

WOMEN IN THE MAIZE SEED BUSINESS

IN EAST AND SOUTHERN AFRICA





Women of Mgom'mera Seed Company sorting and cleaning maize seed

WOMEN IN THE
MAIZE SEED
BUSINESS
IN EAST AND SOUTHERN AFRICA

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Launched in 2016, the Stress Tolerant Maize for Africa (STMA) project aims to help farmers mitigate the combined effects of multiple stresses such as drought, heat, poor soil fertility and diseases that affect maize production and farming, in order to improve food security and smallholders' livelihoods across sub-Saharan Africa. STMA builds on strong partnerships formed in the Drought Tolerant Maize for Africa and Improved Maize for African Soils projects that achieved major successes in African maize seed systems. For more information, visit <https://stma.cimmyt.org/>.

CIMMYT – the International Maize and Wheat Improvement Center – is the global leader in publicly-funded maize and wheat research and related farming systems. Headquartered near Mexico City, CIMMYT works with hundreds of partners throughout the developing world to sustainably increase the productivity of maize and wheat cropping systems, thus improving global food security and reducing poverty. CIMMYT is a member of the CGIAR System and leads the CGIAR Research Programs on Maize and Wheat and the Excellence in Breeding Platform. The Center receives support from national governments, foundations, development banks and other public and private agencies. For more information, visit www.cimmyt.org.

The CGIAR Research Program on Maize (MAIZE) is an international collaboration led by the International Maize and Wheat Improvement Center (CIMMYT) and the International

Institute of Tropical Agriculture (IITA) that seeks to mobilize global resources in maize research and development, in order to achieve greater impact on maize-based farming systems in Africa, South Asia and Latin America. MAIZE strategy draws upon learning and experiences obtained through decades of extensive partnerships with national and international research and development partners, including both public and private institutions, and farming communities. For more information, visit www.maize.org.

Bill & Melinda Gates Foundation- Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty. In the United States, it seeks to ensure that all people – especially those with the fewest resources – have access to the opportunities they need to succeed in school and life. Based in Seattle, the foundation is led by CEO Dr. Sue Desmond-Hellman and co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett. For more information, visit www.gatesfoundation.org

United States Agency for International Development (USAID) works to end extreme global poverty and enable resilient, democratic societies to realize their potential. USAID invests in ideas that work to improve the lives of millions of men, women and children in the following ways: investing in agricultural productivity so that countries can feed their people; combating maternal and child mortality and deadly diseases like HIV, malaria and tuberculosis; providing life-saving assistance in the wake of disaster; promoting democracy, human rights and good governance around the world; fostering private-sector development and sustainable economic growth; helping communities adapt to a changing environment; and elevating the role of women and girls throughout all their work. For more information, visit www.usaid.gov.

List of Acronyms

AATF	African Agricultural Technology Foundation	IITA	International Institute of Tropical Agriculture
AfDB	African Development Bank	IMAS	Improved Maize for African Soils
ARI	Agricultural Research Institute	MLN	Maize Lethal Necrosis
APEP	Agricultural Production Enhancement Program	MWIVATA	Mtandao wa Vikundi vya Wakulima Tanzania- MVIWATA (a network of farmers' organizations)
AWARD	African Women in Agricultural Research and Development	NARS	National Agricultural Research System
AGRA	Alliance for a Green Revolution in Africa	NGO	Non-Governmental Organization
AGRA-PASS	Alliance for a Green Revolution in Africa - Program for Africa's Seed Systems	OPV	Open-Pollinated Variety
CIMMYT	International Maize and Wheat Improvement Centre (Spanish Acronym)	OPVs	Open-Pollinated Varieties
COMESA	Common Market for East and Southern Africa	PVS	Participatory Varietal Selection
DFID	UK Department for International Development	QPM	Quality Protein Maize
DT	Drought-Tolerant	SADC	Southern Africa Development Community
DTMASS	Drought Tolerant Maize for Africa Seed Scaling	STMA	Stress-Tolerant Maize for Africa
DTMA	Drought Tolerant Maize in Africa	SSA	sub-Saharan Africa
FAW	Fall Armyworm	TASTA	Tanzania Seed Trade Association
FIPS-Africa	Farmer Input Promotions Africa	USAID	United States Agency for International Development
ICRISAT	The International Crops Research Institute for the Semi-Arid Tropics	USTA	Uganda Seed Trade Association
		ZASTA	Zambia Seed Trade Association

Foreword



CIMMYT scientists endeavor to support seed companies to produce high quality improved maize seed varieties. CIMMYT's work has a positive impact on smallholder farming households' food security, nutrition, and livelihoods.

Women make important contributions in agriculture in sub-Saharan Africa (SSA). CIMMYT is making strides in ensuring that gender is considered in maize research, to ensure that the needs of women, youth and men are met in their research outputs. We need to close the gender gap in agricultural productivity and adoption of improved maize seed varieties, and CIMMYT wants to lead the way in doing this through research undertaken by means of projects such as the Stress Tolerant Maize for Africa (STMA).

CIMMYT is committed to ensuring that women are able to access improved maize seed not just as consumers, but also as seed producers in the formal seed industry.

This work highlights how women are participating in the maize seed business, boosted by CIMMYT support in germplasm, financial support in the form of small grants, and technical support from CIMMYT scientists in breeding and seed systems. The socioeconomics team have provided training in marketing seed varieties and gender integration in seed value chains.

CIMMYT is proud to showcase women who are making their mark in the maize seed business in East and Southern Africa. We are pleased to note that women seed entrepreneurs are breaking ground by participating in the male-dominated seed industry and also by contributing to seed policy conversations through the national seed trade associations.

A handwritten signature in black ink, consisting of a stylized, cursive script that appears to read 'Martin Kropff'.

Dr. Martin Kropff
Director General
International Maize and Wheat Improvement Center

Executive Summary

The maize seed sector in East and Southern Africa is male-dominated. Most seed companies operating in the region are owned and run by men. Often, access to land and financial capital is a constraint for women who are keen to invest in agriculture. However, there are women working in this sector who are breaking social barriers and helping to improve household food security, nutrition and livelihoods by providing jobs and improved seed varieties to farmers.

The gender team within the CIMMYT Socioeconomics Program interviewed some of the women involved in the seed business in this region. Of the nine women we interviewed, only two own over 90% of the business. Most of the women profiled were playing an active leadership role in the business, spearheading key functions and overseeing the day to day operations. A report titled 'Tanzania Early Generation Seed' published by Alliance for a Green Revolution in Africa (AGRA) in 2016, indicates that women are poorly represented in ownership and upper level management of seed companies. From the interviews, it emerged that more women are getting involved in their country's seed trade associations, bringing a different perspective to seed policy conversations.

This report foregrounds the contributions of women in the seed business. Even though the profiles are of women in leadership positions, the publication highlights the roles that both men and women play in the seed value chain. Women are involved in land preparation, manual planting, weeding, hand pollination, manual seed sorting and packaging. Men are also involved in the business, often doing more labor-intensive tasks like loading the seed processing machines and moving large volumes of seed. They also work alongside women in land preparation, weeding, cob selection and harvesting, but they are not involved in the detail-oriented and time-consuming task of seed sorting.

The seed companies featured in the report shared the unique ways in which they market their stress-tolerant maize seed in a quest to reach smallholder farmers, especially women. These include using a mobile seed store, distributing branded marketing materials like maternity ward bed sheets and khangas (wraps), and working with female lead farmers who double as seed retailers in villages where there are no agro-dealers. The companies also promote their seed in places frequented by women such as markets.

The businesswomen also shared the challenges that their companies face. Limited access to finance and seed processing machinery, societal bias towards women in business, inability to attract and retain skilled workers, and delayed payments are the key challenges highlighted by the interviewees.

The report also highlights the support that the seed companies have received from CIMMYT. This includes germplasm, technical support and training in seed production from the seed systems and breeding teams, and training in gender and marketing from the socioeconomics team. Some of the companies have also received small grants for the promotion of seed products through demonstration plots and for the construction of a cold room for seed storage.

This work was done under the auspices of the Stress Tolerant Maize for Africa (STMA) project, funded by the Bill & Melinda Gates Foundation and USAID. The project is building on the success of previous initiatives, Drought Tolerant Maize in Africa (DTMA) and Improved Maize in African Soils (IMAS) that provided interventions to respond to challenges in the African maize seed systems.

Introduction

CIMMYT is an organization whose mission is to improve livelihoods through maize and wheat science. To achieve this mandate, CIMMYT leverages partnerships with public and private sectors, with a strong emphasis on capacity building as outlined in its strategic plan (2017 – 2022). In over 50 years of its existence, CIMMYT has worked with partners in public and private sectors to improve agricultural production and livelihoods.

In sub-Saharan Africa (SSA), maize is a staple food for over 208 million households who rely on the crop for food security and as a source of income. As outlined in the CIMMYT maize gender strategy, the research organization aims to diversify maize-based farming systems and ensure sustainable higher maize yield growth rates. As farmers face rising fertilizer prices and climate change impacts, which increase stresses such as drought, the breeding of stress-tolerant varieties that respond to farmers' needs is an important contribution that CIMMYT makes to agricultural science.

Seed companies play an important role in helping smallholder farmers access improved seed varieties. Only 57% of the maize cropping area in SSA is cultivated using modern varieties. This shows that there is room to increase the uptake of improved varieties, which will in turn lead to better livelihoods. The gender team within the CIMMYT Socioeconomics Program observed that the seed business was pre-

dominantly male-owned. To document the contribution of women in the seed business, the team has profiled women who own/co-own/ actively run family-owned seed businesses. We noted that women hold key leadership positions in these companies. They are also contributing to policy conversations about seed in national and regional forums and taking leadership positions in seed trade associations in their countries.

We interviewed nine women from East and Southern Africa, to highlight what motivated them to become involved in the seed business. We also captured the innovative approaches that these managers employ to create awareness and persuade women and men smallholder farmers to adopt improved seed varieties. We sought to find out the women's motivation for joining the agribusiness sector of agriculture, the unique challenges that they face in the male-dominated seed business, and their plans for future expansion. In interviewing these women from Kenya, Malawi, Mozambique, Tanzania, Uganda and Zambia, we noted that their companies do not only include maize, but also legume seeds in their product portfolio. The leguminous crops such as beans, cowpeas and soybeans are useful in nitrogen fixing, crop rotation and diversifying nutrition in smallholder farming households. The study was conducted in November 2018.

Through the profiles and pictures shared in this report, we

are keen to highlight the human and physical resources of these companies, showcasing the different roles men and women workers play in the seed value chain. This work also includes an audiovisual component, allowing us to share the entrepreneurs' successes and challenges in their own voices.

Here, we note that women seed entrepreneurs make deliberate efforts to provide employment for fellow women. They recruit these women as contract farmers in a bid to improve their livelihoods. Working with women as contract and lead farmers, these seed companies have been able to effect change in their communities quickly, by demonstrating the benefits of improved maize varieties in better productivity and nutritional outcomes. Women are often involved in ensuring that the household nutritional needs are met. In addition, they are quicker to adopt new knowledge, and their involvement in agricultural interventions impacts more people in the household as compared to men. These seed companies vary in production output, ranging from 33.3 tons to 1411.3 tons of maize.

