博士論文（要約）

Implementation of Community Forestry Program in protection forest and its outcome: Case studies in Lampung Province, Indonesia

(保安林でのコミュニティ林業プログラムの実施とその成果：
インドネシア、ランプン州での事例研究)

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Summary of the Ph.D. Dissertation

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Introduction

Among categories of Indonesian state forests, 'protection forest' functions as a safety shield for life-support systems, such as the water cycle, soil fertility and climate, while also being a livelihood source for the nearby communities. An alarming deforestation rate of the protection forest under the centralized command and control policy together with the global paradigm shift towards more decentralized forest governance led to the adoption of Community Forestry (CF) by Indonesian government. Hutan Kemasyarakatan (HKm), one of these CF that was commenced in 1995, albeit its real involvement of local communities was not achieved until 1998. Currently, HKm is implemented in production and protection forests. While researches have been conducted for HKm in production forest, less attention has been given for HKm in protection forest. Specifically,

there is lack of comprehensive study on the implementation of HKm as well as livelihood and environmental outcome from HKm.

This study, therefore, aims to investigate the implementation and outcomes from HKm program in protection forest of Lampung Province, Indonesia. The specific objectives of the study are: 1) to investigate implementation progress of HKm program in Indonesian protection forest; 2) to understand constraints for HKm program implementation; 3) to assess impact of HKm on livelihood of participant farmers and forest condition; 4) to draw sound policy recommendation to improve HKm implementation; 5) to introduce a sustainable livelihood framework that can be applied for HKm in protection forest.

Conceptual Framework

A modified Sustainable Livelihood Framework (SLF) that can be applied for context similar to that of HKm implementation in protection forest is developed. External factors such as policy and programs implemented in local arena changes the livelihood capital as well as livelihood strategy of local people. Such intervention may be done with the purpose of just improving the wellbeing of local people or to synergize the wellbeing of local people with their role in sustainable environmental governance. The suitability of the later can be assessed based how local people are managing and utilizing the different capital and whether that is leading to improving the resilience of local people without exhausting the natural resource based. That is basically what the DFID suitability analysis of livelihood aimed for. On the latter case, which is also the interest of this study, in addition to sustainability of local people livelihood in which forest and trees are considered as natural capital that should be managed for sustainable utilization, environmental sustainability of forests that are solely to be preserved for their environmental service is given separate emphasis.

Methodology

The study employed single case study with embedded units design. Single case is preferred because the topic of interest is one policy, i.e., HKm. Embedded unit were necessary to have representative unit of analysis for two major forms of livelihood undertaken by farmers i.e., coffee based livelihood and mixed rubber and coffee based livelihood. Two HKm farmer groups, i.e. the Bina Wana (BW) farmer group in Tribudi Sukur and Tribudi Makmur villages and the Jaya Lestari (JL) farmer group in Menangajaya village, representing the two forms of farmers' livelihoods were selected for the study. Quantitative and qualitative data were collected using document and archival reviews, open ended, structured and semi structured interviews and personal observation. After categorizing members of the two farm groups in to three wealth classes, i.e. rich, middle and poor, using simple wealth ranking method, a total of 60 households from BW and 75 households from JL HKm farmer groups representing 12.5 % of the members in each wealth classes were randomly selected for the data collection. In addition to these randomly selected 135 households, data were also collected from government official in village, sub district, district, province and national level, representatives from trading association, Electricity Company, NGO, and Universities. The data were analyzed using SPSS ver. 17.

Present State of Community Forestry and Its Challenge

Indonesian government has been promoting HKm program since 1995 to improve protection forest, develop local government capacity and empower community participation in forest management. Since its commencement, the legal framework from HKm has changed seven times. Among others, the modifications included provisions related to farmers' right and responsibilities, length of HKm permit years, area of HKm and requirements to get HKm permits. In general, the program's performance was found to have been affected by the following factors: frequent change in regulation by central government; different interpretation of regulation by local government; poor staffing; and community preference for economic benefits over the

environment. Overall, the implementation, however, was found to be better in NGO supported sites than local government ones.

