crop diseases.

Integration between tradition and technology

The exchange of experiences and the valorisation of regional knowledge were fundamental to guarantee the involvement of farmers with the new cotton cul-

KTU

Knowledge Transfer Units – which, unlike regular technical Demonstration Units, are established in traditional cotton growing regions in both countries – were designed to reproduce, in the field, the cultivation practices validated in trials. Considered living showcases of experimentation, a total of 22 demonstration fields were established in the eight KTUs, 16.6 hectares of area in the districts of Tete and Manica, in Mozambique, and 18.4 hectares in the districts of Zomba, Salima and Nsanje, in Malawi.



tivation practices. “When we step out of the institutional level of research and move into action, we don't impose a ready-made package. On the contrary, we invite farmers to cooperate, to do it together.” describes Daniel Ferreira, a researcher at EMBRAPA Algodão and a member of the team of Brazilian experts who participated in the project.

To multiply access to new technologies, researchers, rural extensionists and leading farmers were trained in 15 training courses in Brazil, Malawi and Mozambique. Cotton Shire-Zambezi promoted seven field days, which brought together about 200 people per event. The activity opened doors for a greater integration of knowledge: “Before going to the field, we went to the communities to iden-

tify and train the farmers who could replicate the knowledge and positively influence the behavior of other farmers”, explains Alexandre Pelembe, technical coordinator of the project in Mozambique.

One of the features of the Cotton Shire-Zambezi Project that stands out is that all production is developed in community fields, so that the population can follow the protagonism of farmers in charge of African crops. “We received government areas to establish the seed fields, but we decided to establish them in the farmers’ lands, so that they would be a reference for the others,” says Daniel Ferreira.

The success of the strategy is confirmed by the results achieved. According to the EMBRAPA researcher, over the first six years of work, more than two thousand cotton farmers passed through these fields, in addition to rural extensionists, representatives of concessionaires and local residents interested in learning and reproducing the new farming techniques shared within the Cotton Shire-Zambezi.

During the implementation period of the actions, 100 technical supervision missions were carried out, involving teams from CRETТА and LCTTU, EMBRAPA and ABC. A job that required dedication and interaction with the fiber crop in both countries. This is because the inspection missions were carried out according to the agricultural calendar, at five different times:

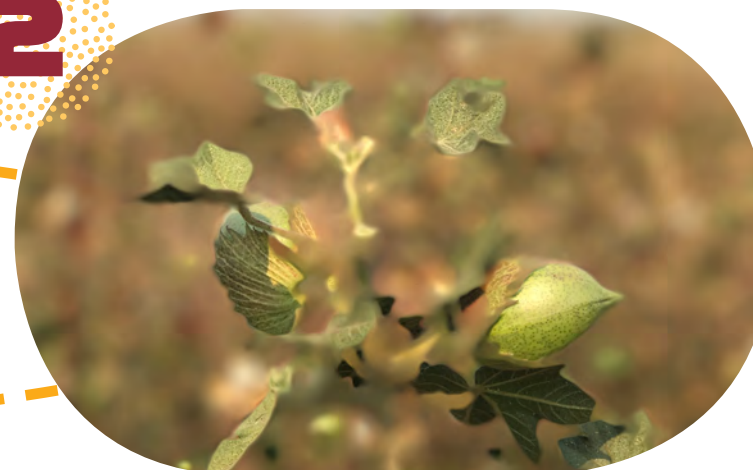
1

LAND PREPARATION AND SOWING



2

PLANT MANAGEMENT AND DEVELOPMENT



3

FLOWERING



4

HARVESTING

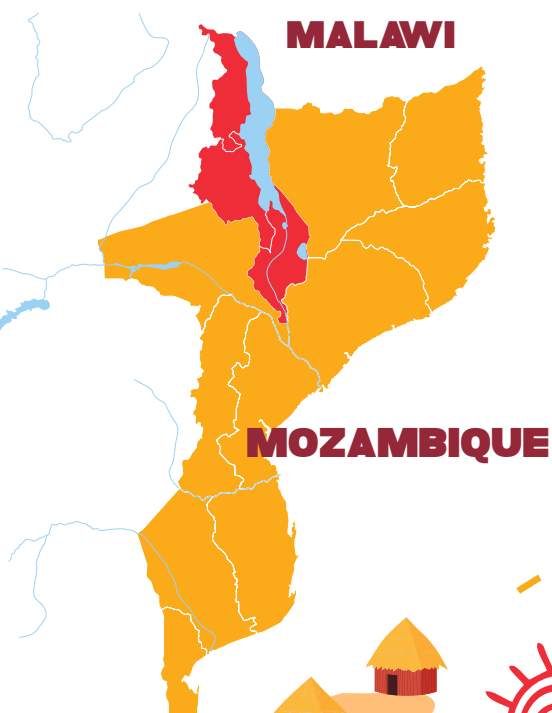


5

SALES MONITORING



In these stages, technical professionals and seed producers prepare fields for sowing, analyse the level of cotton germination, finance phytosanitary treatments for pest control. Also through the cooperation project, ABC provides personal protection equipment (PPE) for the handling of pesticides, ensuring the safety and health of farmers. In addition, activities include logistic actions and supervision of the sale of raw cotton to promote certified seed production fields. The highlight of this process is reached when the results of production are celebrated, when the farmer sees the reward for their work and participation in the project.