In nearly all cases, companies stood out for their unique marketing strategies. For instance, Mgom'mera Seed Company in Malawi focuses on improving nutrition within its community. The company markets an open-pollinated quality protein maize variety and a Pro-Vitamin A hybrid. In addition, the farmers are shown how to prepare nutritious and tasty meals



In sub-Saharan Africa (SSA), maize is a staple food for over

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Women are quicker to adopt new knowledge, and their involvement in agricultural interventions impacts more people in the household as compared to men.

using the maize varieties sold. In Uganda, Victoria Seed Ltd uses a bodaboda (motorcycle) taxi to reach farmers in remote villages.

While many seed companies give farmers free samples during field days and agricultural shows, Leldet in Kenya stood out for its innovative Maendeleo (development) seed packs. This is an affordably-priced strip of maize, sorghum, cowpeas and pigeon pea seeds that allows farmers to try out several improved varieties. In Tanzania, Meru Agro Tours & Consultants Co. Ltd works with lead women farmers in remote villages where there are no agro-dealer shops. Suba Agro Trading and Engineering Company Ltd makes a deliberate effort to reach women farmers by holding promotional activities in markets and near shops, mosques and churches. In addition, they distribute women-targeted branded materials such as khangas (wraps) and maternity ward sheets to help raise women's awareness of improved seed. Below we show the number of company employees (Figure 1) and the number of outgrowers in seed companies (Figure 2).

First, it is important to note that the number of employees represented in this graph covers full time and seasonal workers. Majority of the employees in the companies are women (837 women vs 548 men). Moreover, majority of the female employees are in seed processing (seed sorting, cleaning, grading, stitching, loading and packing). Most of them are seasonal workers, men who are in seed processing department are mostly in the loading and off-loading of packed maize seed bags, which is also seasonal.

The second department where majority of workers are women is seed production. In the production farms, women carry out various activities such as assisting in planting, weeding and harvesting, while men prepare land, make seed beds and apply fertilizer. Most of the men workers hired to carry out these tasks are seasonal workers. In most cases men who are in the seed production department participate as breeders, production managers, technicians and agronomists and are mostly full-time employees.

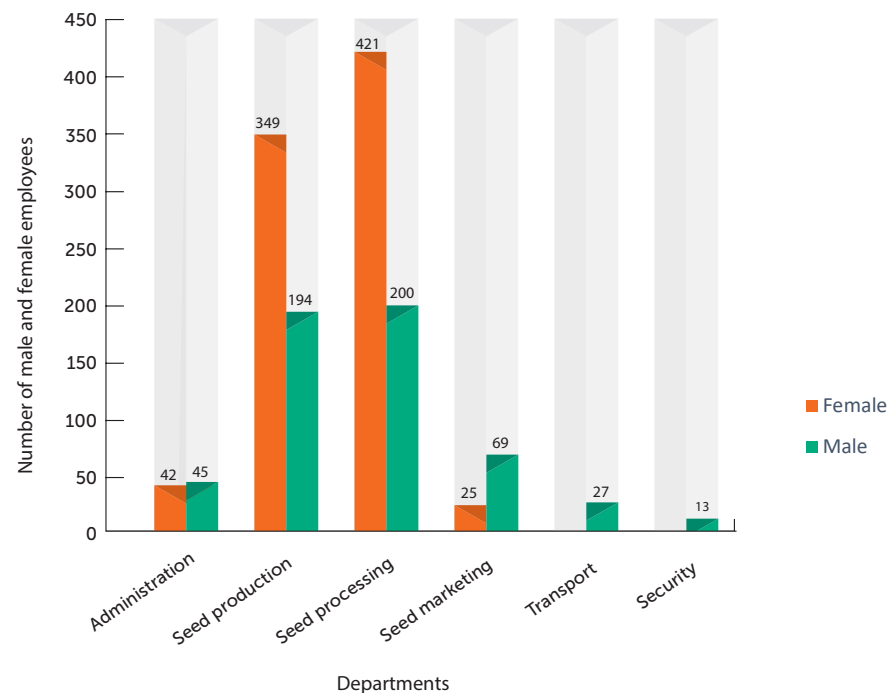


Figure 1. The number of male and female employees working in the seed companies

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Women from East and Southern Africa interviewed



RANGE OF PRODUCTION

33.3-1411.3 tons of maize



EMPLOYEES

**837 women
548 men**



OUTGROWERS

**1096 male
954 female**

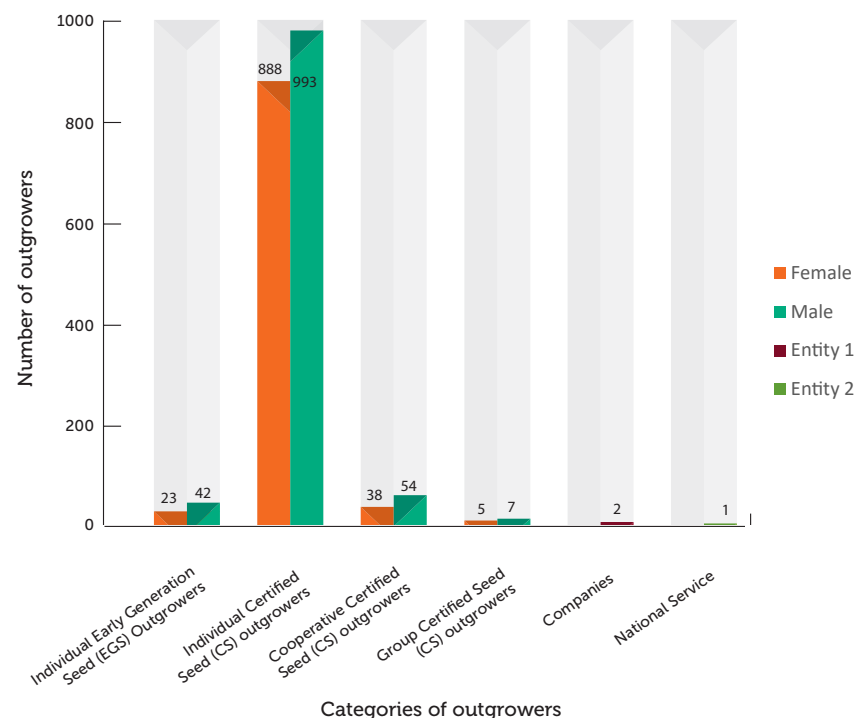


Figure 2. Number and type of outgrowers used by the seed companies

The third department with women's presence is the administration, in which nearly all the employees are engaged on full time basis. Women take part in the department as accountants, administrators, book keepers, and human resources personnel. In reviewing the numbers, we noted that compared to women, men take the lead in this department (in terms of numbers), though they lead in small margins. The men occupy similar roles as women in the administration department. In addition, men serve as general managers, operation managers, zonal managers and managing directors in some cases. In terms of seed marketing, regardless of the gender, in nearly all cases the workers are full time employees. Men take the lead in terms of numbers in this position, they work as marketing managers or are involved in transport while some work as marketing officers or field assistants. We noted that women in the marketing department are usually marketing officers or field assistants. We also observed that men are represented in the transport and security departments.

In terms of the individual, cooperative and group seed outgrowers, there are more men outgrowers than women (1096 male and 954 female) in all the categories of outgrowers, in Early Generation Seed (EGS) and Certified Seed (CS) outgrowers, cooperative CS and group CS. There were also only two registered company outgrowers

and National Service. In the six countries survey, one of the challenges that was noted in terms of recruiting more women outgrowers was the fact that women do not own large parcels of land, which is necessary for them to be considered as outgrowers as companies prefer working with farmers with larger tracts of land. These farmers would have equipment and facilities for storing maize seed after harvesting before it is transported to the seed company warehouses.

In order for one to be a maize outgrower, the land used need to be isolated from other maize fields by time or space to ensure that there is no contamination from other maize varieties. The other alternative is to give neighbouring farmers the same variety. Specifically, in order for one to be considered an outgrower the following measures need to be taken into account: (i) space: maize separated by distance (240 meters for OPVs and 360 meters for Hybrids); (ii) time: ensure receptivity of silk does not coincide with availability of contaminating pollen (OPVs: 6 weeks); and (iii) also important to be aware of the fact that abundant supply of desirable pollen dilutes contamination.

Accessing finance for start-up capital and expansion of the seed business is a major challenge that these seed companies face. Some of the companies have received capital support from AGRA and projects supported by the United States Agency for International Development (USAID). These companies have also received small grants from CIMMYT aimed at helping them enhance their capacity in seed storage and variety promotion activities. CIMMYT's contribution to the companies also included germplasm, and training in breeding, seed business management that is offered to management and technical staff and training on gender responsive seed business, which is offered to mostly breeders and technicians of the seed companies. In addition, scientists from the CIMMYT maize breeding and seed system teams visit the seed companies regularly, advising on hybrid seed production

and helping the companies address challenges they encounter such as pest and disease management.

Much as these businesses have enjoyed relative success, they also face numerous challenges. Many have suffered losses at the hands of agro-dealers whom they entrusted with seed on credit. To counter this challenge, several companies have adopted direct sales as a marketing strategy, running their own seed outlets in strategic places and going to markets to interact with farmers individually. The seed companies have also had to contend with major diseases such as the Maize Lethal Necrosis (MLN) and pests like the Fall Armyworm (FAW).

The seed entrepreneurs appreciate CIMMYT's scientific efforts to address drought, stress and common foliar diseases through breeding. During field days held at CIMMYT research facilities in Kenya and Zimbabwe, the seed company representatives are able to identify materials with traits that are desirable for the regions they work in. In addition, CIMMYT facilitates testing of their materials for tolerance to the disease at the MLN Screening Facility in Naivasha, Kenya.

The other challenges faced by the companies include societal discrimination and bias against women's entrepreneurial and leadership skills in seed companies; limited infrastructure, such as transport and warehousing capacity and seed processing plants; limited staff, and inability to retain skilled staff. In addition, delayed payments by clients who buy seed in bulk, such as governments and agro-dealers, affect cash flow for these relatively small seed enterprises.

In presenting the profiles, we have started Zambia, a country that has one of the largest maize seed operations.



Profiles

Women sorting maize seeds at the Meru Agro Tours & Consultants Co. Ltd warehouse in Arusha, Tanzania.

