

# Willingness to Pay for Improved Solid Waste Management System: Analysis in Two Selected Cities of Pakistan

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## Abstract:

Solid waste management is a crucial issue in many countries around the world, and Pakistan is no exception. For two particular Pakistan cities, a better solid waste management system has been suggested as a solution to this problem. In this study, a questionnaire was developed to estimate household willingness to pay for improved solid waste management system in major metropolitan cities, Lahore, and Islamabad. Awareness on trash disposal, behavior of individuals, and society as a whole towards the environment was also investigated. The results of the study showed that households were willing to pay a significant amount for improved solid waste management systems, indicating a growing awareness and concern for environmental issues. Additionally, the study found that individuals who had a higher level of education were more likely to be aware of proper trash disposal methods and the impact of their actions on the environment. This highlights the importance of education in promoting sustainable behavior and improving environmental quality. Overall, this study provides valuable insights into household attitudes towards waste management and environmental responsibility, which can inform policy decisions aimed at promoting sustainable practices and protecting our planet for future generations.

**Keywords:** Willingness to pay (WTP); Solid waste management (SWM); Statistical Analysis;

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## 1. Introduction

Rapid urbanization in emerging nations has resulted in a variety of environmental issues. This includes the failure to handle waste properly, provide clean drinking water, disposal of municipal solid waste, and reduce air and noise pollution. Solid waste production is growing quickly, and this is turning into a significant environmental issue in developing nations. Most developing nations now use inefficient strategies to manage their solid waste. Acid rains, the greenhouse effect, ozone depletion, and difficulties with water and soil contamination are all results of this ineffective solid waste management (Khattak N et al., 2019).

Solid waste refers to the non-liquid refuse, garbage, or debris generated from human and animal activities. Examples of solid waste include food waste, paper, plastics, glass, metal, textiles, and hazardous waste materials. Proper management of solid waste is important for public health, environmental protection, and resource conservation. Effective SWM requires a combination of technical and institutional solutions, as well as the active participation of individuals, communities, and businesses. This can include the development of waste management plans, the use of appropriate technologies, public awareness campaigns, and the involvement of the private sector. Solid waste management (SWM) is a major challenge facing many countries across the world, including developing countries. The increasing generation of waste, combined with the lack of appropriate infrastructure and regulation, can result in significant environmental and public health problems (Khan S et al., 2022).

Solid waste management (SWM) is a critical environmental and public health issue in Pakistan. It is estimated that the country is generating around 68 million tons of solid waste annually, with an average growth rate of 1.7%

per annum (Rashid et al., 2020). Solid waste management is a major challenge for the country as it is a developing nation with limited resources and infrastructure. This is further compounded by the fact that the country's population is expected to reach over 380 million by 2050 (UNFPA, 2018). Solid waste management is crucial in order to reduce the environmental impact and public health risks caused by poor waste disposal practices. In this article, we review the current state of SWM in Pakistan, the challenges faced, the policies and initiatives taken by the government, and the role of stakeholders in improving the situation ((Rashid M et al., 2020) (Quraishi U et al., 2022).

The current waste management system in Pakistan is largely based on the “dump and burn” method, which is inefficient and unsustainable. The majority of solid waste is disposed of in open dumps, with over 1,700 such sites operating across the country (Rashid et al., 2020). The lack of proper landfill sites has led to the improper disposal of hazardous waste, leading to further environmental and public health risks. The challenges faced by Pakistan in solid waste management are numerous and varied. One of the major challenges is the lack of adequate infrastructure and resources. The country lacks the necessary resources and infrastructure to manage solid waste effectively, including waste collection vehicles, disposal sites and proper disposal equipment. Furthermore, there is a lack of awareness among the public about the importance of proper waste management, leading to improper waste disposal practices (UNFPA 2018).

Lahore, Pakistan's second-largest city with a population of around 9 million, lacks a proper waste treatment and recycling facility, which forces the informal sector to recycle 27% of the city's solid waste. The present solid waste management system in the Lahore region is inadequate and in need of further development in terms of increased collection rates and efficiency, recycling containers, and trash segregation at storage. Landfills' negative impacts on Pakistan's groundwater system, particularly in Lahore, are growing daily as a result of the country's unsustainable population growth and increasing industrialization. The poor waste management procedures used at landfills and the lack of a leachate collecting system have a significant influence on the aquifer's ground water quality of Lahore (Quraishi U et al 2022) (Huda N et al., 2019).

Recent evaluations in Pakistan's main cities revealed that the average trash creation rate from all sorts of municipal managed regions ranges from 0.283 kg to 0.613 kg per person per day, with garbage production increasing annually at a rate ranging from 3.67 percent to 7.42 percent. The majority of respondents to the questionnaire poll indicated that they would be ready to spend less than USD 4.8 for the upgrading of the local area's waste management facilities, despite having middle-class wages. As population grew, garbage size also grew, demonstrating that homes with lower incomes experienced greater health issues than those with higher incomes. There is a significant relationship between income, education, and willingness to pay for improved solid waste management facilities in Lahore (Huda N et al., 2019).

The population of Islamabad is 1.019 million and Rawalpindi comprises 2.09 million inhabitants, respectively. Despite being well-planned cities, they still lack a functional garbage disposal system. CDA and Rawalpindi Garbage Management Company gather just 60% of the waste generated in the cities. Study shows that for the protection of ground and surface water resources, the twin cities' waste disposal technique is open dumping without any gas collection or leachate management system. There is no trash segregation at the source among homes, and produced rubbish is jumbled in a single container. Moreover, a huge amount of waste is dumped on the bed of the Soan river and the Nullah Lai is a river that conveys a large volume of untreated communal sewage and municipal solid waste throughout its length (Huda N et al., 2019) (Akmal T et al., 2021).

People are increasingly aware of and worried about their trash disposal and environmental quality as a result of the great expansion of the educational sector, accessibility to knowledge, and constant information. The gender of the household head, the status of the household's occupancy, the amount of household waste that has been collected, the travel time to the nearest public collection or disposal sites, and the proximity of the nearest public bin to be emptied are some of the factors influencing household willingness to pay to improve solid waste management (SWM) in Pakistan. Ineffective policies are adopted in the collection of municipal waste in these important Punjab cities. To address Pakistan's issues with solid waste management, appropriate policies should be implemented. These include staff training, collection frequency, a good pick-up location, adequately covered, well-maintained trash containers, community and private sector involvement and offering incentives for a cleaner neighborhood.

