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論　文　の　要　旨
Abstract of thesis

Medicinal plants have been expected to contribute to health care improvement, poverty alleviation and biological biodiversity. The plants help conserving natural environment where medicinal plants are distributed through valuing traditional and local knowledge, complementing people's health care in the areas and social strata whose access to health care services is limited, and improving livelihoods due to potential market values of the plants. They have been studied in various disciplines; for example, ethnobotany has documented medicinal plants as traditional knowledge systems of natural resources; medical anthropology has sought factors pertaining to their utilization or medical pluralism; and forest sociology has identified them as a part of non-timber forest products. The author questions the widely shared assumptions in discourse of international organizations: 1) Medicinal plant utilization for health care is more closely associated with remote forested environments, 2) Indigenous people use medicinal plants more than non-indigenous people, and 3) People living away from urbanized areas more relied on medicinal plants than those who live closer to them. As a new attempt, the author added health care services based on modern medicine as a competitive product, in addition to the ethnicity and geographical proximity to urbanized areas, and verified the determinants of medicinal plant utilization.

Selecting Contamana as a secondary city of the Amazon area in Peru, a mega-biological diverse country, the author conducted face-to-face interviews based on structured questionnaire among 127 households in four villages – two indigenous and two mestizos – along the Ucayali River. There were similarities in the livelihoods among the four villages: a combination of shifting cultivation for staple food crops and fishery also for self-consumption. Boat was the only transportation to distant areas, and opportunities for wage works were limited. A hospital and pharmacies that the villagers visit are located only in the city, but there was a health post staffed by a nurse and a technician in one of the four villages. The questionnaire contains items on the household's and householder's attributes, most common medicinal plants, way of medicinal plant processing, health insurance subscription, and frequency of medicinal plant and health care service utilization in the past one year. Based on the quantitative data obtained from the interviews, the author elucidated medicinal plant utilization, and analyzed how 1) ethnicity, 2) proximity to urban area, and 3) health care service utilization were affected each other, and how these three influenced medicinal plant utilization.

As per the results, there was no significant differences between the frequency of medicinal plant use and

respondent's attributes such as age, gender, and educational background. In regard to the comparison among the sample villages, 5 to 15% in each village did not use medicinal plants in the past year, while approximately 20% of households almost daily used medicinal plants. The plants frequently used were concentrated on two species, although 64 species were used altogether. Among the top 10 most frequently used medicinal plants, only three originated from forests, while the remaining seven were cultivated. Indeed, nearby forests were mostly degraded secondary forests caused by shifting cultivation, and it was not easy to find plants grew in primary forests. Overall, the frequency of medicinal plant purchase and sale were low, which also suggests a weak relation between medicinal plan use and biodiversity degradation. Medicinal plants were actually used for health care, yet a transition to health care services, namely modern medicine, was observed and the tendency was clearer in the indigenous group. The linkage between medicinal plants and the indigenous group implied in assumption 2 was not supported either, because the mestizo households used more species and parts than the indigenous households. Furthermore, as for the assumption 3, regardless of the higher frequency of health care service visits by the households in the village near the city, they used processed medicinal plant remedies more than the other villages.

Starting from the necessity of an integrative approach and including the analysis of the level of urbanization, the author verified how urbanization encompassing health service prevalence and acculturation affects medicinal plant utilization. In the study area, medicinal plants and health care services co-exited; and the dependency of health care services were higher among the households in the villages closer to the city. A possible explanation why the conventional medicinal plant use was not yet replaced by health care services was that the plants they used were easy to obtain and even planted. However, the availability of health care services led respondents to perceive no problems without medicinal plants, even among households in the remote village and among indigenous people. This study evidenced the importance to consider competitive products which may define natural resource utilization in livelihood improvement and biodiversity management. The prevalence of health care services which is affected by the level of urbanization influences the utilization of medicinal plants at least indirectly, if not directly. The study also found that the linkage between medicinal plants, the forest and traditional knowledge system that commonly understood in the global community was not necessarily present, and suggested that demographic traits of medicinal plant users indicated by the previous studies were not the prescribed factors.

審 査 の 要 旨
Abstract of assessment result

Medicinal plants include wild and planted, as well as commercialized and self-consumed ones. As a commercialized product, medicinal plants are demanded as raw materials in modern medicine and also consumed as simply processed materials. Within such a broad concept, this study focused on medicinal plants utilized in daily life, and evidenced how the utilization was defined through field surveys in the Peruvian Amazon. The results revealed negligible linkage between medicinal plants and the forest environment and traditional knowledge, which has been emphasized in the global discourse, and suggested that demographic traits of medicinal plant users were not the prescribed factors. On the other hand, this study suggested co-existence of a basis of daily medicinal plant uses as a tradition and superimposed use of modern medicine, which balance were under the influence of health care services and the influence was stronger among indigenous people. These original findings were highly evaluated at the assessment.

The final examination committee conducted a plenary meeting as a final examination on November 20, 2017. The applicant provided an overview of dissertation, addressed questions and comments raised during Q&A session. All of the committee members reached a final decision that the applicant has passed the final examination.

Therefore, the final examination committee approved that the applicant is qualified to be awarded the degree of Doctor of Environmental Studies.