Sylvia Horemans, Zambia



Kamano Seed Company Ltd



Leadership position: Chief Executive Officer



Nationality: Zambian



Company ownership (percentage share): 99.5%



Company start year: 2004



Number of employees: 99 Full time: 23 (12 men and 11 women) Seasonal workers: 76 (11 men 65 women)



Number of outgrowers: 132 (24 men, 108 women)



**Maize hybrids: KAM 601, KAM 602 and GV662A
Maize OPVs: MMV 409, ZM521 and ZM721**



Kamano Seed Company Ltd was started in April 2004 by Sylvia Horemans, 48, together with her late husband Desire Horemans. The company derives its name from a stream that runs through their Mwinilunga farm. Kamano means a stream that never dries, aptly describing the growth the company has enjoyed over the years, enabling it to capture 15% of the country's seed market share. Sylvia owns 99.5% of the company while her daughter Ruth Phiri Horemans, who owns 0.5%.

Before her husband fell ill, Sylvia, who has a marketing background, used to head the marketing department. She became the company's Chief Executive Officer in 2016. Kamano first started with legume production and expanded to include cereals. The company determines its production projections by evaluating the previous season's sales. In the current season, the company produced more legumes than maize. The company gauges how well a variety was received by farmers and makes a decision on what to produce in the following season.

Kamano started on Mwinilunga farm with the couple owning equal shares in the business, operating under Horemans Investment. The start-up capital was raised from growing commercial crops like maize grain, beans, groundnuts and livestock. Desire also invested part of his money in the family business. "The initial business was only to sell commercial products but we realized there was a high demand for seed so we decided to start our own seed business," says Sylvia.

"We work with cooperatives which identify ideal farmers to participate in seed production," says Sylvia. For legume production, the company works with contract farmers with one hectare of land and above. "We also give an opportunity to those who are beginners, owning 0.25 hectares to 0.5 hectares." The company takes pride in the growth they have witnessed in their contract workers. "Most

farmers we started with [now] have 20 to 40 hectares. Some are businessmen and have opened agro-dealer shops where they sell agricultural inputs," announces Sylvia with pride. For hybrid production, Kamano engages commercial farmers with over 50 hectares of land.

Sylvia joined her husband at the Mwinilunga farm when she got married. This is in the North Western part of Zambia where many of the people around them face challenges such as malnutrition. Sylvia developed the same passion that her husband had for helping the local community. She started working with the wives of workers on the farm, sharing advice on nutrition and the importance of growing different crops to enable the women to diversify their diets. "I started by organizing women's groups and encouraged them to grow beans and groundnuts on our farm," shares Sylvia. The women would use the harvested crops to supplement their households' diets. She also taught the group members new recipes. "Together, we would cook different recipes, which they would go back and use in their homes."

The Horemans got into seed multiplication when they were approached by a number of non-governmental organizations (NGOs) working with Zambia's farmers after the 2002 drought. One NGO contracted Kamano to produce seed with a network of farmers they had trained.

AGRA supported the company by providing them with a breeder who guided them in basic seed production. Harvest Plus has also helped them acquire Pro-Vitamin A maize. Kamano is currently the highest producer of this maize variety in the country. It has been recognized for its efforts with an award of US\$161,000 by AgResults, which is a multilateral initiative that uses prize competitions to provide incentives to private sector players to overcome agricultural market barriers.



Sylvia Horemans, Chief Executive Officer, Kamano Seed Company, moves maize seed to the processing machine using a forklift at the company warehouse in Lusaka, Zambia.



Awarded
US\$161,000
by AgResults



Highest producer of
Pro-Vitamin A
maize variety in Zambia

At the moment, Kamano does not have a breeder on its production team. "Breeders are very expensive," says Sylvia, adding that is difficult to find well-trained people. "We have to knock on CIMMYT doors every time we need a breeder. CIMMYT has also supported the company by providing parental seeds for drought-tolerant (DT) hybrids and supporting them in production. They have also received financial support for setting up demonstration plots and organizing field days to train farmers on the maize varieties they stock. Sylvia would like to build her knowledge in the breeding sector. "It would be interesting to know breeding techniques," she shares, adding that she has basic training, but would like to acquire more in-depth knowledge in the field.

"Finance is one of the big constraints we face in this business," says Sylvia. Obtaining bank loans is often challenging, as it takes a long time for banks to evaluate applications. Kamano's biggest client is the government, which provides seed subsidies to farmers. However, the government sometimes delays in making payments, which affects Kamano's cash flow. The company also faces a lot of competition in the maize seed market, forcing Sylvia to invest heavily in marketing their seed.

To improve their production capacity, the company procured a seed processing machine from Turkey but had challenges using one component: the color separator. "The machine could not identify seed color, especially in legumes," says Sylvia, explaining that it could not distinguish off-types from the desired seed. The company lacks technical expertise to service machines and hopes to counter this by sending a staff member for training.

“

Breeders are very expensive. It is difficult to find well-trained people. We have to knock on CIMMYT doors every time we need a breeder.

”



Sylvia Horemans, Chief Executive Officer, Kamano Seed Company and Dominic Daka, Quality Manger, inspect a new truck that will be used to transport maize seed at the company warehouse in Lusaka, Zambia.



Men work together on maize seed processing at the Kamano Seed Company warehouse in Lusaka, Zambia.

Kamano prides itself in improving the lives of women smallholder farmers and involving women in decision-making structures. "We empower a lot of women in agriculture through our outgrower scheme," says Sylvia. She makes a deliberate effort to recruit women farmers, ensuring that they receive payment for their seeds. "We pay the woman who do the work and not their husbands." Women form the bulk of the casual staff involved in seed production activities, especially during peak times. In addition, the company has a custom-made work station that provides women with back support as they sit down to sort seeds manually.

Kamano is looking to expand in the southern Africa region through seed exports. They have opened a branch in the Democratic Republic of Congo and hope to extend to Angola in the near future. Sylvia celebrates the fact that a few female seed entrepreneurs are members of the Zambia Seed Trade Association (ZASTA). She served as the association's Executive Committee member for two terms that ended in October 2018 and is pleased that the current ZASTA chair is a woman from SeedCo Zambia Limited.



An overview of the Kamano Seed Company warehouse in Lusaka, Zambia.

Stephanie Angomwile, Zambia



Company: Stewards Globe Ltd, trading as Afriseed



Leadership position: Chief Executive Officer



Nationality: Zambian



Company ownership (percentage share): 35%



Company start year: 2007



Number of employees: 59 Full time: 24 (14 men, 10 women) Seasonal workers: 35 (20 men, 15 women)



Number of outgrowers: 1677 (922 men, 755 women)



Maize hybrids: GV635, GV638 and GV672A
Maize OPVs: ZM521 and MMV409



Stephanie Angomwile, 48, co-founded Stewards Globe Ltd /Afriseed together with her husband Emmanuel in 2007. Afriseed is a brand produced and distributed by Stewards Globe Ltd. Four years later, the couple started trading in seed. Initially, the company was family-owned, but it has since welcomed two shareholders with a 15% stake. Currently, Emmanuel, who is also the Board Chair, owns 50%, Stephanie holds 35% while the new shareholders, Ivor Muluba and Reese Mwasambili, own 10% and 5% respectively. Before venturing into the seed business, Stephanie worked for 20 years in the private and public sectors. She holds a Bachelor's degree in Demography and Economics, and a Masters in International and Development Economics from the University of Zambia and University of Namur respectively.

Afriseed was started with an initial capital of US\$200,000 from shareholders and a grant of US\$158,000 from the Alliance for a Green Revolution Program for Africa's Seed Systems (AGRA-PASS). The grant, which was accessed in 2011, helped the company catalyze its seed production. Headquartered in Lusaka, Afriseed works with several agro-dealers, non-governmental organizations, the Zambian government and international organizations to distribute its seed. Stephanie underlines that seed distribution can be challenging because of the high transaction costs involved in transporting, handling and storage.

Working with 680 smallholder farmers, the company's output leans more towards legume seed. "We saw a market opportunity for us to invest in the legume seed sector, knowing that the seed industry could not provide the products," says Stephanie. In 2014, the company gradually diversified into hybrid maize seed production, having obtained germplasm from CIMMYT. Afriseed also markets various improved vegetable seeds such as tomato and onion



I think women can participate in the seed market as well as men.



Workers stack sacks of seed that has been received from the production fields at the Stewards Globe/ Afriseed warehouse in Lusaka, Zambia.



A worker fills a sack with processed seed at the Stewards Globe/Afriseed warehouse in Lusaka, Zambia.



INITIAL CAPITAL

US\$200,000

from shareholders

GRANT

US\$158,000

from AGRA-PASS

Current production capacity

Pro-Vitamin A maize

40 tons

White maize

40 tons

Future production plans

Pro-Vitamin A maize

200 tons

White maize

200 tons

seeds. For hybrid maize production, the company works with large scale farmers owing to isolation requirements.

Afriseed produces DT maize, including hybrids and open-pollinated varieties in addition to Pro-Vitamin A maize. They have also received technical support from CIMMYT in the form of training for their staff involved in seed production. "As a new seed company, we cannot invest in research because we do not have the capabilities," explains Stephanie. "However, we decided to access some of the new varieties from CIMMYT, particularly the DT maize varieties." The company produces GV635, GV638 and GV672A, which are medium-maturing DT varieties, but it is also looking at expanding its range of DT products to cover the different ecological zones in Zambia.

The growing company is keen to continue partnering with CIMMYT. "They have a lot of experience in the region in terms of working with seed companies," says Stephanie. Members of the Afriseed production team have attended hands-

on training sessions offered by CIMMYT that have helped develop their capacity in conducting pollination activities and increased parent lines for varieties they produce. Additional support from the research organization has enabled Afriseed to promote its maize seed varieties.

Stephanie would like additional support from CIMMYT to help train the marketing team on how to promote their DT maize products. The company would also benefit from more technical support in hybrid maize seed production, and financial support to set up and run demonstration plots.

Limited capital, especially for nascent seed companies, makes it difficult to reach smallholder farmers in different areas through promotion activities. "As a seed entrepreneur, one of the key challenges we face is working capital," laments Stephanie. She observes that few institutions are willing to provide long-term capital that would benefit seed companies. In many African countries, few institutions

provide long-term capital and this is a big challenge for seed companies. "As a seed business, you need patient working capital for you to invest in all the production processes before you can put the product on the market," explains Stephanie. She describes patient capital as long-term capital that comes from investors who are not looking to get returns on their investment within a short time. Some financial institutions may require repayment within 12 months. She further explains that organizations such as CIMMYT and AGRA are impact investors, as they are keen to see the long-term impact the company is making rather than how much money it is making. CIMMYT is keen to see the impact that companies like Afriseed are making towards increasing the yields of smallholder farmers. The businesswoman singles out AGRA for their capital support, noting that the institution invested in the company at an early stage and allowed them to grow over a four-year period as they learned from their mistakes.

The business sometimes faces challenges in acquiring adequate parental material for its varieties. "As a growing company, we are still training our staff so that they can be able to assist in pollination," says Stephanie. Staff retention is another hurdle the company faces as it competes with large seed companies for the same pool of skilled workers. Distribution of the products produced is another problem the company faces. "The agro-dealers we are currently working with are mainly located in eastern, central and southern provinces," shares Stephanie. "We need to expand our distribution network in order to increase product reach and that requires more long-term capital."

