Waste Management in the Temples of Old City, Jammu

MAJOR PROJECT REPORT

SEMESTER-2

FOUR-YEAR UNDERGRADUATE PROGRAMME

(DESIGN YOUR DEGREE)

SUBMITTED TO

UNIVERSITY OF JAMMU, JAMMU

SUBMITTED BY THE TEAM: **WARRIORS**

TEAM MEMBERS	**ROLL NO.**
Diya Rani	DYD-23-04
Gourav Sharma	DYD-23-06
Ishaan Uppal	DYD-23-08
Malhar Khadyal	DYD-23-10
Paridhi Mahajan	DYD-23-14
Vidhita Arora	DYD-23-22

UNDER THE MENTORSHIP OF

Dr. Anil Gupta, Dr. Shallu Sehgal & Dr. Sunil Kumar Bhougal

Submitted on: ____ September,2024

CERTIFICATE

The work embodied in this report entitled "**Waste Management in the Temples of Old City, Jammu**" has been done by Team Warriors including group members- Diya Rani, Gourav Sharma, Ishaan Uppal, Malhar Khadyal, Paridhi Mahajan and Vidhita Arora as a Major Project for Semester 2 of Four-Year Undergraduate Programme (Design Your Degree). This work was carried out under the guidance of Mentor Dr. Anil Gupta, Dr. Shallu Sehgal & Dr. Sunil Kumar Bhougal for the partial fulfilment for the award of the Design Your Degree, Four Year Undergraduate Programme, University of Jammu, Jammu and Kashmir. This project report has not been submitted anywhere else.

Signature of Students:

Signature of Mentor:

1. Dr. Anil Gupta

Prof. Alka Sharma
Director, SIIEDC, University of Jammu

2. Dr. Shallu Sehgal

3. Dr. Sunil Kumar Bhougal

ACKNOWLEDGMENT

We avail this opportunity to acknowledge all those who helped and guided us during the course of our work. First and foremost, we thank Almighty God from the depth of our heart for generating enthusiasm and granting our spiritual strength to successfully pass through this challenge. Words are too meager to express our esteem indebtedness and whole hearted sense of gratitude towards our mentor Dr. Anil Gupta, Department of SHTM, Dr. Shallu Sehgal, Department of Economics & Dr. Sunil Kumar Bhougal, Department of Statistics, University of Jammu, Jammu. It is our pleasure beyond words to express our deep sense of feelings for their inspiring guidance, generous encouragement and well versed advice. They provided us undaunted encouragement and support in spite of their busy schedules. Really, fortunate we are and we feel extremely honoured for the opportunity conferred upon us to work under their perpetual motivation.

We are extremely fortunate for having an opportunity to express our heartiest gratitude to Prof. Alka Sharma, Director of SIIEDC (Design your Degree), University of Jammu, Jammu and member of advisory committee for her valuable advice and generous help and providing us all the necessary facilities from the department. We are highly thankful to all respected mentors for their immense help during the conduct of this major project. The words are small trophies to express our feelings of affection and indebtedness to our friends who helped us throughout the major project, whose excellent company, affection and co-operation helped us in carrying out our research work with joy and happiness.

We acknowledge all the people, mentioned or not mentioned here, who have silently wished and gave fruitful suggestions and helped us in achieving the present goal

ABSTRACT

The ancient city of Jammu, renowned for its rich cultural heritage and iconic temples, faces a growing challenge in efficient waste management within its historic temple premises. As the old city remains a hub of spiritual and cultural activities, the constant influx of devotees and tourists generates increasing waste, threatening the beauty and sanctity of these revered sites. The temples, with their blend of cultural practices and historical significance, struggle with outdated waste disposal methods and a lack of designated areas, leading to unsightly environments that contradict their spiritual essence and jeopardize visitor health. To address this, implementing a robust waste management system in Jammu's old city temples is imperative. Overflowing bins and litter not only compromise the sanctity and architectural integrity of these sites but also pose significant public health risks. In an era of increasing environmental consciousness, balancing tradition with modern waste management practices is crucial. Practical solutions include the use of labelled bins for waste segregation, community awareness programs, volunteer clean-up drives, composting stations, promotion of eco-friendly utensils, collaboration with local authorities, and regular maintenance checks. These measures will contribute to maintaining cleanliness and preserving the cultural heritage of Jammu. To analyse the relationships between waste generation, visitor behaviour, and the effectiveness of the proposed waste management strategies, IBM SPSS can be utilized. This statistical tool will provide insights into the impact of these strategies, ensuring that the solutions implemented are effective in maintaining the well-being of the community and the environment in Jammu's old city.

