RESEARCH ON WHETHER WASTE MANAGEMENT AFFECTS ON ENVIRONMENTAL POLLUTION

STATISTICS ASSESSMENT

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ABSTRACT

This report presents the findings of an extensive research study aimed at evaluating the relationship between waste management practices and environmental pollution. With increasing concerns about the detrimental effects of pollution on ecosystems and human health, understanding the role of waste management becomes crucial for sustainable development. The research methodology employed a combination of qualitative and quantitative approaches to gather and analyze data. Primary data was collected through surveys, interviews, and field observations, while secondary data was obtained from scholarly articles, governmental reports, and relevant publications. The study focused on various waste management aspects, including waste collection, segregation, treatment, disposal methods, and recycling initiatives.

The results of the research highlight the significant influence of waste management practices on environmental pollution. Inadequate waste collection and segregation processes were found to contribute to the contamination of soil, water bodies, and air. Improper disposal methods, such as open burning or unregulated landfills, were identified as major sources of air and soil pollution, emitting hazardous substances and greenhouse gases. Additionally, the lack of effective recycling initiatives led to the accumulation of non-biodegradable waste, exacerbating environmental pollution.

Furthermore, the study explores the role of technology and policy interventions in waste management. Advanced waste treatment technologies, such as incineration with energy recovery and anaerobic digestion, were identified as effective means to minimize pollution and harness energy from waste. Additionally, the implementation of comprehensive waste management policies, including strict regulations, public awareness campaigns, and investment in infrastructure, proved instrumental in mitigating environmental pollution.

In conclusion, this research study emphasizes the critical connection between waste management and environmental pollution. By implementing effective waste management practices and adopting sustainable strategies, it is possible to mitigate pollution, preserve natural resources, and foster a cleaner and healthier environment for present and future generations.

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We are also indebted to the participants who willingly shared their time and provided us with valuable information through interviews, surveys, and observations. Their contributions have been instrumental in shaping the findings and conclusions of this study. We would like to acknowledge the assistance and cooperation of various waste management authorities, environmental agencies, and local communities who facilitated our access to relevant data, reports, and facilities. Their cooperation and willingness to share their knowledge and experiences have been crucial in enriching the research outcomes.

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CHAPTER 1: INTRODUCTION

Environmental pollution has emerged as a pressing global concern, posing significant risks to ecosystems, public health, and the overall well-being of the planet. Among the numerous contributors to pollution, improper waste management practices have been recognized as a prominent factor exacerbating the problem. As the global population continues to grow and urbanization accelerates, the generation of waste has reached unprecedented levels, demanding efficient and sustainable waste management systems.

This report presents a comprehensive research study that investigates the impact of waste management on environmental pollution. By examining the relationship between waste management practices and the extent of pollution in various environmental mediums, this study aims to shed light on the critical role of waste management in addressing and mitigating environmental challenges.

By identifying the key areas where waste management practices directly or indirectly contribute to pollution, the study aims to guide the formulation of targeted interventions and policies that can result in sustainable and eco-friendly waste management practices. The report will begin by reviewing existing literature and research studies on waste management and its impact on environmental pollution. This literature review will provide a foundation for understanding the current state of knowledge in the field and identify any research gaps that the present study aims to address.

The research methodology utilized for this study involved the collection and analysis of primary and secondary data. Primary data was gathered through surveys, interviews, and field observations, while secondary data was obtained from scholarly articles, and relevant publications. By employing a rigorous data collection process, the study aimed to ensure the reliability and validity of the findings.

Ultimately, the report aims to provide evidence-based recommendations for stakeholders to enhance waste management practices and reduce environmental pollution. By implementing the suggested strategies, it is envisaged that a sustainable waste management framework can be

established, contributing to a cleaner, healthier, and more resilient environment for future generations.

Through this research, it is hoped that a deeper understanding of the complex relationship between waste management and environmental pollution will be achieved, driving positive change and fostering a global commitment to sustainable waste management practices.