The challenging scenario inspires the advancement of **COTTON SHIRE-ZAMBEZI PROJECT**



1ST Food agriculture

Firstly, the need to produce one's own food in the "machamba",

communal area occupied by the farmer, with size depending on the family workforce, in what is locally characterized as "food agriculture".



2ND Yield agriculture

Machamba to "yield agriculture", the one that can provide sellable products



It is in this context that part of the Cotton Shire-Zambezi technical cooperation project is being conducted, to support the development of cotton as a cash crop. EMBRAPA provides technical support in terms of technology sharing and the Brazilian Cooperation Agency (ABC, from the acronym in Portuguese) coordinates logistics, with financial resources obtained from litigation managed by the Brazilian Cotton Institute (IBA, from the acronym in Portuguese). The philosophy of the project follows the south-south cooperation primer, whereby countries with better technical development share partner countries, technical resources and knowledge, rather than financial resources.

Harvesting better days: increased yield, income, and food security

Only with the introduction of basic techniques and technical arrangements appropriate to local production systems, already in the second year of the Cotton Shire-Zambezi did farmers increase the average production of raw cotton by five times.

Compared to the agricultural seasons prior to the project, the average yield of cotton families jumped from 500 kilos to 2,500 kilos per hectare in 2018. Some farmers within the project presented an even better performance.

This is the case of the Mozambican Daniel Malacha, who harvested 4.5 tons in an area of 1.5 hectares of experimental fields of the project: a production almost six times higher than the national average.

The results of the project demonstrate that, using the same capital on land and labor, cotton-farming families achieved a yield five times higher than what they had been obtaining, earning more income to feed themselves, investing in the education of their children, renovating housing, expanding crops and diversifying economic activities. In addition to improving the quality of life, through the Cotton Shire-Zambezi these families learned to alternate the production of cotton with food crops, such as beans, cassava, peanuts and corn.



Equipment demonstration for the technical mission carried out in Brazil

In this sense, the project reinforces one of the main attributes of cotton cultivation, which is to promote food and nutritional security in rural areas. The opinion is from Edson Tanga, provincial delegate of Manica, linked to the Mozambican Cotton and Oilseeds Institute (IAOM), who adds: *“the moment when the farmer increases their income, the first achievement that comes as a result is the ability to diversify their diet.”*

For the then head of cooperation at the Brazilian embassy in Mozambique, Felipe Lemos, who accompanied the initiative during the period he served in the country, 2017 to 2021, one of the main benefits of the project was the possibility of farmers having access to seeds, allowing them to plan their production with freedom and autonomy. In addition to the quantitative gains, the action brought qualitative results of enormous significance to the countries

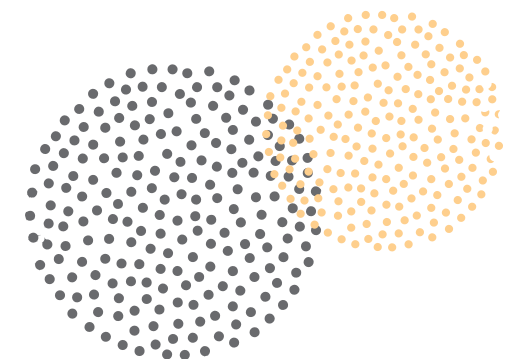
involved, because *“from an institutional point of view, there was a change of mindset. These countries were historically dependent on the import of more expensive and lower quality genetic material, mainly from Zimbabwe and Zambia”*, notes Lemos.

The success of the initiative points to a future of new challenges. According to Alberto Alves de Santana, then coordinator of the project

at EMBRAPA, the importance of continuing the Cotton Shire-Zambezi Project is not only in the need to link cotton production to agri-food production in these countries, but also in the relevance of disseminating the results obtained in order to strengthen government instruments in the area of food and nutritional security in Malawi, Mozambique and Brazil



Purchase of cotton produced by project farmers



Shire-Zambezi Legacy:

THE PRODUCTION OF A QUALITY SEED



“You reap what you sow”. The popular saying is used in several senses, like a good metaphor. However, in practice, for the result to be positive, between sowing and harvesting, it is necessary to take into account good cultivation practices, whatever the crop. Care begins with the soil, through fertilization, the appropriate spacing for sowing each species, the right time of each crop and, fundamentally, the choice of seed. While just as important to the results of a good harvest, access to quality cultivars is a historical difficulty faced by cotton farming families in Malawi and Mozambique.

