

organization that combines tasks with people. In rice farming, this matters because field service quality depends not only on whether the machine arrives, but whether diagnosis, scheduling, repair, and postharvest support are connected to the machine's arrival.

### **3.3 Agricultural machinery and supporting facilities**

Machinery is naturally central to the center's operation, but the case materials suggest that Mashan's core strength lies in the relationship between machinery and supporting facilities. The center reportedly holds around 100 sets of agricultural machinery and equipment, and the later facility expansion significantly increased drying, storage, and processing capacity. This combination is important because many discussions of mechanization still focus too narrowly on field machines while underestimating postharvest infrastructure.

For rice production, drying is not optional support. It is part of the service chain. Harvesting capacity without drying capacity only shifts the bottleneck downstream. The same is true for seedling cultivation. Transplanting service is much easier to standardize when tray seedlings are centrally prepared and delivered in a coordinated manner. The center's facility bundle therefore supports a "field-to-postharvest" model rather than a single-link operation model.

The machinery-support relationship also changes how capital is used. When dryers, seedling facilities, and storage are attached to machinery service, the whole investment becomes more productive because each function reinforces the value of the others. A harvester becomes more useful when it can deliver grain straight into a regional drying system. A seedling center becomes more useful when it supports machine transplanting across a wider service area. This is precisely the kind of asset coordination that distinguishes a modern service center from a loose network of separate providers.

### **3.4 Main operational functions in rice production services**

The internal project briefs describe Mashan's service structure as a "1+8" model centered on full-process mechanized operation and supported by drying and processing, centralized seedling cultivation, technical services, agricultural input delivery, machinery maintenance, agricultural study and training, product marketing, and storage and preservation. The wording itself is useful because it makes clear that the center is not built around one machine type or one contractual relationship. It is built around coordinated services.

The main functions can be grouped into three layers. The first layer is direct production service: seedling raising, transplanting, field operation, harvesting, drying. The second layer is support service: repair, input delivery, technical guidance, training. The third layer is value-extension service: storage, simple processing, local branding, and marketing. This layered structure matches the way modern rice production actually works. Farmers need one set of services to get grain grown, another set to get it managed well, and a third set to protect or increase its value after harvest.

The materials also indicate that Mashan serves both a core nearby service area and a wider regional production area across seven towns and streets, with "nanny-style" services for around 5,000 mu nearby and more than 50,000 mu-times of full-process mechanized services annually across a broader area. This layered service radius is one of the center's most important operational traits. It suggests that the center combines intensive local support with wider regional dispatch, rather than choosing one scale at the expense of the other.

## **4 Main Operational Models of Socialized Rice Production Services**

Before discussing the five main operational models, it is useful to state a general principle (Table 1). The service models of a modern agricultural service center are not separate in practice. They overlap. Centralized seedling raising feeds transplanting. Machinery scheduling affects trusteeship quality. Drying affects the value of harvest rescue. Training influences the quality of field management and the willingness of farmers to buy services. Still, for analytical clarity, the operational models can be discussed one by one.