The existing legal and regulatory framework for SWM is inadequate. The existing laws and regulations are not enforced properly, leading to ineffective solid waste management. Furthermore, the current waste management system does not prioritize recycling and reuse, leading to an inefficient use of resources. Despite the existence of these regulations, solid waste management in Pakistan is still inadequate. There is a lack of awareness of the importance of SWM, as well as a lack of resources and infrastructure to support it. Many municipalities lack the capacity to implement the SWM rules, and there is a lack of coordination between different levels of government. As a result, solid waste is often not collected or disposed of properly, leading to environmental pollution and public health risks. Sustainable solid waste management is the need of hour in Pakistan (Khan D et al 2016).

The willingness of Pakistani families to pay for better solid waste management was examined by (Quraishi

et al.,2022). According to the study, numerous policies have been implemented in Pakistan to increase the ratio of people who are willing to pay for better solid waste management. However, only a small percentage of families who are aware of the serious health issues and rising environmental pollution are willing to pay as compared to those who are unaware. Results also indicated that large cities in Pakistan's mountainous regions, which have an increasing population and poor solid waste management, face a more difficult SWM challenge than Pakistan's plain areas do and major cities in Punjab, including Islamabad, Lahore, and Peshawar are suffering from serious environmental degradation problems (Quraishi et al.,2022).

Huda et al. investigated that Punjab, Pakistan's most populous province, produces over 16.43 million tons of waste yearly. Major Punjab cities of Punjab such as Islamabad and Lahore, have experienced rapid urbanization and population growth over time, which has boosted the production of MSW. Lahore generates 0.5 to 0.65 kilograms of trash per person per day, and the annual MWG rate has been as high as 5 million tons (0.84 kg/c/d). The results of the current study demonstrate that although the authorities in study regions offered waste management facilities, their effectiveness was low, and the majority of the people were dissatisfied with the facilities. The SWM system has to be enhanced to improve the environment's and people's health (Huda N et al., 2019).

A study conducted by [7] showed residents' health varies and environmental concern depending on their closeness to a dumpsite in Islamabad–Rawalpindi. According to study, those who lived near dumpsites were more exposed to a variety of risks, including air pollution, water contamination, mosquitoes, and health disease. Only 51.4 percent of the inhabitants in the study region used garbage collection services. The necessity of safe and appropriate trash collection and disposal services was frequently proven in Pakistan's assessment of waste-related disease. The data provides municipal governments additional insights in terms of addressing the unsustainable demand for waste (Akmal et al.,2022).

Anjum et al. [8] conducted study in Islamabad, capital city of Pakistan to investigate willingness of people to pay for solid waste management services. According to the findings for logit regression, 65.4% of the respondents are in favor of the suggested scenario, which might help the region's environmental state. The findings of the second regression model revealed a mean willingness to pay of Rs 289.15 per family per month and the factors that affected it, including the respondents' age, the availability of services, and their household size. These findings perfectly reveal a possibility for cost recovery and income creation through the provision of such services, while the logit results demonstrate people's environmental concern (Anjum R et al., 2013).

One of the key studies on solid waste management in Lahore, Pakistan was conducted by [10]. The study found that the city generates approximately 3,000 tons of solid waste per day and faces various challenges in managing it effectively, including a lack of proper collection and disposal facilities and limited public awareness (Anwar M et al., 2016). Another study by Akhtar et al. (2018) analyzed the solid waste management practices in Karachi, Pakistan. The study found that the city generates over 10,000 tons of solid waste per day and faces various challenges in managing it, including a lack of proper collection and disposal facilities, limited public awareness, and insufficient financial resources (Akhtar S et al., 2018).

A study by Saeed et al. (2019) focused on the solid waste management practices in the Rawalpindi and Islamabad regions of Pakistan. The study found that the regions generate over 2,000 tons of solid waste per day and face various challenges in managing it effectively, including a lack of proper collection and disposal facilities, limited public awareness, and insufficient financial resources (Saeed A et al., 2019).

In conclusion, solid waste management in Pakistan is a growing concern due to increasing population, rapid urbanization, and economic development. The country faces various challenges in managing its solid waste effectively, including a lack of proper infrastructure, limited public awareness, and insufficient financial resources. Further research is needed to address these challenges and improve solid waste management practices in Pakistan.

## **2. Methodology:**

The research was carried out at different regions in major cities of Lahore and Islamabad, Punjab Pakistan. A survey was conducted in adult population among different communities to assess the willingness to pay for improved solid waste management and associated factors among households. The poll included a total of 250 households to fill in the questionnaire. The survey was conducted on a limited sample of the city's population of Lahore and Islamabad. As a result, the research sample was biased. The research shows the estimation of willingness to pay for solid waste management on certain age group of people. A google formed based questionnaire was developed and conducted online. The questionnaire was reviewed multiples times and kept simple. The responses were analyzed. The purposes of the survey and all the terms used in the survey were explained to the respondents and maintained confidentially. Secondary data was collected by using the internet and library to gain access to publish articles, journals, and reports. Primary data was collected through interviews and questionnaire survey. The questionnaire included closed ending questions that were filled by 250 households of urban community. The survey shows different responses of people regarding solid waste management. The questionnaire survey responses were statistically analyzed and compiled by using the IBM SPSS software. Positive

and Negative responses of defendants were calculated.

