

# The Impact of Digitalization on New Market Development: The case of Biosafe Biofertilizer Manufacturing (BBM)

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January 2026



## THE COMPANY



Mr Tamirat Cherinet, BBM CEO

Biosafe Biofertilizer Manufacturing (BBM), a private enterprise established in 2018 in Addis Ababa, is one of only two producers of rhizobium inoculant in Ethiopia. BBM has a vision to become the leading biofertilizer producer in the country and provide inoculants to all legume-producing farmers. Major legume crops in the supply chains in different regions of the country are faba bean, field pea, chickpea, lentil, haricot bean, and soybean. BBM has a yearly production capacity of more than 100,000 sachets of powdered inoculant, enough to inoculate 25,000 hectares (1 packet serves for 0.25 ha) with the possibility to invest in increased capacity as the market grows. Use of inoculant among Ethiopia's smallholders is not widespread and there is low awareness of its existence. The product has a significant economic benefit for smallholder farmers as it can increase soybean productivity by as much as 35% compared to those not using inoculant. It also has significant yield improvement effects for follow-on crops like wheat and barley, through building soil fertility and health. The product's pure organic nature makes it environmentally friendly.



Soybean demo performance at Dhidhessa woreda



Soybean nodulation

## THE CASA PARTNERSHIP WITH BBM

CASA Ethiopia, which was already working with soybean processors/offtakers in the soybean value chain to boost smallholder yields, established a partnership with BBM that included piloting digitalization of its business operations to develop new markets for its products with a focus on expanding soybean production. The initiative held high potential for replication by other similar companies to reach untapped market potential in the country for various legume crops.

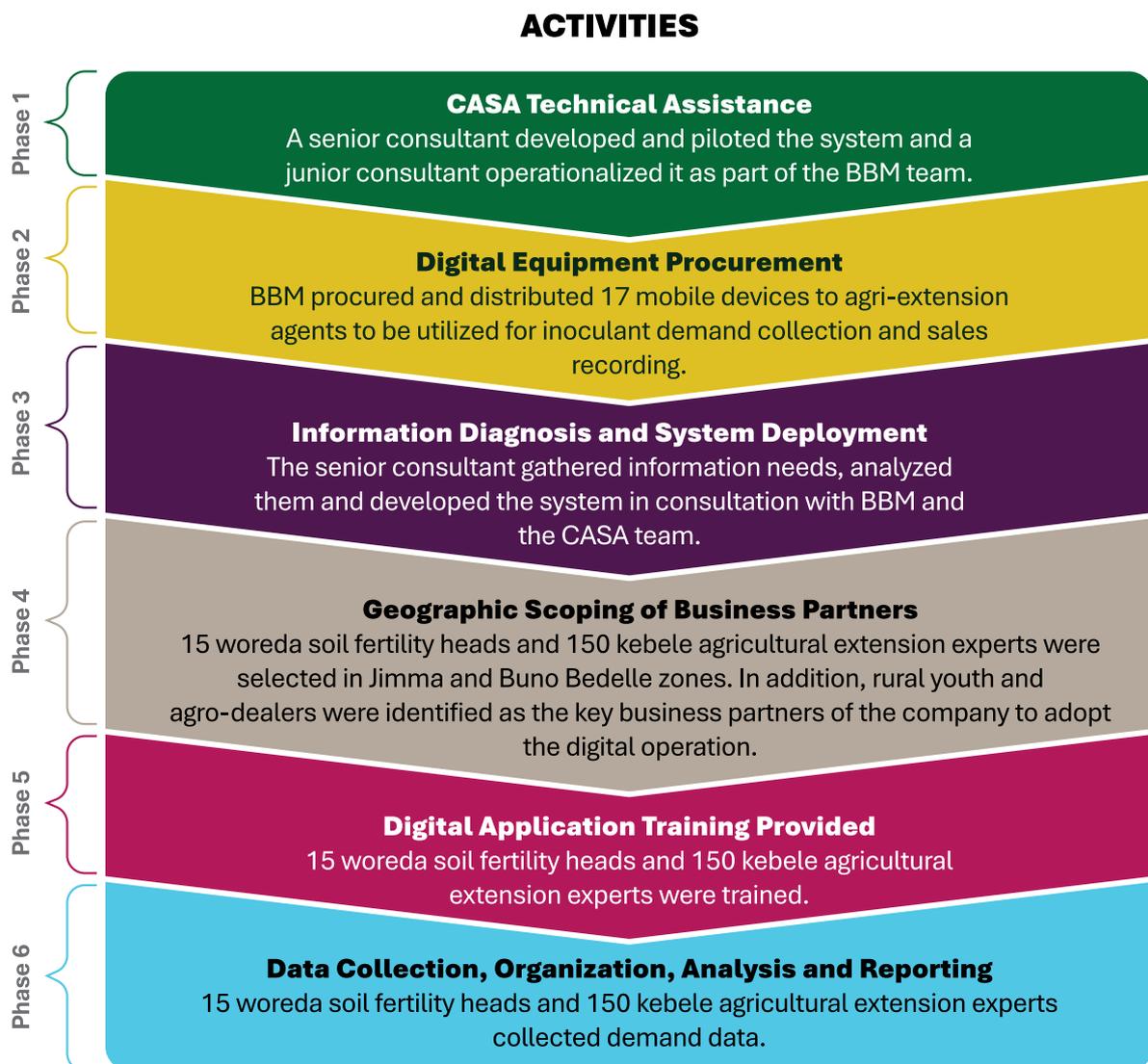
The partnership assessment conducted by CASA during the due diligence process revealed that the company was highly constrained with promotion and distribution of its products to various system actors including individual farmers, farmer cooperatives, local agro-dealers and agricultural extension agents. The company also had limited skills and capacity, relying heavily on identification of demand through paperwork, phone calls, and sometimes SMS, exposing them to poor data quality and resulting in poor production planning. This challenge limited its business expansion and growth for many years, particularly affecting sales of soybean inoculant, which only made up about 3% of the total.

