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## On the Problem to ‘transfer’ Benefits estimated from Stated Preferences of OECD Citizens for the Valuation of Local Biodiversity Conservation Measures

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### Abstract

Recent estimates of the economic value of ecosystem conservation imply that conservation of primary ecosystems is up to 100 times as beneficial than ecosystem conversion to agriculture or silviculture. A substantial share of these benefits stem from indirect use and non-use values stated by OECD citizens. These ‘willingness-to-pay’ (WTP) figures are then applied to conservation areas in developing countries.

The southern Ecuadorian Andes, *e.g.*, the area of the Biosphere Reserve Podocapus-El Cónдор (BRPC), are a hotspot of biodiversity. The remaining primary forests are threatened by smallholder encroachment in the northern part of BRPC. Here, forested land is converted to pasture to raise cattle. At a net profit of about 100 USD yr<sup>-1</sup> ha<sup>-1</sup>, cattle farming is the most profitable smallholder land-use option. Selective logging (10 USD yr<sup>-1</sup> ha<sup>-1</sup>) or alder plantations (90 USD yr<sup>-1</sup> ha<sup>-1</sup>) are economically not attractive without external financial support. Does international non-use WTP for the conservation of biological diversity suffice to compensate farmers for lost profits from the non-conversion of BRPC forests?

Menzel (2003) estimated an average WTP of 108 € yr<sup>-1</sup> for German citizens for avoiding the projected loss of a half of 50.000 endangered species in developing countries. Assuming that this figure represents the maximum WTP for additional international biodiversity conservation by each of the 290 million OECD households, roughly 31.6 billion € yr<sup>-1</sup> could be generated. The total area of remaining primary vegetation in the 25 global biodiversity hotspots amounts to 2.123 million km<sup>2</sup> resulting in a WTP for additional conservation of 150 € ha<sup>-1</sup> yr<sup>-1</sup>. At current €/USD exchange rates, this appears sufficient to compensate losses from any agricultural or silvicultural development restrictions.

Among other issues in the application of stated preference studies, the ‘benefit transfer’ necessary to apply international WTP estimates to local conservation problems poses multiple conceptual challenges. Strictly speaking, none of the currently available WTP studies can directly be applied to the BRPC case as the Ecuadorian Andes (or their species) are not explicitly addressed in any of the studies. To improve the situation, new systematically surveyed data are necessary that allow for a flexible spatial reference across multiple scales.

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