### 3. Results and Discussion:

According to the demographic information (Table:1), the majority of the respondents belonged to the age category of 20-25 years (73.1%), followed by the age category of above 25 years (15.5%) and age group of 30 and above (11.1%). With respect to gender, majority (74.8%) were females while remaining respondents (25.2%) were males. The results of the socio-economic status showed that the majority of people who took part in the study belonged to middle class (81.2%), followed by upper class (17.7%) and lower class (1.1%). The results of the questionnaire survey regarding willingness to pay for improved solid waste management system: analysis in two selected cities of Pakistan is presented in Table:2

The results of the questionnaire survey (Table 2) indicated that almost 76% respondents agreed that solid waste management is necessary. The results determined by this statement are surprising at all as almost all people are aware of solid waste problems because of its observed negative effects. Only 34% of respondents were willing to pay for improved SWM while others think it's the government's responsibility. Results demonstrated that people were aware of solid waste management problems and health consequences of open dumping, but they were not ready to pay for it.

### 4. Statistical Analysis:

Pearson correlation was examined between multiple variables to determine the level of awareness regarding solid waste and willingness to pay for improved solid waste problems between respondents of different households in Lahore and Islamabad. Firstly, the Pearson correlation was performed between multiple variables like age, necessity of solid waste management, current solid waste problems in society and willingness to pay for it (Table:4). As a result, positive correlation was observed between respondent's socio-economic status, gender, and willingness to pay for SWM system at 1% level of significance.

Pearson's correlation was also performed between different variables like gender, age and socio-economic status and the variables of willingness to pay for SWM services, participation in SWM activities and implementation for proper disposal of waste in community (Table :4). The results of the Pearson correlation between variables shown in table 4 were also found to have positive correlation at the significant level of 1%. This suggests higher the socio-economic status, the higher will be changes in people lifestyles for tackling solid waste management problems in their community. More awareness among people is also essential in order to tackle waste problems among these two cities.

The descriptive statistics shows mean (M), standard deviation (St. Deviation), maximum (Max) and minimum (Min) values of the different variables. As shown in table 5 Survey includes information of 361 respondents. The difference between maximum and minimum age of respondents is 20-25 years. Respondents are mostly females. For Socio-Economic status maximum respondents' response is middle class and minimum response is lower class. Total number of responses includes N: 250. All the values the M are laying within the range of (1 to +1) which confirms the normality of the data similarly the values of standard deviation are laying within in the range of (0.1 to 0.55) also shows the normality of data and the descriptive statistics of each item were also measured to get the data which is presented in the appendix. These values confirm the normality of each response. Solid waste management refers to the collection, transport, processing, recycling, and disposal of solid waste. In Pakistan, solid waste management is a growing concern due to increasing population, rapid urbanization, and economic development. The country faces various challenges in managing its solid waste, including a lack of proper infrastructure, limited public awareness, and insufficient financial resources.

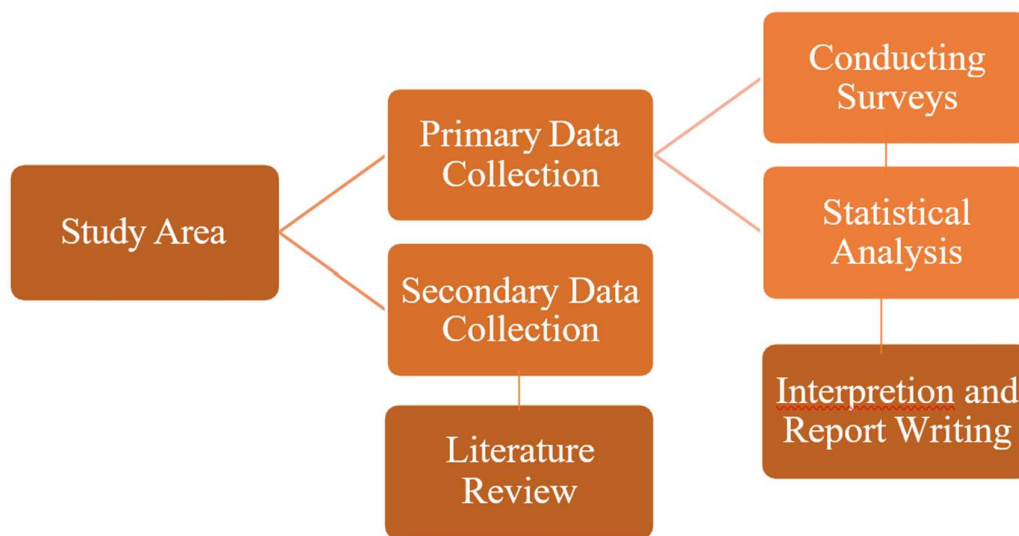
### 5. Conclusion

In this study, a questionnaire was developed to estimate household willingness to pay for improved solid waste management system in selected areas and awareness on trash disposal and environmental quality. Willingness to pay, behavior of individuals, and society as a whole towards the environment was also examined. The issue of solid waste management has been a major concern in Pakistan for many years. The current system is inefficient and ineffective, leading to piles of garbage on the streets and in public spaces. To address this problem, there have been calls for an improved solid waste management system that can handle the growing amount of waste generated by the country's rapidly expanding population. However, implementing such a system would require significant investment, both in terms of infrastructure and personnel. The question then arises as to who should bear the cost of this investment. One possible solution is to introduce a willingness-to-pay (WTP) scheme, whereby households are asked to contribute towards the cost of the new system based on their ability to pay.