In 2019, Afriseed plans to expand its current production capacity from 40 tons of Pro-Vitamin A (orange) and 40 tons of white maize to 200 tons each of white and orange maize. The seed entrepreneur laments that they currently have very few millers marketing orange maize flour. She notes, however, that Harvest Plus has raised awareness at village level, helping to make people cognizant of the benefits of orange maize.

Stephanie is pleased that she has not experienced any

challenges that she would attribute to her being a woman in the seed business. "I think women can participate in the seed market as well as men," asserts Stephanie. "But you need the right set of skills for you to be able to engage in seed business." The entrepreneur describes women as a great resource who can invest their knowledge and skills by participating in the seed business.

The company takes pride in providing legume and maize seed, ensuring that smallholder farmers are able to practice crop rotation on their fields. This is in addition to contributing to diversified nutrition at household level. Afriseed partners with agro-dealers to promote seed outside their shops, in addition to conducting field days and setting up demonstration plots. "We are conducting field days so that farmers have access to information on where to find our products," says Stephanie. The company advertises field days through the District Agricultural Coordinators, agricultural camp officers and lead farmers, depending on the location.

The entrepreneur is keen to expand the company's footprint in the seed market through partnering with like-minded

organizations. To reach smallholder women farmers, Afriseed conducts various promotion activities. "We are producing wraps so that we can generate interest and stimulate demand for women to buy our products," shares Stephanie. The company also organizes sensitization meetings with women's groups and distributes branded shopping bags.

To help farmers address risks such as climate change and pests such as the FAW, Stephanie calls for crop insurance and agricultural financial assistance to help cushion farmers against losses occasioned by drought, and to facilitate investment in irrigation facilities. "With climate change, smallholder farmers receive the biggest blow," she states. "Bundling insurance and seed is one of the innovative approaches we are looking into."

The business leader is confident that the company is set to grow further. "When you are dealing with food, the future is exciting," states Stephanie. "We need to feed almost 10 billion people on this planet; this starts with the farmer, who needs to have the right seed and the right skills."



Stewards Globe/Afriseed, staff carrying out hand pollination activities at the company's production farm in Lusaka, Zambia.

Josephine Okot, Uganda



Company: Victoria Seed Ltd



Leadership position: Managing Director
and Chief Executive Officer



Nationality: Ugandan



96%

Company ownership (percentage share):
96%



Company start year: 2004



Number of employees: 100 Full time: 69 (55
men, 14 women) Seasonal workers: (0 men,
31 women)



Number of outgrowers: 44 (35 men, 9
women)



Maize hybrids: WEMA 3106, Victoria 1, SUPER
MAIZE and YARA 42 Maize OPVs: Longe 5



Josephine Okot, 53, is a woman who ventured into the male-dominated seed business. After working in the private sector for 15 years, she decided to start the first seed company in Northern Uganda. Josephine was inspired to empower women through supplying quality seed during the 20-year civil war in Northern Uganda, where she observed the critical role women played in heading households and providing for their families. Josephine also wanted to contribute to building a robust seed system in Uganda to cater for all categories of farmers, to provide food and income security, especially for rural households.

When Josephine shared the idea with her friends and family members, she was discouraged because the seed trade was considered a man's business. Josephine approached Stanbic Bank Uganda who declined her credit application because she had no credit history, but this did not deter the marketeer who holds a Master's degree in International Business from Washington International University. She continued her quest to raise the start-up capital to realize her dream.

After sharing her vision and mission with the USAID-funded Agricultural Production Enhancement Program (APEP), Josephine managed to obtain a bank guarantee of US\$30,000 from the organization and thereafter, the bank accepted her collateral, enabling her to start the seed company with a team of five in 2004. Josephine owns 96% of Victoria Seeds, while her sister Cesca Arleen Abalo owns the remaining 4%.

Registered in 2003, the company started operations in January 2004. The Head Office is in Kampala Industrial and Business Park in Namanve, with branches in Gulu and Masindi, and sales outlets in Kasese and Lira. When the company set up its first factory in Gulu, in the war-ravaged northern region, Josephine was undeterred by the unusual situation. "The first farmers we contracted were internally displaced people," shares Josephine. "I told them Victoria Seeds will be here to give you a sustainable source of livelihood by giving you seeds to plant." The seed entrepreneur promised to buy the seed produced by the displaced farmers. Victoria Seeds collaborated with the non-governmental organization, Action Against Hunger, which had already trained the farmers.

Daring to expand beyond her country's borders, Josephine registered Victoria Seeds in South Sudan in August 2011, exactly a month after that country gained independence. "We rented for 15 months and decided it was too costly to venture into the market," she shares. With financial support obtained through a UK Department for International Development (DfID) grant, Josephine later registered a domestic company in Rwanda and set up a factory. However, running the business was challenging as financial systems in the neighboring countries were not integrated. It was difficult to obtain credit facilities at local banks as they could not take assets in Uganda as collateral for a loan in Rwanda. "You cannot speak of regional integration and not do business valuation in Kenya for assets in Uganda," she explains. The financial challenges are further compounded because banks in both countries require customers trading in foreign currency to transact in dollars. "This increases the cost of doing business." These are the challenges that have curtailed the company's expansion in the region.



SEED CAPITAL

US\$30,000



STARTED WITH A TEAM OF

5



A cabinet displaying the numerous awards that Josephine Okot has received at her office in Kampala, Uganda.

Using a mobile seed shop, Victoria Seeds is able to reach smallholder farmers, using a tuk tuk (motorbike). "Through the mobile seed shop, we get to rural markets where agro-dealers are not found and seed companies do not go with trucks," says Josephine. Farmers come to sell their produce at the market and buy maize or vegetable seed, depending on the season. In addition, the company markets affordable 2kg seed packs for maize and bush beans.

Victoria Seeds is also embracing technology in extension efforts. The company is partnering with Akorion, a young company that is using an app that provides farmers with basic extension

information on land preparation, recommended plant population, and how to manage common diseases. Akorion also helps farmers identify where to find appropriate farm inputs and eventually links them to markets. "Instead of Victoria Seeds taking all the resources to invest in technology, it is better we find a smart partner like Akorion," says Josephine. Akorion works through village agents, who use the information available on the app to answer questions that farmers raise. Victoria Seeds plans to work with Akorion to provide extension advice to their farmers in the coming maize season.



The Victoria Seeds mobile seed shop at the Dokolo market, Northern Uganda. The company uses the motorbike shop to reach farmers in remote villages where there are no agro-dealers.

Josephine describes two sets of challenges that she encounters as a seed entrepreneur and a woman in business. She commends her staff for their dedicated service. However, Josephine notes that it is a challenge to get personnel with the right skills to work in the seed business. She explains that it is not easy to find a tuk tuk driver who has the requisite agricultural knowledge. "Sometimes you get a very good agronomist who says he is a graduate and cannot be riding a tuk tuk. Then you get a normal boda boda (motor bike taxi driver) and he does not have the [agricultural] knowledge."

The other hurdles that the company faces include the training of contract farmers, and access to financial products that can cushion farmers from risks such as climate change or crop diseases. "We have an invasive pest like the FAW, but our banks are not really interested in crop insurance or working with insurance companies to take most of the risk from us," observes Josephine. "One of the challenges I experience as a woman is that whenever the corruption index of a country goes up, a woman's ability to compete comes down," laments Josephine. She argues that in places where corruption thrives, women are often unable to participate in business dealings. Josephine further observes that sometimes people take advantage of women in business. She cites the example of a woman in the seed business having to confront a contract farmer who failed to supply seed despite having received financial support from the company. Operating in a patriarchal environment, a male farmer can intimidate a woman seed entrepreneur.

Josephine has received international recognition for her contributions to agriculture. In 2007, with barely four years' experience in the seed business, Josephine received the Yara prize for a Green Revolution in Africa, now known as the Africa Food Prize. She was honored as an example of entrepreneurs willing to take risks and break new ground in African agriculture. To mark this achievement, Josephine has aptly named one of her maize varieties YARA 42. Having received numerous accolades, Josephine says that her most cherished one is a plaque she received from her staff who have played a critical role in the success she has achieved in the seed business.

Josephine credits her leadership and communication skills to the training she received from the CGIAR Gender & Diversity Program that ran the pilot for the African Women in Agricultural Research and Development (AWARD) Fellowship Program. She has served in various leadership positions, including as a Board member at Stanbic Bank, seven years after she first approached the bank for start-up capital. Currently, she sits on the Board of the International Institute of Tropical Agriculture (IITA) and the Uganda Development Corporation and chairs the Soroti Fruit Factory Board. Josephine is also a member of the Uganda Seed Trade Association (USTA). She served as the association chair from 2002 to 2004 and is the current USTA treasurer. Josephine encourages women in the seed business to get mentors to help them navigate challenges in the industry and to continue building their capacity through training and networking to expand their social capital.



Victoria Seeds staff members together with the Akorion village agent (in pink shirt) talk to a farmer at Dokolo market in Northern Uganda. The seed company is partnering with Akorion, a young company that is using a mobile technology to help bridge gaps in agricultural extension.

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Sometimes you get a very good agronomist who says he is a graduate and cannot be riding a tuk tuk. Then you get a normal boda boda (motor bike taxi driver) and he does not have the [agricultural] knowledge.

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Dr. Zubeda Omari Mduruma, Tanzania



Company: Aminata Quality Seeds & Consultancy Ltd (AMINATA Seeds)



Leadership position: Chief Breeder and Director for Seed Production and Processing



Nationality: Tanzanian



Company ownership (percentage share): 30%



Company start year: 2008



Number of employees: 136 Full time: 41 (21 men, 20 women) Seasonal workers: 95 (45 men, 50 women)



Number of outgrowers: 28 (14 men, 14 women)



Maize hybrids: NATA H104, NATA H401 and NATA H105 **Maize OPVs:** NATA K6Q and NATA K8 and SITUKA-M1



Dr. Zubeda Mduruma, 66, is a plant breeder. Raised by farmers, Zubeda took to agriculture from a young age as she enjoyed helping her parents on the farm. After high school, Zubeda obtained a BSc in Agriculture then joined the Ilonga Agricultural Research Institute (ARI-Ilonga), which is part of the National Agricultural Research System (NARS) in Tanzania, located in Morogoro region. She then pursued her MSc in Plant Breeding and Biometry from Cornell University in the United States of America and obtained a PhD in Plant Breeding at Sokoine University of Agriculture in Tanzania, while working and raising her family. “I wanted to be in research, so I could breed materials which would be superior than what farmers were using because they were getting very low yields,” says Zubeda. In the 22 years that she spent at Ilonga, Zubeda was able to release 15 varieties.

Aminata Quality Seeds is a Tanga-based family business that was registered in 2008. Zubeda and her husband Omari each own a 30% stake of the company, while their four daughters, namely Sheba Nassoro, Rahma Mduruma, Jamila Mmari and Fatuma Mpukwini share the remaining 40% equally. Aminata entered the seed market as an outgrower, producing seed for local companies for two years. The company started its own seed production in 2010, and the following year it was marketing improved varieties. “I decided to start a company along the Coast and impart my knowledge on improved technologies, so farmers can get quality crops for increased incomes,” says Zubeda.

