

Community Forest Management and Ecological and Economic Sustainability: A Two-Way Street

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Abstract : This study analyzes the sustainability of community forest management in two community forests in Terai and Hills of Nepal, representing four forest types: 1) Shorearobusta, 2) Terai hardwood, 3) Schima-Castanopsis, and 4) other Hills. The sustainability goals for this region include maintaining and enhancing the forest stocks. Considering this, we analysed changes in species composition, stand density, growing stock volume, and growth-to-removal ratio at 3-5 year intervals from 2005-2016 within 109 permanent forest plots (57 in the Terai and 52 in the Hills). To complement inventory data, forest users, forest committee members, and forest officials were consulted. The results indicate that the relative representation of economically valuable tree species has increased. Based on trends in stand density, both forests are being sustainably managed. Pole-sized trees dominated the diameter distribution, however, with a limited number of mature trees and declined regeneration. The forests were over-harvested until 2013 but under-harvested in the recent period in the Hills. In contrast, both forest types were under-harvested throughout the inventory period in the Terai. We found that the ecological dimension of sustainable forest management is strongly achieved while the economic dimension is lacking behind the current potential. Thus, we conclude that maintaining a large number of trees in the forest does not necessarily ensure both ecological and economical sustainability. Instead, priority should be given on a rational estimation of the annual harvest rates to enhance forest resource conditions together with regular benefits to the local communities.

Keywords : community forests, diversity, growing stock, forest management, sustainability, nepal

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