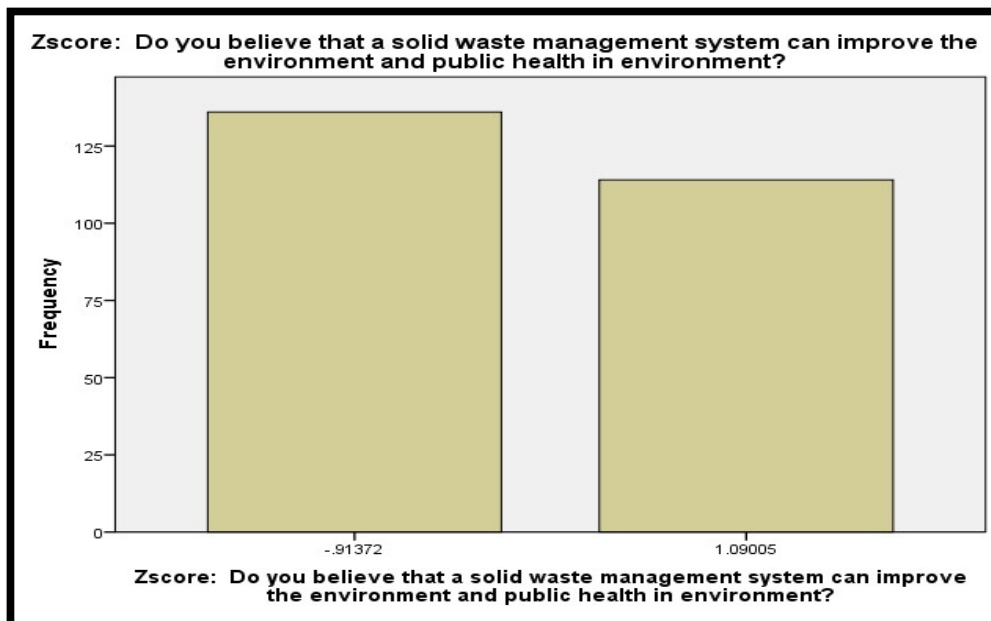
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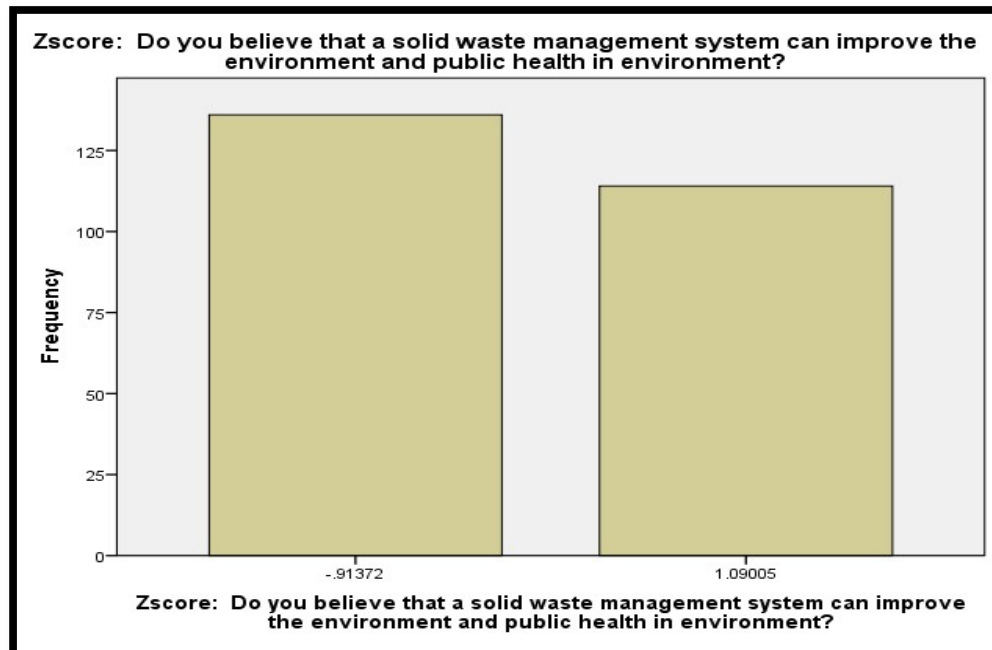
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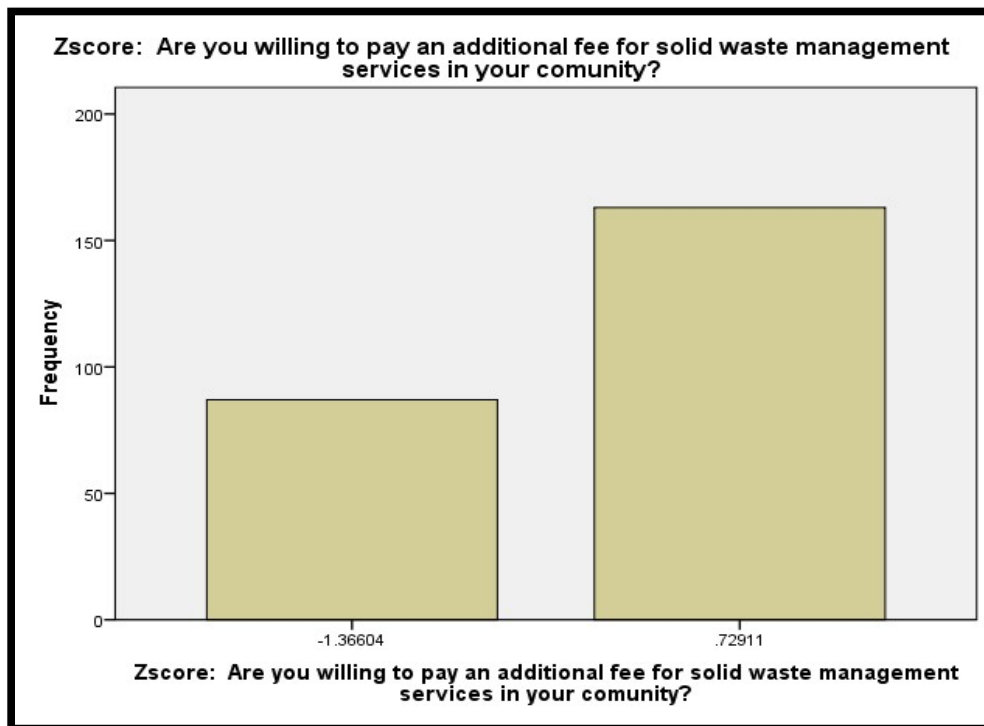
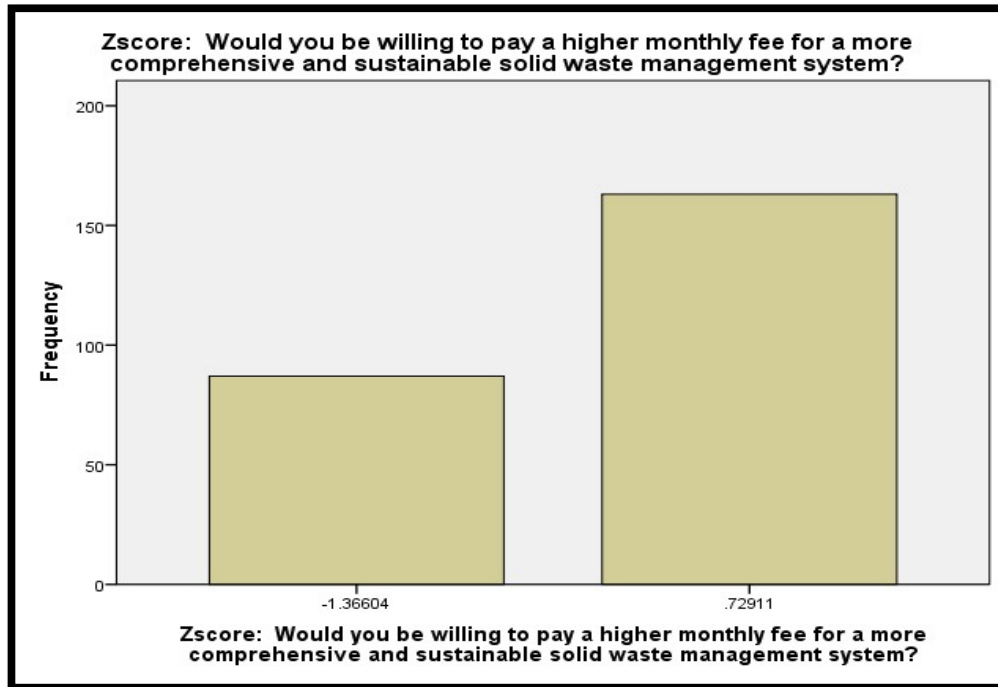


