

Estimating the Supply of Ecosystem Services Using Farmers' Stated Preferences: An Opportunity Cost Approach

Katsuya Tanaka

Abstract

This study investigates the supply of ecosystem services from agroforestry practices. To this end, we estimate the farmers' opportunity cost of participating in payment for ecosystem services (PES). We do this by using the stated preference approach for a hypothetical PES program that adopts agroforestry practices. The data were collected from a farm survey conducted in 5 *barangays* in the Silang–Santa Rosa Subwatershed in Laguna Province in the Philippines. Our results show that, although farmers are generally responsive to the hypothetical PES payment, their estimated opportunity costs vary. The results also show that flexible payment outperforms uniform payment in terms of cost-effectiveness. Accounting for the farmer's heterogeneity is important for designing effective PES programs even in small regions, such as our study area.

Keywords— cost-effectiveness; opportunity cost; payment for ecosystem services; Philippines; stated preference