In studies carried out on the region, the agronomist and analyst at Embrapa Algodão, Daniel Ferreira, points out the challenges faced by cotton farmers in these countries. The lack of systematic supply of certified seeds and other inputs causes delay in delivery and other obstacles that result in low yield, locally compromising the entire cotton production chain in the two African countries. *“The raw cotton had little germination and even the plants that emerged had vigor and quality much lower than those required in the market”*, Ferreira details.

Faced with this reality, the Cotton Shire-Zambezi project has installed a Seed Production, Multiplication and Processing Program for cotton farming in Mozambique and Malawi. The initiative, which began in 2015, aimed to contribute to increasing the cotton yield in both countries.

According to Alberto Santana, then coordinator of the project for EMBRAPA, the first step was the creation of a regulatory framework for seed production in both countries, with the purpose of guiding seed cultivation and quality. *“Before cooperation there were no criteria to define the best seed to be used in sowing. Recycled seed-cotton were used, without physio-*

logical quality or any identification on the type of cultivars”, explains Santana.

Rescuing Cultivars

When it is a verb, the term “cultivar”, in Portuguese, refers to the practice of cultivation, most often related to caring for the land, so that it bears fruit. However, the noun cultivar, according to the Brazilian Ministry of Agriculture (MAPA), is the word used to designate cultivated varieties of plants obtained through genetic improvement techniques.

According to Brazilian legislation on the subject, cultivars are varieties of any genus or superior plant species that, through successive generations, can be used by the agroforestry complex described in a specialized publication available and accessible to the public, as well as the hybrid component lineage.

However, in countries where there is no specific legislation, not only the definition of the term, but the entire process of identification and recognition of cultivars is unfeasible.

To contribute to the change of this scenario in the two cooperation partner countries, a fundamental step was taken through technical cooperation. To select the

cotton cultivars with the highest productive potential in Malawi and Mozambique, trained regional technical professionals in Brazil tested 12 seed varieties: four from Mozambique (Albar SZ9314, Albar Plus QM 301, CIMSAN 1 and CIMSAN 21, and four from Malawi (IRM 81, RASAM 17, Makoka 2000 and Chureza), and four from Brazil (BRS 286, BRS 293, BRS 335 and BRS 336).

In addition to the Brazilian cultivars, the local varieties that achieved the best yields in the field were: Albar SX9314 and Makoka 2000. The result was a great encouragement to the cotton farming families of the region, as it demonstrated that local seeds have great productive potential, with good prospects for results from genetic improvement processes.

