

## 学 位 論 文 要 旨

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題 目	A Study on the Human Dimension of Land Degradation: The Case of Rain-fed Uplands of the Cascaded Tank-Village System in the Dry Zone of Sri Lanka(土地劣化の人的側面に関する研究—スリランカドライゾーンにおけるカスケードタンク灌漑システム後背畑地の事例—)

Land degradation (LD) in rain-fed uplands of the cascaded tank-village systems (CTVS) in the low-country dry zone (LCDZ) of Sri Lanka is a leading environmental issue that needs interdisciplinary resolutions. Studies' biasedness towards its biophysical aspects, however, has led policymakers to judge its human aspects intuitively and to marginalize stakeholders and their views for achieving land degradation neutrality. Therefore, this thesis is aimed at investigating the human dimension of LD in rain-fed uplands of the CTVS in the low-country dry zone using four studies that focused on the decision-making and the behavior of traditional and current farmers and other stakeholders. Primary data were collected among farmers in Ranpathwila CTVS and stakeholders interested in rain-fed uplands of the CTVS in the LCDZ. The first study, focusing on shifting cultivation (the earlier use of rain-fed uplands) and its embedded conservation insights, emphasized that farmers' traditional ecological knowledge contributed to uphold the sustainability of past rain-fed uplands. Gradually, these shifting farms were converted into settled farms in which decisions of other stakeholders (E.g., the government and private sector) affect its land use. The second study, investigating farmers' awareness on LD, revealed that farmers are aware of relevant indicators of soil erosion, soil fertility decline and deforestation in rain-fed uplands by qualitatively assessing the physically examined consequences of LD. Also, farmers are aware of relevant natural and anthropogenic causes and interlinkages between processes of LD, reflecting their holistic view of the land resource. Although farmers express moral responsibility for causing LD, they articulate partial obligation to halt LD perceiving that the government possess part of the needed capacities and power. The third study, using the integrated model of the Norm Activation Model and the Theory of Planned Behavior to elucidate the causal mechanism of land users' behavior to conserve soil, revealed that farmers' soil conservation intention is a complex process that includes direct and indirect determinants. Of which, personal norm and perceived behavioral control are the salient predictors, indicating that higher moral obligation and, stronger perceived self-efficacy (E.g., confidence and competence) and controllability (E.g., resourcefulness) towards soil conservation increase farmers' likelihood to conserve soil. Delivering appropriate solutions for LD needs to understand how stakeholders perceive farmers and solutions for sustainable rain-fed uplands. Thus, the fourth study analyzing stakeholders' subjective perspectives on solutions for sustainable rain-fed uplands, revealed that stakeholders are grouped around four distinctive perspectives (i.e., improving farmers' awareness of the consequences of LD, introducing farmers' practicable conservation methods, orienting people and farms with the ecology, and controlling farmers' behavior by legal and institutional interventions) sometimes irrespective of their expertise. Interestingly, stakeholders are consensus in few solutions (E.g., introduce soil conservation methods which are appropriate and feasible to biophysical and socioeconomic context) that can enable soft discussions among them on common grounds. The study concludes that LD in rain-fed uplands is something that farmers are aware of, morally responsible for, and are likely to halt if facilitated. Yet many stakeholders perceive that farmers are ignorant of it. Therefore, the study recommends evidence-based mutual understanding among stakeholders for solving LD.