GEA - SPI Partnership to Improve Livelihoods of Internally Displaced Persons (IDPs)

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Executive Summary

Thanks to generous funding from Corteva, Grow East Africa (GEA) and Seed Programs International (SPI) will continue to develop their joint project which benefits Internally Displaced Persons' (IDP) livelihoods in the Burji District of Ethiopia. Over the next four months, the project will double the size of the Birhan Vegetables & Pulse Producers & Supply Cooperative (known as the “Birhan Ladies”) from 50 to 100 members. The success of the project continues to grow despite the challenges of extreme flooding in the rainy season followed by intense drought in the dry season. Once again, program-related garden vegetables produced the staple crop yields that our program was designed to supplement. This has buffered the staple crop losses considerably and in the process, gained the women’s trust. We have continued to improve our program, expanding it to meet evolving challenges, which now include trying to improve diminishing staple crop harvests. We anticipate the project’s continued success and expansion over the next four months.

This interim report (September to February) is an update on the progress of all activities over the past six months.

Context and Project Description

Burji District is located in southern Ethiopia at geographical coordinates: 5° 23’ 0” North, 37° 56’ 0” East. The District has a total population of 155,681, of whom 76,439 are men and 79,241 are women. It has an area of 1,128.40 square kilometers with a population density of 97.35. Burji is one of the poorest districts in the Southern Nations, Nationalities, and People’s (SNNP) region of Ethiopia. Burji has no paved roads, no hospital, and only two high schools to serve twenty-six different villages. GEA and SPI are working in Burji District to augment rural farmer families' knowledge and reduce their food vulnerability by distributing seeds and training families to grow nutritious vegetables and quinoa for self-sufficiency.
The Birhan Ladies learned to grow vegetables and quinoa through the project as a supplement to the teff that they were already growing. Since the last report, participants have continued growing nutritious vegetables for both consumption and sale in the local market. GEA hired consultants from the Meki Commercial Farm to provide a series of demonstration trainings. During the trainings, participants worked alongside trainers on land preparation, planting seeds, replanting saplings, plant care, harvest, and storage of the produce. These activities were accomplished on The Birhan Ladies’ farm. They also considered new technology to reduce labor and increase yield and seedling resilience. As a result, The Birhan Ladies have reported a significant improvement in their gardening practices, productivity, improved morale, and increased confidence in their cooperative work and social standing. Their success has built the women’s hope and is leading to developments that will sustain the women, their families, and the community long after this project concludes.

Mrs. Fate, chairwoman of the group, shared: “...the ladies have acquired advanced vegetable farming techniques and feel confident in implementing the new technology to enhancing our farm productivity. Our members believe they are on the right path to self-sufficiency. The continued increase of our farm products and our individual responsibility as producers of nutritional food for the community have increased our self-confidence...”

In addition to the Meiki Commercial Farm, GEA partners with the Burji District management to coordinate essential training programs for participants. The Birhan Ladies’ farm activities are divided into subgroups, such as land preparation, harvest, marketing, sales, etc. Each subgroup is led by two to three members, and the subgroup leaders constitute a committee within the cooperative. Committee members participate in leadership development training to improve their skills in work management, and in turn train other cooperative members.

To reduce reliance upon hand watering and increasingly unreliable seasonal rains, drip irrigation was installed that allows vegetables to be grown year-round. This enables participants to grow vegetables in off seasons, increasing their income when other farmers are not growing the same types of produce.
Over 100,000 vegetable seedlings were produced, including onions. Onion was one of the top cash crops in the last harvest. The seedlings were replanted, distributed to members for their own kitchen gardens, and sold in the community. Producing and selling the seedlings has been another source of income for the Birhan Ladies.

As was the first six months (March - August 2020), flooding again affected crop production during this second season. Staple crops failed, and vegetable crops from this project provided the primary source of income for participants. While the income from vegetable crops has continued to rise, combined income from both staple and vegetables crops was lower this season.

We expect that flooding and other effects of climate change will increasingly impede the production of quinoa and teff. GEA will evaluate how best to respond to climate change, including moving the staple crop planting season to the spring and considering alternative leasable land locations.
Hello, my name is Buzunesh Kutte. My husband is Mr. Oume Hido. I am 39 years old and a mother of 4 boys and two daughters. Five of my children attend school from the first to 10th grade. I was born and raised in Soyama Burji. My community coordinator recommended me to join the BL to develop myself and improve my family’s livelihood.

Before joining the BL, I worked on our farm where we grew teff, beans, wheat, and trade cereal like teff in the local market. Since joining the Birhan Ladies group, I have considerably developed my vegetable and quinoa farming skills, market development, and bookkeeping skills. We learned about modern drip irrigation system and solar energy. We grow nutritious vegetables such as tomato, kale, round head cabbage, onion, pepper, and carrot. We learned how to incorporate quinoa into our diet.