“Seed business requires commitment because you spend money throughout the year and only get money back over a three-month period,” Zubeda explains. Prior to embarking on seed production, the family had acquired land, warehouses and farm machinery, which made it easy to transition into a seed company. Owing to her Muslim faith, Zubeda cannot raise capital through loans. Her religion does not allow adherents to take commercial loans that accrue interest. To counter this challenge, AMINATA Seeds now uses an Islamic bank that has opened a branch in Tanga. The bank has helped the company acquire Tanzanian Shilling (TSh) 50 million (US\$22,222) to enable it to finish roofing a warehouse that is still under construction. “The loan does not come with interest; we agree on the terms as a business transaction where they purchase the materials for us as per invoices received and we pay the money we had agreed in the beginning on a monthly basis.” Other challenges include unreliable agro-dealers who do not remit sales returns, and contract farmers who fail to submit all the seed produced.

“

CIMMYT has been very helpful in training our staff. When you are a young company, your people don't know much about the seed system.

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LOAN:
US\$22,222

From an Islamic bank



VARIETY RELEASED

- 2013 **3** Two hybrids and one Open-pollinated variety (OPV)
- 2015 **2** One OPV and one hybrid.



Women sorting maize seeds at the AMINATA Seeds warehouse in Kwedizinga, Tanzania.



Fatuma Mpukwini, assistant breeder and warehouse supervisor, packing seed at the AMINATA Seeds warehouse in Kwedizinga, Tanzania.

When AMINATA Seeds started seed production, it was using maize varieties from the public research stations. With germplasm and small grants from CIMMYT, the company was able to develop its breeding program. "In 2013, I released three varieties; two hybrids and one open-pollinated variety (OPV) which was QPM maize," Zubeda says with pride. In 2015, the company released two other varieties, one OPV and one hybrid.

AMINATA prides itself on its ability to provide farmers with good quality seed. The company is keen to respond to farmers' needs and involve them in their breeding process through participatory variety selection (PVS). Much as farmers are interested in high yields, they prioritize seeds that can withstand climatic and disease challenges. "Farmers want something that can be tolerant to the existing problems in the field," explains Zubeda. Drought is common in Tanga. AMINATA Seeds obtained CIMMYT germplasm with disease- and drought-tolerance. Zubeda ensures that her company's hybrid and OPV seeds have good grain quality, are drought-tolerant and resistant to the common leaf diseases in the area such as Leaf Blight, Gray Leaf Spot and Leaf Rust.

In the mid-altitude zones, MLN disease was the most devastating in the past three years. CIMMYT researchers have been evaluating maize seeds for disease-tolerance at the MLN Screening Facility in Naivasha, Kenya. Three varieties of AMINATA Seeds were tested in Naivasha and found to have medium tolerance to MLN. The company has also grappled with FAW. Thanks to training in integrated pest management organized by CIMMYT and AGRA, AMINATA has learned what insecticides to spray and when to do so.

"CIMMYT has been very helpful in training our staff. When you are a young company, your people don't know much about the seed system," says Zubeda, highlighting the organization's contribution to training the company's technical staff. They have also received some financial support for irrigation and cold storage facilities, in addition to the capital support they have received through the AGRA Challenge Fund which has enabled them to buy new tractors and a new processing line.

Zubeda is a keen mentor. She is training her daughter Fatuma Mpukwini, an assistant breeder and warehouse supervisor. A trained teacher, Fatuma left her government job to work in the seed business. She has attended CIMMYT-run training in breeding, production, store management, disease diagnosis and pest management.

In the seed value chain, AMINATA Seeds works with both men and women. They have different roles; for example, both men and women are involved in hand planting and weeding while the men are mainly engaged as watchmen, to spray insecticide, or to load and off-load seeds. Women are involved in fertilizer application, cob selection and seed sorting. Seed sorting requires attention to detail and sitting for long hours.

To reach farmers in remote villages, AMINATA Seeds engages in direct sales, working with small seed stockists and lead farmers. Each company's seed pack comes with advice on use and handling. The sales team, which comprises men and women, sells at markets and travels in the region. "We use our own cars but when we are carrying big amounts of seed, like 15 tons, we hire vehicles," explains Zubeda. When selecting farmers, the company makes a deliberate effort to ensure that some women and young people are recruited to host demonstration plots. "The company feels that the youth are leaving their villages to go look for jobs. However, growing seed or crops [here] provides self-employment," she asserts. During sensitization meetings, the company goes back to the community and asks them to nominate a person who will sell seed to them. They select an extension worker, a group leader or an influential woman in the community. The company is also using radio adverts to raise awareness about the seeds they are using and are planning to use video adverts in public buses.

Zubeda has observed that the farmers neighboring AMINATA Seeds have stopped using the broadcast method and are now planting maize in rows, having observed the company's good agricultural practices. Farmers are free to call the company to make enquiries about diseases they have noticed in their fields. The breeder visits affected farms



2018 PRODUCTION
452.9 TONS
of maize seed

PROJECTED PRODUCTION 2019
1000 TONS
of maize seed

and works with extension workers who send her pictures of distant farms by WhatsApp, and she advises on how to manage the problem they have identified in the farmers' fields.

Zubeda encourages more women to venture into the seed business, "To do any business, you have to have guts. It is not the money; it is the interest. When you have the interest, you will always look for ways to start your seed business." She encourages the women contract farmers to wait until they have submitted their seed crop to the company and received a lump sum payment, as opposed to asking for small loans for land preparation or weeding which reduce their earnings at the end of the season.

Having skilled and reliable labor is an asset for a seed company. Zubeda noted that many of the young women she was employing could not drive. She has started sponsoring them to take driving lessons. Neema Mziray, a field officer with a Diploma in Agriculture, can now ride a motorcycle, allowing her to work independently and to supervise activities in different fields.

Zubeda plans to embark on vegetable seed production in the near future. In preparation, she has taken out 10 acres of land, given three to villagers and distributed the rest to her workers

for vegetable cultivation. "Eventually, when I start producing vegetables, I can have farmers who are conversant with the production of vegetable seed." Similarly, she allows her staff to produce seed on company farms during the off-season, where they can cultivate two to three acres with help from their family members and earn additional income. "If they have a way of increasing their income, we support them," she explains, adding that they provide loans and deduct the amount from the workers' salaries in installments.

At the beginning of her career, Zubeda understudied as a CIMMYT breeder. After working for the government in Tanzania, Zubeda joined CIMMYT in Ethiopia, working as a maize breeder until she retired from CIMMYT. She credits her work experience with the organization for molding her into a good breeder, who values her work.

In 2018, AMINATA fell short of its target to produce over 500 tons of maize seed, achieving 452.9 tons instead owing to the weather and a FAW infestation. "In 2019, we are planning to produce 1000 tons of maize seed," Zubeda declares. The company will also expand to new markets in the Lake Zone, namely: Kahama and Shinyanga in Shinyanga region; Magu, Misingwi and Sengerema in Mwanza Region; and Bunda and Butiama in Mara Region where maize is a staple food.



Neema Mziray, a field officer at AMINATA Seeds, uses a motorcycle to visit contract farmers' fields, inspecting seed production activities in Tanga region, Tanzania.

Cecilia Alphonse

Magesa, Tanzania



Company: Meru Agro Tours & Consultants Co. Ltd (MATC)



Leadership position: Director and Zonal Manager, Northern Zone



Nationality: Tanzanian



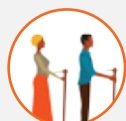
Company ownership (percentage share): 30%



Company start year: 2005



Number of employees: 231 Full time: 78 (63 men, 15 women) Seasonal workers: 153 (79 men, 74 women)



Number of outgrowers: 15 (14 men, 1 woman) and 2 entities (1 company and the national service)



Maize hybrids: MERU HB 513, MERU HB 515, MERU HB 623 and MERU HB 621 Maize OPVs: SITUKA-M1



Cecilia Magesa, 40, a trained teacher with a BSc in Education, is a Director and Zonal Manager for the Meru Agro Northern Zonal Office in Arusha. Her duties involve marketing and administration. Prior to joining the company in January 2015, Cecilia was a biology and chemistry teacher. Registered in 2005, Meru Agro was founded by her husband Chacha Watanga, using personal savings. The company started marketing improved varieties in 2013 and operates in the Tanzania Northern and Southern Highlands, as well as the Central and Lake Zones. Meru Agro has zonal offices in Arusha, Kahama, Mbeya and Morogoro. In addition to seed production and distribution, the company imports and distributes agrochemicals, provides technical advisory services and conducts adaptive agricultural research.

Maize seed is a key component in Meru Agro's product portfolio as the company markets OPVs during the short rains season and hybrids for the long rains season. The company is aggressive about marketing seed, and recruits small agro-dealers and trains them in the qualities of improved varieties. These agro-dealers serve as a feedback loop for the company to learn what the farmers are saying about their products. Meru Agro has also trained people who are given bicycles to market their seed from farm to farm.

To help farmers identify their varieties, Meru Agro uses animal pictures on seed packs, describing the climatic conditions that favor specific varieties. For example, the camel is used to describe DT maize, and a hippo is used for varieties that require a lot of rain to thrive like Meru HB623. "It is difficult for a farmer to remember a variety's scientific name such as Meru HB513, but they can easily remember the name of an animal," says Cecilia. When a farmer wants to buy Meru HB513, s/he can ask for the camel variety as they can easily remember that camels thrive in semi-arid or drought-prone areas, and no other company uses this method. Meru HB513 is drought-tolerant, can withstand common leaf diseases and is 'fertilizer-friendly' since it uses nitrogen efficiently.

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We train women on seed qualities and good agricultural practices, so they can train others and increase our distribution network.

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Cecilia Magesa, Director and Zonal Manager at Meru Agro Tours & Consultants Co. Ltd, helps Glory Emmanuel pack a 50kg sack of maize seed at the company warehouse in Arusha, Tanzania. Glory is a lead farmer from Olalarash Village in Monduli District who resells MATC maize seed in her village that does not have an agro-dealer shop.

As a member of the marketing team, Cecilia takes a proactive approach in reaching out to women groups involved in farming and encouraging them to try Meru Agro seeds. "We train women on seed qualities and good agricultural practices, so they can train others and increase our distribution network," she expounds. These women smallholder farmers are able to access Meru Agro seeds at a cheaper rate since the company sells to groups at wholesale prices. In addition, the women can improve their livelihoods when they resell the seed at a profit.

Glory Emmanuel, 39, is a lead farmer working with Meru Agro. She helps the company reach smallholder farmers in Olalarash Village, Monduli District in Arusha Province by selling improved maize seed. She obtains a 100kg bag of maize seed on credit from the company for sale in her village that does not have agro-dealer shops. Prior to her partnership

with Meru Agro, Glory benefited from capacity-building by an NGO that enabled her to gain confidence in her ability to earn a sustainable income from agriculture. "I don't just grow crops for food but also as a business. From my earnings, I am able to cater for other needs, like school fees," she explains. Glory is also using proceeds from agriculture to construct a permanent house.

