

## 論文の内容の要旨

森林科学専攻

平成 16 年度博士課程入学

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論文題目 Effects of Participatory Forestry on the Livelihood of the Ethnic People:  
Case Studies in Bangladesh  
(参加型林業が少数民族の生計に与える影響：バングラデシュでの事例研究)

This research has been undertaken to investigate the effects of participatory forestry on livelihood of ethnic people and conservation of forest resources by drawing data and information from Upland Settlement Project (USP) of the Chittagong Hill Tracts (CHT) and from forest villages of Sylhet forest division of Bangladesh. Two broad study sites- the CHT and Sylhet forest division- are dominated by forest-dependent ethnic communities.

### **Chapter One: Introduction**

Here I have tried to correlate, briefly, the relationship between participatory forestry and sustainable rural livelihood and its application in Bangladesh context. In order to do so, at first, the issues that set off the emergence of participatory forestry as a government forest management scheme, especially in developing countries, have been highlighted and its viewpoint have been extended to Bangladesh forestry practices. Two recent participatory forestry interventions, the USP in the CHT and Khasia forest villages in Sylhet forest division, have been selected based on the distribution of ethnic people and their dependency on forest resources. By reviewing available earlier studies in two sites, I have formulated three research problems for this study: i] to what extent the aforesaid participatory forestry programs improve the livelihood of the landless ethnic people, ii] what are the linkages between livelihood strategies and forest conservation, and iii] what are the comparative outcomes of the livelihood and forest conservation in two sites.

### **Chapter Two: Research Framework and Objectives**

In this chapter, I have extensively reviewed literatures for the construction of research framework. It starts with reviewing the emergence of participatory forestry in developing countries, factors that affect the success or failure of participatory forestry and role on livelihood of the forest-dependent people. Then I have discussed about the concept of livelihood and sustainable livelihood (SL) framework. In light of SL framework, different livelihood capitals are explained. However, concept of social capital has been elaborated as it is considered as the most important capital for livelihood improvement and resource conservation in

forested remote areas. Governance issues as well as issues of local forest management and agroforestry technology have also been elaborated. Finally, based on these reviews, I have formulated a research framework, which consists of four main referential concepts such as livelihood, participatory forestry, enabling environment, formation of livelihood assets, and local forest use and management.

Then I set four research objectives such as a] clarification of the present state of livelihood of participants in two studied participatory forestry program sites; b] ascertaining the enabling factors that influence the success and/or failure of the programs in terms of livelihood outcomes and forest conservation; c] identification and explanation of the factors that influence the practice and sustainability of customary forestry practices-shifting cultivation- in the study areas; and d] to have a cross-case analysis to explore the differences, and their reasons, in livelihood outcomes and forest conservation strategies in two study sites, based on research problems identified in first chapter and research framework. At the end, I discuss the methods of study in short.

In both study sites, I have conducted extensive as well as intensive studies by sampling large and small number of villages, respectively. Studies in the USP revealed that planters (project beneficiaries) still practice their traditional forestry practices, shifting cultivation (*jhum*). Therefore, to elucidate the dependency of planters on *jhum*, I have also conducted an in-depth study on customary forestry practices in the CHT.

### **Chapter Three: Agroforestry for Upland Community Development in the Chittagong Hill Tracts Region: based on an extensive study**

This chapter, an extensive study, explores the effects of small-scale agroforestry on upland community development in the Chittagong Hill Tracts, Bangladesh drawing data, and information from 15 USP villages. More specifically, the study clarifies the merits and demerits of different agroforestry systems as perceived by planters, their impacts on the rural economy and the environment, farmer's attitudes towards the adoption of agroforestry and impacts of various government policies.

The results indicated that the agroforestry interventions have in fact increased planters' income through employment and the selling of farm products, as well as by improving the ecological conditions of these areas through reduction of soil erosion, increasing tree coverage, and maintaining soil fertility. The Adoption of different agroforestry systems was governed mainly by the planters' interest in following these techniques, their ability to cultivate the land in the prescribed manner, and the market demand for their products. The major obstacles that prevented increased agroforestry improvements included lack of confidence in new land use systems, inappropriate project design (e.g. top-down innovation approach) and policy issues regarding land tenure. Recommendations are being proposed to strengthen social capital in local organizations to enhance the livelihoods of the upland communities.

### **Chapter Four: Participatory Forestry Program in the Chittagong Hill Tracts Region: present situation and impacts on rural livelihood**

By taking two sample villages (one relatively success and another relatively failed village) as case study this intensive research examine the present conditions of the USP in terms of progress towards achieving targeted objectives and its impacts on livelihoods of the planters, both qualitatively and quantitatively.