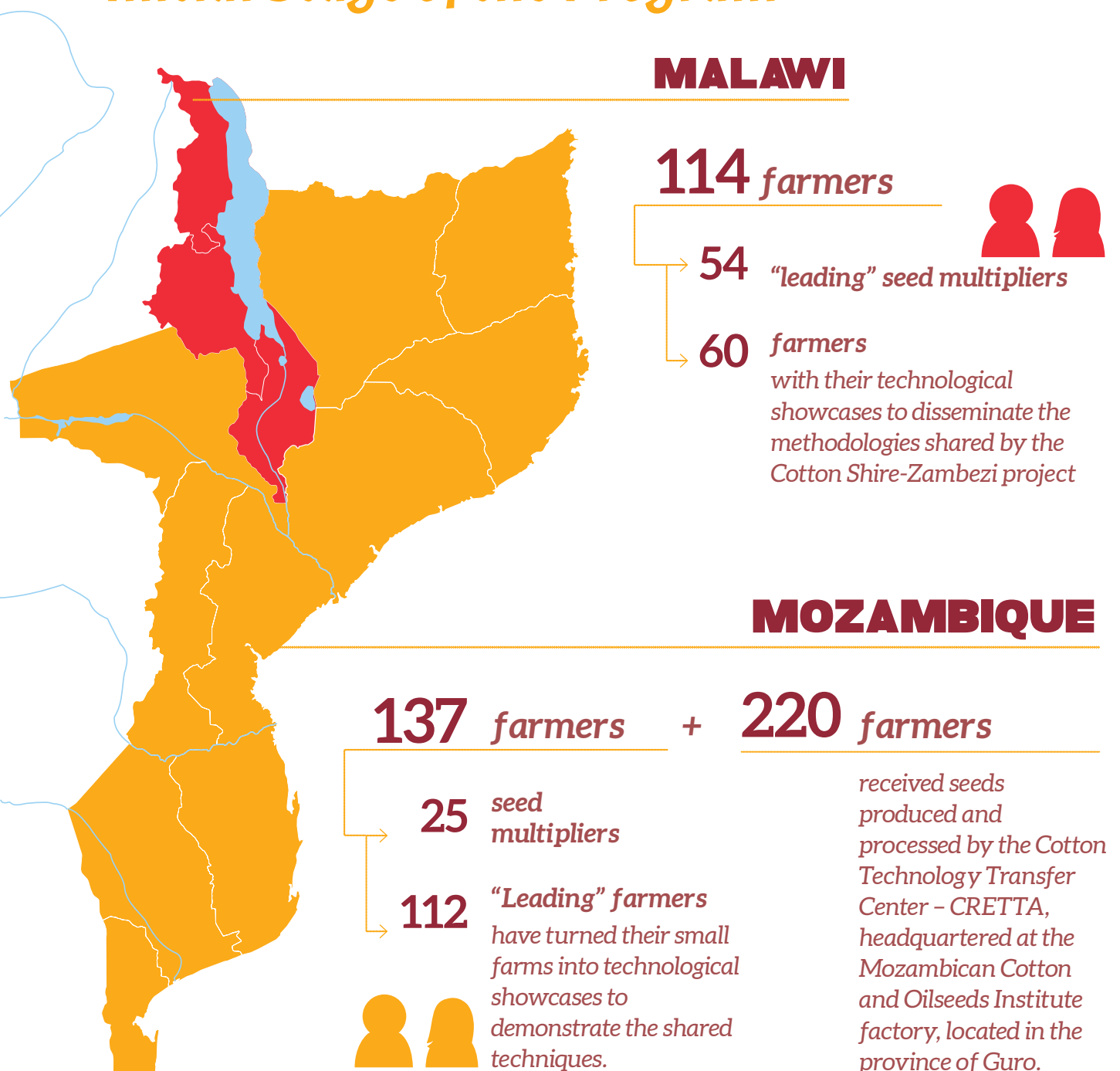
Basics Seeds

With the best cultivars identified, the project started the production and distribution, at scale, of basic seeds. This category of seed, according to EMBRAPA, refers to the material obtained from genetic seed reproduction, with genetic identity and varietal purity.

In seed production and multiplication, the monitoring performed in the production fields ensures that



Initial Stage of the Program



genetic attributes and characteristics are maintained. These locations are isolated to ensure robust control of all stages of cultivation:

from the prior evaluation of the area until harvest. The climatic and soil conditions, health of the land, percentage of seeds emer-

gence, occurrence of weeds, cotton pests and diseases, plant population, aspect of harvested seeds and production estimates.



Chemical delinting of cottonseeds

Row spacing and plant population density

Another methodology developed to increase yield in the field and reduce the cost of production among the workers served by the project is to change the spacing of the seed beds. The technique is defined by two determining factors: the density and the arrangement of the plants in the cultivated area. Daniel Ferreira recalls that before the work, the spacing used by the peasants was very wide, causing soil erosion, especially in periods of torrential rain. “We did several spacing tests and came up with a certain ideal pattern for our climate, be-

cause it guaranteed more plant diversity and greater yield of the grain”, says agronomist Alexandre Pelembe, technical supervisor of the project in Mozambique.

Better use at lower cost

The linter – cotton fiber that covers the seed – is, many times, the great villain of production, preventing the germination of seeds. The families and cotton technical professionals who are part of the Cotton Shire-Zambezi project had the opportunity to learn about the delinting technique, which consists of removing the linter. The process involves immersing the seeds with sulfuric acid. Ac-

cording to CRETТА technician, Dilson Brito, the displacement associated with the preparation of pest preventive pesticides is fundamental for the revitalization of cultivation in the region, as it results in an average use for seed germination of 88%, greatly reducing costs for the farmer.

Certified seed: guarantee for those who produce and live off the land

In 2016, Cotton Shire-Zambezi started the process of producing certified seeds – an important step for cotton-growing families. This is because seed certification is the result of quality control at

all stages of its cycle, including the knowledge of the genetic origin and the control of generations. These steps are determinant to guarantee high germination power, vigour and purity in single crops, of high productive level.

After cultivation, the harvested seeds are subjected to laboratory tests, in order to evaluate the purity of the varieties and their physiological and sanitary qualities. Approved seed batches are taken to the processing units where impurities are removed and classified by size, weight, age and other attributes.

In addition to the guarantee of purity, the certified seed presents the genetic identity of the cultivar recommended for a given region, which ensures that the farmer controls the yield and quality of the product.

“Certified seed is another category, which corresponds to the variety tested for satisfactory scale yields within clinical conditions, soils and local production characteristics most likely to germinate”, adds Felipe Lemos, then head of cooperation at the Brazilian embassy in Maputo, Mozambique.

Validate to move forward

In the first stage of work, Cotton Shire-Zambezi built, together with partners from Malawi and Mozambique, a more sustainable environment, with increased productivity in the sowing and re-sowing (gap filling) of cotton, with thinner, resistant and uniform fibers, and with higher market value and lower costs to farmers.

For Fábio Webber Tagliari, project analyst for the Brazilian Cooperation Agency (ABC), this result is proof that the project is sustainable and fulfils its role. *“Farmers took advantage of the knowledge shared with EMBRAPA, with the support of ABC, and then applied the techniques on their lands”, he comments.*

In June 2022, the second phase of the project was validated collaboratively and will give continuity to the previously executed field actions. The new stage provides greater support to the rural extension worker – a professional who works directly with farming families in the countryside – guaranteeing the necessary technical assistance for the sustainable evolution of crops.