INDEX

CHAPTER-1

INTRODUCTION

1.1 Introduction of Waste Management

Waste management encompasses the collection, transportation, and proper disposal of various types of waste, including sewage, garbage, and recyclable materials. It involves activities such as collecting, processing, recycling, and disposing of waste to minimize its environmental impact and promote sustainability. Waste management is crucial for safeguarding human health, preserving natural resources, and mitigating pollution. It also involves implementing strategies like recycling programs to promote sustainable practices and reduce the volume of waste sent to landfills or incinerators [1].

1.2 Principles

The 5Rs of waste management serve as guiding principles to mitigate the environmental impact of waste:

- Refuse – This entails declining unnecessary items like single-use plastics or excessive packaging.
- Reduce – This underscores the importance of minimizing waste generation by using fewer resources and practicing mindful consumption.
- Reuse – Rather than discarding items after a single use, explore ways to reuse them, whether through repurposing or opting for durable goods with extended life spans.
- Repurpose – Give items new purposes or functions, prolonging their usefulness and reducing waste.
- Recycle – Recycling involves transforming used materials into new products, thereby decreasing the demand for raw materials and lessening the overall environmental footprint [2].

1.3 Methods of Waste Management

- **Landfill:** In this method, non-reusable or non-recyclable waste is segregated and laid out in thin layers in low-lying areas across a city. A layer of soil is added after each garbage layer. However, once this process is complete, the area is deemed unsuitable for constructing buildings for the next 20 years. Instead, it can only be utilized as a playground or a park.

- **Incineration**: Incineration involves the controlled combustion of waste to reduce it to incombustible matter such as ash and waste gas. The exhaust gases are treated before being released into the environment due to their potential toxicity. This approach reduces waste volume by 90%, making it one of the most hygienic waste disposal methods. In some cases, the heat generated is utilized to produce electricity. However, some criticize this method for not being entirely environmentally friendly due to the emission of greenhouse gases like carbon dioxide and carbon monoxide.
- **Waste Compaction:** Materials like cans and plastic bottles are compacted into blocks and sent for recycling. This process prevents metal oxidation and reduces airspace requirements, facilitating transportation and positioning.
- **Biogas Generation:** Biodegradable waste such as food items, animal waste, or organic industrial waste from food packaging industries are directed to bio-degradation plants. Here, they are converted into biogas through degradation with the assistance of bacteria, fungi, or other microbes. Biogas, a fuel, is produced alongside residue used as manure.
- **Composting:** Organic materials, including food scraps and yard waste, decompose over time. Composting involves burying these organic wastes under layers of soil, allowing them to decay under the action of microorganisms like bacteria and fungi. This process yields nutrient-rich manure and replenishes soil nutrients while enhancing water retention capacity. It serves as an eco-friendly alternative to chemical fertilizers in agriculture.
- **Vermi composting:** Vermi composting utilizes worms for the degradation of organic matter into nutrient-rich manure. Worms consume and digest organic matter, enriching the soil with their excreted by-products. This method is highly effective compared to traditional composting [3-4].

1.4 Waste Management in Temples

Waste management is a critical aspect of environmental sustainability, and it extends to all facets of society, including religious institutions like temples. Temples, as centers of spiritual and communal activity, attract large numbers of visitors and devotees, resulting in the generation of various types of waste. Proper waste management in temples is essential not only for maintaining cleanliness and hygiene but also for preserving the surrounding environment and promoting eco-friendly practices. Temples play a significant role in the cultural and social significance of many communities, often serving as gathering places for worship, festivals, and social events. With such activities comes the generation of waste, including organic waste from

offerings such as flowers, fruits, and food, as well as non-biodegradable waste like plastic packaging, paper, and other materials. Improper disposal of this waste can lead to pollution, environmental degradation, and health hazards for both humans and wildlife. There has been a growing awareness of the need for sustainable waste management practices in temples. Many temples are taking proactive steps to implement waste segregation, recycling initiatives, and composting programs to minimize their environmental footprint. Additionally, there is a growing emphasis on raising awareness among devotees about the importance of responsible waste disposal and the benefits of adopting eco-friendly practices.

