

Economic Variables Affecting the Bids of Households for an Improved Environmental Quality In The University Of Eastern Philippines

Cherry I. Ultra, PhD and Allan A. Ultra, MS
Faculty Members of the University of Eastern Philippines

Introduction

The University of Eastern Philippines (UEP) campus is located three kilometers east of the capital town of Catarman, Northern Samar and occupies an area of 419 hectares. A total of 63.8 hectares is its residential area, where its faculty, employees and students mostly reside with an estimated population of 7,000. Considered a University town, it consists of three distinct barangays, namely: Barangay Zone I, Zone II, and Zone III. The population in the university campus is growing and it does not have a sanitary landfill to dispose of the garbage properly. Thus, residents have to resort to dumping their wastes in an open dumpsite, which is located in Catarman, Northern Samar. The present solid waste management system of the University of Eastern Philippines needs an immediate solution to its pollution. Based on an economist's point of view, pollution is a kind of externality that the polluter should have to take responsibility for. It should not be solved using only the biophysical components, but it should consider the economic aspect so the polluter should have to pay the cost of abatement if pollution is to be eliminated. Because pollution is an economic problem, it has to be priced so that the polluter has to take responsibility for it. Hence, this study analyzed the economic factors affecting the bids of households for an improved environmental sanitation in the University of Eastern Philippines.

Research Methodology

Primary data of sixty three (63) household respondents were collected using a structured interview schedule in the three Barangays of the University of Eastern Philippines. These economic data were household income, household size, educational attainment, and occupation.

To analyze the economic variables affecting the bids of households for an improved environmental sanitation all the three barangays of the University of Eastern Philippines were chosen. Complete enumeration was used in selecting the sample barangays and random sampling technique was utilized in selecting the sample households in each barangay.

The number of households in the three barangays totalled to 1,274. The total number of respondents in this study was determined by getting 5% of the total number of households in the three barangays. Hence, a total of 63 household respondents comprised the total sample size of the study of which 18 (UEP Zone I), 13 (UEP Zone II), and 32 (UEP Zone III). Proportional allocation method was utilized in determining the sample size in each barangay.

The households' bids for a certain percentage of their household income was determined through the Contingent Valuation Method (CVM) with the willingness to pay format. The benefit valuation technique relies on estimating the willingness to pay for an improved environmental sanitation. This was done by asking the respondents in each sample barangay how much they were willing to pay for an improvement in environmental sanitation during the household surveys. Mean and mode estimates of the willingness to pay were computed. The mode values are preferred to the mean values since the mean values might be affected by outliers which might either pull up or pull down the mean. The estimate mode value could be used as the user charge that could be imposed to residents in all barangays of the University of Eastern Philippines.

Logit analysis was employed to determine the economic factors that influence the willingness to pay behavior of households regarding the improvement of environmental sanitation through solid waste management program.

The chi-square test was employed to determine if the amount that households are willing to pay for an improvement in environmental sanitation through a solid waste management program and household income or educational attainment were independent of each other.

Multiple regression analysis was employed to determine the factors which might explain the variation in the amount of money that households are willing to pay for an improvement in environmental sanitation.

Results and Discussion

Data on some socio-economic characteristics were gathered to be able to explain the differences in the sample households' solid waste management practices and their willingness to pay towards improving the environmental sanitation of the three barangays of the University of Eastern Philippines.

On the average, the sample respondents from Brgy. Zone III had a higher number of household (5.8) than the sample respondents from Brgy. Zone I (5.1) and Brgy. Zone II (5.4).

On the average. The sample respondents in Brgy Zone I had the highest educational attainment (14.2 years), followed by Brgy Zone III (14.9 years), and Brgy. Zone II (14.2). These figures indicate that, on the average, the sample respondents in the study areas had reached college.

Majority of the sample respondents from Brgy Zone I, Zone II and Zone III are professionals composed of teachers, nurses, entrepreneurs, and government employees. Brgy Zone I had the highest proportion of professionals (72.4%), followed by Zone II (58.7%), and Zone III (54.2%).

On the average, the sample respondents in Brgy Zone I had the highest monthly household income (P75,000), followed by respondents from Brgy. Zone II (P58,354), and Brgy Zone III (P57,572). This could be attributed that most of the respondents in the study sites are professionals.

Majority (88 %) of the 63 sample respondents in the three barangays of the University of Eastern Philippines studied indicated that they were willing to pay for an improved environmental sanitation through a solid waste management program. The modal WTP bids in all communities ranged from P170 to P190 from the household survey. Currently, no garbage collection fee is charged from households in all the sample barangays of the University of Eastern Philippines.

The logit and multiple regression results showed that the probability of households being willing to pay and the willingness to pay bids for an improvement in environmental sanitation were significantly and directly related to household income, household size, occupation, and educational attainment.

Recommendations

Based on the foregoing results of the study, the following recommendations are suggested: 1) Public advocacy on solid waste management should be conducted so as to give complete information regarding solid waste management program policies; 2) Additional solid waste collection and disposal vehicles should be purchased so as to address the increasing volume of wastes from households; 3) Local government units should collect a user charge from households for solid waste collection and disposal services; and 4) further study should be conducted to value the cost of abatement measures as a basis for estimating the penalty that would deter households from dumping their wastes into the land ecosystem.

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