

学 位 論 文 の 要 旨

論文題目 Do the livelihood strategies affect encroachment in a state-owned reserved forest in Myanmar?

(生計戦略はミャンマーの保護林への不法侵入に影響を与えるか)

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Permanent forest estate (PFE) is a tool to secure the country's forest resources sustainably managed, and the forest encroachment, the intrusion of other land use into the forest areas, is a major challenge for PFE management. Constitution of PFE restricts the use of forest products and land which forest communities customarily accessed for generations. The increasing demand for land along with the population growth and the weak law enforcement trigger the forest encroachment within PFE. Therefore, Myanmar government initiated the land reform policy in 2013 to address the encroachment problem by formulating forest land use along with rural development and sustainable forest land management. Since land use transitions become a breakthrough point to understand the interaction and relation between the human activities and the surrounding environment, many studies have reached a consensus on the importance of the rural livelihood as a casual lead to the land use changes. Understanding of the livelihood activities of forest communities living inside the forested areas and their impact on the land use change is helpful for decision-makers in forest land management. Thus, main objective of the study is to

assess the encroachment within the PFE from the aspect of rural livelihood strategy constructed by the local people adapting the rules and regulations. I addressed the following three research questions; (1) Does the forest encroachment reduce after the implementation of land reform policy in 2013? (2) Can livelihood diversification reduce forest encroachment? and (3) How the livelihood strategies affect the forest encroachment in the study area?

The study was conducted in southern Shan state which locates in the eastern hilly regions of Myanmar. Purposive sampling method was used to select PaungLaung reserved forest as the study area. Then, four villages named Taunggya, Ywama, Yaysoe and Nanpan were selected based on the different transportation facilities because the proximity to the urban and the highly deforested areas has significant impacts on the land use change of the forests. From each of four villages, 30 households were randomly selected to administered the questionnaire survey. Mixed method (both qualitatively and quantitatively) was applied in this study.

The results showed that annual encroachment rate per household during post-implementation period of forest land reform policy was not significantly reduced than that of pre-implementation period, ($z = -1.75, p = 0.08$). It means that the current policy implementation was less effective in reducing the encroachment into the forest. However, regarding the solutions for land insufficiency, only 3 % of respondents answered that they will clear the forest. This indicated the lower chance of encroachment in the near future. Moreover, potentials of land rental and purchase (28% of respondents) were observed among these solutions. It pointed that their livelihood decisions still oriented on land resources on one hand, and the development of land market on the other hand. Analyzing the land use pattern from 2002 to 2021, the land use and encroachment were concentrated in the upland areas, operated by the landless people and household with small agricultural land size.

The correlation analysis showed significant positive relationship between farm income diversity index and encroachment rate, $r_{(df=120)} = 0.198, p < 0.05$, which means diversifying farm activities caused the encroachment. Moreover, small cultivation land size, heavily rely on the farm income and population growth were found the influencing socio-economic factors on the encroachment. This study further investigated the livelihood strategies of the selected villages assuming the livelihood strategies of the local people shape the land use systems which in turn impact on the forest encroachment. Two major livelihood strategies were observed; livelihood diversification and agricultural intensification, relatively to the status of livelihood resources available in different local context. Although the encroachment rate was not significantly different among livelihood diversification and agricultural intensification, lowest encroachment rate occurred in the areas where the local people engaged in non-farm livelihood activities while encroachment rate was highest in the villages where farm livelihood activities was diverse. In area where customary land tenure system remained in active, the encroachment was not serious though livelihood activities mainly relied on intensive agriculture. Summarizing overall results, inequality in land distribution during reservation, and lack of consideration of landless in the forest regulations are the major causes of encroachment. Legal recognition of the customary land management and the livelihood interest of the landless are the important considerations to stop encroachment and thus to practice good in PFE management.

Keywords: Encroachment, reservation, livelihood strategies, land-less, diversification and intensification.