MUKUL, SHARIF [S2-P7]

FELT Forests: A novel carbon payment scheme for improved livelihoods and better management of swidden fallow secondary forests in the developing tropics
Co-author: John Herbohn

Tropical Forests and People Research Centre, University of the Sunshine Coast, Maroochydore, QLD 4558, AustraliaSwidden, shifting cultivation or slash-and-burn is a common land-use in tropical forest agriculture frontier attributed to causing large-scale deforestation and forest degradation. This view has been embedded in many policy documents, restricting small-holder's swidden practice by government's land-use and forest policy in tropics. Despite its extent in tropical region and the number of people engaged in this age-old practice, swidden is still one of the major sources of uncertainty in tropical forest carbon accounting. The recent progress in REDD+ (Reducing Emissions from Deforestation and Forest Degradation) has offered a new arena for forest conservation in tropical developing countries through rewarding rural forest dwellers for carbon and biodiversity benefits provided by their land-use. We first argue that although it is the main source of tropical forest degradation, swidden fallow secondary forests has the potential to conserve biodiversity and restore carbon in forest biomass. Due to its extent and importance to rural livelihoods a unique carbon payment scheme under the current REDD+ mechanism is necessary to address swidden fallow landscape management. We propose Fallow Enrichment for Livelihoods and Tropical Forests (FELT Forests) – a possible new scheme under the broad umbrella of the current REDD+ program to tackle this issue in tropical forest margins so as to improve the fallow management by enrichment and to enhance biodiversity and carbon benefits from such landscapes. We conducted a detail biodiversity and carbon inventory in swidden fallow secondary forests across a fallow gradient in an upland area of the Philippines – a mega biodiversity country overwhelmed with high species endemism. We found that older swidden fallow areas have very comparable tree diversity, species composition, forest structure and carbon with secondary forest that never been used for swidden. Older swidden fallow areas also found to contribute in conserving species of special conservation needs. We perform a trade-off analysis focusing biodiversity and carbon outcomes from such dynamic landscape incorporating other possible transitional land-use that may replace swidden fallow forest. Our study finds that, older swidden fallow landscapes can offer greater biodiversity and carbon benefits than that of alternate transitional land-use, and outperforms state regulated forest restoration options. Based on our empirical findings we provide detail framework and guidelines for the proposed FELT-Forests scheme for avoiding deforestation and forest degradation by rural swidden farmers, and to better manage the landscape for livelihoods and conservation benefits. We believe our findings can be useful for other tropical developing countries where swidden practice is prevalent, and have implications for forest management and conservation while improving the livelihoods of people who rely on swidden for livelihoods and food security.