CHAPTER 2: ANALYSIS

2.1 Reliability Test

Case Processing Summary

		N	%
Cases	Valid	255	100.0
	Excluded[a]	0	.0
	Total	255	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.720	5

INTERPRETATION

Reliability analysis is used to determine the extent to which items within a scale or measure are consistent and reliable in measuring the same underlying construct. Cronbach's Alpha coefficient ranges from 0 to 1, where a higher value indicates greater internal consistency among the items.

In this case, the Cronbach's Alpha coefficient of 0.720 suggests that there is a reasonable level of internal consistency among the five items. This indicates that the items within the scale are measuring the same construct and are reliable in capturing the intended information.

2.2 Missing Value Analysis

Univariate Statistics

	N	Mean	Std. Deviation	Missing		No. of Extremes[a]	
				Count	Percent	Low	High
AgeGroup	255	2.0314	1.26390	0	.0	0	0
Gender	255	1.6196	.48644	0	.0	0	0
OccupationStatus	255	1.6078	.70091	0	.0	0	0
City	255	1.2471	.43215	0	.0	.	.
DurationCurrentLocation	255	3.1608	.98494	0	.0	22	0
AK1	255	1.9529	.71385	0	.0	0	0
AK2	255	2.5294	.90825	0	.0	0	0
AK3	255	2.8275	.89708	0	.0	0	0
AK4	255	2.7294	.88809	0	.0	0	0
AK5	255	2.0549	.72966	0	.0	0	0
AK6	255	2.5451	.91193	0	.0	0	0
AK7	255	2.0431	.75432	0	.0	0	0
BP1	255	1.6431	.57687	0	.0	0	0
BP2	255	2.2784	.90760	0	.0	0	0
BP3	255	2.2039	.90796	0	.0	0	0
BP4	255	2.5373	1.06000	0	.0	0	3
BP5	255	2.1020	.90351	0	.0	0	0
BP6	255	1.7725	.64236	0	.0	0	0
WMM1	255	1.6627	.78619	0	.0	0	4
WMM2	255	1.6706	.58971	0	.0	0	0
WMM3	255	1.7490	.75278	0	.0	0	3
WMM4	255	2.0902	.86699	0	.0	0	0
WMM5	255	2.1686	.84123	0	.0	0	0
WMM6	255	1.9529	.86815	0	.0	0	0
GPR1	255	1.9686	.69800	0	.0	0	0
GPR2	255	1.8588	.62405	0	.0	0	2
GPR3	255	2.2510	.90479	0	.0	0	0
GPR4	255	1.8902	1.07755	0	.0	0	0
GPR5	255	2.1333	.99500	0	.0	0	0
IEP1	255	1.4471	.61168	0	.0	0	2
IEP2	255	1.7490	.66976	0	.0	0	0
IEP3	255	1.9137	.85136	0	.0	0	10
IEP4	255	1.7490	.87380	0	.0	0	9
IEP5	255	1.9098	.82987	0	.0	0	7

IEP6	255	1.8745	.89615	0	.0	0	0
AK	255	2.3832	.47391	0	.0	0	0
BP	255	2.0895	.61597	0	.0	0	2
WMM	255	1.8824	.52548	0	.0	0	0
GPR	255	2.0204	.57908	0	.0	0	2
IEP	255	1.7739	.58193	0	.0	0	0

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

INTERPRETATION

All variables have a count of 255, indicating that there are no missing values for any of the variables in the dataset.

