

# Building a Resilient Wheat Value Chain and Empowering Smallholder Farmers (BRES) Project

## STORY BOOKLET

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# THE BRES PROJECT

Ethiopia's wheat production faces complex challenges that undermine the resilience and livelihoods of vulnerable smallholder farmers. The BRES project addresses these challenges.

In Oromia Regional State, Ethiopia, soil degradation, poor agronomic practices and limited access to improved agricultural inputs depress wheat productivity. Substandard harvesting methods and storage equipment reduce yields further.

Inadequate agricultural extension services and low access to financial services increase the challenges.

Gender disparities in access to resources and decision making are also high. The BRES project aims to help smallholder wheat farmers in Oromia Regional State overcome these challenges.

We're working to improve farmers' access to agricultural extension services and farming inputs, improve crop productivity and grain storage methods, facilitate market linkages and increase opportunities for farmers and extension workers to share knowledge. Along the way, we're aiming to improve opportunities for women and young people.

Key activities include: providing training on climate smart methods for wheat production, especially for young people; modernising post-harvest and storage technologies; supporting local women to start their own agricultural

supply and advisory businesses, and also supporting women to establish and effectively run their own village savings and loan associations.

## Context

Ethiopia's wheat value chain faces a range of interlinked challenges that significantly undermine the productivity, resilience and livelihoods of smallholder farmers.

These issues are especially acute in wheat-growing regions such as Arsi, West Arsi and North Shewa zones. Key constraints include:

**Soil degradation and poor agronomic practices.** Soil fertility loss and acidity are major barriers, with wheat yield losses estimated at 20–60%. Continuous monocropping and the overuse of inorganic fertilisers have worsened soil health.<sup>1</sup>

**Inadequate access to improved seeds and agricultural inputs.** Farmers struggle to access high-quality seeds due to institutional gaps and the lack of private seed multipliers. Access to fertiliser and agro-chemicals remains unreliable and poorly timed, further affecting yields by limiting farmers' ability to manage pests, diseases and weeds effectively.

**Inadequate extension services.** The Ethiopian government has been exerting efforts to support farmers by expanding agricultural extension services. However, significant challenges remain in delivering customised services: the one-size-fits-all approach does not address the diverse challenges faced by smallholders. Technical limitations among extension workers and a lack of tailored outreach strategies reduce the efficacy of these services.



**Inadequate harvesting and storage practices.** Up to 20% of wheat is lost due to outdated harvesting techniques, poor storage infrastructure and insufficient post-harvest extension support. These losses, along with poor input access and soil degradation, contribute to a significant wheat yield gap, with current yields representing just 20% of the potential.<sup>2</sup>

Gender disparities and limited access to finance further compound the vulnerability of smallholder farmers. Few are able to meet lending requirements of traditional banks. This is particularly the case for women and young people, who seldom own assets or have regular sources of income.

**42 Farmers' Training Centers (FTCs) have been supported.**

**1160 farmers have applied lime treatment to their fields.**

<sup>2</sup><https://www.alliedacademies.org/articles/a-review-of-the-ethiopian-soil-aciditys-causes-implicaions-and--management-mechanisms.pdf>

<sup>2</sup><https://cgspace.cgiar.org/items/7d6544ae-f6f4-4a41-ac8a-6e2f6d20157c>



## How Aliy reduced soil acidity with lime

For many years Aliy Kedir Robe, a farmer from Woltie Debara Bubura Kebele in Gedeb Asasa District, worked hard on his land, trying to secure better harvests. However, the productivity of his land continued to decline.

What he hadn't realised was that his land was becoming acidic: the result of continuous monocropping, leaching and the inappropriate use of fertilisers year after year.

Increased soil acidity is a problem for farmers. When acidity levels rise, nutrients become locked in the soil, unavailable to crops even when farmers apply fertiliser. The result is poor plant growth and low yields.

Aliy Kedir recalls, "I was unaware that it was becoming acidic; I only

noticed that the production volume was consistently decreasing and that wild weeds were proliferating every wet season instead of the crops I had sown. Although the wheat seedlings were germinating, they were weak, yellowish and produced a low yield. I was applying manure and cow dung, but the amount was insufficient to rejuvenate the soil."

Application of lime is an effective way to counter rising acidity in the soil, but, like many farmers, Aliy was skeptical. "At one point, the Gedeb Assasa District Agriculture Office recommended lime treatment for farmers," he admits. "However, I and the other farmers were not convinced and instead believed that lime would further diminish soil fertility. This misconception still persists

among many farmers in the vicinity.”

Diseases also posed serious challenges, particularly ‘wag’, a common fungal disease that affects cereal crops. Aliy explains: “wag indiscriminately affected my farmland a year prior, resulting in significantly low production. Although I used fungicide, I was not knowledgeable about the proper use of agrochemicals.”

With the support of the BRES project, things are changing now.