**Figure 1. Methodology of Research**

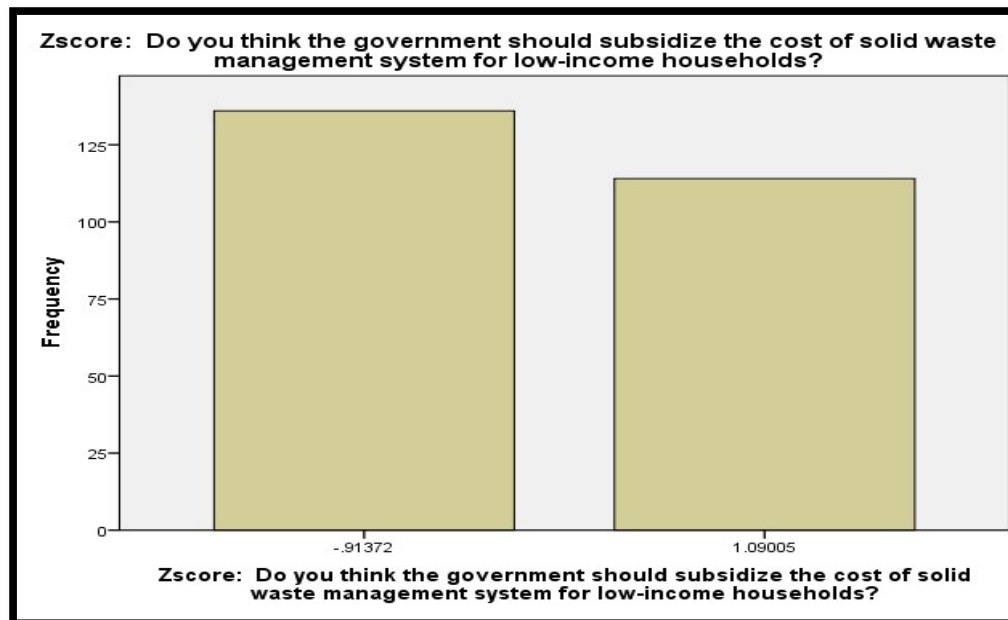
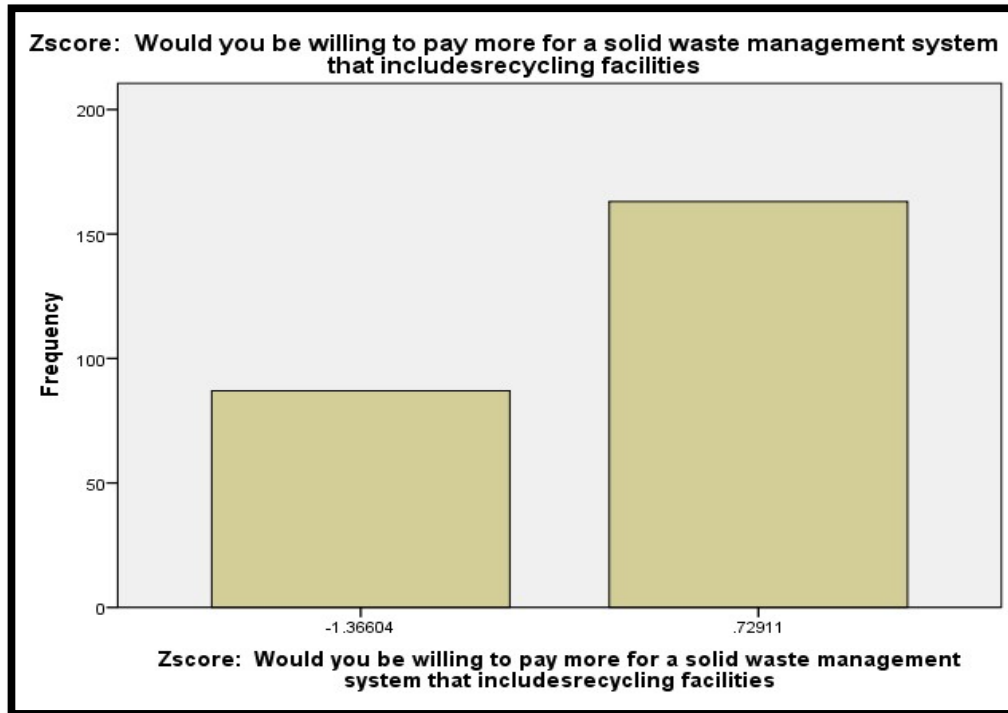