1.5 Key Challenges in Waste Management

1. **Collection and disposal infrastructure**: Developing adequate infrastructure for waste collection, transportation, and disposal is crucial. This can involve investments in waste collection systems, landfill management, recycling facilities, and composting sites. Public private partnerships can also help in building and maintaining this infrastructure.
2. **Financial constraints:** To address funding shortages, governments can explore various financing mechanisms such as public-private partnerships, waste management fees, taxes on 3 waste generation or disposal, and seeking international aid or loans for infrastructure development.
3. **Lack of support from localities**: Increasing awareness and education about the importance of waste management can help overcome resistance. Engaging communities through outreach programs, involving them in decision-making processes, and providing incentives for proper waste management practices can encourage participation and cooperation.
4. **Ineffective recycling or composting**: Governments can invest in expanding recycling and composting infrastructure, improving collection systems, and implementing policies to promote waste reduction and segregation at the source. Public awareness campaigns can also educate citizens about the importance of recycling and composting.
5. **Ever-changing climate:** Adapting waste management strategies to climate change involves measures such as designing more resilient infrastructure, implementing disaster preparedness plans for extreme weather events, and integrating climate considerations into waste management policies and practices [5-6].

1.6 Waste Generation

"Waste" is a human construct and doesn't exist in natural systems. In nature, everything operates in a cycle of use and reuse, where materials are consumed by organisms and returned

to the environment in a form that can be utilized again. Solid waste, on the other hand, is a product of human activities and consists of various discarded materials that are considered useless or worthless. However, these materials can often be repurposed or recycled, turning what might be considered waste into valuable resources. Efforts to reduce waste production and increase recycling are crucial for maintaining a sustainable environment. By recognizing the value in materials that would otherwise be discarded and finding effective ways to reuse or recycle them, humans can minimize their environmental impact and move towards a more sustainable future [7].

1.7 Types of Waste

1. **Biodegradable Waste**: Biodegradable materials are substances that can rapidly decompose through the action of bacteria and other natural organisms, without causing pollution. 4 Examples include kitchen waste, food scraps, and other organic matter. These materials are easily broken down by microorganisms like bacteria and fungi, as well as by abiotic factors such as temperature, UV radiation, and oxygen. Microorganisms, in conjunction with these abiotic factors, break down complex materials into simpler organic matter, which eventually returns to the earth without harming the environment. This natural process can occur at varying rates, but overall, biodegradable waste poses minimal hazards and environmental concerns.
2. **Non-Biodegradable Waste**: Non-biodegradable materials are substances that contribute to pollution and cannot be broken down by living organisms. Unlike biodegradable waste, non-biodegradable materials cannot be easily managed. They resist degradation by natural processes and persist in the environment for extended periods. This longevity increases the severity of the threat they pose. Plastics serve as a prominent example, as they are widely used across various industries. Advances in plastic technology have led to the production of high-quality polymers that are more durable and temperature-resistant, prolonging their lifespan even after use [8]

CHAPTER-2

PROBLEM STATEMENT AND PROJECT OBJECTIVES

2.1Problem statement

The old city of Jammu faces significant challenges regarding waste management, particularly within temple premises. Despite their cultural significance, many temples lack proper waste disposal systems, leading to environmental pollution, health hazards, and degradation of sacred sites. The accumulation of non-biodegradable waste, such as plastic items and offerings, poses a threat to local ecosystems and water bodies. Many temples lack designated waste collection points, bins, or recycling facilities, resulting in haphazard disposal practices. Visitors and local communities may not be adequately educated about the importance of proper waste disposal and its impact on the environment and public health. Traditional rituals and offerings often involve materials that are non-biodegradable, exacerbating the waste management challenge.

By addressing these issues and implementing proactive measures, we can preserve the cultural heritage of temples while promoting sustainable waste management practices in the old city of Jammu.

2.2 Significance and importance of waste management

Waste management in the temples of the old city of Jammu is significant for several reasons:

- **Cultural and Religious Importance:**

  Temples hold immense cultural and religious significance in the community. Proper waste management reflects respect for these sacred spaces and demonstrates adherence to religious principles of cleanliness and purity.

- **Environmental Protection:**

  Effective waste management in temples helps prevent pollution of local water bodies, soil, and air. It contributes to preserving the natural beauty of the surroundings, which is often intertwined with the spiritual ambiance of the area.

- **Public Health and Hygiene:**

  Poor waste management can lead to the proliferation of pests, spread of diseases, and unpleasant odors, impacting the health and well-being of temple visitors, nearby residents, and workers. Proper waste disposal minimizes health risks and maintains hygiene standards.

- **Community Engagement:**

  Waste management initiatives in temples encourage community involvement and cooperation. Volunteers can participate in clean-up drives, awareness campaigns, and recycling efforts, fostering a sense of unity and collective responsibility among residents.

- **Tourism and Heritage Preservation:**

  The old city of Jammu is a popular tourist destination known for its historical temples. Clean and well-maintained temple premises enhance the visitor experience, attracting more tourists and preserving the cultural heritage of the region.