This progressive farmer is a member of Mtandao wa Vikundi vya Wakulima Tanzania- MVIWATA (a network of farmers' organizations) and encourages farmers to contribute money to buy seed collectively. Glory hosts a demonstration plot on her farm using Meru Agro seeds. "Many farmers come to visit my farm and enquire about the crops I am planting," says Glory. As a trusted member of her community, Glory is able to share information on improved seed varieties with farmers in her local Maasai dialect.

In a new initiative where she is collaborating with Cecilia, Glory will be supervising five female farmers who will help Meru Agro distribute maize seed in their villages. Glory also uses media to share farming information through outlets like Farm Radio and Sunrise Radio. She is currently looking for support to have her own radio program that will reach out to smallholder farmers.

This season, the company is debuting their Pro-Vitamin A maize seed that provides the additional nutrition recommended for the aged, children and pregnant mothers. "Often, mothers are forced to mix flour from different crops to prepare porridge with high nutritive value for their children," says Cecilia. "With Pro-Vitamin A maize, women can obtain porridge flour that is very nutritious and in also preparing various maize dishes for whole family." The company is also working with schools to introduce the variety to pupils. The

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In the recent past, the price of maize has dropped, with a sack of **100kgs selling for TSh20,000 (US\$10)**, which is low considering the inputs that farmers have invested in the crop.

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Cecilia Magesa tests the newly installed irrigation facilities at the MATC production farm in Moshi, Tanzania. The company has bought more land and it is expanding its production capacity.

Tanzanian government is urging prisons to be self-reliant in food production. In this regard, Meru Agro has approached Kisongo Prison in Arusha to have them host demonstration plots for Pro-Vitamin A maize. The company hopes to sell this variety to the prison and expand its market in the near future. "Farmers' response to Pro-Vitamin A maize has been encouraging," says Cecilia, adding that the company has received numerous orders for the seed that will be retailing at a higher price than other maize varieties. Encouraged by the demand, the company plans to increase Pro-Vitamin A maize seed production in the coming season.

As a female entrepreneur, Cecilia's challenges are mainly social, through working in a patriarchal society and juggling work and family responsibilities. "I am a mother, wife and have to juggle these roles with my responsibilities in the office," she explains. Women farmers view her as a role model who demonstrates that women can be successful in farming and agribusiness. "I was encouraged when I saw that the Director of Meru Agro was a woman," says Glory, noting that working with a woman who is actively involved in the seed business was inspiring.

Maize farmers in the Arusha region were affected by MLN disease that was prevalent in the

Northern Region. Consequently, Meru Agro was forced to move most of its seed production activities to Mbeya in Tanzania's Southern Highlands. The company has received CIMMYT support in training, basic seed provision and grants for promotional activities, including setting up demonstration plots in Babati. Cecilia singles out CIMMYT's training support in helping her to build her confidence in seed business. "I don't have an agriculture background. I came to the business with no knowledge in seed production, but I have attended several training sessions and learned a lot," she says. She would like additional support in expanding the company's market share in Tanzania and in value addition.

In the recent past, the price of maize has dropped, with a sack of 100kgs selling for TSh20,000 (US\$10), which is low considering the inputs that farmers have invested in the crop. In the last two seasons, the company has noticed that farmers are reducing their acreage under maize, shifting to sunflowers which fetch more, or only growing enough maize for subsistence. Two years ago, a 100kg sack of maize was selling at TSh150,000 (US\$65). When farmers lack a market for their maize grain, the demand for seed falls, resulting in challenges for companies that are not keen to carry-over seed.



Cecilia Magesa examines maize in the field with Kheri Kitenge, maize breeder (right) and Abeid Ally Gendo, caretaker, at the MATC production farm in Moshi, Tanzania.

Sarah Muya, Tanzania



Company: Suba Agro Trading & Engineering Company Ltd



Leadership position: Deputy Managing Director and Finance Director



Nationality: Tanzanian



3%

Company ownership (percentage share): 3%



Company start year: 1996



Number of employees: 506 Full time: 74 (54 men, 20 women) Seasonal workers: 432 (104 men, 328 women)



Number of outgrowers: 10 (10 men)



Maize hybrids: TZh407, TZh 536 and TZh 538
Maize OPVs: KILIMA, SITUKA-M1, STAHA, TMV 1 and TzM 523



Sarah Muya, 32, the eldest of five, joined the family business in 2008. She had completed a bachelor's degree in Accounting and Finance at Coventry University in the United Kingdom, and a Master's in Business Administration from Ivey Business School, University of Western Ontario, London, Canada.

Reluctant at first, Sarah took to the business when she sold sunflower seeds to a farmer in Singida who sent her a gallon of oil in appreciation after harvest. She has since received maize and rice from happy clients who have harvested good yields from seeds that they obtained from Suba Agro.

One happy client was her landlord who got a bumper harvest from TZH523, a maize hybrid from Suba Agro. "She brought me a debe (20kg bucket) of maize grain and said her friends will plant the variety in the next season," announces Sarah. "It is not about the money; you make a difference in people's lives." Sarah notes that her joy is in seeing farmers get good yields from sowing Suba Agro seeds. Drawing from her finance background, Sarah observes that in the seed business, the cash conversion cycle takes a long time, approximately three years. "Sometimes I wonder, should we focus more on chemicals?" she muses. "It is really about the difference you have made in people, but it needs patience."

Sarah owns 3% of Suba Agro while her father, Mahenye Muya, the company's Managing Director, owns 97%, a share he co-owned with his late wife Dr. Scholastica James Onditi, a veterinarian who passed away in 2017. Prior to her death, Dr. Onditi had a 10% stake in the company. Sarah also serves on the Executive Committee for the Tanzania Seed Trade Association (TASTA). "Seed companies are starting to put more trust in women, including them in management and getting them to represent them in association meetings," she observes. "Previously, representatives from other companies were men, now there are more women represented because they are moving up in the business."

Suba Agro was first registered as an agro-dealer in 1996, when Sarah's parents identified a gap in the market, noting that farmers used to travel long distances to access seed. The company started with US\$600 seed capital from the family savings. It was only in 2006 that the company started working with banks, obtaining a loan of US\$600,000 from the African Development Bank (AfDB) for capital investment. Suba Agro later received another loan from the same bank for infrastructure development at Mara Farm. The funds were used for installing an electric fence, irrigation facilities, and for other kinds of project expansion.



Seed companies are starting to put more trust in women, including them in management and getting them to represent them in association meetings. Previously, representatives from other companies were men, now there are more women represented because they are moving up in the business.



Men carrying maize seed at the Suba Agro Trading and Engineering Company Ltd warehouse in Kisongo, Tanzania.



INITIAL CAPITAL

US\$600

BANK LOAN IN 2016

US\$600,000

From the African Development Bank (AfDB) for capital investment.



Neema Ngunga, sales and marketing officer at Suba Agro Trading and Engineering Company Ltd displays a poster the company uses to advertise TZH538, an early maturing drought-tolerant maize variety at their offices in Arusha, Tanzania.

In 2001, Suba Agro started producing maize OPVs from the Tanzanian NARS. The company was also the country's agent for SeedCo, marketing their varieties in Rwanda and Tanzania. In 2006, the company added legumes, sesame, sorghum and sunflower seeds to their product offering. They also started local seed production for SeedCo.

Suba Agro is headquartered in Arusha, with a presence in Dar es Salaam, Mbeya, Mtwara and Mwanza and farms in Babati and Songwe. Between 2009 and 2013, it operated in Rwanda, where it introduced SeedCo OPVs and hybrids. "Currently, the varieties we have are DT, so we are working with CIMMYT to find highland varieties suitable for the Rwanda market," says Sarah.

Gender equality is a guiding principle for Suba Agro. When the company discovered a gender pay-gap in the marketing department, they immediately instituted policies to address the issue. The women, who did the same jobs as their male counterparts, used to be paid less, yet they worked the same hours, travelling to different areas to sell seed. "We now pay the women the same amount as the men, as they deliver the same results and work under similar conditions," explains Sarah.

Women form a huge labor component for the company, especially in the farms and at the processing plant where they are involved in planting, weeding, harvesting and seed processing. The company allows the women laborers at Mbozi farm in Songwe to leave at 12pm to attend to their domestic duties. The company also work with men, who prefer work that pays on a daily basis, such as detasseling, while women prefer to be paid after a longer period. However, at Mbozi farm, they have noted that on pay-day, it is the men who come to collect the dues, yet the majority of the laborers are women. When hiring marketing staff, the company also tries to ensure that it taps into the small pool of women who have studied agriculture. It provides in-house training over a two-week period to ensure that new recruits are well versed in the seeds they are marketing.

In Tanzania, land is largely in male hands, or family-owned, so reaching women farmers is tricky. However, Suba Agro makes a deliberate effort to reach out to women smallholder farmers, by holding promotional activities in areas where they can reach women – market places, hospitals, near mosques and churches. "We have started using women-targeted materials like khangas (wraps) and branded maternity ward bedsheets so that we get the attention of women to buy our seeds," she explains. This is in addition to traditional promotional activities such as field days and demonstration plots that they hold in maize-growing areas. The company also has a strategically-located retail shop near the main bus terminus in Arusha.

"Suba Agro stands out because we prioritize quality," Sarah announces proudly. "Quality is at the center of everything we do, be it seed or chemicals." The director explains that even with slightly higher seed prices, the company is able to attract buyers, despite the government OPVs like SITUKA-M1 or KILIMA that are marketed by most local companies. When competitors sell their maize hybrids at a wholesale price of TSh12,000 (US\$5.3), Suba Agro sells theirs at a wholesale price of TSh9,000 (US\$4), allowing them to remain competitive.

Sarah cites financing as a key challenge for the seed business in Tanzania, with interest



We now pay **the women** the same amount as **the men**

rates ranging between 17% and 22% for a corporate company. "This is very high, considering that the margin on seed is about 15%," laments Sarah. She opines that unless a seed company diversifies its product portfolio, it cannot survive on seed sales alone.

Maize seed production is ideal when working with commercial farmers with large tracts of land. The company works with few medium-sized farmers because of the isolation distances required.

When farmers do not have a market for their output, it affects the seed business. "If a farmer does not have a market for their crop, your demand is affected," notes Sarah. She observes that in such instances, they notice a drop in the demand for seed and an upsurge in the demand for storage chemicals as farmers seek to preserve their harvest.

In 2016, the company celebrated 20 years in business. This milestone was also capped by Mahenye receiving the African Agribusiness Entrepreneur of the Year in 2016, awarded by Making Markets Matter. The company plans to expand its market share in Tanzania and beyond. "We have not exhausted the maize market in Tanzania, there is a huge potential to explore," says Sarah. Suba Agro is also eyeing international markets in Congo, Rwanda and Mozambique and aims to improve automation in seed processing as that will raise efficiency and save time.