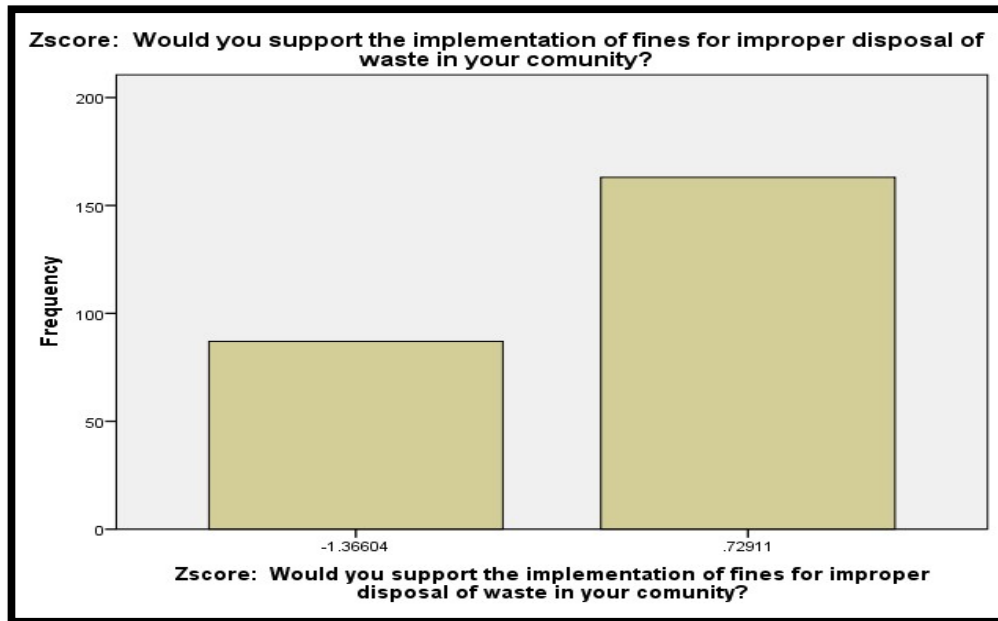


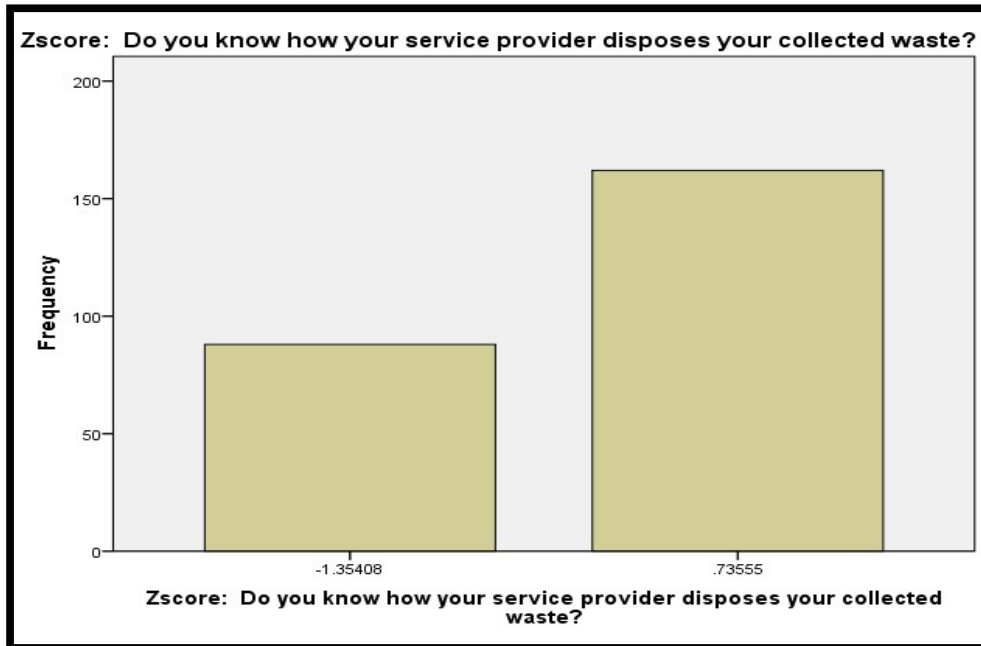












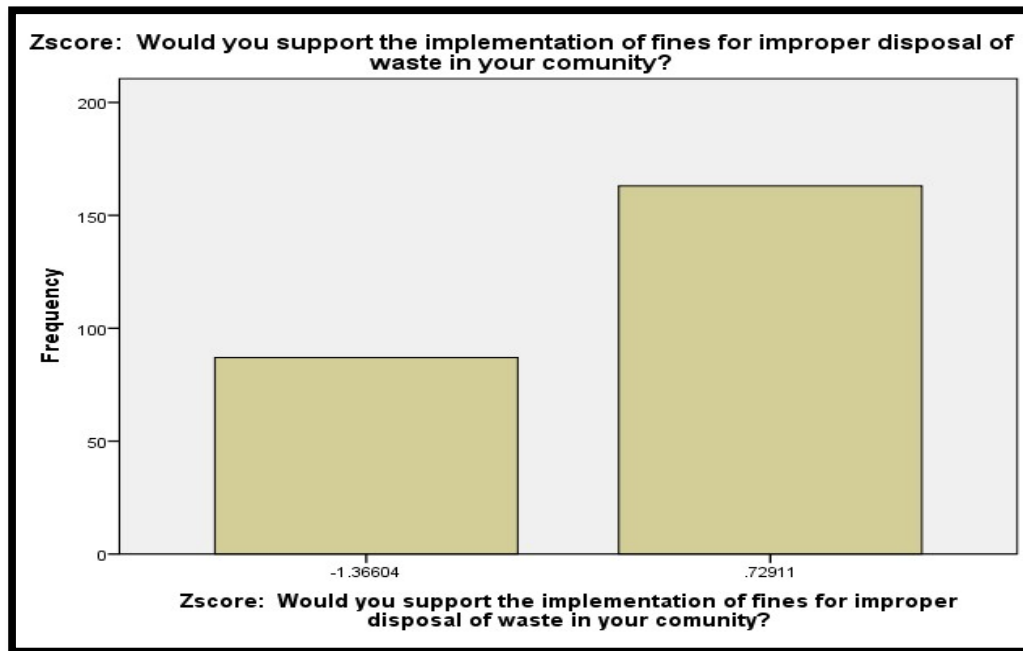


Figure 3. Frequency Graphs

Table: 1 Demographic Information

Variables	Category	Frequency
Age	20-25 years	161
	25-30 years	89
	30 above	0
Gender	Male	101
	Female	149
	Not specific	0
Status of Respondent	Upper class	101
	Middle class	111
	Lower class	38

