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Linking Rural Households to Wood Product Value Chains – A Viable Forest Policy for Rural Development in Bhutan?

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Abstract

Forests provide additional income sources to rural households in many agrarian economies, particularly in periods of seasonal underemployment. This potential seems to be underdeveloped in Bhutan. The country is endowed with significant forest resources, but its forest policies constrain rural households from timber extraction for commercial purposes. The country's persistent environmental conservation policies and constitutional mandate to maintain 60 % of forest cover at all times have resulted in an increase in forest cover over the last decade. Today, more than 70 % of Bhutan's land area is under forest cover and the forest area that could be utilised under sustainable management practices could be more than double as high. However, policies governing the rural population's access to forest were primarily designed to accommodate their subsistence need. Since Bhutan is on track to electrify all households by 2020, the traditional importance of wood biomass as a source of household energy is becoming obsolete. This study uses an economy-wide approach to investigate the potential of forest policies that incentivize rural households to sell fuelwood under different quota regimes to the national wood product value chain including the domestic production of charcoal. Several policy scenarios are simulated, including a variant which would keep timber extraction at today's levels, but would incentivize households to substitute domestic use of wood energy with electricity. We generally find positive welfare effects for rural households, which are predominantly driven by additional employment opportunities in the winter months. Depending on the quota design, electrified households reduce their subsistence use of firewood when facing the trade-off to sell it. The estimated benefits for rural households are likely to be at the lower bound, as we do not account for potential health co-benefits through reduced indoor air pollution. Our study further highlights necessary safeguards for sustainable forest management that ensure compliance with the implemented quota regimes.

Keywords: Bhutan, economy wide analysis, forest policy, resource use, rural development, seasonality of labour, wood energy

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