

Household willingness to pay for solid waste management: A review of literature

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Abstract: *Solid waste is the major environmental problem everywhere. Some services must be provided and the community participation is more needed so that this environmental issue can be eliminated. Therefore people's willingness to pay for those services is important. Willingness to pay is the maximum amount an individual is willing to sacrifice in order to procure a good or avoiding something undesirable. This paper looks on over view of willingness to pay for solid waste management. Based on the surveyed literature income, educational level, age and size of household influence the willingness to pay for solid waste management.*

Keywords: Solid waste; Household; willingness to pay.

Introduction

The rapid growth of population in every country has accelerated the rate of urbanization which always results in increasing generation of solid waste. Solid waste can be defined as any residue that is of no use in its own current status to the people who caused it (UNP 2004). As solid waste generation increases, this leads to the different environmental problem as well as health problem to the population. Sometimes government fails to manage this waste problem. The private agencies and people participation play a major role in the management of solid waste. The bellow studies bellow show the people's willingness to pay for solid waste management (SWM) and the factors which influence their willingness to pay.

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Author & Year	Topic of Research/Region	Valuation Method	Findings/suggestions
Olojede et al. (2014)	Households willingness to pay for improved Solid Waste Management in Akinyele Local Government, Nigeria	Contingent Valuation	The households are willing to pay for improved solid waste management while majority of them choose the low price level for improved solid waste management. The study suggests that participation of household must be increased by informing them about the nature of improvement so that the importance of household in improved solid waste management being reached.
Dagnew (2012)	Households' Willingness to Pay for Improved Urban Waste Management in Mekelle City, Ethiopia	Contingent Valuation	The study reveals that among the factors income and awareness of environmental quality significantly influence the household willingness to pay for improved solid waste management. The study suggests that the fee charged for solid waste management must be increased so that the company dealing with solid waste management can reach their goals.
Dadson et al. (2013)	Urban Households' WTP for Improved Solid Waste Disposal Services in Kumasi Metropolis, Ghana	Contingent Valuation	The study shows that respondents willing to pay more for improved waste management services. Improved waste management service is determined by level of education, length of stay in area, housing arrangement and distance to solid waste dumping site. The study suggests that all the people must come forward for managing solid waste.
Nkansah et al. (2015)	Willingness to pay for improved solid waste disposal in Tema Metropolis	Contingent Valuation	Majority (85%) of the respondents are willing to pay for improved solid waste service. Willingness to pay for improved waste disposal in Tema Metropolis is greatly influenced by educational level, number of dependents, income, size of household and distance to solid waste dumping sites.
Aggrey and Douglason (2010)	Determinants of Willingness to Pay for Solid Waste Management in Kampala City	Contingent Valuation	The households are willing to pay for improved waste management but it is not directly influenced by education level, marital status, quantity of waste generated, household size and household expenditure. Age of the respondents alone has significantly related to the willingness to pay. The study suggests creating awareness on negative side of mismanagement of solid waste.
Yousuf et al. (2007)	Determinants of willingness to pay for improved households solid waste	Contingent Valuation	The study shows that service price, education level, age, household size and the household monthly expenditure are the main variables that determine or influence willingness to pay for waste management.

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	management in Oyo State, Nigeria		The study Also found that the estimated mean willingness to pay is positive and high. This will directly affect the welfare of the people. Authors suggest that households should demand and pay for improved waste management for their own welfare.
Ajok et al. (2012)	Households' Willingness to Pay for Improved Municipal Solid waste Services in Kampala, Uganda.	Contingent Valuation	This study shows that 48.1% of households in Kampala were willing to pay for improved municipal solid waste management service with the mean monthly amount of USD 2.91. The study also shows the Monthly amount that households were willing to pay ranged between USD 0.054 and USD37.84 . This willingness to pay for improved solid waste management service is influenced by gender, age, household size ,educational level, income level, marital status and migration status of household respondent
Anjum (2013)	willingness to pay for solid waste management Services: A case study of Islamabad, Pakistan	Contingent Valuation	In this participative study, the logit regression showed that 65.4% of the respondents were willing for the proposed scenario, through which the environmental situation of region can be improved. The estimated mean willingness to pay for SWM is Rs 298.15 per household per Month .The determinants like age ,services availability and household size of respondents showed a negative relationship, while other variable like education, environmental awareness and income of the respondents showed positive relationship with willingness to pay of respondent .The study suggested that the service on solid waste management should be provided and the participation of the community is of prime importance for improvement of environmental situation in that region

