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 研究課題名（英文）Agrarian transformations under small-scale agribusiness investment for fruit crops in the China-ASEAN borderland
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研究成果の概要（和文）：中国側の果物需要の高まりにより、中国と東南アジアの国境の両側で果物投資が前例のない速度で大幅増加し、小農経済と農村社会でも変化が起こっており、さまざまな地域で多種多様な農業開発モデルが形成されつつある。本調査では、綿密な野外調査と事例比較を通じて、果物投資を背景にした国境地域の両側における農業の構造改革に関する深堀分析を試みた。本研究は、東南アジア大陸における近代の農業集約化に関する理論思考だけでなく、国境管理と政策形成にも貢献することで、アジアの国境地域の持続可能性の実現を目的としている。

研究成果の学術的意義や社会的意義

The research will shed light on resulting wide-ranging policy implications that aim to promote a sustainable development in both sides of the China-ASEAN borderland. It also contributes to the current discussion regarding the changes undergone by an agrarian society experiencing crop booms.

研究成果の概要（英文）：Fruit investments or fruit booms on both sides of the China-ASEAN borderland is expanding at an unprecedented rate, changes smallholder agriculture and rural societies, and forms new and various local agricultural development patterns. This research explores the local agrarian transformation on both sides of this borderland considering on-going investment in fruit crops by conducting in-depth fieldwork. This research aims to not only contribute to the theoretical considerations of contemporary agricultural and rural development in China and Southeast Asia, but also contributes to border governance and policy-making to achieve sustainability in Asian borderland.

研究分野：Area Studies

キーワード：Agrarian transformation Land system change Crop boom Livelihood transition Agricultural investment Borderland Mainland Southeast Asia China

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1 . 研究開始当初の背景

Over the last two decades, China has undergone a significant transformation in food consumption that the consumption of fresh fruit (as a typical horticultural crop) has experienced a noteworthy and continuous increase. In response to this significant change, China's agriculture "Going Global Strategy" was suggested as a solution by the Chinese government. With regard to high-value fruit crops, Southeast Asia (SEA) is the target region for offsetting China's limitations by transnational farmland investment due to the increasing demand for tropical fruit crops in China. Apart from SEA, borderlands inside China also shows the similar trend in fruit investment at an unprecedented rate.

Consequently, agricultural system in the China-ASEAN borderland (this borderland mainly includes Southern China, Myanmar, Laos, and Vietnam) has been restructured from being subsistence oriented towards market oriented, where intensive rice production was emphasized previously in agricultural production in this area (Devendra and Thomas, 2002). In addition, fruit investment and cross-border trade have formed close links between China and SEA. Considering the specific characteristics of fruit crop investments, it is often short-term, mobile, and uses diversified patterns among land, labor, and capital, which is different from the widely discussed investments in industrial trees, such as rubber plantation.

However, the impacts of fruit investment on local rural society in both China and SEA remain very unclear (the agribusiness investment discussed focuses on the investment behavior of investors or companies rather than by local smallholders). For example, while the Chinese investment into banana production in northern Laos created job opportunities of the Laotian people, it has also been reported that the overuse of chemicals and pesticides damaged the local environment and endangered the health of local people (Friis and Nielsen, 2016). In addition, the China-ASEAN borderland is populated by ethnic minorities, who are often regarded as economically "backward" compared to the dominant minority. It remains unclear how these ethnic minorities respond to agribusiness investments as it replaces their traditional rice-based farming systems. In addition, knowledge of the recent crop booms inside China is very limited.

2 . 研究の目的

This research aims to understand how local smallholders in both sides along the China-ASEAN border respond to market-oriented processes (China's rapid emergence), to both track and interpret the dynamics and transitions in their livelihood and land use, and to compare and discuss the differentiation and concordance with similar cases through in-depth fieldwork. The research goals are to (i) understand how local smallholders respond to fruit investment in fruit crops along the borderland, (ii) explore the socio-economic and environmental consequences related to the flow of the fruit investment on both sides of this specific borderland, and (iii) provide an account of the linkages between China and SEA that formed via fruit investment. This research provides important insight on agrarian transformation in a rapidly changing rural agrarian context by focusing on fruit investment and trade. The research shed light on resulting wide-ranging policy implications that aim to promote a sustainable intensification and livelihoods in both sides of the China-ASEAN borderland. It also contributes to the current discussion regarding the changes undergone by an agrarian society experiencing crop booms.

