

activities should not be viewed simply as a temporary operational success. Instead, they represent the kind of regional resilience function that current agricultural policy increasingly expects from modern service infrastructure.

5.3 Case of grain drying capacity improvement

The drying-capacity expansion case demonstrates that the development path of the Mashan center gradually moved from basic agricultural service provision toward stronger postharvest management capacity. According to the project materials, the center added eight grain dryers during expansion, increasing single-batch drying capacity to 400 tons and annual drying capacity from 10,000 tons to 18,000 tons. The center also added a 750-ton indoor metal grain warehouse and a 50-ton rice processing line.

This case matters because drying is one of the clearest dividing lines between partial mechanization and full-process mechanization. A mechanized production system without adequate drying facilities still faces substantial quality and storage risks. High-moisture grain cannot remain untreated for long periods under humid climatic conditions. Furthermore, for high-quality rice, standardized drying is itself an important part of quality preservation. Recent drying studies have shown that better control of drying process parameters can improve the balance between drying efficiency and grain quality retention (Li et al., 2024).

The practical importance of Mashan's drying expansion is therefore twofold. First, it strengthens regional grain-loss reduction and grain-storage security capacity. Second, it makes downstream rice processing and branding more reliable. Quality-oriented rice production requires consistency not only in the field, but also after harvest. By expanding drying and storage capacity, the center created a stronger bridge between emergency harvest rescue, grain quality retention, and value-added rice products.

5.4 Case of high-quality rice brand development

The fourth case extends the analysis from agricultural production and service provision to market value creation. The internal project materials state that Mashan registered the "Xinfeng" rice brand, and that the brand won the Silver Award in the "Zhejiang Good Rice 2024" competition. Although this result is not a production indicator in the narrow agronomic sense, it remains a meaningful applied outcome. A service center that can supply seedlings, organize mechanized operations, coordinate drying, and process grain is naturally in a stronger position to support stable branded rice products than a service provider limited only to field operations.

The significance of this case becomes clearer when viewed within Zhejiang's provincial rice-branding framework. The "Zhejiang Good Rice" program evaluates rice not only on yield, but also on grain quality, eating quality, safety indicators, and standardized production records. In other words, brand recognition is closely tied to production organization and traceability rather than marketing language alone. Under such a policy environment, the Mashan case suggests that full-process mechanization can contribute not only to production efficiency and grain-loss reduction, but also to the market differentiation and added value of locally produced high-quality rice.

More broadly, this case reflects a larger transition in the role of regional agricultural service centers. Their function is no longer limited to "helping farmers complete field operations." Increasingly, they are also becoming important platforms for product upgrading, local branding, and value-chain extension. This transition is particularly important in developed eastern provinces, where agriculture often needs to rely on quality, service integration, and branding rather than low-cost bulk production alone.

6 Current Problems

6.1 High investment costs of advanced agricultural machinery

One of the clearest constraints revealed by the Mashan case is the high capital intensity required for full-process mechanization. The internal materials describe more than RMB 6 million in project investment, around RMB 8 million in machinery assets, as well as large-scale drying facilities, nursery infrastructure, grain storage systems,