How to Evaluate Failures? : The Process of Developing Technologies in the Modernization of Rice Farming

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This article discusses the development of Japanese rice farming technologies in the transition to mechanization from the second half of the 1960s to the first half of the 1970s by paying attention to what people did to select the technologies. Conventionally, it was thought that the rice farming technologies were mechanized uniformly in the transition period. However, various new technologies were also developed in the transition period. How did such diversification of technologies happen?

This article studies how the diversification of rice farming technologies happened by describing the detailed process in which farmers developed new technologies. Specifically, it clarifies what farmers did in the transition period based on the hearing survey, statistical data, etc., showing how the new technologies were developed and used. The target location was Ogata Village in Akita Prefecture where a large-scale model village of single rice farming was built as a national project in the 1960s and various settlers gathered from all over the country.

In Ogata Village in the transition period, the income of farmers was the only revenue from rice farming because of the single rice farming. Therefore, if the farmers in Ogata Village did not do well by using new technologies, they would have suffered huge damage. However, in such high-risk farming, the farmers in Ogata Village continued to improve the technologies to increase productivity.

In the preceding studies, it was thought that people adopt a business strategy that gives top priority to risk diversification or aversion by using the conventional technologies. It was also considered that when people adopt new technologies, they intend to maximize the profit on security of other businesses and farm products. However, the farmers in Ogata Village took the risk of challenging new technologies to maximize the profit while there was no security because of the single rice farming. In other words, the technological diversification was advanced not to diversify or avoid the risk, but to gain more profits even by taking risks. Against the background of technological diversification, there was also the farmers' work ethic that challenges new technologies even by taking risks.

Key words: rice farmer, rice farming technology, workers ethic, risk, modernization