Source: Respondents Response

**Table: 2 willingness to pay for improved solid waste management system in two selected cities of Pakistan**

Variables	Categories	Frequencies	Cumulative Percentage %
Solid waste management system is necessary in your community	Yes	199	76%
	No	51	100
Solid waste management is the great challenge in your area	Yes	136	54.4%
	No	114	100
Willing to pay a monthly fee for a SWM in your community	Yes	86	34.4%
	No	164	100
Willing to pay an additional fee for solid SWM	Yes	87	34.8%
	No	163	100
Willing to pay more for a SWM that includes recycling facilities	Yes	87	34.8%
	No	163	100
Support the implementation of fines for improper disposal of waste in your community?	Yes	87	34.8%
	No	163	100
Government should subsidize the cost of solid waste management system for low-income households	Yes	136	54.4%
	No	114	100.0
Participate in community initiatives for the proper disposal of waste	Yes		
	No	136	54.4%
Service provider disposes your collected waste	Yes	114	100.0
	No	88	35.2%
SWM system frequently collect the garbage in your area	Yes	162	100
	No	152	60.8%
SWM system provide separate bins for different types of waste	Yes	98	100.0
	No	111	44.4%
Do you separate different type of waste at your home	Yes	139	100.0
	No	63	25.2%
There is enough awareness regarding solid waste management?	Yes	187	100.0
	No	137	54.8%
Willingness to pay for SWM system can help us in overcoming environmental problems	Yes	113	100.0
	No	163	34.8%
	No	87	100.0

Source: Respondents Response

**Table 4: Correlation Between Different Variables**

Correlations between respondents age and necessity of SWM					
		Age of respondent	Do you think a solid waste management system is necessary in your community?	Are you satisfied with the current solid waste management system in your community?	Do you believe that a solid waste management system can improve the environment and public health in environment?
Age of respondent	Pearson Correlation	1	.163*	.031	.175**
	Sig. (2-tailed)		.010	.626	.006
	N	250	250	250	250
Do you think a solid waste management system is necessary in your community?	Pearson Correlation	.163*	1	.071	-.204**
	Sig. (2-tailed)	.010		.260	.001
	N	250	250	250	250
Are you satisfied with the current solid waste management system in your community?	Pearson Correlation	.031	.071	1	.372**
	Sig. (2-tailed)	.626	.260		.000
	N	250	250	250	250
Do you believe that a solid waste management system can improve the environment and public health in environment?	Pearson Correlation	.175**	-.204**	.372**	1
	Sig. (2-tailed)	.006	.001	.000	
	N	250	250	250	250

**Correlations between respondents age and willingness to pay for SWM**

		Age of respondent	Are you willing to pay a monthly fee for a solid waste management system in your community?	Would you be willing to pay more for a solid waste management system that includes recycling facilities?	Would you support the implementation of fines for improper disposal of waste in your community?
Age of respondent	Pearson Correlation	1	-.112	-.123	-.123
	Sig. (2-tailed)		.076	.052	.052
	N	250	250	250	250
Are you willing to pay a monthly fee for a waste management system in your community?	Pearson Correlation	-.112	1	.107	.107
	Sig. (2-tailed)	.076		.090	.090
	N	250	250	250	250
Would you be willing to pay more for a solid waste management system that includes recycling facilities?	Pearson Correlation	-.123	.107	1	1.000**
	Sig. (2-tailed)	.052	.090		.000
	N	250	250	250	250
Would you support the implementation of fines for improper disposal of waste in your community?	Pearson Correlation	-.123	.107	1.000**	1
	Sig. (2-tailed)	.052	.090	.000	
	N	250	250	250	250

**Correlations between respondent age and awareness on solid waste management**

		Age of respondent	Do you separate different type of waste at your home?	Do you think there is enough awareness regarding solid waste management?	Do you think willingness to pay for solid waste management system can help us in overcoming environmental problems leaving better environment for future generations?
Age of respondent	Pearson Correlation	1	-.049	-.054	-.141*
	Sig. (2-tailed)		.436	.394	.026
	N	250	250	250	250
Do you separate different type of waste at your home?	Pearson Correlation	-.049	1	-.176**	-.424**
	Sig. (2-tailed)	.436		.005	.000
	N	250	250	250	250
Do you think there is enough awareness regarding solid waste management?	Pearson Correlation	-.054	-.176**	1	.039
	Sig. (2-tailed)	.394	.005		.537
	N	250	250	250	250



	N	250	250	250	250
Do you think willingness to pay for solid waste management system can	Pearson Correlation	-.141*	-.424**	.039	1
Gender of respondent	Pearson Correlation	1	-.277**	-.352**	-.277**
	Sig. (2-tailed)		.000	.000	.000
	N	250	250	250	250
Do you think solid waste management is the great challenge in your area?	Pearson Correlation	-.277**	1	.294**	-.225**
	Sig. (2-tailed)	.000		.000	.000
	N	250	250	250	250
Do you think a solid waste management system is necessary in your community?	Pearson Correlation	-.352**	.294**	1	-.204**
	Sig. (2-tailed)	.000	.000		.001
	N	250	250	250	250
Do you believe that a solid waste management system can improve the environment and public health in environment?	Pearson Correlation	-.277**	-.225**	-.204**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	250	250	250	250