## APPROACHES AND INTERVENTIONS

CASA employed a mixture of approaches and undertook the interventions in close consultation with the company immediately after the business partnership was established. CASA introduced BBM to the Kobo Data Collect tool and helped the company to pilot it on their distribution chain through provision of technical assistance. The digital system

integrated BBM's key business partners (i.e., farmers, agro-processors, agro-dealers, cooperatives, and seed enterprises).

The system was piloted based on two principles: 1) The tool is easy to use, affordable and can be accessed from any mobile device with an internet connection, and 2) the system is decentralized, so that the system actors can access data related to the distribution of rhizobium bacteria. The intervention was implemented phase-wise:



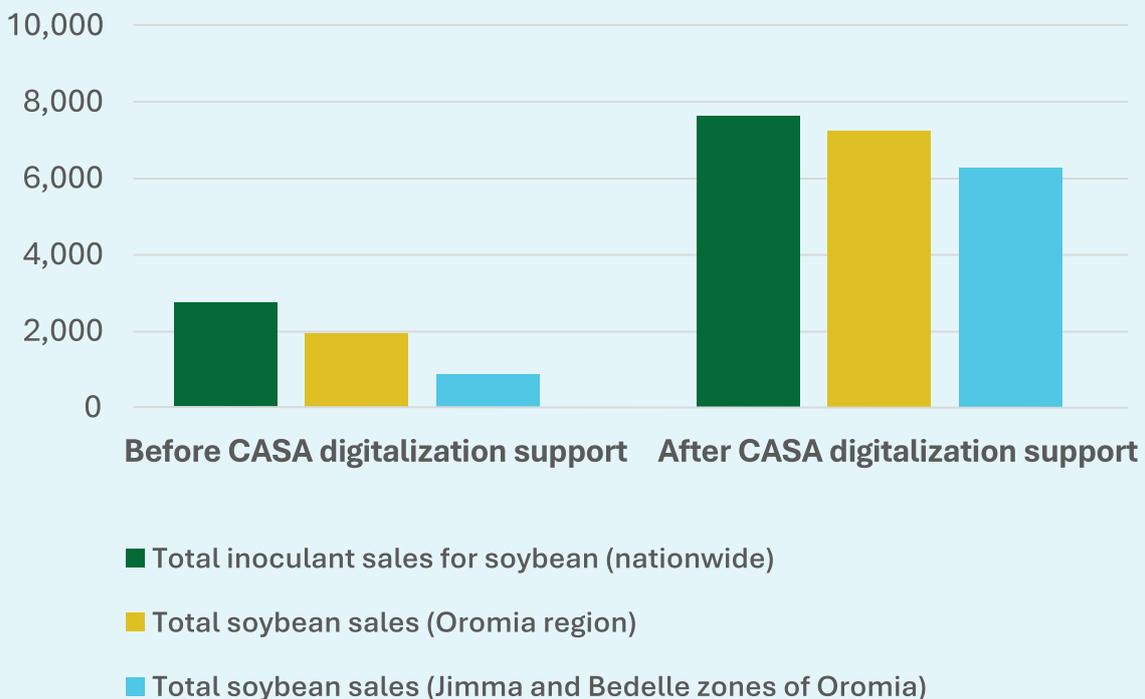
## NEW MARKET DEVELOPMENT

The CASA support on digitalization of the company's business operations has delivered measurable progress in developing new markets and increasing sales performance (see figure below). Set-up and piloting cost just under £10,000 for two coordination staff for application development, training, monitoring and follow-up, together with procurement of digital equipment (17 mobile phones for the agri-extension agents to use for inoculant demand collection and sales recording. To date, 2,549 smallholder farmers, ten agro-dealers and ten young rural agents have been connected through the digital system in Oromia region, Jimma and Buno Bedelle zones. A total of 126 rural kebele within 15 woredas were covered through the digital inoculant demand collection and distribution.

## OVERALL IMPACTS ON BBM BUSINESS OPERATION

The digitalization initiative has strengthened the efficiency, accuracy, and reach of inoculant distribution systems through:

- **Efficiency Gains:** Data flow from rural kebeles to BBM is now faster and more reliable, with reporting cycles shortened from several weeks to a matter of days. This allows timely monitoring of distribution trends and immediate troubleshooting where gaps are identified.
- **Improved Data Quality:** The use of digital templates and field validation has significantly reduced errors and duplication. Farmer-level records are now more consistent, providing a solid evidence base for both internal management and external reporting.



Soybean inoculant sales performance before and after digitalization (sachets sold);  
Source: BBM Company report