2.3 Outcomes

During the survey in the temples of old city of Jammu, some outcomes might be expected such as:

- Temple information
- Identification of current waste management practices
- Assessment of waste generation
- Evaluation of infrastructure
- Awareness and education levels
- Stakeholder engagement

2.4 **Objectives**

- Assess current waste management practices in temples.
- Identify and classify types of waste generated.
- Develop sustainable waste management strategies.
- Enhance community awareness and participation in waste reduction**.**

CHAPTER-3

TEST OF NORMALITY

3.1 Normality Analysis

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Waste Generation	.348	28	.000	.481	28	.000
Types of Visitors	.461	28	.000	.577	28	.000
Final Dumping	.242	28	.000	.847	28	.001
Any Restrictions	.447	28	.000	.568	28	.000
Deity Worshipped	.208	28	.003	.869	28	.002
Timings	.477	28	.000	.516	28	.000
Locations	.444	28	.000	.619	28	.000
Occupation	.482	28	.000	.508	28	.000
Adherence to guidelines	.392	28	.000	.622	28	.000
Dustbins installed	.411	28	.000	.608	28	.000
Local authorities collect waste	.355	28	.000	.637	28	.000
Education Qualification	.326	28	.000	.726	28	.000
Year of Experience	.250	28	.000	.851	28	.001
Rules and Regulations	.498	28	.000	.468	28	.000

a. Lilliefors Significance Correction

3.1.1 Kolmogorov-Smirnov Test:

Purpose: To tests the null hypothesis that the data is normally distributed.

Statistic: Measures the maximum deviation between the observed cumulative distribution function and the expected cumulative distribution function of a normal distribution.

Significance (p-value): Indicates whether the deviation is statistically significant.

3.1.2 Shapiro-Wilk Test:

Purpose: To tests the null hypothesis that the data is normally distributed.

Statistic: Measures how well the data fits a normal distribution.

Significance (p-value): Indicates whether the deviation from normality is statistically significant.

3.1.3 Results Interpretation:

1. **Any Restrictions**
   - Kolmogorov-Smirnov Statistic: 0.440, p-value: 0.000
   - Shapiro-Wilk Statistic: 0.577, p-value:0.000
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Any Restrictions does not follow a normal distribution.
2. **Types of Visitors**
   - Kolmogorov-Smirnov Statistic: 0.449, p-value: 0.000
   - Shapiro-Wilk Statistic: 0.597, p-value: 0.000
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Types of Visitors does not follow a normal distribution.
3. **Final Dumping**
   - Kolmogorov-Smirnov Statistic: 0.247, p-value: 0.000
   - Shapiro-Wilk Statistic: 0.839, p-value: 0.000
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Final Dumping does not follow a normal distribution.
4. **Deity Worshipped**
   - Kolmogorov-Smirnov Statistic:0.194, p-value: 0.005
   - Shapiro-Wilk Statistic:0.874, p-value: 0.002
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Deity Worshipped does not follow a normal distribution.
5. **Timings**
   - Kolmogorov-Smirnov Statistic: 0.484, p-value: 0.000
   - Shapiro-Wilk Statistic: 0.499, p-value:0.000
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Timings does not follow a normal distribution.
6. **Locations**
   - Kolmogorov-Smirnov Statistic: 0.427, p-value: 0.000
   - Shapiro-Wilk Statistic: 0.648, p-value:0.000
   - Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Locations does not follow a normal distribution.

7. Waste Generations

- Kolmogorov-Smirnov Statistic: 0.343, p-value: 0.000
- Shapiro-Wilk Statistic: 0.526, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for `Waste Generations` does not follow a normal distribution.

8. Occupation

- Kolmogorov-Smirnov Statistic: 0.482, p-value: 0.000
- Shapiro-Wilk Statistic: 0.508, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Occupation does not follow a normal distribution.

9. Adherence to Guidelines

- Kolmogorov-Smirnov Statistic: 0.392, p-value: 0.000
- Shapiro-Wilk Statistic: 0.622, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Adherence to guidelines does not follow a normal distribution.

10. Dustbins Installed

- Kolmogorov-Smirnov Statistic: 0.411, p-value: 0.000
- Shapiro-Wilk Statistic: 0.608, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Dustbins installed does not follow a normal distribution.

11. Local authorities collect waste

- Kolmogorov-Smirnov Statistic: 0.355, p-value: 0.000
- Shapiro-Wilk Statistic: 0.637, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Local authorities collect waste does not follow a normal distribution.

12. Education Qualification

- Kolmogorov-Smirnov Statistic: 0.326, p-value: 0.000
- Shapiro-Wilk Statistic: 0.726, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Education Qualification does not follow a normal distribution.