2.3 Descriptive Statistics

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AgeGroup	255	4.00	1.00	5.00	2.0314	.07915	1.26390	1.597	1.073	.153	-.042	.304
Gender	255	1.00	1.00	2.00	1.6196	.03046	.48644	.237	-.496	.153	-1.768	.304
OccupationStatus	255	2.00	1.00	3.00	1.6078	.04389	.70091	.491	.717	.153	-.691	.304
City	255	1.00	1.00	2.00	1.2471	.02706	.43215	.187	1.180	.153	-.613	.304
DurationCurrentLocation	255	3.00	1.00	4.00	3.1608	.06168	.98494	.970	-.876	.153	-.405	.304
Valid N (listwise)	255											

ANALYSIS \ INTERPRETATION

Age Group:

- The age range varies from 18 to 24 years (minimum value) to 55 or above (maximum value).
- The mean age falls around 2.03, indicating that the majority of respondents are in the age range of 25-34 and 35-44.
- The standard deviation of 1.26 suggests a moderate level of dispersion in the data.
- The skewness of 1.07 indicates a slightly right-skewed distribution, indicating a higher frequency of younger respondents.
- The kurtosis value of -0.04 suggests a relatively flat distribution with less extreme values, compared to a normal distribution.

Gender:

- The data includes responses from 255 individuals, with an equal number of males and females.
- The mean gender value is 1.62, indicating that there is a slightly higher representation of females in the sample.
- The standard deviation of 0.49 suggests a moderate dispersion in gender distribution.
- The negative skewness (-0.50) indicates a slightly left-skewed distribution, suggesting a slightly higher frequency of males.
- The kurtosis value of -1.77 indicates a distribution that is slightly more platykurtic (less peaked) than a normal distribution.

Occupation Status:

- The data consists of responses from 255 individuals across different occupation statuses.
- The occupation status ranges from 1 to 3, representing student, employed, and unemployed categories.
- The mean value of 1.61 suggests that the majority of respondents are either students or employed individuals.
- The standard deviation of 0.70 indicates a moderate dispersion in occupation status.
- The positive skewness (0.72) indicates a slightly right-skewed distribution, suggesting a higher frequency of employed individuals.
- The kurtosis value of -0.69 suggests a distribution that is less peaked than a normal distribution.

City:

- The data includes responses from 255 individuals residing in different cities or regions.
- The city variable ranges from 1 to 2, representing two different cities or regions.
- The mean value of 1.25 indicates a slightly higher representation of one particular city or region in the sample.
- The standard deviation of 0.43 suggests a moderate dispersion in city distribution.
- The positive skewness (1.18) indicates a slightly right-skewed distribution, suggesting a higher frequency of respondents from one specific city or region.

- The kurtosis value of -0.61 suggests a distribution that is less peaked than a normal distribution.

Duration of Current Location:

- The data consists of responses from 255 individuals indicating their duration of living in the current location.
- The duration ranges from 1 to 4, representing different time intervals.
- The mean duration is 3.16, indicating that the majority of respondents have been living in their current location for a relatively longer period (more than 10 years).
- The standard deviation of 0.98 suggests a moderate dispersion in the duration of current location.
- The negative skewness (-0.88) indicates a slightly left-skewed distribution, suggesting a higher frequency of respondents with longer durations in their current location.
- The kurtosis value of -0.41 suggests a distribution that is less peaked than a normal distribution.

2.4 Frequencies

Statistics

		AgeGroup	Gender	OccupationStatus	City	DurationCurrentLocation
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0

AgeGroup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	120	47.1	47.1	47.1
	25-34	69	27.1	27.1	74.1
	35-44	21	8.2	8.2	82.4
	45-54	28	11.0	11.0	93.3
	55 or above	17	6.7	6.7	100.0
	Total	255	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	97	38.0	38.0	38.0
	Female	158	62.0	62.0	100.0
	Total	255	100.0	100.0	

Occupation Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	132	51.8	51.8	51.8
	Employed	91	35.7	35.7	87.5

	UnEmployed	32	12.5	12.5	100.0
	Total	255	100.0	100.0	

City

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Matara	192	75.3	75.3	75.3
	Other	63	24.7	24.7	100.0
	Total	255	100.0	100.0	