“The BRES project provided training on climate-smart agriculture (CSA), soil fertility, agrochemical usage and the necessary procedures, along with ongoing technical support from the field team,” explains Aliy. “Through this I became aware that my soil fertility was continuously declining due to my farming practices.”

With facilitation from Farm Africa, the Agriculture Office of Gedeb Asasa district carried out a soil test, confirming that the soil was significantly acidic. Consequently, lime treatment was recommended, and this time Aliy took the advice.

He received 24 quintals of lime through the BRES project, applied it over time, and then planted Abay, Boru and Dursa wheat varieties. He also began using agrochemicals more effectively to manage fungi, weeds and other crop diseases. He also employed labour for weeding.

Now, his wheat fields are thriving and Precision Development and Lersha are supporting him with ongoing advice on plant diseases, climate variability market connections and other key factors. Given favourable climatic conditions and timely harvesting, Aliy

Kedir is optimistic about achieving a substantial yield. He invites close follow-up by the Agriculture Bureau and Farm Africa to monitor the progress of the expanding wheat plantation.

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Aliy Kedir Robe

Farmer, Gedeb Asasa District



# Boosting pH levels and productivity

For years, Deme Dehaba and his fellow farmers in Gonde harchema kebele have been trying to improve the low productivity of their land with little success.

Believing the underlying problem to be low soil fertility, Deme had been applying increasing levels of compost and fertiliser:

“I had been applying compost to address my farmland’s needs. To resolve this issue more effectively, like my fellow farmers, I often applied excessive fertilisers. However, I eventually learnt that the root cause of the problem was soil acidity, not only a deficiency of fertilisers,” he explains.

Acidity levels of a soil can increase due to natural processes but also from damaging farming practices such as continuous monocropping and the incorrect use of fertilisers. For farmers, it’s a problem because as acidity increases roots cannot absorb nutrients effectively, fertilisers lose their

efficiency and crops fail to thrive.

As part of its work to improve wheat productivity in the area, the BRES project, in collaboration with stakeholders at various levels, conducted laboratory tests to assess the soil acidity levels in the targeted intervention sites in Arsi zone. The results indicated a more widespread acidification problem than many had expected.

Why has the problem gone undetected for so long?

Because most smallholders in the area cultivate rented land. “If someone rents and cultivates a particular piece of land this year, they will rent another from a different owner next year. Therefore, we cannot accurately monitor or determine the exact differences in productivity from year to year due to this significant factor,” Deme explained.

Among local farmers, there are

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**Deme  
Farmer, Hexosa District, Arsi Zone**



several theories about what is driving acidification in their area. Ato Deme believes that the cultivation of potatoes is one of the primary factors:

“Potato production has become a common practice in our area. We cultivate potatoes nearly all year round. I believe that potatoes extract excessive nutrients from the soil, leading to increased acidity. Another contributing factor is the lack of crop rotation.”

To address acidity problems, the project is educating farmers about the issue and assisting them in treating their fields with lime, a natural soil amendment that neutralises acidity. Neutralising the acidity unlocks

nutrients, improves root growth and allows fertilisers to work effectively again.

Deme tested lime application on a portion of his land:

“After receiving training, I applied 4.5 kilograms of lime provided by the project to a quarter of my farmland. As you can see, the land is now flourishing with wheat plants. I have noticed that the wheat grown in lime-treated soil is in significantly better condition and I anticipate a harvest of 25–30 quintals. Although this is still in its early stages, I can envision that the results will be remarkably fruitful. We will assess the productivity during the harvest season.”





## Strengthening wheat seed multiplication

“With many years of experience in the agricultural sector, I believe that access to seeds is the most critical area to address.”

As the daughter of farmers, and an agricultural college graduate with 11 years’ experience working as a Development Agent, Toyiba Abbe from the Arsi zone of the Oromia region in Ethiopia is a seasoned agricultural expert.

Her career is dedicated to empowering smallholder farmers with knowledge and enhancing their productivity, but she’s all too aware that many farmers’ productivity is being held back by lack of access to new varieties of improved seeds.

At the Haxxte Handode farmers’ training center (FTC) where she has

worked for the past two years, lack of budget has repeatedly held her and her two fellow development agents back from being able to ensuring local farmers have access to new varieties of wheat seeds.

Tayiba and her colleagues are tasked with obtaining newly released wheat varieties from research centers so they can plant, grow and multiply breeder, pre-basic and basic seeds on demonstration plots, and distribute them to farmers. However, none of this is possible due to their lack of access to mother seeds.

Instead of her FTC taking the initiative, there have been numerous instances of the farming community leading the way in accessing newly released wheat seed varieties.

Contrary to the protocol, the Haxxe Handode FTC has been multiplying wheat seeds by purchasing C2 seeds from the same local market where farmers in the kebele shop. Toyiba recalls:

“This is entirely against the standards and principles. Multiplying seeds other than breeder, pre-basic and basic seeds at the FTC level is fundamentally incorrect.”

