



# 学位論文要旨

専攻名 資源循環学

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**題目 Development and Subjects of Processing and Marketing Units as Organized Marketing System for Rubber Smallholders in Indonesia**  
(インドネシアにおける小農によるゴムの共同販売組織の展開と課題)

Price of rubber material in Indonesia is lower than other producer countries, even though Indonesia is the first largest area and the second biggest production in the world. The main problems causing the low price of rubber material are the low quality and individual marketing. To overcome this problem, the Indonesian government has implemented a new policy in 2008. This policy encouraged rubber smallholders to organize themselves into a "Processing and Marketing Unit" (PMU). PMU is a medium for technical guidance for smallholders, processing, temporary storage and marketing of rubber material. By PMU, rubber quality and price are expected to improve. Good application of rubber material processing rules on PMU will increase rubber material quality. The improvement of quality and joint marketing will raise selling price. Despite of its policy aim only 388 PMUs have been established, and just less than 5% of rubber material was supplied through PMUs in 2017. It means, there were still many farmers who sell rubber material by traditional marketing individually.

The objectives of this study are divided into two main objectives. First, it aims to compare the differences in the stakeholders' economy between trade by PMU and trade by the traditional markets. The PMU members earned a larger income per area than non-members did. The high productivity and price contributed the members' high income. On the other hand, the present rubber material price sold by PMUs isn't favorable for crumb rubber factories, although rubber material quality is high. This situation seems to be one of the factors which obstruct the spread of the PMUs. Though the PMU can be expected to improve the economic condition of rubber smallholders, the proportion of PMU members in the rubber smallholders is still low. Therefore, the second objective of this study aims to analysis factors mainly affect the smallholders' choice of a PMU or non-PMU marketing system. Constraints for smallholders to join a PMU include already having a customer middleman, debt with the middleman, and the distance from the farmer's house to the middleman's house. Major supports for smallholders to join a PMU include the rubber material price, easily procured support of input materials from the government, and the distance of the farmer's house. PMUs' performance did not significantly affect the participation of farmers in PMU.

Rubber smallholders not joined PMU tend to have a small land acreage, low education level and rubber income, despite being mostly young, having longer rubber farming experience and large production and family size. Formal education of household head, rubber price and income of PMU members were higher than that of non-PMU members, while rubber farming experience of non-PMU members was greater than PMU members. Land acreage and its

production, plus age of the household head and family size were not different.

The alternative solutions to promote the smallholders to join as a member of the PMU are by conducting intensive agriculture extension to them about the benefits of PMU and giving smallholder more land and being granted soft capital loans by agrarian reform.