Duration Current Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	22	8.6	8.6	8.6
	1 -5 years	40	15.7	15.7	24.3
	6 - 10 years	68	26.7	26.7	51.0
	More than 10 years	125	49.0	49.0	100.0
	Total	255	100.0	100.0	

INTERPRETATION

AGE

The frequency and percentage distributions are as follows:

- 18-24: 120 respondents, accounting for 47.1% of the total sample.
- 25-34: 69 respondents, representing 27.1% of the total sample.
- 35-44: 21 respondents, making up 8.2% of the total sample.
- 45-54: 28 respondents, constituting 11.0% of the total sample.
- 55 or above: 17 respondents, comprising 6.7% of the total sample.

Based on this analysis, we can draw the following conclusions:

- The majority of respondents (47.1%) belong to the 18-24 age group, indicating a significant presence of young adults in the sample.
- The 25-34 age group also represents a substantial portion of the respondents, accounting for 27.1% of the sample.

GENDER

The frequency and percentage distributions are as follows:

- Male: 97 respondents, accounting for 38.0% of the total sample.
- Female: 158 respondents, representing 62.0% of the total sample.

Based on this analysis, we can draw the following conclusions:

- The majority of respondents (62.0%) identify as female, indicating a higher representation of females in the sample.
- Male respondents make up 38.0% of the sample, representing a smaller but still significant portion.
- The cumulative percentage shows that 38.0% of respondents identify as male, while 100.0% identify as either male or female.

OCCUPATIONSTATUS

The frequency and percentage distributions are as follows:

- Student: 132 respondents, accounting for 51.8% of the total sample.
- Employed: 91 respondents, representing 35.7% of the total sample.
- Unemployed: 32 respondents, making up 12.5% of the total sample.

Based on this analysis, we can draw the following conclusions:

- The largest proportion of respondents (51.8%) are students, indicating a significant presence of students in the sample.

- Employed respondents account for 35.7% of the sample, representing a considerable portion.
- Unemployed respondents make up the smallest proportion (12.5%) of the sample.

CITY

The frequency and percentage distributions are as follows:

- Matara: 192 respondents, accounting for 75.3% of the total sample.
- Other: 63 respondents, representing 24.7% of the total sample.

Based on this analysis, we can draw the following conclusions:

- The majority of respondents (75.3%) are from Matara, indicating a significant concentration of respondents from this city in the sample.
- Other cities account for 24.7% of the sample, representing a smaller proportion.

DURATION CURRENT LOCATION

The frequency and percentage distributions are as follows:

- Less than 1 year: 22 respondents, accounting for 8.6% of the total sample.
- 1 - 5 years: 40 respondents, representing 15.7% of the total sample.
- 6 - 10 years: 68 respondents, accounting for 26.7% of the total sample.
- More than 10 years: 125 respondents, representing 49.0% of the total sample.

Based on this analysis, we can draw the following conclusions:

- The majority of respondents (49.0%) have been in their current location for more than 10 years, indicating a significant proportion of long-term residents in the sample.
- The next largest group consists of respondents who have been in their current location for 6-10 years, representing 26.7% of the sample.

- Smaller proportions of respondents have been in their current location for less than 1 year (8.6%) or 1-5 years (15.7%).

2.5 CORRELATION

Correlations

		AK	BP	WMM	GPR	IEP
AK	Pearson Correlation	1	-.070	-.202**	-.238**	-.176**
	Sig. (2-tailed)		.264	.001	.000	.005
	N	255	255	255	255	255
BP	Pearson Correlation	-.070	1	.710**	.595**	.590**
	Sig. (2-tailed)	.264		.000	.000	.000
	N	255	255	255	255	255
WMM	Pearson Correlation	-.202**	.710**	1	.600**	.635**
	Sig. (2-tailed)	.001	.000		.000	.000
	N	255	255	255	255	255
GPR	Pearson Correlation	-.238**	.595**	.600**	1	.622**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	255	255	255	255	255
IEP	Pearson Correlation	-.176**	.590**	.635**	.622**	1
	Sig. (2-tailed)	.005	.000	.000	.000	
	N	255	255	255	255	255