Toyiba and her colleagues knew C1 and C2 seeds were outdated, but they were the only types they could afford to avoid their valuable resource of farmland going to waste. The resulting seeds produced were in low demand as Toyiba explains:

“Farmers do not demand such old seeds as they have been in circulation for five to seven years. Their interest lies in new wheat varieties.”

Fortunately, with the intervention of Farm Africa’s BRES project, Toyiba

and her fellow farmers have now received four types of breeder wheat seeds: Kulumsa (4.5kg), Melka (6kg), Gutu (9kg) and Biftu (15kg), which have been planted across 23 plots within four blocks of the Haxxe Handode FTC. This support also includes fertilisers. Toyiba remarked:

“To my knowledge, this is the only project that works to create access to wheat seeds in our area. Many organisations only focus on crop rotation, alternating beans with wheat.”

As the breeder wheat seeds start to grow, so do chances of a better future. Toyiba reflected: “We are confident this support will enable us to generate our own income by multiplying and distributing high-quality seeds to farmers. I believe the upcoming seasons will be productive, as the breeder seeds that have been sown will be effectively multiplied, and we, the DAs, along with our farmers and our FTC, will reap the benefits.”

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**Toyiba**  
Development Agent  
Hexosa District, Arsi Zone



# Sowing the seeds of change in Burkitu Alkasa

The Burkitu Alkasa Farmers' Training Center (FTC), located in the Sora village of Burkitu Alkasa Woreda in Oromia's West Arsi Zone, covers an area of three hectares. It has served as a demonstration site for several years, but has faced challenges in sourcing and showcasing improved pre-basic and basic wheat seeds to farmers due to insufficient budget and a lack of availability of improved seeds.

The Woreda had been making requests for improved seeds to the zone, which in turn had been reaching out to the Kulumsa Research Center. However, in recent years, only a limited quantity of basic seeds has been supplied to two FTCs in each Woreda.

Mr Hashim Feyiso, one of three Development Agents employed at the center, stated: "There is a lack of any

type of improved seed. We have never planted wheat breeder seeds in this FTC; we only plant basic wheat seeds similar to those of the farmers, while we need to demonstrate improved pre-basic seeds to educate our farmers."

The lack of improved seed varieties available at the FTC forced many farmers to purchase seeds from individual suppliers at inflated prices, which may also be of inferior quality due to gaps in plant management skills.

This year, with support from the BRES project, the center has been able to plant four varieties of breeder (Gutu, Melka, Kulumsa, and Asgori) and pre-basic Asgori wheat seeds in its demonstration area.





Mr Teshome Seifu, the woreda agronomy expert, indicated that the improved seeds have been planted across more than 24 plots distributed among Burkitu Alkasa FTC and four other FTCs in the Digaalu Tijo woreda. Access to the seeds was facilitated by Farm Africa from the Kulumsa Research Center. Mr Teshome stated, “The primary benefit of the project is that it allows us to showcase four new types of breeder wheat seeds, enabling us to identify the most productive seeds that are well-suited to the local ecology.”

Mr Hashim remarked, “Observing the sprouting of the breeder wheat seeds sown with the assistance of BRES, we find them in excellent condition; the leaf colouration and the number of tillers/stems differ significantly from last year’s plants. Consequently, we anticipate a yield of 45 to 50 kg per 100 square metres, provided that all necessary management practices are implemented until harvest.”

Mr Teshome also noted that the BRES project has offered capacity-building

training on improved seed types and selection, soil fertility management, gender inclusion and climate-smart agriculture to smallholder farmers, development agents and woreda experts.

Both male and female farmers will be invited to learn from the demonstration site, where they will discover the best wheat seeds suited to the area’s climatic conditions. The demonstration and multiplication of breeder seeds and pre-basic seeds at the FTC will enhance the availability of improved basic seeds that are appropriate for the region’s agro-ecology, benefiting smallholder farmers.

**“There is a lack of any type of improved seed. We need to demonstrate improved pre-basic seeds to educate our farmers.”**

**Hashim Feyisa**  
Development Agent  
Burkitu Alkasa FTC



**To learn more about this project, contact:**

Farm Africa  
Gurd Shola, Ethio-Ceramics Building  
5th floor (near Century Mall)  
PO Box 5746  
Addis Ababa  
Ethiopia

[ethinfo@farmafrica.org](mailto:ethinfo@farmafrica.org)  
T +251 115 573325  
[www.farmafrica.org](http://www.farmafrica.org)

Lersha  
Bole Sub-city, Gurd Shola  
Pecan Building,  
9th Floor #902 & 5th Floor  
Addis Ababa  
Ethiopia

[contact@lersha.com](mailto:contact@lersha.com)  
T +251 961006761  
[www.lersha.com](http://www.lersha.com)

Precision Development  
Mercy plaza building, 11th floor  
Gurdshola, yeka subcity, Woreda 09 House  
Number 778  
Addis Ababa  
Ethiopia

T +251 917639222  
[www.precisiondev.org](http://www.precisiondev.org)