In the off season, we traded in the cereal market, fruit stands, and local drinks by investing harvest dividends with GEA matched funds. productivity.

Pictured: Birhan Lady harvesting watermelon
Last year, my group of five individuals, each invested one thousand birrs with GEA matching for a total of 10K birr. We traded teff in the local market, and our fund grew to 13K birr. I am also engaged in a traditional saving plan, “Equibb” where I save 100 birrs a week. In the future, my goal for Birhan Lady’s initiatives of farming vegetables, quinoa, and teff is to expand the farm size and increase its

Thanks to the various training we continue to receive, the BL cooperative is running without any internal or external challenges.

In the year 2020, excessive rain destroyed our teff and quinoa. It is an excellent year for vegetables. Moral among the members is very high, especially after the Meki commercial trainers started working with us. Their knowledge base, commitment, and hard work were such an eye-opener for our members. We began to be super serious about the potential of the farm to improve our livelihood. We learned the essential aspects of vegetable growing, starting with proper land preparation, planting seeds, transplanting saplings, plant care, harvest, and transport to the market. We have developed the necessary skills and responsibility to carry ourselves into self-sufficiency.

On a personal level, I am applying the vegetable growing skills I learned by growing my plants and fruit trees around my house. I am using bookkeeping and market development skills to excel in the cereal trade.
Hiring two Meki Commercial Farm vegetable trainers to provide real-time training from planting through harvest has greatly improved the Birhan Ladies knowledge and production capacity. Participants received a combination of classroom lectures alongside hands-on training: field plowing, vegetable bed preparation, seed planting, seedling transplanting, plant care (spraying, weeding, plant training, etc.), harvesting, transportation, and storage. In addition, participants learned and implemented a staggered planting method. Staggered planting is growing the same vegetable, but planting the seeds on different dates throughout the season to prolong the period of fresh vegetable production.

Participants identified onion as one of the most durable and profitable cash crops in the last harvest. The onion was well-adapted to the farm soil and rainy conditions.

Participants grew a varied and large amount of high-quality vegetable seedlings.
Participants learned a high standard of seedling management and care for the growing plant.

Participants learned maintenance of drip irrigation systems, including: cleaning drip cells, repairing, unplugging deposits.

Pictured: Birhan Ladies’ harvesting onion field
New cash crops are being introduced. 100 watermelon plants were recently introduced as an additional cash crop. Watermelon is a new crop for the area, and initial reports suggest there is high demand. GEA and the Birhan Ladies will assess growing challenges and determine whether the yield and sales are a good investment. Preliminary data show that, on average, each plant is yielding a fruit that is maturing in good health. GEA has successfully introduced other cash crops, like quinoa.

Participants learned maintenance of drip irrigation systems, including: cleaning drip cells, repairing, unplugging deposits.

Participants continue to receive training on best practices for the prevention of communicable viruses like COVID-19. This training reinforces the importance of wearing face masks properly, social distancing, and proper handwashing.

Participants are learning effective hygiene strategies to reduce the risk of spreading disease from infected to healthy vegetable plants. People can carry diseases and funguses from plant to plant on their hands, gloves, and clothes. Good hygiene includes proper washing and other hygiene practices, and in some cases wearing special clothing like smocks.

Finally, crop yields have increased due to skills development and the implementation of best practices for plant handling. The womens’ morale is high and they are feeling hopeful.
Project Challenges & Lessons Learned

Project Challenges

Participants faced overly heavy rains during the first rainy season and extreme dryness and soil hardening during the dry season that followed. The rains washed out staple crops, and drought created dry, hardened soil that was difficult to till. The GEA team tried to minimize water damage by digging water pathway channels, but the rains were too heavy and overran their efforts. The drought that followed was exacerbated when their water tank developed an unrepairable crack. This forced participants to carry buckets of water to hand water the plants.

Summary: Project Challenges

- The two-year old 10,000-liter water storage tank developed a crack that leaked whenever the tank’s water level rose above 12 inches. This prevented the tank from filling to the height required for uniform distribution of water through the drip lines. The group placed tape along the crack on the inside and outside of the tank surface, but that did not resolve the issue. The wall of the tank was not thick enough for welding with HDPE plastic. Looking at the pictures, there may have been an installation error. This has created an unanticipated cost, and the group will take steps to ensure that the new tank is properly installed.

- The rainy season flooded the field and destroyed the teff and quinoa seedlings, negatively impacting farm productivity. Attempts to by-pass the runoff rainwater did not stop the flooding of the area. Grow East Africa is looking for a new leasable plot of land on higher ground that will remain arable during the rainy season.