Suba Agro has received support from CIMMYT for licensing and registering varieties, and sub-grants for variety promotion through the Drought Tolerant Maize for Africa Seed Scaling (DT-MASS) project. "We have received a lot of training from CIMMYT for our technical team," says Sarah. "The best gift you can give someone is education, it has been very beneficial," Sarah concludes.



Women packing maize seed at the Suba Agro Trading and Engineering Company Ltd warehouse in Kisongo, Tanzania.

Dr. Grace Malindi, Malawi



Company: Mgom'mera Seed Company



Leadership position: Chief Executive and Founder



Nationality: Malawian



Company ownership (percentage share):
Family owns most of the company



Company start year: 2014



Number of employees: 54 Full time: 11 (8 men, 3 women) Seasonal workers: 43 (7 men, 36 women)



Number of outgrowers: 99 (47 men, 52 women)



Maize OPVs: ZM623 and Chitedze 2 (QPM)



Dr. Grace Malindi, 67, started Mgom'mera Seed Company in 2014 with her sister Florence Kahumbe who had experience in running agro-dealer shops. Florence was key in setting up the business, particularly through engagement with agro-dealers, while Dr. Grace's background in extension was valuable in understanding their market. Grace has a PhD in Human and Community Development with a double minor in Gender and International Development and Agriculture Extension and Advisory from the University of Illinois Urbana-Champaign in the United States of America. Grace has served as the Director of Agricultural Extension Services in Malawi and an advisor with UN Women, working on the Gender and Agriculture Program.

Mgom'mera is a family-owned enterprise. Grace's three children are involved in the business, serving as directors. Her sons Ulemu Malindi and Mwai Malindi advise on strategic partnership, marketing and business development while her daughter Darlis Malindi shares her expertise in finance and accounting. She designed the company's accounting system and trained staff in it.

Currently working in eight districts in Malawi, Mgom'mera is planning to expand its business in the country and the region, taking advantage of existing trade blocs like the Common Market for East and Southern Africa (COMESA) and the Southern Africa Development Community (SADC). "We are targeting areas where trade is already happening through COMESA and SADC," says Grace. She is particularly keen on working in the Nyanja triangle, where agro-ecological zones are well-researched and seed regulations are harmonized.

Mgom'mera distinguishes itself from other seed companies because of its focus on maize varieties that have additional nutritive value. The company uses the tagline: "Creating seed demand from the table to the soil." It educates farmers not only on the how to plant



Women help each other lift a sack of maize seed at the Mgom'mera Seed Company warehouse in Lilongwe, Malawi.



You need agility, flexibility and experience, for you to run a seed business and with time you will improve.



INITIAL PRODUCTION

7 TONS

MAIZE

PLANNED PRODUCTION

70 TONS

MAIZE

the seed they sell, but also how to prepare nutritious dishes with their harvest. The company stocks ZM623, a drought-tolerant OPV, Chitedze 2, a QPM and will be selling MH39, a Pro-Vitamin A variety in the 2019 maize season. In addition, they are looking forward to starting QPM hybrid production in the near future, having begun the process of acquiring materials from CIMMYT. Mgom'mera also stocks legume seeds including beans, pigeon peas, cowpeas and groundnuts.

The company works hard to maintain good seed quality and to educate the community about the value of improved seed varieties. One of the key challenges is in seed handling, as this relies on manual labor for most of the seed processing, resulting in spillages and breakages. It is also tedious to move seed from one place to another. This affects precision in packaging and the company's overall efficiency. "Sometimes seed bags may be under-weighted or over-weighted," explains Grace.

Grace hopes that the company can acquire value-adding machinery to help process the seed residue. "With simple machinery, we can make concentrates for animal feed and make money," she says. She is also keen to work with women's cooperatives to make by-products that are commercially viable, for example, pressing oil from split groundnut seeds, which can then be sold and used by members in their households to improve nutrition. "After processing the residue, we can sell it locally and in future, refine, brand and sell it on the market."

As a fairly new entrant into the seed business, Mgom'mera is still fighting to get a foothold and increase its market share. "In this competitive industry, when selling maize, we have to compete with the varieties the farmers knew long ago," says Grace, noting that one must have a very good marketing strategy. She foresees an upward projection in their output, as they started with a production run of seven tons of maize and plan to expand to 70 tons. "The potential is promising," says Grace. The challenge is to work with informed value chains at every stage.

Financing is a challenge that this nascent company faces, especially when sourcing money to pay contract farmers after it has received their seed. It is difficult to obtain credit from commercial banks. Grace calls for agriculture-related banks to support the seed business with more 'friendly' interest rates to counter the exorbitant rates charged by commercial banks.

Agro-dealers are an important bridge between the seed company and farmers. However, some are a stumbling block for these seed entrepreneurs, forcing companies to terminate their relationship with them. "Some have gotten away with proceeds without a single



A young woman stitches a bag of maize seed after it had been weighed at the Mgom'mera Seed Company warehouse in Lilongwe, Malawi.

penny being accounted for,” moans Grace. She explains that seeking redress for such losses through legal avenues can be cumbersome and costly, forcing the company to write-off such losses as bad debts. “We want to work in a consortium mode and have a shared-risk agro-dealer network,” says Grace. She explains that the company is keen to explore ways in which smallholder farmers can organize themselves and reach remote areas, buying and selling seed amongst themselves at a mark-up price.

It takes a lot of extension and promotion efforts to educate farmers about the value of QPM (yellow) and Pro-Vitamin A (orange) maize, as opposed to the white varieties they are accustomed to. “Yellow maize was associated with relief food,” she explains, adding that consumers also need educating about the benefits of orange maize. Thus, the first hurdle the company faces is how to change consumer attitudes. The company demonstrates how to prepare delicious recipes using the crops they market to help influence their uptake. If farmers like what they have on their plate, they would then be willing to plant the improved variety.

Grace observes that women entrepreneurs are late entrants into the seed business. “You need agility, flexibility and experience, for you to run a seed business and with time you will improve,” says Grace, when advising women who may be interested in venturing into a male-dominated business.

As a manager, Grace is keen to learn how she can build a successful family business and work strategically with her staff and partners to achieve greater heights. “I want to learn how a family business can thrive with a succession plan that is systematic and sustainable,” says Grace. The businesswoman would like to find models that can be worked into the business structure to strengthen risk areas and close existing gaps. As she has a predominantly youthful workforce, she would like them to attain job satisfaction and be empowered to start related agribusinesses.



Women carrying sacks of maize seed at the Mgom'mera Seed Company warehouse in Lilongwe, Malawi.

Elizabeth Sikoya, Mozambique



Company: Sementes Nzara Yapera Lda



Leadership position: General Manager



Nationality: Mozambican



Company ownership (percentage share):
30%



Company start year: 2010



Number of employees: 115 Full time: 56 (16 men 40 women) Seasonal workers: 59 (9 men 50 women)



Number of outgrowers: 45 (30 men, 15 women)



Maize hybrids: SP-1 Maize OPVs: ZM309, ZM521, ZM523 and MATUBA



Elizabeth Sikoya, 50, is a trained teacher who runs Sementes Nzara Yapera Lda, the family seed business, while her husband, Peter Waziweyi, leads a sister company that focuses on food production. Peter owns 60% of Sementes Nzara Yapera Lda; Elizabeth has a 30% stake; and their son Rungano Waziweyi owns 10%. Peter plans to distribute his share among their other three children who are now over 18 years old. Rungano is the company Production Director and his wife Rosa Oniasse Biningu is the Marketing Director.

Elizabeth's first venture into the seed business was in 2002, as a contract farmer for big companies operating in Mozambique. The family moved from Chimoio to Cantandika in Buea District, Manica Province in 1992 and started producing maize grain in 1995. When Elizabeth saw farmers planting grain that was sold as seed, she was convinced she needed to start a seed company and save these farmers from perpetually low yields. "Each year, we had hunger in Mozambique because the seed that was being given was not real seed but just planted grain," laments Elizabeth. In July 2009, the family registered Sementes Nzara Yapera Lda; Sementes is a Portuguese word for seed and Nzara Yapera means 'hunger is finished' in the Shona language. In the context of the seed company, it means 'seeds which fight hunger'.

In 2010, the company started operations but continued producing seed for other companies for the next two years since it did not have the requisite infrastructure for a seed company. One of the companies that Sementes Nzara Yapera had supplied with seed defaulted on payment, crippling its expansion plans. Elizabeth and Peter were approached by USAID who were giving grants through Agri Futuro. They had noticed Nzara Yapera's stalled structures and offered to help them obtain capital for infrastructure development from a commercial bank. After a long application process,

“
We do not want to gain on our own. I want to gain with the smallholder farmers.

”



A worker walks out of the cold storage facility at the Sementes Nzara Yapera warehouse in Catandika, Mozambique. The company established the facility with financial support from CIMMYT.

the bank offered them a loan that would have to be repaid within a short period. The couple did not have collateral for the proposed funding and were hesitant to commit to a short repayment period, so they declined the offer. In 2012, with capital assistance from Agri Futuro, Sementes Nzara Yaperá was able to build a warehouse and acquire a tractor and processing equipment. In 2013-2014, the company received working capital from AGRA and started marketing improved varieties in 2014.

Before they began operations, Elizabeth approached Felix Jumbe, owner of Peacock seed in Lilongwe, Malawi, to help them bridge the gap in their knowledge concerning the seed business. Peacock hosted Elizabeth and three of the company staff for hands-on training on how to operate the seed processing equipment. On her return, Elizabeth trained her initial staff of eight at the processing plant. "We produced a very little, maybe 20 to 30 tons in the beginning," shares Elizabeth.

Determined to improve lives and livelihoods in an area that had been ravaged by civil war, Elizabeth decided to work with women as contract farmers. They became her conduit for

effecting change in the community. "We do not want to gain on our own. I want to gain with the small-scale farmers," she declares. Initially, the women would produce maize seed on their own farms, but there was a challenge with isolation. In addition, the men would take the earnings and use them for purposes other than supporting the family.

The company then decided to allocate portions of land to women where they could produce their seed. To ensure that women, especially those in polygamous relationships, were able to have control over their earnings, Elizabeth allocated cultivation plots separately to the men and women. "We pay the woman as per what she has brought to the factory," she explains. "It was a way of developing them, because I saw the way I was developed by my husband to the point of leading a company," she says. Having seed produced on company farms allows Sementes Nzara Yaperá staff to monitor daily activities, contributing to quality control. The company allows the contract farmers to thrash the seed and clean it on their farms. The contract growers are encouraged to sell rejected seed as grain.

This agri-entrepreneur is proud that many of the contract

farmers have been able to improve their homes, by buying zinc sheets to replace grass thatch, sending their children to school and affording a bicycle or motorcycle for transportation. Sementes Nzara Yaperá is also sponsoring the children of two contract farmers to study at local agricultural institutes. "We expect that when they finish their courses, they will come back to help us at Sementes Nzara Yaperá," says Elizabeth. The company works with students on attachment from various agricultural institutes, giving them an opportunity to gain hands-on experience in the field.

