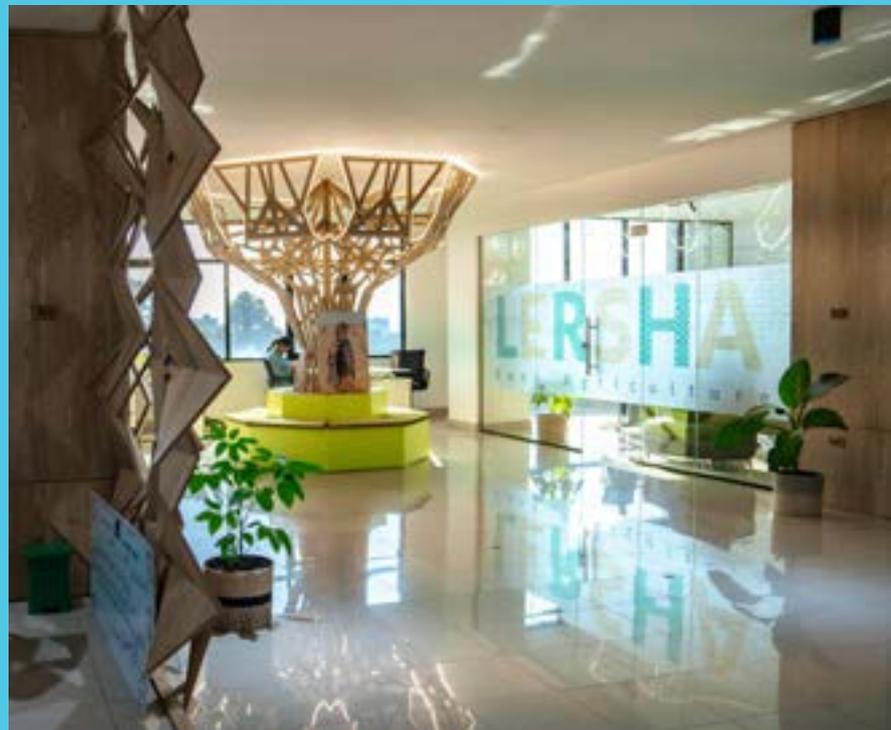


Strengthening Vegetable Market Systems in Ethiopia through Integrated Digital Solutions

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CONTEXT AND CHALLENGE

Vegetable production is both a critical livelihood and nutrition source for smallholder farmers and a vital element for consumers in Ethiopia. However, vegetable market systems remain constrained by persistent structural barriers, including limited access to quality inputs, fragmented and untimely agronomic information, weak and unreliable market linkages and exclusion from formal financial services. These challenges increase production and market risks, suppress productivity, and prevent smallholders (particularly women and youth) from fully participating in higher-value and formal markets. Addressing these constraints requires solutions that go beyond isolated interventions and instead strengthen how information, finance, production and markets function together within the system.

THE INTERVENTION AND TARGET

With technical and financial support from the Commercial Agriculture for Smallholders and Agribusinesses (CASA) Programme, [Green Agro Solution PLC](#) (GAS) expanded the Lersha digital agricultural platform to the vegetable sector. CASA's support focused on enabling GAS to transfer, adapt, and de-risk a proven tripartite contract farming and service delivery model, previously validated in wheat and barley, to a higher-risk and more perishable vegetable value chain.



Mr Abrhame Endrias, Founder & Managing Director of Lersha

Vegetables required fundamental business model adaptations. Unlike grains, vegetables have shorter production cycles, limited storage options, and no viable warehouse-receipt financing. Through targeted technical assistance, CASA supported GAS to redesign its revenue and incentive structures, replace warehouse-linked credit with real-time

aggregation and market coordination, and strengthen engagement with new market actors, including vegetable aggregators, urban offtakers, and specialized input suppliers. CASA also supported the upgrading of the Lersha agent model, enabling agents to act as trusted intermediaries who profile farmers, support quality assurance, facilitate access to inputs and finance, and enforce contract compliance.



Lersha staff at work

Lersha is an end-to-end digital agricultural platform that combines finance-technology (fintech)-enabled tools with localized, on-the-ground delivery. The intervention was implemented in Sidama Region, Oromia Region, and Central Ethiopia, targeting smallholder vegetable producers. Rather than offering stand-alone services, the platform delivers a coordinated package that links production planning, advisory services, finance, and market access. Core components include:

- Digital farmer registration and profiling
- Climate and weather advisory services
- Crop-specific agronomic guidance with emphasis on integrated pest management
- Digital credit scoring for collateral-free input finance
- Market information and coordination services via SMS, call centers and field agents, and
- Training on climate-smart agriculture and basic financial literacy.

This systems approach enables farmers to make informed decisions throughout the cropping cycle, from input acquisition to marketing.

Through targeted awareness campaigns and agent-led engagement in Sidama, Jimma Zone, and Gurage Zone, the platform reached more than 7,900 smallholder farmers (6,000 farmers in Sidama, 1,400 in Jimma Zone, and 500 in Central Ethiopia and Gurage Zone). Women represented around 30 percent of registered farmers, reflecting deliberate efforts to promote gender inclusion through targeted outreach and accessible registration mechanisms.