**Correlations between gender and willingness to pay for SWM**

		Gender of respondent	Do you separate different type of waste at your home?	Do you think willingness to pay for solid waste management system can help us in overcoming environmental problems leaving better environment for future generations?	Do you think there is enough awareness regarding solid waste management?
Gender of respondent	Pearson Correlation	1	.236**	-.174**	.076
	Sig. (2-tailed)		.000	.006	.230
	N	250	250	250	250
Do you separate different type of waste at your home?	Pearson Correlation	.236**	1	-.424**	-.176**
	Sig. (2-tailed)	.000		.000	.005
	N	250	250	250	250
Do you think willingness to pay for solid waste management system can help us in overcoming environmental problems leaving better environment for future generations?	Pearson Correlation	-.174**	-.424**	1	.039
	Sig. (2-tailed)	.006	.000		.537
	N	250	250	250	250

	Pearson Correlation	.076	-.176**	.039	1
Do you think there is enough awareness regarding solid waste management?	Sig. (2-tailed)	.230	.005	.537	
	N	250	250	250	250

**Correlations between respondents status and willingness to pay for SWM**

	Status of respondent	Are you willing to pay a monthly fee for a solid waste management system in your community?	Would you be willing to pay a higher monthly fee for a more comprehensive and sustainable solid waste management system?	Would you be willing to pay more for a solid waste management system that includes recycling facilities
Status of respondent	Pearson Correlation	1	.196**	.037
	Sig. (2-tailed)		.002	.562
	N	250	250	250
Are you willing to pay a monthly fee for a solid waste management system in your community?	Pearson Correlation	.196**	1	.549**
	Sig. (2-tailed)	.002		.000
	N	250	250	250
Would you be willing to pay a higher monthly fee for a more comprehensive and sustainable solid waste management system?	Pearson Correlation	.037	.549**	1
	Sig. (2-tailed)	.562	.000	
	N	250	250	250
Would you be willing to pay more for a solid waste management system that includes recycling facilities	Pearson Correlation	-.119	.107	.119
	Sig. (2-tailed)	.061	.090	.061
	N	250	250	250

**Correlations between socio economic status of respondents and SWM improvement**

	Status of respondent	Are you willing to participate in community initiatives for the proper disposal of waste such as recycling programs and composting?	Do you separate different type of waste at your home?	Do you think solid waste management is the great challenge in your area?
Status of respondent	Pearson Correlation	1	-.243**	.107
	Sig. (2-tailed)		.000	.092
	N	250	250	250
Are you willing to participate in community initiatives for	Pearson Correlation	-.243**	1	-.172**
				-.225**

the proper disposal of waste such as recycling programs and composting?	Sig. (2-tailed)	.000		.007	.000
	N	250	250	250	250
	Pearson Correlation	.107	-.172**	1	-.172**
Do you separate different type of waste at your home?	Sig. (2-tailed)	.092	.007		.007
	N	250	250	250	250
Do you think solid waste management is	Pearson Correlation	-.118	-.225**	-.172**	1
the great challenge in your area?	Sig. (2-tailed)	.063	.000	.007	
	N	250	250	250	250
<b>Correlations between respondents status and SWM services</b>					
		Status of respondent	Does solid waste management system frequently collect the garbage in your area?	Would you support the implementation of fines for improper disposal of waste in your community?	Are you satisfied with the current solid waste management system in your community?
Status of respondent	Pearson Correlation	1	.452**	-.119	-.073
	Sig. (2-tailed)		.000	.061	.248
	N	250	250	250	250
Does solid waste management system frequently collect the garbage in your area?	Pearson Correlation	.452**	1	.157*	-.118
	Sig. (2-tailed)	.000		.013	.062
	N	250	250	250	250
Would you support the implementation of fines for improper disposal of waste in your community?	Pearson Correlation	-.119	.157*	1	.218**
	Sig. (2-tailed)	.061	.013		.001
	N	250	250	250	250
Are you satisfied with the current solid waste management system in your community?	Pearson Correlation	-.073	-.118	.218**	1
	Sig. (2-tailed)	.248	.062	.001	
	N	250	250	250	250

*Source: Statistical Analysis through IBM SPSS*

**Table 5: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Age of respondent	250	.00	1.00	.3560	.47978
Gender of respondent	250	.00	1.00	.5960	.49168
Status of respondent	250	.00	2.00	.7480	.70319
Do you think a solid waste management system is necessary in your community?	250	1.00	2.00	1.2040	.40378
Are you satisfied with the current solid waste management system in your community?	250	1.00	2.00	1.7000	.45918
Do you believe that a solid waste management system can improve the environment and public health in environment?	250	1.00	2.00	1.4560	.49906
Do you think solid waste management is the great challenge in your area?	250	1.00	2.00	1.4560	.49906
Are you willing to pay a monthly fee for a solid waste management system in your community?	250	1.00	2.00	1.6560	.47599
Would you be willing to pay a higher monthly fee for a more comprehensive and sustainable solid waste management system?	250	1.00	2.00	1.6520	.47729
Are you willing to pay an additional fee for solid waste management services in your community?	250	1.00	2.00	1.6520	.47729
Would you be willing to pay more for a solid waste management system that includes recycling facilities	250	1.00	2.00	1.6520	.47729
Would you support the implementation of fines for improper disposal of waste in your community?	250	1.00	2.00	1.6520	.47729
Do you think the government should subsidize the cost of solid waste management system for low-income households?	250	1.00	2.00	1.4560	.49906
Are you willing to participate in community initiatives for the proper disposal of waste such as recycling programs and composting?	250	1.00	2.00	1.4560	.49906
Do you know how your service provider disposes your collected waste?	250	1.00	2.00	1.6480	.47855
Does solid waste management system frequently collect the garbage in your area?	250	1.00	2.00	1.3920	.48918
Should the solid waste management system provide separate bins for different types of waste?	250	1.00	2.00	1.5560	.49785
Do you separate different type of waste at your home?	250	1.00	2.00	1.7480	.43503

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Do you think there is enough awareness regarding solid waste management?	250	1.00	2.00	1.4520	.49869
Do you think willingness to pay for solid waste management system can help us in overcoming environmental problems leaving better environment for future generations?	250	1.00	2.00	1.6520	.47729
Valid N (listwise)	250				

*Source: Statistical Analysis through IBM SPSS*