- **New Market Coverage:** As of the latest reporting period, the company covered 126 rural kebeles within 15 woredas in digitalization of inoculant demand collection and distribution. As a result, the sales performance of the company significantly increased.
- **Evidence-based Decision-making:** Automated reporting tools now provide the company with up-to-date insights on product distribution and farmer engagement. These tools are already being used to adjust supply plans and inform discussions with cooperatives, agro-dealers, and local authorities.
- **Sustainability and Institutional Capacity:** BBM staff have been trained to manage the digital system independently, ensuring continuity beyond CASA's support. The initiative has also introduced a culture of evidence-based management within BBM, positioning the company to expand digital tracking to additional crops and geographies in the future.

## PLANNING FOR SCALE

In the adaptation phase, BBM plans to increase investments in improving production and use its new capacity in digital demand data to identify areas for increased investment in distribution of rhizobium inoculant to reach over 15,000 smallholder farmers in various soybean growing regions including Amhara, Oromia and Benishangul Gumuz. Such digitalization of demand for rhizobium inoculant and expansion of supply to meet that demand is critical. CASA's outcome assessment in limited areas of Buno Bedele and Jimma zones found that average productivity remains low at 1.19 tonnes per hectare and in focus group discussions farmers repeatedly highlighted constraints related to unreliable access to improved seed and bio-fertilizer.



Soybean yield data conducted by Mr Tsegaye Wedajo, a farmer in Bedelle woreda, Banshure kebele

BBM's new system will further strengthen the much-needed inoculant distribution through farmer cooperatives, seed enterprises, agro-dealers, rural youth and agro-processors (e.g., Gut Agro Industry, KUNAP, MSA, Rongy, Richland, SITCO and Top Oil) as indicated in its modified business model co-created with CASA technical support in the pilot stage. Those average yields can be raised to 1.6 tonnes per hectare with no other intervention than availability and use of rhizobium inoculant (average smallholder production in Zambia, where inoculant is routinely used, bought as a package with seed, is between 1.5 and 1.9 tonnes per hectare). Yields can be raised further through improved agronomic practice and improved seed provided through embedded services associated with offtaking arrangements.



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