Seeds are washed and subjected to natural drying

TIMELINE

Learn about important milestones of the Cotton Shire-Zambezi Project

2014

Cotton Shire-Zambezi Project launch.

On October 30, at ABC headquarters, signing of the Regional Project to Strengthen the Cotton Sector in the Lower Shire and Zambezi Basins.



2015

Definitions and structuring of the Project.

Action strategies approved during the first meeting of the Project Coordination Committee, held on July 17, in Lilongue, the capital of Malawi.



>>>

2016

Technical visits, start of training, establishment of plots and acquisition of equipment.



Training of twenty-two technical professionals from Mozambique and Malawi, in Brasília, Campina Grande and Luís Eduardo Magalhães.

The training was part of an ongoing process of developing capacities of researchers, technical professionals, rural extension workers and cotton farmers in both countries, in the use and diffusion of cotton production systems, which would soon be implemented at the Cotton Technology Transfer Center – CRETТА, in Mozambique.

Technical visit of ABC and EMBRAPA professionals to places indicated by the Mozambican government where they would establish the Regional Cotton Technology Transfer Center – CRETТА, community units and seed production fields.

2017

Improved seeds, internalized processes, training and midterm evaluation.



2018-2019

Field inspections, technical assistance, training replication and project review.

2019

Final evaluation.



2020-2021

Maintenance of field activities (harvests), transportation of equipment, evaluation missions.



In February, the local technical team of the Cotton Shire-Zambezi project visited farms, on a control and monitoring mission of the seed production fields and provided inputs and resources for the continuity of activities in the field.

2022

Phase 2 negotiation of the project.

In November, the project carried out its final evaluation mission, including interviews with those involved for socioeconomic, environmental and institutional analysis.

It takes rain to bloom: project progress and challenges Cotton Shire-Zambezi

Partners since 2015, Brazil, Mozambique and Malawi celebrate progress and list the challenges for the future of the **Cotton Shire-Zambezi project**.

With an eye on the expansion of institutional capacity and national human resources, the use and dissemination of cotton production technologies in small farms, the set of actions and initiatives that make up the “Regional project to strengthen the cotton sector in the Lower Shire and Zambezi Basins” is aimed at researchers, extension workers, local technical professionals and leading cotton farmers, with an emphasis on the household unit.

Continuous evaluation processes, carried out with the support of EMBRAPA, at different stages of the Cotton Shire-Zambezi project, brought elements that demonstrate the advances and indicate the challenges to be faced in the near future.

From a quantitative point of view, a series of indicators resulted in data that will assist the technical teams in improving the activities and guide new directions of the project. From the qualitative point of view, the reports of experiences serve as inspiration for the continuity of the proposed actions.



Preparation of delinted seeds in Malawi

“In this evaluation process we were able to learn from the mistakes and successes and thus prepare for the elaboration of a second phase of the project, with a focus on the real needs of the targeted beneficiaries.”

Mr. Fabio Webber Tagliari - Project Analyst at ABC

Advances: the fruits of a good seed

Among the advances achieved by Cotton Shire-Zambezi, the installation of the Regional Cotton Technology Transfer Center (CRETTA, from the acronym in Portuguese) stands out, as a tool to achieve the objectives proposed by this important cooperation project.

Installed in Mozambique, CRETTA is fundamental to ensure efficiency in the development and management of actions in an integrated manner. For this, it works as a regional center for training and qualification in knowledge about cotton cultivation and as an initial site for the validation and promotion of recommended technology transfer actions.

To fulfil this mission, CRETTA has a technological information and feedback network constituted by the Center itself, by a Local Cotton Technology Transfer Unit (ULTA, from the acronym in Portuguese), structured in Malawi, and by Community Cotton Technology Transfer Units (UCTTAs, from the acronym in Portuguese) established in traditional cotton producing regions in both countries.

All this structure implemented around CRETTA was part of the establishment of a process of validation of new technologies, improvement of cotton production systems, facilitation of seed production, continuous training activities and rapid dissemination of recommended technologies and production systems.

“Through the Shire-Zambezi Cotton Project, farmers improved management and the diversification of seed, and considerably increased the results of production.”

Flávio Ávila, researcher at EMBRAPA and effective member of the Project Coordination Committee

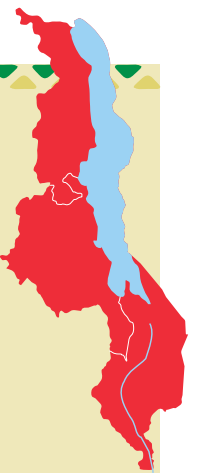
In addition to the general gains, the experience of bilateral cooperation carried out under the Cotton Shire-Zambezi project also brings specific advances, identified among the partner countries.

