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研究課題名(和文) Intergenerational impacts and resilience of transmigrant communities in the outer islands of Indonesia

研究課題名(英文) Intergenerational impacts and resilience of transmigrant communities in the outer islands of Indonesia

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研究成果の概要(和文)：このプロジェクトでは、スマトラの4カ所にて長期に渡り定住した移住コミュニティの回復力を調査した。研究目的は適応と回復力について明白な要因を特定することである。データは、230世帯の調査、フォーカスグループインタビュー、住宅調査、政府村落統計データ、移住者および主要情報提供者へのインタビューにより得た。顕著な知見としては土地保有と所得は一般的に人生満足度と相関していた。一般的に、移住者が農作物生産をアブラヤシやゴムに転作すると収入が増加し、家の再建や拡大、施設の整備が可能になる。コミュニティは様々な課題に直面したにもかかわらず、すべて時間の経過とともに高いレベルのコミュニティの回復力を示した。

研究成果の概要(英文)：The project investigated intergenerational impacts and community resilience for transmigrant communities at four sites in Sumatra. Research aims included assessing their current status and identifying factors to help explain adaptation and resilience. Data was obtained from 230 household surveys, focus group interviews, housing surveys, government village census data, and interviews with transmigrants and key informants. Among notable findings: land holdings and income were generally correlated with life satisfaction. Income was highest in a village supported by a major oil palm plantation company, and one site was adversely affected by a rise in drug use and crime accompanying a rapid influx of local migrants. In general income rose as transmigrants shifted crop production to oil palm and rubber, allowing them to rebuild and expand homes and infrastructure. Although the communities faced very different challenges, they all showed high levels of community resilience over time.

研究分野：総合教育・続可能な開発のための教育

キーワード：インドネシア外島部 移住政策 コミュニティ・レジリエンス 生計維持戦略 自然災害

1. 研究開始当初の背景

Indonesia's century-old government-sponsored Transmigration scheme has promoted the migration of up to 7 million impoverished residents from Java, Bali and Madura to the outer islands. The presence of transmigrants has redrawn the administrative map of Indonesia, with transmigration sites now serving as the district capital in more than 80 districts. In some areas, ethnic Javanese now account for more than half the population. Land clearing and construction of roads and other infrastructure for transmigrant settlements have spurred expanded migration and commercial activity. Particularly with the dramatic expansion of plantation crops like rubber and oil palm in Indonesia, it can be said that transmigration has acted as a trigger for outer island development, while also contributing to environmental degradation and communal conflict over land tenure and use. In particular, the environmental and economic impact of smallholder oil palm production, long dominated by transmigrants, is drawing the attention of environmentalists and researchers.

This project sought to investigate intergenerational outcomes for four long-established transmigration communities in central Sumatra, Indonesia. The researchers examined the current status of each community in terms of economic indicators, social cohesion and life satisfaction, local relations and governance, housing and living conditions and agricultural strategies.

2. 研究の目的

The overall aim of the project was to gain greater understanding of long-term adaptation and livelihood strategies, community resilience and intergenerational impacts associated with government-sponsored internal migration schemes. The researchers sought to answer the following research questions (RQs):

1. What is the current status of transmigration communities (income and livelihoods, local integration and impacts)?
2. What factors help to explain the outcomes for adaptation and resilience of specific communities?
3. What are the implications for environmentally sustainable government-sponsored migration schemes?

By examining long-established transmigrant communities this project is intended to establish a knowledge base of the complex long-term impacts of government-sponsored resettlement schemes. It will help policymakers decide whether funds should be better applied to resettlement or spent *in situ* to alleviate poverty.

This will benefit local and national government policy-making and budgeting for rural development, while it adds to academic understanding of migration and resettlement trends and implications.

3. 研究の方法

Sites were selected based on diversity in key variables including length of settlement, main income source (food crops, oil palm or rubber plantations), soil conditions (peat v. rainforest), disaster risk, economic profile and geographic location. See Table 1 for characteristics of the four study sites.

Table 1: Key characteristics for four sites

Villages	Sitiung, Dharmas Raya, W. Sumatra	Rimbo Bujang, Tebo, Jambi
Ave. income	2,588,511 IDR	3,441,582 IDR
Ave. land holdings	1.1 ha	2.93 ha
Years of arrival	1976-1977	1975-1979
Current population	584HHs	997HHs; 17,500 people (2012)
Ave. life satis. today/ /in 5 yrs	6.59/7.66	6.77/8.55
Main production	Oil palm, rubber, rice	Rubber
Villages	Berkah, Sungai Bahar, Muaro Jambi	Mekar Sari, Kumpeh, Muaro Jambi
Ave. income	3,941,455 IDR	3,155,357 IDR
Ave. land holdings	3.03 ha	2.16 ha
Years of arrival	1991-1992	1991
Current population	769 HHs, 2684 people	736 HHs, 2,700 people (2016)
Ave. life satis. today/ /in 5 yrs	6.96/8.52	6.03/8.18
Main production	Oil palm	Oil palm, corn
Challenges	Bad roads, replanting oil palm	Chronic flooding

The team applied a mixed-method approach combining qualitative and quantitative research methods, depending on each researcher's specific objectives and data requirements. To assess village conditions overall the researchers conducted 230 household surveys, more than 50 semi-structured interviews of residents, focus group interviews at each site, and key informant interviews with officials at the village, district and regency level for each site, officials of the Transmigration Department of Jambi Province, and four meetings with officials of the Ministry of Village, Disadvantaged Regions and Transmigration in Jakarta. For housing and living conditions questionnaire and measurement surveys were administered to 211 households in Sitiung and Kumpoh. Drone mapping was used to understand land use patterns. Secondary sources for economic information included Indonesian government PODES village census data, BAPPENAS on-line village data and reports, and mid-term and annual development plans for each village. In addition, focus group surveys and interviews with residents and officials in Wonogiri, Central Java Regency, were held to assess conditions and exchanges for a source community for the transmigrants living in two of the study sites, Sitiung and Tebo.

