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"Development on the margin"

Rural Energy Patterns and Fuelwood Demand of Mengsong Administrative Village, Xishuangbanna Prefecture, Yunnan, China

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Abstract

An estimated three billion people from developing countries worldwide rely primarily on biomass such as fuelwood and coal as energy sources for household consumption. In China, biofuels account for 70 % of rural energy consumption, of which 14.60 % is provided by fuelwood. In the mountainous regions of Xishuangbanna Prefecture, Yunnan Province China, the traditional processing of tea is of increasing importance as a driver of fuelwood consumption besides household consumption and the heating of pig feed for domestic hog feeding.

This case study is an attempt to estimate the fuelwood demand of Mengsong Administrative Village, Xishuangbanna Prefecture, and to explore the drivers for fuelwood demand as well as the importance of regenerative energies. For this purpose, Mengsong Administrative Village was stratified into three strata according to dominant land use, road and market access, and elevation. One village was selected at random in each stratum and studied through the application of qualitative participatory methods and semi-structured questionnaires, and by the weighing of firewood.

The study estimates the total annual fuelwood demand to be 3.903 t for 606 households. The main share of this amount is used for household consumption (72.11 %), pig feed preparation (15.22 %) and tea roasting (12.67 %). Differences were found to exist between villages with respect to the quantities of firewood used for tea roasting and pig feed heating. Villages with the lowest market and road access, and the highest degree of self-sufficiency in food production have the highest demand for firewood to be used for cooking pig feed as well as for the roasting of tea, which is the most important source of income in these villages. Fuelwood saving devices, such as solar heating systems and improved efficiency tea ovens have been widely adapted through villagers' own initiative.

To conclude, fuelwood is the major energy source in Mengsong Administrative Village, and is unlikely to lose its importance in ensuing years mainly on account of entrenched customs, scarcity of income sources, and a high degree of self-sufficiency. Villager initiatives to reduce the amount of combusted fuelwood could, however, be further enhanced with government support.

Keywords: *Camellia sinensis*, China, fuelwood, rural energy demand, stratification, Yunnan

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