Albeit some researchers assert USP as a successful development intervention, I found both success and failure stories in achieving program's objectives. Because of frequent and regular monitoring, extensive motivation and planters' awareness about the benefits of project, targeted objectives are adequately achieved in successful village. On the other hand, incapability of project manager and staffs in identifying planters' needs, their cultural problems, providing appropriate training for agroforestry development, raising awareness of perceived benefits from rubber created the conditions that thwart achievement of objectives in failed village. Several local governance issues such as equity, accountability and transparency, responsiveness and information flow affect attainment of project goals and hence livelihoods of planters too. Despite these divergent project conditions, planters of both villages feel moderately happy being a participant and believe that the USP has a big impact on their livelihoods. Living together in a village and interaction with project staffs facilitate to build up social capital that support planters not only in getting help from neighbors but also capturing social development services by expanding networks with formal agencies such as NGOs, local union councils and political alliance. Several policy recommendations such as involvement of different stakeholders, creation of the sense of ownership of project among planters, collective management, provision

for ensuring accountability, transparency, and equity of different stakeholders in project activities, etc. however, are suggested that ensure effective participation of local people for successful and sustainable outcomes of the project.

### **Chapter Five: Shifting Cultivation in the Chittagong Hill Tracts Region: sustainability, rural livelihood and policy issues**

Both extensive and intensive studies in the USP revealed that planters still practice their traditional farming system, *jhum*, even within the project's land, which inspired me to conduct an in-depth study on *jhum* in the CHT. Despite the trend of dwindling productivity, tribal people of the Chittagong Hill Tracts (CHT) still practice shifting cultivation as a dominant hill farming system to support their livelihood.

This research examined how far the production from present *jhum* supports the tribal people's livelihood and what alternative livelihood strategies they have adopted for subsistence by using data on input/output and income/expenditures, and analyzing current government policies. The findings showed that productivity declined markedly, yields were almost equal to input values, and farmers experienced food shortages for at least two to six months in a year. To make a living, farmers have adopted new occupations such as wage labor, animal husbandry, cultivation of annual monocrops, and extraction and selling of forest products. Policy analysis indicates that previous policies were unable to reduce shifting cultivation intensity or improve tribal people's livelihoods or the region's forest resources. Reorientation of government policies, easy access to institutional support, and the active participation of local people in development intervention are of the utmost importance in order to find alternative land uses for sustainable hill farming, to improve the farmer's living standards, and to conserve forests and protect watersheds.

### **Chapter Six: Farming Practices by the Khasia People in Sylhet Region: based on an extensive study**

This extensive study, in the forest villages of Sylhet forest division, explored socio-economic conditions of Khasia ethnic community, their hill farming practices and impacts on rural livelihood and forest conservation. The data and information of the study have been drawn from randomly selected three forest villages of Sylhet forest division. Farmers were classified into three categories based on their mean monthly income. Eight households were selected at random from each category in each village.

Findings indicate that the lives of the Khasia people are centered on the hills and hill resources. Their economy is forest based, using simple traditional technology. Their principal occupation and source of livelihood is betel leaf based hill farming. Besides providing income and employment opportunities, this type of farming plays an important role in the conservation of the forest and its floral diversity. A buoyant market for betel, ease of establishment and maintenance and the regulation of different tree age-classes make it a sustainable production system that might be adapted for use elsewhere.

### **Chapter Seven: Forest Villagers in Sylhet Region: linkages between their livelihoods and forest conservation**

Even though many forest villagers have been living on FD land and serving the department in Sylhet region since the early 1950s, their livelihood is not fully explored yet. Taking a sample forest village of the Sylhet forest division, as a case study, this paper deeply examines the livelihoods of villagers and their contribution to forest conservation. Findings of the study indicate that the villagers are well-endowed with all the capitals of DFID's sustainable livelihoods framework, though human capital in terms of education is not satisfactory. By investigating 15 indicators under four broad criteria, study also indicates that the natural capital (i.e., agroforestry system) is sustainable not only ecologically and economically, but also socio-culturally and institutionally. Strong social capital, stable natural capital, and a productive and market-oriented agroforestry system facilitates the generation of financial and physical capitals that make the livelihoods of Khasia people sustainable. At the same time, their reciprocal contributions support forest conservation. However, some institutional issues such as land tenure and regular agreement renewal problems should be resolved for the sake of their livelihoods and forest conservation.

### **Chapter Eight: Discussion and Conclusions**

In this chapter, I have conducted two comparative discussions- a) shifting cultivation and the USP, and b) the USP and Khasia forest villages. The discussions indicate that USP has been successful in halting the extent of

*jhum* and many planters have given up *jhum* completely, and have been able to improve the living of planters by facilitating the formation of different livelihood assets. Comparison between two broad study sites pointed out that forest villagers of Sylhet forest division are in better position in terms of livelihood and forest conservation than that of the USP's planters. Sustainable natural capital base and existence of strong social capital among forest villagers are apparently the reasons for such variation.

The dissertation also has some academic merits in terms of its contributions to the academic societies. By the conducted case studies, it supports some existing theories such as appropriate forest production technologies, presence of strong social capital and good governance, etc. positively affected project's outcomes and people's living. The dissertation could also explore some new ideas such as market demand of products, which seems very important for the adoption and maintenance of sustainability of agroforestry systems as well as land tenure, and revision of SL framework is proposed.

Several policy recommendations were given. The lessons learned from this study could be useful for policy makers in formulating development projects, for researchers in conducting similar type of research, and for villagers too in mobilizing their resources such as social capital for better livelihood outcomes.