4 . 研究成果

Researcher Rustiadi found that in Jambi transmigration has played a significant role in spatial distribution of food and agricultural production activities, the spread of population and settlements, and physical facilities and infrastructure.

Key findings for RQ1 on the current status of each of the four sites represented as community capital can be found in Table 2 below. While land holdings and income were generally correlated with life satisfaction, satisfaction levels were high for Sitiung, a site with the lowest relative income but high levels of cohesion and robust social networks. Income was highest in a village supported by a major oil palm plantation company that had been incorporated into settlement as part of a Trans-PIR scheme. It was found that communities in Tebo were adversely affected by a rise in drug use and crime accompanying a rapid influx of local migrants. In general income rose as transmigrants shifted crop production to oil palm and rubber, allowing them to rebuild and expand homes and improve materials used and conditions of built capital



Fig. 2 Housing renovation in Sitiung

(Fig. 2). Although the communities faced very different challenges, especially in the early years, leading to out-migration of many original transmigrants, those that stayed recorded improved living conditions and relatively high levels of community resilience.

Table 1: Community capital assets (village and aggregate)

	Sungai Bahar	Kumpoh	Tebo	Sitiung	Aggregate
Financial	3.79	3.47	3.42	2.84	3.38
Human	3.90	3.82	4.33	3.88	3.98
Natural	2.44	2.62	2.08	2.32	2.37
Social	3.93	3.95	3.94	3.87	3.92
Cultural	3.27	3.06	3.93	3.71	3.49
Built	3.40	3.58	4.98	2.93	3.72

Applying another assessment tool, the Local Sustainability Index based on village-level PODES census data developed by Pravitasari, it was found that the sites in Jambi demonstrate stronger economic, social and environmental sustainability on average than for non-transmigration villages in Jambi Province. In addition, Junaidi found that second generation transmigrants had higher levels of education, skills and income than their parents and higher levels, on average, than for their cohort from non-transmigration communities in Jambi.

Among factors affecting community resilience

and adaptation (RQ2), it was found that although Sitiung had the lowest levels of land holdings and income of the four sites, satisfaction levels were high for Sitiung, which exhibited high levels of cohesion and robust social networks due in part to having been resettled intact (“bedol desa”) from the original site in central Java. Residents here professed strong Javanese identity and maintained strong ties with residents of the source community in Java, sponsoring return visits and frequent exchanges. This suggests that social capital plays a role in fostering more adaptive communities.

Resilience was found to be related to agricultural and climatic conditions. For Kumpoh, for example, flooding made it difficult to adopt effective livelihood strategies, especially during the rainy season. Production of plantation crops such as oil palm and rubber were more lucrative than food crops such as corn or rice. Relations with host communities were also important factors. In Sitiung it was found that the local Minangkabau residents provided employment and other resources in the difficult early days of poor agricultural production, although the local residents were seen as dominating local politics, inhibiting political empowerment for Javanese. Local transmigrants often replaced departing Javanese residents in flood-prone Kumpoh, providing labor for oil palm cultivation and a market for productive land. Newer migrants have shown high adaptability to frequent floods, turning from agriculture to fishing the inundated land and selling dried fish for income. An influx of local residents has enabled areas such as Tebo to expand its economy but has strained social and physical infrastructure and elevated concerns over crime and drugs.

Well-planned resettlement contributed to improved outcomes, including the intact community resettlement and the aid provided for improving irrigation channels and other infrastructure in Sitiung, which benefitted from attention from the highest levels of government. The inclusion of residents of Sungai Bahar in a TransPIR scheme in which an oil palm company initially purchased land and provided smallholdings and inputs to transmigrants proved critical in allowing them to gain title to land and achieve high earnings. Today, however, the need to replant oil palm plantations and accrue revenues while waiting for trees to mature may severely task most of the communities under study.

As for RQ3, the implications for government-sponsored migration schemes include the following:

1. Environmental and social impacts of large-scale in-migration must be accounted for in planning and assessment. In the case of Indonesia, such unanticipated environmental impacts as loss of forest and biodiversity and increasing incidence of forest fires and haze have caused severe concerns over health, economic growth and even regional political relations.

2. Relations between transmigrant and local communities are complex but can be critical determinants of success. Settling initial land tenure issues, providing adequate financial compensation, inviting local residents to join the transmigration scheme and sharing benefits of the program, from schools, roads and electrification to employment and access to local resources, must be considered.

3. Livelihood strategies should be diverse rather than solely based on a few commodities that may suffer from falling market prices or the need to replant mature plantations.

4. Multiplier effects of establishing new roads and settlements, from a rapid influx of non-sponsored migrants, a rise in crime and delays in providing needed infrastructure and social services, should be considered at an early stage.

In order to achieve a broader understanding of factors influencing adaptation and community resilience it is recommended that similar research be conducted in other parts of Indonesia characterized by greater ethnic and economic conflict and varying environmental and land use characteristics.

5 . 主な発表論文等

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