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'Existence Value': A Cross-Cultural Comparison

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The Economy and Environment Program for Southeast Asia (EEPSEA) was established in May 1993 to support training and research in environmental and resource economics across its 10 member countries: Cambodia, China, Indonesia, Laos, Malaysia, Papua New Guinea, the Philippines, Sri Lanka, Thailand, and Viet Nam. Its goal is to strengthen local capacity for the economic analysis of environmental problems so that researchers can provide sound advice to policymakers.

EEPSEA Policy Briefs summarize the key results and lessons generated by EEPSEA-supported research projects, as presented in detail in *EEPSEA Research Reports*. *EEPSEA Policy Briefs* are published by the Economy and Environment Program for Southeast Asia, in cooperation with Canada's International Development Research Centre (IDRC). They are available online at <http://www.eepsea.org/>.

Valuation is one of the key tools used by environmental economists to inform decision making on crucial issues such as habitat conservation and land-use planning. By calculating how much a resource is worth, researchers can give advice on the economic benefits of conserving it or calculate damage claims or compensation if it is destroyed. However, despite valuation's importance and widespread use, a new study has shown the need for the re-appraisal of some of its underlying assumptions and concepts, especially when it comes to non-marketed goods & services. →

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A summary of EEPSEA Research Report 2001-RR1, *Existence Value: A Re-appraisal and Cross-Cultural Comparison*, by Billy Manoka (Economics Department, University of Papua New Guinea; contact: billy.manoka@upng.ac.pg).

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Definitions of value *need to be tightened*

→ The study was undertaken by Billy Manoka, a researcher from Papua New Guinea (PNG) doing his PhD thesis at the University of Massachusetts. He investigated the value of tropical rainforest — a resource which provides benefits that are global, national and local in nature. To do this, Manoka compared the willingness of people in PNG and America to pay for tropical forest conservation and investigated what underlying factors affected their responses. He found that there were significant differences in the values obtained in the two countries. He also found that non-economic values — due, for example, to ethical, moral and social factors — were a major factor motivating people's willingness to pay for forest conservation. Manoka concluded that his findings throw doubt onto the advisability of transferring valuations between study areas — particularly between developed and

developing countries — and that definitions of what constitutes 'value' and 'willingness to pay' need to be tightened if inaccurate value estimates are to be avoided.

A Tale of Two Cities

Manoka's study was focused on two cities: Portland, Maine, USA and Port Moresby, PNG. Port Moresby is the capital of PNG and has a population of about 200,000 people. It was chosen because it contains a good mix of people from all over the country. Portland is smaller in population (63,000) and was chosen because it is located in a state that has large tracts of forested land. PNG is one of only a few countries that is still largely covered with forests: over 70 percent (36 million hectares) of its total land area is forested. However, only 0.02 percent is protected. Deforestation is a major threat, especially industrial logging and between 300,000 and 330,000 hectares of natural forest are cleared each year. In comparison, less than 4% of US temperate rain forest is left. Most of the original forest has been logged, developed or converted to agriculture.

Manoka used a mail-back questionnaire to carry out his research. The questionnaire — developed

through a series of verbal protocol studies and pre-tests — was sent to a random sample of residents in both cities. It included information about tropical forest conservation issues and asked respondents their opinions on issues such as why forests should be protected and under what circumstances they should be cut.

To get an estimate of the economic value people place on tropical forest conservation, Manoka asked respondents about their willingness to donate to a United Nations Fund to preserve 110 million acres of rain forest in national parks and nature reserves in 57 tropical countries — enough to put a total of 10% of the world tropical forest under protection. Half of the respondents in each city were asked whether they would be willing to pay (WTP) a randomly selected amount of money (dichotomous choice — DC — survey). The other half were simply asked how much they would donate (open ended — OE — survey).

A Cross-Cultural Approach

Manoka's study was an extension of work done in 1997 by Kramer and Mercer, who analyzed the willingness of US residents to pay to preserve an additional five percent of the world's tropical rain forest. Kramer &

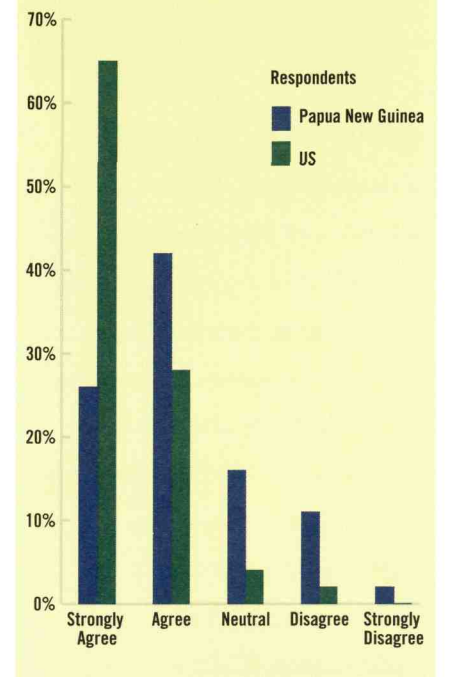
Mercer had highlighted a need for more cross-cultural studies that compare environmental values that are global in nature — especially important in terms of tropical forest conservation, since the issue is often framed as a 'developed country versus developing country' confrontation. Manoka's study went beyond the Kramer and Mercer study by examining the extent to which the differences in WTP between Americans and Papua New Guineans is based on cultural orientation, motives and socio-economic differences. It also investigated the motives underlying existence value in order to isolate the non-economic components of WTP.

Manoka designed his questionnaire to identify the economic and non-economic components of WTP for existence value. The non-economic components would include intrinsic value, ethical, moral and social values. These values are non-economic because they do not involve tradeoffs between consumption bundles or between income and consumption bundles.

Non-Economic Values Matter

In general, the results for both the PNG and US surveys showed that at least 50 percent of the mean WTP was accounted for by the non-economic

"Do you think that as much tropical rainforest as possible should be preserved, no matter what the cost?"



*"Assume that the United Nations creates a special
"Save the Rain Forest Fund"... saving 10% of all
tropical rainforests ..."*

components. As a proportion of total mean WTP: (1) existence value was smaller for Port Moresby residents and larger for Portland residents, and (2) use value was larger for Port Moresby residents and smaller for Portland residents. This was as expected since Port Moresby residents were asked to value a resource where they have more direct interaction than the US residents. Statistical tests showed that Portland and Port Moresby benefit estimates were significantly different. This means that benefits could not be directly transferable between localities, especially between developed and developing countries.

The dichotomous choice (DC) model shows that option value, paternalistic altruism and good cause were the motivating factors for WTP for Port Moresby residents whereas age and income were the determining factors for Portland residents. Little

difference was found using the open-ended (OE) model. In particular, option value, good cause, fair share and environmental quality were the motivating factors for Port Moresby residents while age and income were the significant variables for Portland residents. In all the models, respondents were willing to pay more if they were motivated by cognitive value. (Cognitive value is an economic value that is derived by simply thinking about the resource, independent of current and future use values.)

The study also showed that Port Moresby respondents preferred to spend over 70 percent of their contribution to go towards the preservation of PNG's rainforest. This result was as expected. Port Moresby respondents were more concerned about their "own backyard" than preserving tropical rainforest in general. The results provide support for the establishment of a local Conservation

Trust Fund. Many respondents also expressed the sentiment that the rich nations of the world (including the US) should bear the responsibility for preserving tropical rain forests.

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