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Modernization of Vegetable Supply Chain and Farmers` Organization : A Case Study of West Java, Indonesia, Focusing on Behavior of Leaders

（野菜サプライチェーンの近代化と農民組織
—インドネシア・西ジャワにおけるリーダーの行動に注目した事例研究—）

1 Preface

The extension of modern vegetable supply chain (SC) in Indonesia has improved the farm business and solves the problems found in traditional SC by direct trade with buyers through the leaders as an agent farmer to reduce the length of SC and scheduled supply with collective action through farmers` organization (FO). However, could the modernization of SC solve all the problems? And will it create new problems? This study intends to reveal the actual conditions of modernized SC as the main objectives. Then, the aim is being developed into four particular objectives. (1) To investigate the structure of the supply chain, (2) To clarify the conditions of FO, (3) To analyze the behavior of a leader of FO, (4) To analyze the instability problem. We conducted in-depth interview mainly to 37 leaders of 40 FOs in Lembang, Parongpong and Cisarua Subdistricts in the northern part of West Bandung District in West Java Province and also other related respondents from 2016 to 2019.

2 Changing Situations of Vegetable Economy and Government Policy in Indonesia

There have been changes in the vegetable economy that is indicated by urbanization, increase of consumer`s expenditures for vegetables and increase of vegetable production. The existence of modern retailers has created agent farmers who play a role of a middleman in the new structure of SC and a leader of FO. Government has set some regulations to support the modernization of SC and has encouraged the collective action of farmers by distributing supports through FO.

3 Agriculture and Farmer`s Organizations in West Bandung District

The agriculture sector accounts for 14% of Gross Regional Domestic Product of West Bandung District and the production of chili pepper account for 95% and mushroom for 23% of West Java Province production respectively in 2015. The modernization of SC has introduced the new farming

system such as greenhouse and production schedule. We observed from 40 FOs and found 4 FOs were dissolved, 20 FOs were not active and 16 FOs were active. The changes of condition of FO have been caused by unclear purpose to form a FO and the weak of commitment of members of FO. Besides, leaders have the biggest decision to manage an FO.

4 Development of Vegetable Economy and Changing Supply Chain

Modern SC has encouraged some farmers to transform into several types of agent farmers. Agent farmers in the new structure of modern SC can make direct trade with supplier company, supermarket, exporter company and fast-food company. Contract with buyers in modern SC requires scheduled supply. However the production is easy to be unstable by weather, pest and disease attacks and also bad commitment. Some agent farmers have solved the instability of supply by applying the production plan, controlling member farmers' production through FO management, and using the existence of traditional SC. This study found some key players, buyers and international agencies, who spread the knowledge to farmers about how to match the farming system with the procurement systems in modern SC focusing on specific quantity, quality, continuity and payment agreement. The leaders as an agent farmer play crucial roles of helping farmers to access modern SC. Agent farmers have distinctive features based on trading business orientation and farm business orientation.

5 Relation between Farmers' Organization and Leader's Business

Some FOs have transformed from single-layer organization, namely a farmers' group, into multi-layer organization, like a farmers' groups union and a cooperative. Cooperative as a business entity has more advanced roles that are not only seeking some external supports but also organizing farmers to supply much more products to closed-markets. However, forming a multi-layer FO has created more problematics in FO management. Every FO own risks of changes that could be developed or be ruined. This study found that FO is strongly related to the leader's business. Every leader, an agent farmer, prefers to manage a FO with a small number of members because they can anticipate the conflict and will try to ensure his/her own business. The existence of agent farmers shows the evidence of how farmers can shift to modernized farm business by entering modern SC.

6 Conclusion

Modernization of SC has created a new structure of SC adjusted by the interaction among new agents in the SC. Moreover, there are problems of instability of production and disunity of FO. The leader as an agent farmer in modern SC plays big roles of handling those problems and supporting farmers to improve the farm business. The government should empower the role of FOs and encourage leader farmers to support ordinary farmers to improve their farm business.