3 . 研究の方法

This research addresses the key scientific question: How do fruit investments transform local land uses and livelihoods of the China-ASEAN borderland? For this question, I adopted a mixed research method including quantitative and qualitative methods. Quantitative data collection was largely based on my in-depth fieldwork since 2016 in the China-Myanmar borderland, including household survey and land plot survey based on remote sensing. Qualitative dataset was built in both sides of the China-Myanmar and China-Laos borderland (Ruili and Mengla in China, Mandalay in Myanmar, and Luang Namtha in Laos), including key informant interviews and informal interviews. Because of the spread of COVID-19, I conducted online interviews with local counterparts in upland and lowland villages to address the following key issues in order to track the latest changes, update the dataset and reinforce my argument: changes in agrarian landscapes and livelihoods (e.g., new boom crops), cross-border/transnational labor migration, dynamics of rural markets led by digitalization, and the impacts of Covid-19 on rural societies and resilience.

4 . 研究成果

I have presented the research findings in several workshops and seminar/webinars (online). Three articles have been accepted for publication in *Land Use Policy*, *The Journal of Peasant Studies*, and *Problemy Ekorożwoju*. Another paper focusing on fruit booms and investors mobility has been submitted. In the future, I will continue to analyze the updated data and publish the research findings in international journals. Some of my work will also be presented in international conferences or webinars. The major achievements are as follows.

(1) Designing a framework for land system changes in borderlands

In this project, I adopted the concept of ‘land system’ in order to consider terrestrial components of the Earth system, land use activities, and processes by human being (Verburg et al., 2013). However, land

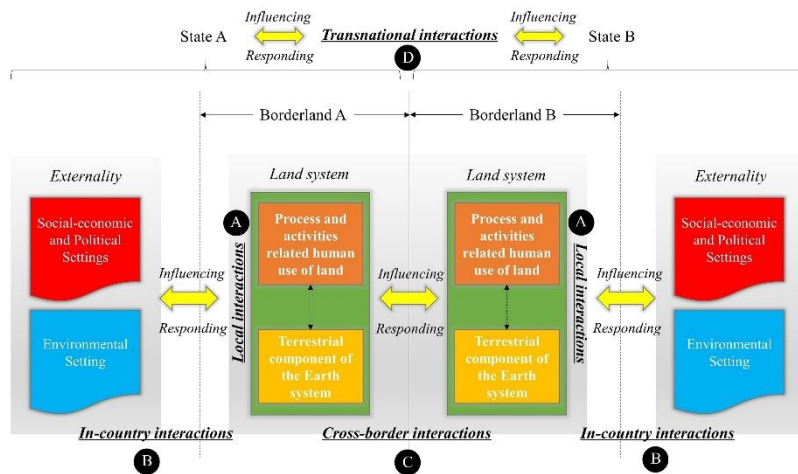


Figure 1. A conceptualized framework of border interactions in the simplified two-state model

system studies often suffer from a lack of knowledge generalization of land system changes in borderlands. Although empirical and case studies have addressed this issue, they tend to discuss the matter within an enclosed space, and focus less on multiple interactions occurring in borderlands. Based on the previous theoretical thoughts (e.g., telecoupling), this research designed a framework for land system changes in borderlands considering multiple and multidirectional border interactions (Fig. 1). It contributes to the literature on how to explicitly describe, track, and interpret the structure and dynamics of land systems in borderlands with a specific focus on the China-ASEAN borderland. It argues that studies on land system changes in borderlands need to thoroughly link the features of borderland regions with multiple interactions – on either or both sides of a border – rather than simply focusing on shifts within closed national boundaries.

(2) Land use and ethnicity in borderlands

Responding to the discussion on “smallholder-driven crop booms”, I argue that we need to further consider the question about “who are *de facto* leading crop booms?” by linking ethnicity to land use. For this purpose, I presented detailed evidence on the characteristics, processes, and consequences of land rental practices in a multi-ethnic rural society (inhabited mainly by Han and Jingpo ethnic groups; H Village and J Village) in the China-Myanmar borderland. It contributes to the existing literature on land rental and control by considering the dimension of ethnicity.

I found that interethnic land rental is a very common and noteworthy feature in the selected Han-Jingpo multi-ethnic rural society (Fig. 2). Han ethnic households rented and accumulated a large proportion of farmland and forestland from neighbouring Jingpo ethnic households. This was done to expand cash crops and timber forest, as opposed to the activities of Jingpo ethnic households. Interethnic land rental was mainly triggered by different development capabilities and attitudes towards agricultural commercialization supported by differences in resource assets due to ethnic living patterns and other



Figure 2. Interethnic land rental practice in an upland multi-ethnic society (China-Myanmar borderland)

dynamic socio-political reasons. Consequently, Jingpo ethnic households are experiencing an increasing income gap due largely to declines in farmland and forestland, while possibilities for positive interethnic interactions were found. These findings are relevant for rethinking land rental policies in China and also provide useful insights for rural sustainability in any multi-ethnic area where interethnic interactions of land or other resources coexist.