IMPROVING ACCESS TO FINANCE AND INPUTS

A major constraint for vegetable producers is limited access to timely and affordable finance. Lersha addressed this through a digital credit scoring system that assessed farmer profiles and production data to enable access to collateral-free input loans. As a result, 3,115 farmers were pre-approved for input credit recommendation to Awash or Dashen banks, with which GAS has working agreements, significantly reducing barriers to purchasing quality seeds, fertilizers, and crop protection inputs on time. Four hundred farmers are now ready for initial disbursement, marking an important step toward scalable digital input financing linked to production planning.

In the wheat sector, Lersha's model relied on warehouse receipt-linked credit, enabling farmers to store grain and access collateralized loans. Vegetables, however, required a fundamentally different financing approach due to short production cycles, high perishability, and the absence of viable storage options. With CASA's technical assistance, Lersha adapted its digital credit scoring system to assess farmer risk using crop-specific production profiles, seasonal cash flow dynamics, and agent-verified field data, rather than physical collateral. This innovation enabled collateral-free input finance

aligned to rapid production and market turnover, representing a critical step toward a scalable and commercially-viable financing model for smallholder vegetable producers.

ADVISORY SERVICES SUPPORTED BY A HUMAN INTERFACE

Farmers also received climate-smart advisory services, including real-time weather alerts, pest and disease surveillance, fertilization guidance and good agricultural practices tailored to vegetable value chains. These services improved input use efficiency, reduced crop losses, and enhanced farmers' ability to respond to climate variability. Advisory services were reinforced through 163 trained Lersha field agents, mainly youth and recruited primarily from local communities and equipped through intensive, practice-oriented training covering agronomy, digital tools, financial inclusion and customer engagement. Embedding young agents within their own communities strengthened trust, improved uptake of services and created viable rural employment pathways, while reinforcing the scalability and sustainability of the business model.

MARKET LINKAGES AND RISK REDUCTION

Market uncertainty is a major disincentive for vegetable producers. Lersha strengthened market access by facilitating structured linkages with reliable buyers and processors, including Dona Cooperative Union, ChipChip, and Haile Resort. These partnerships supported supply arrangements, improved price transparency, and aligned production with market demand and quality requirements, reducing risk for both farmers and buyers.

For years, Tihut Kebede (pseudonym), a farmer in Jara Galalcha Kebele, Hawassa Zuria Woreda of Sidama Region, battled erratic yields on his half-hectare vegetable farm. He relied on local varieties, guessed at fertilizer doses, and watched pests move through his field faster than help arrived. Head cabbage was especially unforgiving; demand was high, but his yields stayed stubbornly low. When CASA, through Lersha, introduced improved seeds, hands-on agronomic training, and advisory support, the change was immediate and empowering. Tihut learned how to prepare compost correctly, manage irrigation schedules, and identify pests before they spread. He recalls, "The training changed my production and productivity ... and increased the volume of vegetables we sold." With rising yields came rising confidence. His household income grew, food security improved, and decision-making became more shared as his spouse now actively engages in production and sales. Younger family members help with technology and market visits. He still faces challenges like high input costs and occasional pest outbreaks, but the transformation is tangible. The farmer who once struggled now speaks about next season with excitement, not uncertainty.



Head cabbage at Dubisa Kebele, East Shewa



Green pepper at Girab Kebele, East Shewa

RESULTS AND OUTCOMES

By addressing multiple constraints simultaneously, the integrated intervention improved incentives and performance across the vegetable value chain, and generated measurable and system-level results, such as:

- Improved productivity through timely access to inputs and actionable agronomic advice
- Enhanced climate resilience due to real-time weather and pest management support
- Expanded financial inclusion, with thousands of farmers expected to access formal input finance for the first time
- Strengthened knowledge and skills, with more than 660 farmers participating in in-person training, complemented by continuous digital advisory support, and
- Reduced market risk through structured buyer linkages and improved coordination.

A TEMPORARY CATALYTIC ROLE, AND A LONG-TERM MARKET IMPACT

The CASA-Lersha partnership demonstrates how time-bound, catalytic support can unlock scalable and commercially-viable business models while driving systemic change in smallholder vegetable markets. CASA's role was deliberately temporary: to de-risk early innovation, address coordination failures, and enable a private agribusiness to test, refine, and scale an integrated service model that market forces alone would have delivered more slowly, at higher risk, and at smaller scale.

Crucially, the partnership strengthened the commercial viability of Lersha's business model. Accelerated farmer onboarding is expected to increase transaction volumes, improving the uptake of fee-based services and commission-driven revenue streams linked to inputs, finance, and market facilitation. As scale increases, unit service delivery costs are projected to decline, moving the model closer to break-even and long-term sustainability. The core functions supported by CASA – agent-led advisory services, digital credit facilitation, structured aggregation, and buyer linkages – are embedded within Lersha's core operations and are designed to continue without ongoing subsidy.

From a market systems perspective, the impact extends beyond a single firm. Financial institutions are expected to gain confidence in production-linked, unsecured lending models with credit-rated farmers; buyers benefit from more reliable and traceable supply; and local agents and aggregators are repositioned as commercially-viable intermediaries rather than informal brokers. Together, these shifts reduce risk for other market actors and create incentives for replication, adaptation, and crowding-in of private investment.

In general, CASA's catalytic support accelerated the transition from proof-of-concept to scale, enabling a sustainable, private-sector-led solution with the potential to continue delivering income, resilience, and improved market access for smallholder farmers well beyond the life of the CASA Programme.



Commercial Agriculture for Smallholders and Agribusiness