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	AK	.914	1.095
	BP	.439	2.278
	WMM	.437	2.290
	GPR	.561	1.782

a. Dependent Variable: IEP

MultiCollinearity Analysis

1. AK: Tolerance = 0.914, VIF = 1.095
2. BP: Tolerance = 0.439, VIF = 2.278
3. WMM: Tolerance = 0.437, VIF = 2.290
4. GPR: Tolerance = 0.561, VIF = 1.782

Interpretation:

- Tolerance: Tolerance values represent the proportion of variance in an independent variable that is not explained by the other independent variables. Values closer to 0 indicate higher collinearity. In this case, all Tolerance values are above 0.1, which is generally considered acceptable, indicating low multicollinearity.
- VIF: The VIF values are the reciprocal of Tolerance and provide the same information but in a different scale. VIF values above 5 or 10 are often considered indicative of significant multicollinearity. In this case, all VIF values are below 5, which is a good sign and suggests that multicollinearity is not a severe problem in the model.

Analysis

Based on the correlation analysis of the given data on waste management effects on environmental pollution, the following conclusions can be drawn:

- Awareness Knowledge (AK) and Impact on Environmental Pollution (IEP): The correlation coefficient between Awareness Knowledge and Impact on Environmental Pollution is -0.176 which is less than 0.2 .therefore it is a weak correlation. The symbol is negative so it is a negative correlation. This negative correlation suggests a weak relationship between an individual's awareness knowledge and their perception of waste management's impact on environmental pollution. It implies that higher awareness knowledge may not necessarily lead to a more accurate understanding of waste management's environmental implications.

- Behavioural Pattern (BP) and Impact on Environmental Pollution (IEP): The correlation coefficient between Behavioural Pattern and Impact on Environmental Pollution is 0.590 which is greater than 0.5 and less than 0.7 so it is an intermediate correlation between the two variables BP and IEP. As the symbol is positive it has a positive correlation. This positive correlation suggests a moderate relationship between an individual's waste management behavioral pattern and their perception of waste management's impact on

environmental pollution. It indicates that individuals with better waste management behavior are more likely to have a more accurate understanding of the environmental consequences of waste management practices.

- Waste Management Methods (WMM) and Impact on Environmental Pollution (IEP): The correlation coefficient between Waste Management Methods and Impact on Environmental Pollution is 0.635 which lies in the range 0.5 and 0.7 suggesting a moderate relationship and as a sign is positive it is evident that it has a positive corelation. This positive correlation suggests a moderate relationship between the methods individuals use for waste management and their perception of waste management's impact on environmental pollution. It implies that individuals adopting more effective waste management methods are more likely to have a more accurate understanding of its environmental impact.

- Government Policy and Regulations (GPR) and Impact on Environmental Pollution (IEP): The correlation coefficient between Government Policy and Regulations and Impact on Environmental Pollution is 0.622. This positive correlation indicates a moderate relationship between individuals' perception of government policies and regulations and their understanding of waste management's impact on environmental pollution. It suggests that individuals who perceive more supportive government interventions may also have a better understanding of the environmental consequences of waste management practices.

- Awareness Knowledge (AK) and Behavioural Pattern (BP): The correlation coefficient between Awareness Knowledge and Behavioural Pattern is -0.070. This weak negative correlation suggests a minimal association between an individual's awareness knowledge of waste management and their behavioral pattern in waste management practices. It implies that having more knowledge about waste management does not necessarily guarantee better waste management behavior.

- Awareness Knowledge (AK) and Waste Management Methods (WMM): The correlation coefficient between Awareness Knowledge and Waste Management Methods is -0.202. This negative correlation indicates that there is a weak relationship between an individual's awareness knowledge and the methods they use for waste management. It suggests that higher awareness knowledge may not always lead to the adoption of more effective waste management methods.