(3) Fruit booms and agrarian transformations: beyond the debate on tenure security

I further examined the transformation of agrarian livelihoods due to crop booms in a lowland village (D Village) at the China-Myanmar borderland. This research situated crop booms in the context of ‘secure’

Table 1. Classification of household types

Household type	Income from land		
	Farming in own land	Land rent (out-rented land)	In-rented land
I	✓		
II	a	✓	
	b	✓	✓
	c	✓	✓
III	✓	✓	
IV		✓	

tenure relations. Methodologically, based on the ‘theory of access’ and focusing on whether and how local villagers can derive benefits from the land, I demarcate land into three types: villagers’ own land, in-rented land and out-rented land (Table 1).

A key finding is that local villagers have rented out their land to outside investors looking to make fruit boom investments. Differ from the cases in SEA, however, the villagers neither cultivated the same crops themselves, nor were they hired as wage laborers on these fruit farms.

Instead, they rapidly converted the traditional rice-farming system to rice-based, intensified multi-cropping systems for other new boom crops. This was accomplished through diversified land control changes for land reallocation (Fig. 3), with the support of a transnational labor supply. In addition,

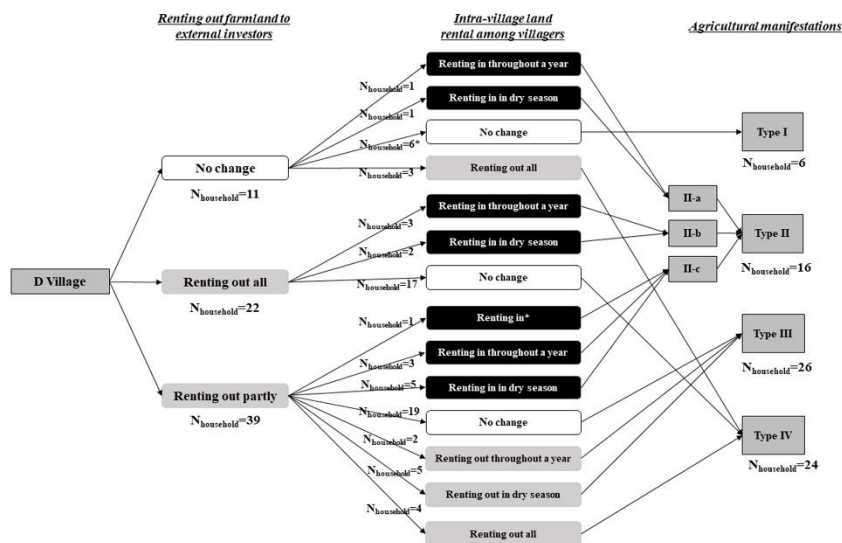


Figure 3. Four emerging agricultural types among sample households after diversified land control changes

this research finds that local livelihoods were further diversified and differentiated. Overall, this research finds that crop booms provide local villagers with opportunities to reallocate natural resources and adjust their livelihoods. I argue that the dynamics of agrarian livelihoods are co-produced as the result of transnational labor migration and state-led borderland repositioning under secure land tenure relations.

(4) Rethinking the influences of fruit booms on local smallholders through a lens of investor mobility

Unlike investment in rubber and palm oil during previous booms in SEA, investment in fruits is generally short-term, small-scale, and often informal. Additionally, unlike earlier crop booms, investors in fruit booms relocate geographically to capture opportunities. I therefore explored the influences of fruit booms on smallholders by documenting geographical mobility of investment as the distinguishing characteristic of investment in fruit cultivation along the China–Myanmar and China–Laos borders. This research highlighted that ecological and social-political constraints drive investor mobility in fruit booms alongside liberalized agri-trade and regional comparative advantage.

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オープンアクセス オープンアクセスではない、又はオープンアクセスが困難	国際共著 該当する

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〔図書〕 計0件

〔産業財産権〕

〔その他〕

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6. 研究組織

	氏名 (ローマ字氏名) (研究者番号)	所属研究機関・部局・職 (機関番号)	備考
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7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計0件

8. 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関
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