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## What Do Farmers Want from Forest Plantation Scheme? Using Choice Experiment to Estimate Willingness to Accept and Contract Preferences

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### Abstract

Forests play an important role as an alternative livelihood for poor farmers in the mountainous area of northern Vietnam where Vietnamese government has long been supporting forest plantation via several programs. The government has recently implemented pilot projects on Payment for Forest Ecosystem Services (PFES), the first of its kind in Southeast Asia. Research on farmers' behaviour, a main provider of forest ecosystem services, can contribute to the development of a more cost-effective and higher rate of participation in the process of up-scaling the PFES to a national level. This study aims at estimating the value of willingness to accept (WTA) to plant and conserve forest using choice experiment (CE) in Hoa Binh province, Vietnam. CE is based on the decision to choose the most preferred choice constructed by different attributes, thus allows the analyst to investigate farmers' preferences and trade-off between attributes that affect their utilities. Based on farmers' experience and perspective of policymaker, five attributes (harvesting policy, forest maintenance, punishment rule, subsidy amount and frequency of subsidy delivery) have been selected from the literature and focus group discussions with local people. We used face-to-face interview to collect data from randomly selected 300 households for two rounds of survey in December 2011 and September 2012. In addition to socioeconomic profile and past experience of forest plantation and programme participation, respondents were asked to choose between two alternative forest plantation contracts or opt-out options if they do not want to participate in any contracts. Results show that four-fifth of households are interested in participating in one of the contracts. Regression results indicate that farmers do not only pay attention to subsidy amount but also on other attributes of forest management. The value of WTA for conservation oriented contract is much lower than forgone income of growing cash crops, however, it is higher than the average subsidy of the past afforestation programs. This result indicates that government would have to increase the level of payment for ecosystem service, compared to the subsidy offered in the past, in order to achieve the effective participation of farmers.

**Keywords:** Choice experiment, forest, payment for ecosystem service, Vietnam, willingness to accept