MALAWI

- Strategies aimed at cotton cultivation began to be jointly discussed by professionals from various specialties;
- Increased interactions and connections between researchers, beneficiaries and input suppliers;
- Agricultural scientists in the country have expanded their research capacity in technology improvement and transfer;
- Expansion of knowledge about production practices, design and statistics of experiments and pest control;
- Installation of Agricultural Research Demonstration Units in Makoka.

“Thanks to the project, with the income I had, I was able to fulfil my biggest dream: to build a zinc roof in our house!”

Eliya Nduuzayani, cotton farmer in Malawi

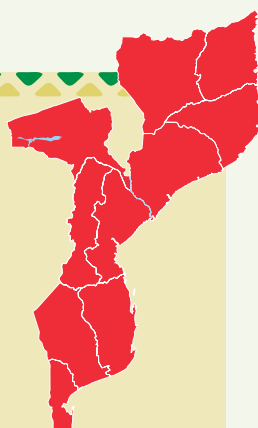


MOZAMBIQUE

- Positive impacts with the hiring of technical professionals from different areas – entomologists, phytopathologists, rural extensionists... to work together with local agronomists, with extensive knowledge about local production systems;
- Expansion of knowledge of local professionals, based on courses related to pest control, seed production, analysis of experimental data and accountability;
- Technology transfer to farmers and technical assistance agents;
- Cooperation with research institutions in adaptability trials and variety competition.

“The project brought something very important to us, which is technical assistance. It gave us training, changed the technology system, and today we have seeds. With this, we improve production”

Daniel André Malacha, farmer, cotton farmer and Cotton Shire-Zambezi participant in Mozambique



BRAZIL

- Opportunity to expand the number of technical counterpart connections in the two partner countries and to significantly increase the interactivity between all within the scope of the cooperation project;
- Sharing of learning related to working methods for other projects in the cotton area;
- Intense exchange of methodological information between the network of researchers from various specialties and EMBRAPA's area of expertise;
- Knowledge transfer through training, with monitoring and coordination by ABC;
- Strengthening EMBRAPA's role and international insertion, based on the formatting and availability of courses and training carried out by the company.

“For Brazil, providing and receiving technical cooperation represents the maturity of Brazilian generosity feeling and institutional technical capacity, transformed into mutual and concrete benefits.”

Felipe Lemos, head of cooperation at the Brazilian Embassy in Maputo between 2017-2021



INSTITUTIONAL IMPACTS

- In **Malawi**, the main gains were the training of researchers and technical professionals from the institutions involved in the project, the improvement of research and knowledge related to technology transfer, in addition to the release of four different varieties of cotton hybrids. The country has increased seed production and many farmers have been trained in good practices related to cotton production.
- The research institutions of **Mozambique** have created a line of research in cotton based on actions developed within the project. Also noteworthy is the strengthening of the human resources capacities, with an emphasis on the exponential increase in productivity in the farms of those who worked directly on the project.
- In **Brazil**, the professionals involved in project management highlight the success in implementing the cotton seed production program considering technical and institutional aspects and the internalization of good production practices in Malawi and Mozambique, including pest management. From the institutional gains point of view, ABC highlights the increase in partners for implementing projects in general and closer ties with the governments of Malawi and Mozambique.

“The Cotton Shire-Zambezi Project works with smallholder farmers from cotton processing to the production of certified seeds—a process that has the partnership of the national seeds authority, through regular field inspections. The results add more value to the company, which now has farmers with better incomes. These farmers, by increasing their income, improve and diversify the food in their households, which makes cotton a food security vehicle in rural areas.”

Edson Tanga, technician at the Cotton Shire-Zambezi Project in Mozambique



Challenges: *preparing the soil for a new sowing*

The project that began in 2015, with the objective of contributing to the increase of cotton productivity in Mozambique and Malawi among smallholder farmers, ends a cycle looking at the challenges involved in the expansion of such a successful initiative:

- Invest in infrastructure;
- Install Demonstration Units in Sharpvalley, Chitala and Ngabu;
- Expand the level of scale for disseminating technical information among cotton technical staff and among a growing community of farmers;
- Complement seeds with technical assistance;
- Implement a robust monitoring system;
- Define the area of influence and share project with cotton companies at the starting point;
- Consider other varieties of cotton, in the case of geographical expansion;
- Work for autonomy in seed production, eliminating imports.

“A second phase of the Cotton Shire-Zambezi project is essential to expand the process of dissemination of technical information, not only among the technical staff, but also among more and more farmers, so that this heritage is eternalized in the communities.”

Felipe Lemos, head of cooperation at the Brazilian Embassy in Maputo between 2017-2021



Cotton Farm

PROFILE

THE STRENGTH OF COLLABORATION

The Shire-Zambezi project brought together researchers, farmers, technical professionals and participants with diverse knowledge and culture. This web of knowledge was fundamental to the success of the initiative. Learn about some of these characters here.