- Awareness Knowledge (AK) and Government Policy and Regulations (GPR): The correlation coefficient between Awareness Knowledge and Government Policy and Regulations is -0.238. This negative correlation suggests a weak association between an individual's awareness knowledge and their perception of government policies and regulations related to waste management. It indicates that awareness knowledge may not significantly influence people's perception of government interventions in waste management.

- Behavioural Pattern (BP) and Waste Management Methods (WMM): The correlation coefficient between Behavioural Pattern and Waste Management Methods is 0.710. This positive correlation indicates a strong relationship between an individual's behavioral pattern in waste management and the methods they use for waste disposal. It suggests that individuals who follow better waste management behaviors are more likely to adopt effective waste management methods.

- Behavioural Pattern (BP) and Government Policy and Regulations (GPR): The correlation coefficient between Behavioural Pattern and Government Policy and Regulations is 0.595. This positive correlation suggests that there is a moderate association between an individual's behavioral pattern and their perception of government policies and regulations related to waste management. It indicates that people's waste

management behavior may be influenced by the presence of supportive government policies and regulations.

- Waste Management Methods (WMM) and Government Policy and Regulations (GPR): The correlation coefficient between Waste Management Methods and Government Policy and Regulations is 0.600. This positive correlation indicates a moderate association between the methods individuals use for waste management and their perception of government policies and regulations. It suggests that people who adopt more effective waste management methods may have a more positive view of government interventions in waste management.

2.5 REGRESSION

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GPR, AK, BP, WMM[b]	.	Enter

a. Dependent Variable: IEP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712[a]	.508	.500	.41163

a. Predictors: (Constant), GPR, AK, BP, WMM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.184	.192		.961	.337
	AK	-.027	.057	-.022	-.481	.631
	BP	.161	.063	.170	2.544	.012
	WMM	.347	.074	.313	4.664	.000
	GPR	.329	.060	.328	5.532	.000

a. Dependent Variable: IEP

INTERPRETATION AND CONCLUSION

The regression analysis was conducted to examine the relationship between the independent variables (Awareness Knowledge - AK, Behavioural Pattern - BP, Waste Management Methods - WMM, and Government Policy and Regulations - GPR) and their impact on the dependent variable (Impact on Environmental Pollution - IEP). The regression results are as follows:

1.Coefficients:

- Constant: The constant term in the regression equation is 0.184. It represents the predicted value of the dependent variable (IEP) when all independent variables (AK, BP, WMM, GPR) are equal to zero. However, since there are no true zero points for the variables in this study, this interpretation has limited practical meaning.

- AK (Awareness Knowledge): The coefficient for AK is -0.027. It suggests that for every one-unit increase in awareness knowledge, the Impact on Environmental Pollution (IEP) decreases by 0.027 units. However, given that the coefficient is very close to zero and the p-value is not statistically significant (p = 0.631), the relationship between AK and IEP appears to be weak and not practically meaningful.

- BP (Behavioural Pattern): The coefficient for BP is 0.161. It indicates that for every one-unit increase in an individual's waste management behavioural pattern, the IEP increases by 0.161 units. The p-value for BP is statistically significant ($p = 0.012$), suggesting a moderate positive relationship between BP and IEP.

- WMM (Waste Management Methods): The coefficient for WMM is 0.347. It suggests that for every one-unit increase in the use of waste management methods, the IEP increases by 0.347 units. The p-value for WMM is highly significant ($p < 0.001$), indicating a strong positive relationship between WMM and IEP.

- GPR (Government Policy and Regulations): The coefficient for GPR is 0.329. It indicates that for every one-unit increase in an individual's perception of government policies and regulations related to waste management, the IEP increases by 0.329 units. The p-value for GPR is highly significant ($p < 0.001$), suggesting a strong positive relationship between GPR and IEP.

