

学位論文の要旨 (論文の内容の要旨)
Summary of the Dissertation (Summary of Dissertation Contents)

論 文 題 目

Dissertation title

Collective Action among Small-Scale Farmers: Impact Evaluation and Randomized Conjoint Analysis on Green Tea Farmers in Thai Nguyen, Vietnam

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Small-scale farms – defined as being less than 2 ha – are predominant in the agricultural sector, especially in developing countries. However, they face major disadvantages caused by high unit transaction costs and weak market power. Collective action through the establishment of farmer-owned organizations, or cooperatives, is a promising solution to the problems of smallholder farmers. Those farmer organizations are increasingly popular in developing countries with collective marketing (i.e., marketing cooperatives) and group certification being the two highly common functions.

This dissertation investigates collective action among small-scale farmers through case studies of tea production in Thai Nguyen, Vietnam. Vietnam is one of the world largest tea producers, and smallholder farmers own up to 70 percent of the national tea plantation area. As with other crops, recent transitions in the food sector – e.g., expansion of supermarkets and increasing concerns about food standards – exacerbate disadvantages of small-scale tea farmers in Vietnam. Collective action, such as collective marketing and group certification, has been promoted to link small-scale farmers to the changing food markets. Thai Nguyen – a province in the northern mountainous region of Vietnam – is a center of green tea production which has highly active development of farmer-owned marketing cooperatives and certification groups. Thus, the province offers a compelling context for studying farmers' collective action.

By focusing common collective activities – collective marketing and group certification – among smallholder green tea farmers in Thai Nguyen, this dissertation contributes to the literature on a central research question: *How do small-scale farmers in developing countries benefit from collective action?* Current literature could be divided into two strands. On one hand, the first strand of literature quantitatively evaluates the impacts of marketing cooperatives and certification groups, in which impacts on farm income are a common interest. On the other hand, the second strand explores the determinants of smallholder farmers' participation in the collective action. This dissertation identifies three research gaps in the two literature strands and present results from three case studies on small-scale green tea farmers in Thai Nguyen to contribute to the knowledge of collective action among small farmers.

The first two case studies evaluate the impacts collective marketing and group certification on income of small-scale farmers – belonging the first main strand of literature. To conduct the impact evaluation, original data on smallholder farmers in 4 central tea producing regions (located in 7 communes) of Thai Nguyen were collected through a household survey in Jul - August 2017. The survey followed mixed sampling strategies: all members of marketing cooperatives and certification groups were included if possible; non-members in were sampled randomly. After data cleaning, the sample consists of 476 tea small family farms (households). Of these, 60 were certified cooperative members, 87 were certified farmers but not members of any cooperative, 75 were non-certified cooperative members and 254 were not members of either cooperatives or certified groups (control households).

The first case study investigates the impacts of collective marketing via farmer cooperatives on income of smallholder tea farmers. Although tea is a highly important product for small farmers in many developing countries, little is known about the impacts of collective marketing on tea farmers (*Research gap 1*). This case study therefore contributes to knowledge on collective marketing by analyzing a sub-sample of 329 farmers from the original data on 476 smallholder tea farmers in Thai Nguyen. The treated group was the 75 non-certified cooperative members, while the comparison group was the 254 control households. Propensity score matching (PSM) was employed to mitigate bias caused by the self-selection of the cooperative membership. However, across different PSM models, this case study could not find conclusive impacts of cooperative membership on the income from tea farming. A plausible and important reason is that collective marketing was inactive for many cooperative members. Another interpretation of the finding is a high divergence in other components of cooperative membership, such as past certification and technical assistance.

By contrast, the second case study shows significant impacts of group certification on income of smallholder tea farmers in Thai Nguyen. Thai Nguyen green tea products are principally consumed in the domestic markets – a compelling context examined by very few studies on certification standards (*Research gap 2*). Thus, the case study makes an important contribution to the literature on the impacts of certification programs for groups of smallholder farmers. From the same data 476 small tea farmers in Thai Nguyen, this study selected a different sub-sample of 401 farmers: 147 certified farmers (87 certified non-cooperative members and 60 certified cooperative members) and 254 control farmers. A similar PSM procedure as in the first study was applied. Results show that adoption of group certification significantly increased sales, selling price and net income. Labor costs were also higher for certified tea farmers. The findings of this case study lend evidence-based support to the implementation of voluntary certification standards for specialty green tea production.

The third and last case study contributes to the second strand of literature on factors influencing farmer participation in collective action. This study applies randomized conjoint analysis (RCA) which allow estimating causal effects of design attributes – i.e., certification fee, price premium, record keeping, requirements about the application of fertilizer and pesticides – on farmer participation in hypothetical group certification programs (VietGAP). Despite their importance of design attributes, very few studies examine how those attributes affect farmer participation in certification schemes (*Research gap 3*). This case study used different sample data on 750 small-scale tea farmers in Dai Tu district. This district is the largest tea producing area in Thai Nguyen, and local tea farmers have high exposure to certification programs, giving favorable conditions for conducting the RCA. Data was collected in June - Jul 2018 with relatively similar mixed sampling strategies as in the two previous case studies. Results indicate that the requirement of combined application of organic and chemical fertilizer, a recommended practice for maintaining soil health, did not reduce the participation significantly. In addition, when this requirement is packaged with delayed payment for organic fertilizer purchase, the participation rate can be enhanced. Importantly, despite the availability of price premiums, the certification fee is a major barrier preventing tea farmers from produced certified food products.

Based on the findings of the three case studies, the dissertation discusses further implications for the central research question as well as for policies related to collective action among small-scale farmers. First, the economic benefits of collective action through farmer organizations appear ambivalent. When we investigate the effects of membership which does not fully reflect the active participation and which contains diverged intervention components, results could be inconclusive. However, when we examine farmer organizations with high similarity in their function and member activity, clear benefits are more plausible. Second, although economic benefits of collective action could be tangible, low member contribution is a major issue for the realization of such benefits. Thus, one critical challenge for development agencies as well as leaders of farmer organizations lies in encouraging small-scale farmers to pool their resources together.

備考 論文の要旨はA 4判用紙を使用し、4,000字以内とする。ただし、英文の場合は1,500語以内とする。

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