Dr. Dércia Guedes Bai-Bai
IAOM Planning Director

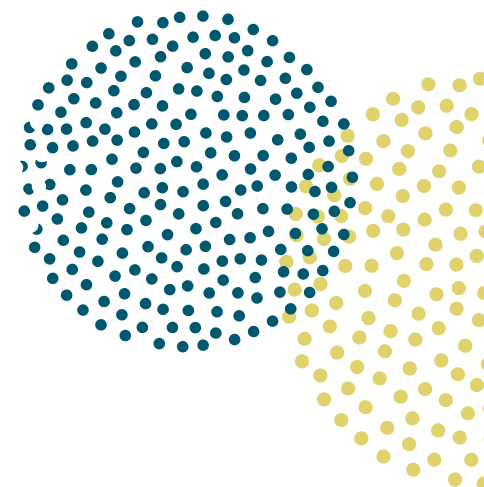
What makes the project is its people

For Mozambican agronomist Dércia Guedes Bai-Bai, joining the Shire-Zambezi project was a milestone in her professional and personal life. She says that, as of 2014, she started to walk hand in hand with the initiative, participating in all activities. At the beginning, she was the only female presence in the team, who would soon be joined by three other professionals, whose strength contributed to the implementation of the initiative.

One of the first challenges was to take the headquarters to Mozambique, which she said that the work group was very ‘audacious’ in its effort for this purpose. From then on, there were years of dedication and many conversa-

tions to engage participants and motivate them to stay in the region and believe in the potential of their cotton production. Another highlighted aspect is the importance of social counterpart, with the hiring of local technical professionals sent to the rural area to support the project.

From a personal point of view it was no different. “Our potential is never fully known and we can always go further. The project taught me that, after all, what was expected to stay up to 1 meter reached up to 3 meters.” She says that was the case with the initial forecast of increasing the yield from 500 to 1,200 kilos per hectare, which was surpassed by far



if we consider the 3,000 kilos per hectare achieved at the end. Dr. Dércia recalls that in her personal effort to sensitize the participants, she said: “Do not give up, stay strong.” What makes the project is its people.

PROFILE

Dr. Daniel da Silva Ferreira
PhD in Agronomy - EMBRAPA

Images kept in memory for a lifetime

An initiative of unparalleled magnitude. In 2014, when he was invited to participate in the Shire-Zambezi project, Brazilian agronomist Daniel da Silva Ferreira soon realized the great challenge of growth and learning that the opportunity would represent in his life. He says that he was one of the members who travelled the most to the region, participating in all the phases of the implementation: selection of partici-

pants, contact with partner institutions and field visits.

Observing how much the project has changed people's lives is extremely gratifying. It is common to hear reports of those who can replace the thatched roof for zinc, which is a sign of status in African villages. One participant said that thanks to his best harvest ever, he managed to pay for his daughters' school for a whole year.

In addition to the enrichment of seeds and consequent improvement in harvests, there were important achievements not directly related to cotton, such as packaging disposal techniques and sustainability practices. "We took some of our technical knowledge and received a lot in return, a lot of recognition," says Dr. Daniel, who today has great friends both in Malawi and in Mozambique.



PROFILE

Dr. Ketulo L. Salipira
Ministry of Agriculture of Malawi

Cotton Shire-Zambezi: contributions to the challenges of the cotton sector in Malawi

Launched in 2015, in the capital of Malawi, Lilongue, the Cotton Shire-Zambezi project was created to face the challenges of low cotton production experienced by producers in the Shire-Zambezi Basin, which, among others, was caused by the use of low quality seeds and the lack of suitable agronomic practices.

Through this project, farmers, researchers and extension workers were able to produce high quality seeds and apply agronomic practices suitable for cotton cultivation, in partnership with the Brazilian Cooperation Agency (ABC, from the acronym in Portuguese) and technical support from the Brazilian Agricultural Research Corporation (EMBRAPA, from the acronym in Portuguese). The knowledge acquired allowed cotton farmers to increase their yield per unit area,

which caused the subsequent increase in national production.

As a country, we can attest that this project has achieved its intended objectives, that is, increased yield and production of food among farmers in the Shire Valley Basin. It is thus well aligned with one of the pillars of Malawi's vision for 2063: increased yield and commercialization in agriculture. There was an improvement in livelihoods, as farmers involved with the project can now acquire new lands as a result of increased sales of seed cotton.

In the case of the research center, Makoka Station, which leads project activities in Malawi, various machines, a gin, motorcycles and a vehicle were delivered to assist the activities of the project.



In conclusion, on behalf of the Government of Malawi, I express the gratitude to the Government of Brazil, represented by the Brazilian Cooperation Agency, for the financial and technical support that contributed to the improvement of the cotton sector in Malawi.

LOGBOOK



Images in memory for a lifetime

Daniel Ferreira
Brazilian agronomist

Participating in the project was a personal accomplishment for the Brazilian agronomist, who says he was especially moved by the contact with the joy of African children: “They like to see themselves in the photos. If you take a photograph and don’t show them, they get sad.”