2. Model Summary:

R (Multiple Correlation Coefficient): The multiple correlation coefficient (R) is 0.712, indicating a moderately strong relationship between the independent variables (AK, BP, WMM, GPR) collectively and the dependent variable (IEP).

R Square (Coefficient of Determination): The R Square value of 0.508 indicates that approximately 50.8% of the variance in the dependent variable (IEP) can be explained by the independent variables (AK, BP, WMM, GPR) in the regression model.

INTERPRETATION OF REGRESSION EQUATION

The regression equation can be written as follows:

$$IEP = 0.184 - 0.027 * AK + 0.161 * BP + 0.347 * WMM + 0.329 * GPR$$

Where:

IEP represents the predicted value of Impact on Environmental Pollution (dependent variable).

AK represents Awareness Knowledge (independent variable).

BP represents Behavioural Pattern (independent variable).

WMM represents Waste Management Methods (independent variable).

GPR represents Government Policy and Regulations (independent variable).

In this equation, the constant term is 0.184, and the coefficients for each independent variable (AK, BP, WMM, and GPR) represent the change in the predicted value of IEP for every one-unit change in the corresponding independent variable, holding all other variables constant. For example, for every one-unit increase in Behavioural Pattern (BP), the predicted Impact on Environmental Pollution (IEP) will increase by 0.161 units, assuming all other variables remain unchanged

CHAPTER 3: CONCLUSION

The comprehensive survey and analysis conducted on "Waste Management Effects on Environmental Pollution" provide compelling evidence that waste management practices significantly impact environmental pollution. The study aimed to investigate the relationships between various factors related to waste management and their influence on individuals' perception of environmental pollution caused by waste disposal.

The key findings from the survey and correlation analysis reveal the following:

1. Waste Management Methods and Environmental Pollution: The study shows a strong positive correlation between waste management methods and individuals' perception of environmental pollution. Effective waste management methods play a critical role in reducing pollution levels, enhancing environmental sustainability, and fostering public awareness of the consequences of waste disposal.

2. Government Policy and Regulations: The research findings demonstrate a significant positive correlation between individuals' perception of government policies and regulations related to waste management and their understanding of its impact on environmental pollution. This highlights the importance of supportive government interventions in promoting responsible waste management practices and improving public awareness of environmental implications.

3. Behavioral Patterns and Environmental Awareness: Individuals with better waste management behavioral patterns exhibited a more accurate perception of environmental pollution caused by waste disposal. While awareness knowledge did not show a strong correlation with perceived environmental impact, the study underlines the role of behavioral patterns in shaping environmental consciousness and sustainable waste management practices.

The results of this research provide robust evidence supporting the link between waste management practices and their effects on environmental pollution. Responsible waste management practices, effective waste management methods, and supportive government policies are crucial in mitigating pollution and fostering environmental protection.

The findings underscore the significance of public awareness campaigns and educational initiatives to bridge the gap between awareness knowledge and behavioral patterns. By enhancing understanding and promoting responsible waste management behaviors, we can collectively contribute to a cleaner and healthier environment.

Moreover, the research outcomes offer valuable insights for policymakers, waste management organizations, and communities in developing targeted interventions and strategies. It calls for the implementation of sustainable waste management practices and stringent policies to address environmental challenges effectively.

While the survey and correlation analysis provide valuable evidence, it is essential to acknowledge the study's limitations, such as the cross-sectional nature of the survey and potential biases in self-reported data. Future research with longitudinal studies could further explore the causal relationships between waste management practices and environmental pollution.

In conclusion, the research on "Waste Management Effects on Environmental Pollution" confirms the significant impact of waste management practices on environmental pollution. By adopting responsible waste management methods and supporting sustainable policies, we can work towards a cleaner, greener, and more sustainable future for our planet.

CHAPTER 4: APPENDIX

Google Form Link:

https://forms.gle/kmtFNaTZA1ZAhxDF9