- Due to drought following the rainy season, the soil dried and was packed down. This made the soil difficult to plow by ox or hand. In addition, plowing the soil could disperse dust that could damage the nearby flowering tomato plants. Because the vegetable plots were not large enough to plow by tractor, the soil was soaked overnight so day laborers could dig the vegetable bed by hand using hoes.
Lessons Learned

- Excess watering of plants, even from drip lines, can damage the plant’s roots. This makes them susceptible to disease and may kill them. Participants learned how to examine the plant and assess how much water they need.

- Soil in the project area tends to form rock-hard clumps, which are inhospitable to both seeds and the roots of transplants. Cultivating and amending soil prior to planting eliminates clumps and improves soil structure when done properly and at the correct time. The Birhan Ladies have learned the importance of land preparation, such as breaking down the large clumps of soil into more refined matter and leveling the ground. They now work their soil until it is smooth, rich in organic matter, and able to absorb water well without puddling. They also lay drip lines flat on the ground to distribute the water more evenly.

Pictured: Birhan Ladies installing drip irrigation
Measurement / Methodology

Qualitative

GEA has continued its qualitative study of the Birhan Ladies project through informal interviews and participant observations. They examined the participants’ lives at home and within the community. The vegetable gardens were meant to supplement existing staple crop farming. Instead, vegetable crops provided a primary source of income when quinoa and teff crops failed. Despite the loss of income, the women remain confident and hopeful. Over this period, Meki Commercial Farm trainers started teaching at the farm and this training has already resulted in a significant increase in productivity.

Quantitative

Ethiopia has two rainy growing seasons: Belge and Meyer. Belge is the short season which runs from February to April. This is when vegetables typically are grown. Meher is the longer, primary season which runs from May to September. This is when staple grain crops like quinoa and teff are grown. GEA’s drip irrigation system allows the group to grow vegetables year round.

Participants have started tracking harvests and sales in cooperative logs and bookkeeping records. So far, the cabbage and onion harvests have yielded 1000 kilograms of produce, which sold for 20 birr per kilogram. Tomatoes planted on 0.8 hectares (which the Birhan Ladies are tending) are flowering. GEA expects the total vegetable harvest income to be 30 to 50% more than last season.
**Personnel:** GEA hired two Meki commercial farm trainers to build participants’ vegetable farming skills throughout one complete growing season (four months). The Meki trainers taught and guided participants from the start of the planting season through the end of the vegetable harvest. A leadership development trainer was also hired to give a two-day workshop to 20 committee members.

**Project Expenditures:** Expenditures continued according to schedule. Land was plowed by contractors with tractors or farmers with oxen plowed the land. Male day laborers prepared vegetable beds since this task requires greater physical strength. Farm consumables such as seeds, chemicals for spray, and nutrients were purchased from vendors. Other expenses were documented with dates and costs.

**Summary of Project Expenses:** See the table below. If further information is desired, please do not hesitate to ask. We are happy to provide additional details or documentation.
The Corteva-funded GEA/SPI project was designed to help a 50 member cooperative of refugee women, the Birhan Vegetables & Pulse Producers & Supply Cooperative (aka the “Birhan Ladies”). This program aimed to supplement existing nutrition and income from farming staple crops quinoa and teff. Although we were aware of increasing flooding and drought in the region due to climate change, we did not anticipate such extremes would cause significant portions of the group’s staple crops to fail.

Fortunately, the vegetable harvest proved a substantive source of food and income. While the vegetable gardening program has been very successful by its own measure, the overall community need has increased due to staple crop failures. As a result, the vegetable gardening program has become a lifeline for the group and community rather than a supplement, and many more women want to participate. This is why we are doubling the size of the participant group. Five months of funding remain. However, the demonstrated need dictates that we search for funding to continue and expand the project to meet the demand caused by significant crop failure.
Plan for the Next 4 Months

Over the next four months, GEA and SPI will do the following:

- Replace the damaged 10,000-liter water tank, ensuring that the new tank is higher quality and installed correctly.

- Expand the existing vegetable garden to two hectares, including a new drip irrigation system to cover the expanded area.

- Increase the Birhan Ladies from 50 to 100 members. Membership will be offered to the remaining refugees and residents-in-need in the community.

- Quinoa and teff seeds will be sown earlier than usual so as to harvest the crops before the heavy Belg (February to April) rains. GEA’s quinoa and teff are rain fed. The Birhan Ladies will plant the quinoa and teff while the neighboring farmers are still plowing. Unfortunately, there is no public weather forecasting service in this area.

- SPI and GEA will seek funding and in-kind resources to support this project for 2022 and beyond. The vegetable component of this program has changed from a supplement to a necessity for the survival of participants and their families.

Pictured: Birhan Ladies weeding vegetable gardens on their farm

Pictured: Seed planting demonstration by Meki Trainers
Thank You!

Pictured: Smiling Birhan Ladiy grateful for Corteva, SPI, and GEA support.