



Project Details

[Background and Objective] In Ghana, unstable milling quality and limited access to finance constrain rural value addition. This project introduced a small-scale rice milling unit operable on household electricity (single-phase 220V) and verified a sustainable business model integrating machinery deployment and credit formation.

[1. Preparatory and Institutional Design] Consultations with financial institutions explored financing options for rice milling businesses. A basic sales workflow was designed, and a POS prototype was developed to connect transaction records with future credit assessment.

[2. First Mission (Installation and OJT)] A small-scale rice milling unit was installed in a rural community and stable operation on household electricity was confirmed. OJT was provided to young entrepreneurs, and operational data were collected to assess yield, quality trends, and profitability conditions.

[3. Second Mission (Market Validation)] A live demonstration was conducted at National Farmers' Day to assess market response. Demand potential and price acceptability were confirmed, and initial discussions with financial institutions were initiated.



New rice milling facility in the community



OJT after installation of the rice milling machine



Local exhibition

Project Outcome

[Stable Operation on Household Electricity] The milling unit operated stably using household electricity, demonstrating the feasibility of a distributed rural milling model.

[Operational Data and Technical Insights] Yield, quality trends, and maintenance issues were identified, clarifying directions for durability and quality improvement.

[Local Operational Capacity] Through OJT, a local structure capable of daily operation and management was established.

[Credit Linkage Framework] A system for recording milling volumes and sales was piloted to link business data with credit assessment.

[Market Acceptance] Exhibition feedback indicated demand potential without significant resistance to processing capacity or pricing.

[Sales and Service Structure] A local partnership framework was organized to ensure equipment supply and technical support.

Future Business Development

[Integrated Sales and Maintenance System] An integrated structure for sales, spare parts, and after-sales service will be strengthened to ensure operational continuity.

[Continuous Technical Improvement] Durability and quality stabilization will be improved to ensure reliable performance under rural conditions.

[Enhanced Credit Formation] Operational record systems will be simplified and digitized in phases to support financial assessment.

[Financial Model Development] Financing schemes for equipment investment will be developed with financial institutions and introduced gradually.

[Phased Expansion] The model will expand to non-irrigated rice-producing areas and promote rural value circulation through post-harvest integration.