School of life

Alexandre Pelembe
Project coordinator in Mozambique

Being part of the Cotton Shire-Zambezi project - is a true school of life, where the room is the cotton plant itself. The cotton boll is an open book where I teach and learn from my farmers.



The taste of hugging in Brazil

Dércia Bai-Bai | Mozambican agronomist

On her first trip to the Brazilian capital, the agronomist was impressed with the city in the shape of an airplane and says that “being on board” Brasilia was a very interesting experience. Even more striking for her was the warm reception of the Brazilians, since in Mozambique they do not hug so much.



Let us move forward together!

Cláudia Caçador | ABC Communication Analyst

To closely observe the reality of family farmers in their villages is to see what Brazilian cooperation represents for partner countries: an instrument for farmers to rescue their dreams and make plans for improvement in their lives. Thus, governments understand that they are important players in the process and are encouraged to provide sustainability to the actions proposed by the initiatives. Let us move forward together! Cooperation! HOYEEEE!



Enriching and rewarding

Fábio Tagliari | Project Analyst at ABC

The scope of the project implemented in these two countries, at the most different levels, from the development of public policies to the improvement of the lives of farmers at the endpoint, personally, was very enriching and rewarding. I have been working in the area of international cooperation for development for more than 15 years and I am proud to witness and participate in this project.

ARTICLE

Mr. Fábio Webber Tagliari | Project Analyst at ABC

The Future of Cotton Shire-Zambezi

Planning the future of Cotton Shire-Zambezi is to think about the sustainability of the project, focusing on actions that allow the continuity of cooperation through the formulation of public policies, both in Malawi and Mozambique. The output of the project, which is cotton, brings financial benefits to both countries, which should be reflected in the consolidation and maintenance of actions. It is due to this background that the second phase of the project was designed.



Farmer in the middle of the cotton field

ARTICLE

This is a joint decision – Brazil, Malawi and Mozambique – taken during the implementation of the first phase. The planning of the second phase began in virtual and face-to-face meetings, with the observation of demands identified directly with the African partners (recorded in minutes, virtual messages, training reports...), and based on the mid-term evaluation reports and project impact assessment, which assisted in the identification of current needs of African partners.

The objective is to continue contributing to the increase in competitiveness and sustainability of the cotton sector in these countries, consequently increasing the average yield and cotton production.

To achieve this objective, the next phase of the project aims to develop the institutional capacities of the partner entities to apply innovative technologies for the production of quality cotton seeds; provide technical assistance to cotton production; offer technical assistance, through the work of extension workers, in a way that's special and suited to local cotton farmers; apply updated and appropriate technologies for cotton production; expand the capacity of farmers to commercialize and add value to the produced cotton and its by-products; encourage the adaptation of cotton crop to climate change, in addition to train local partner institutions in monitoring and evaluation, in a



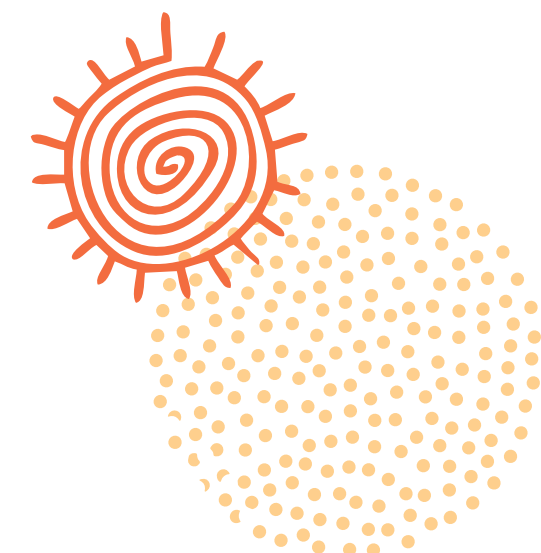
Meeting of project technical professionals with participating farmers from Shire-Zambezi, Mozambique

participatory manner, the implementation of the project.

Another novelty is that ABC diversified the Brazilian cooperating institutions during the negotiation of the project and that, ideally, they should contribute to the development of the cotton sector in the two African countries. Now, Cotton Shire-Zambezi should count on the partnership of the Catuti Cotton Farmers Cooperative (COOPERCAT, from the acronym in Portuguese), the Brazilian Agricultural Research Corporation (EMBRAPA), the Technical Assistance and Rural Extension Company of the State of Minas Gerais (EMATER-MG, from the acronym in Portuguese), and the Agricultural Research Company of Minas Gerais (EPAMIG, from the acronym in Portuguese).

It should be noted that many needs arose in the first phase, from the structuring of the cotton

sector in the regions of the project, also brought technological innovations to the production, processing and resale of the product, advances that already benefit farmers and institutions involved. What is expected, at this second stage, is that the process will encourage the institutions involved to seek investments, both in human and financial resources, to consolidate the process of strengthening the cotton sector in the region.



OUT THERE



<https://www.youtube.com/watch?v=MJD2qoitAzI>



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