Impact on Local Livelihoods and Forest Condition

HKm was found to have positive impact in the five livelihood block capitals of the farmers. It has improved human capital through trainings on forest and farmer's group management; natural capital by improving security of right that in turn helped them increasing their number of trees and agroforestry crops planted in their farmland. The increased in income by selling NTFP and crops from HKm cultivated area contributed positively to strengthen their financial capital. The increased in income improved farmers' housing as well as their capability to purchase different physical capitals such as motor cycles, mobiles and household appliance. One of the requirement to get HKm permit, i.e., formation of farmers group and routine meetings within the farmer groups enhanced the social capital of farmers. Through HKm, farmers were also able to extend their networks to external agents such as government officers and NGOs. Currently, their major income generating activities contain coffee cultivation and trading, rubber cultivation and trading, paddy cultivation, livestock, hiring labor, fishery, fruits trading, vegetables trading, goods consumers trading, local government officer, honor officer, craftsman, and motorcycle taxis. The HKm also had positive impact on the protection forest to be preserved and/or improved. Farmers undertook enrichment planting and forest maintenance activities in addition to protect it from internal and external illegal loggers.

Discussion

Community forest management is one of the major contemporary forest governance policies that are implemented, particularly in developing nations, to improve livelihood of local people while sustainably manage the forests. However, achieving these dual objectives at the same time appears to be a daunting task, if not a farfetched dream, especially in contexts where much priority

is needed to be given for preservation of the forest as in the Protection forest management of Indonesia. In the protection forest, local people are needed to preserve the forest and hence cannot generate timber-based income, limiting their incentive only to non-timber products and environmental services. On the other hand, management of these forests is more demanding than other types of forests such as conservation and production forests due to their topographic location. Hence, the complexity of achieving the dual objective even looked impossible in the case of the protection forest. The results on livelihood and forest impact of HKm approach, nonetheless, revealed that the approach can synergize social and environmental outcome. In the HKm approach, farmers are allowed to cultivate and generate income from degraded part of the protection forest while collectively contributing for the preservation of forest in the protection zone. This approach increased the five livelihood capital of the farmers. The incentive provided by legitimizing their right to cultivate and generate income from the degraded land also motivated farmers to contribute for the preservation and improvement of the protection zone of the forest. Management requirements on the land allocated for HKm activities and protection, however, are too complex for the people to carry out appropriate tasks. This is not also helped by the poor capacity of the local government and farmers. In addition, as witnessed in many other researches, stable legal environment is vital to sustain such farmers' involvement in HKm types of schemes. The ongoing frequent change of HKm regulations, hence, was found to negatively impact the implementation of the approach.

Conclusion and Policy Implication

By introducing SLF that can be utilized for HKm implementation in protection forest, this study investigated the implementation of HKm program in Indonesia as well as its livelihood and environmental outcome in Lampung Province. Environmental services from protection forests are vital for life supporting systems such as air, water and soil fertility. Unlike the other major SLF, the modified SLF give emphasis for such attribute of protection forest. It divides forest that can be

considered as natural capital that can sustainably utilized by the farmers for their livelihoods and forest that should be preserved. This was found to make it important analytical tool for HKm implementation in protection forest. As the HKm approach completely excludes incentive mechanism (cultivated land inside the protection forest) from the forest that need to be preserved, at this stage, the possibility of obtaining a win-win situation in terms of forest conservation and rural development appears achievable. The result showed that HKm has improved the five capitals, i.e. natural, human, financial, physical and social, of members of the HKm farmers. It also had positive impact on the protection forest. However, implementation of HKm was found to suffer from diverse setbacks such as frequent change in regulations, misinterpretation and confusion of provision from the regulation by different actors largely because of their frequent change, lack of capacity and poor stuffing to implement HKm and complexity of HKm requirements. Keeping the legal framework stable, improving capacity of lower government, making the technical requirements of HKm simple, improving farmers' capacity, creating opportunity for NGOs involvement, frequent monitoring of protection zones, improving local market for goods and services from HKm area and, connecting HKm areas with external markets of Payment for Environmental service will help improve the implementation of HKm.