



Tropentag, October 11-13, 2006, Bonn

“Prosperity and Poverty in a Globalised World—
Challenges for Agricultural Research”

Payments for Forest Environmental Services How Much Do We Really Have to Pay?

TOBIAS WÜNSCHER¹, STEFANIE ENGEL², SVEN WUNDER³

¹ZEF - Centre for Development Research, University of Bonn, Germany

²Swiss Federal Institute of Technology Zurich (ETH), Switzerland

³Centre for International Forestry Research (CIFOR), Brazil

Abstract

One of the causes of extensive worldwide forest loss is the lack of internalisation of indirect forest benefits into the decision-making process of the forest owner. In an attempt to create markets and consequently a price for these services an instrument called Payment for Environmental Services (PES) has become widely acknowledged and increasingly popular. International stakeholders participate in these newly created ‘markets’ in order to secure global environmental services such as biodiversity conservation and carbon mitigation. In many cases it is especially the poor who benefit from these payments in marginal but forest rich areas. However, despite being a market-based instrument most PES programs are centrally organised with structures similar to a monopsony. The price, therefore, is largely controlled by the central agent and as a result its determination becomes a highly disputed political and social issue. We intend to contribute with an economic perspective to the discussion and compute minimum farm-scale payments on the basis of economic data from a field survey conducted with 178 land owners on Nicoya Peninsula, Costa Rica. We compare three different approaches for price determination: i. opportunity cost of forest conservation based on monetary flows; ii. willingness to accept (WTA), iii. land sale values. Preliminary results show, as expected, differences in the computed payments between and within approaches. Unexpectedly, differences between approaches do not always follow a general pattern and cannot be predicted on the basis of our data. This not only questions the applicability of the approaches but also the use of a uniform payment. As the provision of environmental services also varies greatly between land properties, a combination of information on minimum payments and spatially differentiated service provision could increase significantly the amount of environmental services bought with a fixed budget. We therefore propose auction systems as a forth alternative for price determination. Even though more complex, they stimulate the service provider to reveal real acceptable payment levels and give the service buyer the opportunity to maximise environmental services per dollar spent. Auction systems are a step towards creating real markets for environmental services.

Keywords: Auction system, costa Rica, economic incentives, environmental services, market based