Elizabeth is convinced that Sementes Nzara Yaperá can make a difference and contribute to developing the agricultural system in Mozambique. Her efforts have not gone unnoticed, as she has hosted the Mozambican President, H. E. Filipe Nyusi, who was keen to visit the only seed company led by a woman in the country. Elizabeth has also gained recognition among male counterparts in the seed business. She participates in group discussions and shares her ideas freely at meetings. She has even challenged the men to allow their wives to represent them at industry meetings.

Sementes Nzara Yaperá received branding support from



An experiment to establish synchronization of flowering dates to facilitate the production of SP-1, a maize hybrid the company is producing at their farm in Catandika, Mozambique.

AGRA. In addition to promoting their seed through field days, demonstration plots and distributing branded materials like t-shirts and caps, the company promotes its seeds through television, community and national radio. In 2017, Sementes Nzara Yapera held a road show, debuting a theme song composed by a local musician to market their seeds. "Wherever our branded vehicles pass where there are children, they sing that song. It means we have reached the people," Elizabeth announces with pride. The company uses the song to attract the attention of shoppers during market days when they go to promote seed. "We are here to give you seed, seed that can tolerate the sun or drought," says Elizabeth, reciting what they tell farmers during market days.

"We decided to give back to the community indirectly by reducing the price of our seed by half until the grant period is over," explains Elizabeth. This move is aimed at enabling

more smallholder farmers to access improved seed that would otherwise have been beyond their reach. "Most small-scale farmers are not adopting improved varieties because of the price of seed," she continues. Such farmers then recycle grain from their granaries. With the price of maize seed ranging between Mozambican Metical (MZN) 100 and 120 (US\$1.6 and US\$1.9) for a 2kg bag, Sementes Nzara Yapera provides the same quantity at half the price. This allows farmers to plant the improved varieties alongside their own and compare the yields.

The company also works with prisons in Manica and Tete provinces, offering them credit facilities to buy seed and allowing them to pay after they harvest the maize. A major challenge they face is selling the seed they have produced. "The seed market in Manica province is not mature. People do not buy improved seed because of inability to pay," explains

Peter. The company is careful to work with select agro-dealers whom they trust as they have previously lost money to dishonest seed traders. The company has encountered nicking challenges in the production of the hybrid SP-1. Nicking is the synchronization of the male and female plants in hybrid production.

Sementes Nzara Yapera has received technical support from the CIMMYT breeding and seed systems teams. The company has also received financial support from CIMMYT. This has enabled them to put up a cold room facility in addition to enhancing their germplasm—breeder lines, basic and pre-basic seed.



Elizabeth Sikoya, General Manager, examines a mature maize hybrid crop at the Sementes Nzara Yapera Lda's production farm in Catandika, Mozambique.

Janey Leakey, Kenya



Company: Leldet Seed Company Ltd



Leadership position: Founding Director



Nationality: Kenyan



Company ownership (percentage share):
50%



Company start year: 2004



Number of employees: 85 (30 men, 55 women)
Full time: 20 (16 men, 4 women)
Seasonal workers: 65 (14 men, 51 women)



Number of outgrowers: 1 company (Leldet uses its sister company Chemeron to multiply seed)



Maize hybrids: WE1101, KH500-49A and KH500-31A



Janey Leakey, 49, and her husband Nigel, who is an agriculturalist, had difficulties obtaining different varieties of improved seed for crop rotation on their Chemeron farm in Rongai, Kenya. That was why, in 2004, they decided to start Leldet Seed Company Ltd. Leldet is the Kalenjin name for the acacia tree that is common in Rongai. "We are passionate about seed. We believe that Leldet can help other farmers in their crop rotation. People must not plant maize all the time, they must have a break crop in between their maize," says Janey. To help farmers practice crop-rotation as one method of fighting MLN disease, Leldet supplies smallholder farmers with legume seed.

With a background in aromatherapy and lots of experience in farming, Janey is hands-on in the seed production activities. Her company is a contract grower for Kenya Seed Company Ltd, producing Boma Rhodes grass in addition to producing sorghum, legume and hybrid maize seed for sale. In the beginning, the company went through a learning process, to understand the rules and regulations governing the release and production of seed varieties, and the restrictions concerning the movement of seed.

"Finance is a big issue," says Janey, citing one of the company's major challenges, particularly because it decided not to accrue major debts. With financial assistance from CIMMYT and AGRA, Janey has been able to sustain the company's growth. Lack of adequate rain for seed production is another challenge the company has had to grapple with. "You can do irrigation for small plots, but for large areas it is very difficult." Leldet has also had to deal with pests, especially the FAW. Owing to location and its policy on holistic agricultural practices, the company has also had to contend with wildlife that stray onto the farm.

"In Kenya, you are expected to be a breeder as well as a seed company. Leldet would like to produce the seed, commercialize it and get it out to the farmers," says Janey. She explains that Leldet does not have a breeding program as they prefer to focus on commercializing and selling seed. Working with CIMMYT and the African Agricultural Technology Foundation (AATF), the company has been able to access WE 1101, also known as 'drought-tego,' a DT hybrid. The non-genetically modified variety, WE1101, is one of the hybrids developed using the breeding lines from CIMMYT's DTMA project.

"The technical support we have received from CIMMYT has been fantastic," says Janey, adding that she and her staff have benefited from training offered by CIMMYT, which has contributed to building their confidence in seed work. "Going forward, I would like that relationship to grow stronger." So far, the company has received training in managing MLN, packaging and marketing.

When Leldet got into the seed business, they worked with Farmer Input Promotions Africa (FIPS-Africa) to do extension work to reach farmers. "In the first year, working with agro-dealers, we were so enthusiastic and happy that people wanted our seed, so we gave it to them on credit," says Janey. The company is still suffering from the bad debts of that initiative. They have since adopted a no-credit policy.

As part of their innovative marketing strategy, Leldet maps out cattle markets in the region and uses the maendeleo (development) pack to reach out to smallholder farmers. The maendeleo pack is a small strip of sorghum, cowpea, bean, pigeon pea and maize seed that allows farmers to try out improved varieties at an affordable fee. The company obtained a grant of US\$160,000 from AGRA for innovative marketing



The maendeleo (development) pack, a strip of sorghum, cowpeas, pigeon peas and maize seed that allows farmers to try out improved varieties.



Leldet maps out cattle markets in the region as a strategic way to reach out to more smallholder farmers.



GRANT

US\$160,000

from AGRA for innovative marketing

that they used to produce the maendeleo seed packs, which are sold at affordable prices from Kenyan Shillings (KSh)20 to KSh50 (US\$0.2 to US\$0.5), targeting women who often buy seed with coins rather than notes. This helps the women lower the risk of experimenting with new crop varieties. Using branded vehicles, the Leldet team travels to markets in the region, covering Bomet, Kapkwen, Kapkaret and Siongiroi areas, where they interact with farmers who approach them for information about their seeds. Once the company has raised awareness of their products at the market, the agro-dealers are willing to stock Leldet seed. "They were prepared to buy the seed, so we didn't have to give any credit," explains Janey.

As company policy, Leldet does not give farmers free samples. "We never give out small samples of seed because we find that farmers do not respect the seed as having not bought it, they haven't made the choice to plant it, and thus don't have ownership," says Janey. Leldet also offers farmers a choice of larger seed packs. "We found larger packs of maize seeds went to men," observes Janey, adding that men had more purchasing power. "In the market, the men would be selling the cattle, they would have the [cash in] notes, and would be able to buy the maize by mid-afternoon," notes Janey. Late in the afternoon, the Leldet clientele at the market changes to women who buy smaller packs of maize with coins, after selling their wares.

"We found that women were cash-oriented, they pay us and like the small packs, for their affordability" observes Janey. The women took fewer risks. Instead of spending over a day's wage on maize, they were happy to spend a portion of their earnings, KSh100 – KSh150 (US\$1-1.5) to buy seed. Leldet explains to the women that they can harvest the cow pea leaves and beans to feed their children, prepare porridge with the sorghum and use the left-over sorghum to feed their cows, thus enabling them to produce more milk for sale.

Leldet prefers to have women do the intricate work of seed sorting, while men are more involved in planting and moving large quantities of seed. "We find that women are better at sorting, detasseling, harvesting and packing. They are more conscientious and have a sharper eye," observes Janey. This entrepreneur is proud of the work the women workers do, adding that as smallholder farmers, they ensure that each seed pack has contents that they would be happy to buy. She also noted that as casual laborers, women are more reliable workers.

The company takes advantage of the flexibility offered by mobile telephony to ease their operations. "I love the mobile phone because we used to pay women in cash and the men would be outside the gate waiting to get the money. Now we pay them by M-Pesa (mobile money transfer) and the men don't get the money," explains Janey. She also uses WhatsApp to communicate with staff carrying out different tasks on the farm, allowing her to keep abreast of on-going activities.

“The labor market is changing and in doing so is becoming more expensive in Kenya,” observes Janey, explaining that farms will soon begin to depend less on laborers and more on mechanization. Leldet depends more on manual labor provided by women in their seed processing. “By not using the machines, we don’t get cracked seed, germination is fantastic, we get better quality seed, which is much more vigorous because it has been handled gently by women,” Janey explains.

Janey believes that women understand food crop varieties better than men, but that they face challenges breaking into the seed business because their access to land and financing is limited. To reach more women smallholder farmers, Janey recommends that seed companies include faster-growing and more relevant food crops in their product portfolio as this would appeal to women who want to feed their families.

“Maize is so important in our culture,” notes Janey. “A bag 90kg of maize is only going for KSh1500 (US\$15), you can’t commercially survive on that,” says Janey. To address the challenge of commercial viability, Janey advises farmers to diversify the crops they grow to include legumes and other cereals like sorghum which would allow them to sell what they don’t need for domestic consumption.

The company uses all the by-products on the farm. Bare maize cobs, male maize lines and rejected seed are milled into animal feed. Ensuring that no product goes to waste allows Leldet to produce legumes and sorghum seed, even though the return from these crops is not as high as that from maize.

Working in the male-dominated seed business, Janey has benefited from mentorship by Aline O’Connor Funk of Agri Experience, author of the training manual *52 Tools Every Seed Company Manager Should Know How to Use*. This manual condenses Funk’s vast knowledge in the field, especially with regards to strategic planning and expansion. Janey sees it as a great resource for women who want to succeed in the maize seed business in East and Southern Africa and to improve agricultural productivity and food security in the region.



A worker collects bare maize cobs at Chemeron farm in Rongai, Kenya. Leldet Seed Company mills the bare maize cobs and rejected seed for use as animal feed.

“

I love the mobile phone because we used to pay women in cash and the men would be outside the gate waiting to get the money. Now we pay them by M-pesa and the men don’t get the money.

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Women sorting maize seed at outside the Mgom'mera Seed Company warehouse in Lilongwe, Malawi.



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