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kumar et al. (2013)	community attitude perception and willingness to pay towards solid waste management in Bangalore City	Contingent Valuation	The study showed that 63 percent of the respondents willing to participate in the solid waste management program. The number is not so high because the majority of households 85 percent were not aware about the generation and the disposal of solid waste due to their busy schedule and only the few rest 14 percent know about the generation and disposal of waste. The willingness to pay for the solid waste management is positively related to the size of household and its income. The study suggested that a fee must be imposed on those who dump waste illegally. The fee charged may be similar to electricity bill or water bill. The awareness of the people's participation in solid waste management should be increased.
Kwabena et al. (2014)	Determinant of willingness to pay for improved solid waste management in Dunkwa- on offin,Ghana	Contingent Valuation	The study showed that majority 94 percent of respondents in this study were happy and satisfied with the present solid waste service rendered to them and their willingness to pay for improved solid waste management is directly related to level of education, gender, household size as well as age of household head. This study suggested that household should be educated on solid waste disposal in order to maintain the quality of environment.
Adepoju &Salimoni (2013)	Household willingness to pay for improved solid waste management in Osun state,Nigeria	Contingent Valuation	It shows that the idea of paying solid waste management service is not new and that is why majority of respondents were willing to pay for alternative waste service added to the current one. Sex, education and household expenditure were found to be positively related to willingness to pay for solid waste management. The study suggest that facilities to the investors dealing in solid waste management should be provided and the they might make affordable price against household the solid waste management service
Mahima and Sherley (2012)	Estimating households willingness to pay for solid waste management with special reference to palakakad District,Kerala	Contingent Valuation	This study showed that there is poor solid waste management because the management of SWM is done by municipal sanitation staff and the households are not aware of solid waste management. However the exits inadequate equipment and facilities in the District. Also, the Solid waste management is not well organized which leads to their inefficient. The study suggest that the solid waste management system must be updated

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Mary and Adelayo (2014)	willingness to pay for improved Solid Waste Management in Akinyele Local Government Area	Contingent Valuation	In their study revealed that the poor environmental quality should be dreaded by households because of health poor quality that could result from it and be ready to pay for improved way of managing solid wastes. It influences positively their welfare. The multivariate binary logistic regression revealed that the households' willingness to pay was increased as price of the service decreased reduced as age of the respondents increased, increased as level of education increased and reduced as household size increased. It was recommended that households should thereby attach a great value to their environment and demand and pay for whatever improved service introduced to them that will make their environment clean because environmental quality will greatly influence their general Wellbeing and benefit them.
Tariq,M.and Rashid,M.(2014)	Solid Wastes Management and its Willingness to pay Mingora, Swat	Contingent Valuation	The study shows that the average household solid wastes per day are 1.55 kg. The study shows that 445 of the respondents were willing to pay 100Rupees (USD 1.75) per month for solid waste management service. The study suggested that the people awareness and government participation must be increased for combating solid waste.
Set et al. (2014)	Household demand and willingness to pay for solid waste management service in Tuobodom in Techiman North District, Ghana	Contingent Valuation	This study was done for examining whether demographic characteristics of respondents affect Willingness to pay for Solid waste management services. In the many area , huge number of respondents wished to have a good environment but few respondents 38 percent willing to pay for improved solid waste management, The socio economic characteristics like age, income education and employment had no influence on the willingness to pay among respondents. The study suggests that the district authorities must provide the solid waste collection containers and make people aware of problems caused by mismanagement of solid waste.

Conclusion

The studies conducted in different areas for studying willingness to pay for Solid waste management, the studies revealed that the term solid waste is not new to the population because in their daily life they meet the generation of solid waste and sometime face the problems occur due to mismanagement of waste. The management of solid waste is the task of government but the studies shows that government fails to give a proper service for waste management, therefore the participation of Private agencies and the population is needed in this issue. The studies show that a huge number of population wish to have a clean environmental but the number of those who wish to pay for solid waste management is low. The most important factors which influence the willingness to pay of the people are age, size of household, the income, educational level.

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