13. Year of Experience

- Kolmogorov-Smirnov Statistic: 0.250, p-value: 0.000
- Shapiro-Wilk Statistic: 0.851, p-value: 0.001

- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for YOE does not follow a normal distribution.

14. Rules and Regulations

- Kolmogorov-Smirnov Statistic: 0.498, p-value: 0.000
- Shapiro-Wilk Statistic: 0.468, p-value: 0.000
- Interpretation: Both tests show significant results ($p < 0.05$), indicating that the data for Rules and Regulations does not follow a normal distribution.

3.2 Conclusion

Since the data does not follow a normal distribution, non-parametric tests are appropriate for analysis. However, to assess the impact of various variables, logistic regression can be employed. This method works well with non-normal data and accurately draws the relationships between the variables. Thus by combining these approaches, reliable results can be obtained, even when the data is not normally distributed.

CHAPTER-4
RESULT AND DISCUSSIONS

4.1 HYPOTHESIS

Null Hypothesis (H0): Waste generation has no significant effect on these variables (types of visitors, final dumping, restrictions, deity worshipped, timings, locations, occupation, adherence to guidelines, dustbins installed, local authorities collecting waste, education qualification, year of experience, rules and regulations).

Alternative Hypothesis (H1): Waste generation has a significant effect on these variables (types of visitors, final dumping, restrictions, deity worshipped, timings, locations, occupation, adherence to guidelines, dustbins installed, local authorities collecting waste, education qualification, year of experience, rules and regulations).

4.2 TEST AND ANALYSIS

1. **Types of Visitors**

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	24.023	48	.999
Deviance	18.199	48	1.000

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences.

Pearson Chi-Square Test

- Chi-Square Value: 24.023
- Degrees of Freedom (df): 48
- Significance (Sig.): 0.999

Deviance Chi-Square Test

- Chi-Square Value: 18.199
- Degrees of Freedom (df):48
- Significance (Sig.): 1.000

Interpretation

- **Chi-Square Values**: Both the Pearson and Deviance Chi-Square values measure the deviation between observed and expected frequencies. Higher values suggest greater deviation, but these values are relative to the degrees of freedom and significance levels.
- **Degrees of Freedom**: This indicates the number of categories minus one for the test. Here, it's 48, suggest a relatively complex model with many categories.
- **Significance Level (p-value)**

  The Pearson test p-value is 0.999

  The Deviance test p-value is 1.000

Both p-values are very high, much higher than the common alpha level of 0.05. This indicates that there is no significant difference between the observed and expected frequencies. In other words, the data fit the expected distribution very well.

Conclusion:

Since both tests yield very high p-values, we accept the null hypothesis. This means that the observed data does not significantly differ from the expected data, and the model or distribution thus testing appears to fit the data well.

2. **Final Dumping**

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	28.248	64	1.000
Deviance	30.984	64	1.000

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value**:** 28.248
- Degrees of Freedom (df): 64
- Significance (Sig.): 1.000

Deviance Chi-Square Test

- Chi-Square Value: 30.984

- Degrees of Freedom (df): 64
- Significance (Sig.): 1.000

Interpretation:

- **Chi-Square Values:** These values measure the deviation between observed and expected frequencies. Lower values relative to the degrees of freedom suggest a good fit.
- **Degrees of Freedom:** With 64 degrees of freedom, this test is being applied to a model with many categories or parameters.

Significance Level (p-value):

- The Pearson test p-value is 1.000.
- The Deviance test p-value is 1.000.
  Both p-values are exactly 1.000, which is unusually high and indicates that the observed frequencies fit the expected frequencies almost perfectly.

Conclusion:

The very high p-values (1.000) suggest that there is no significant difference between the observed and expected data. Thus, the model or distribution being tested fits the data exceptionally well. This means the observed data align closely with what was expected based on the model or hypothesis. Therefore, we accept the null hypothesis.

3. Any Restrictions

Classification Table[a]

	Observed		Predicted		
			Any Restrictions		Percentage Correct
			3	4	
Step 1	Any Restrictions	3	6	3	66.7
		4	2	19	90.5
	Overall Percentage				83.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Waste Generation	-.548	1.425	.148	1	.701	.578
	Final Dumping	1.367	.996	1.882	1	.170	3.924
	Types of Visitors	-2.349	1.134	4.289	1	.038	.095
	Locations	-3.878	1.865	4.325	1	.038	.021
	Deity Worshipped	-.434	.219	3.913	1	.048	.648
	Constant	112.729	50.761	4.932	1	.026	9.070E+048

a. Variable(s) entered on step 1: waste generation, Final Dumping, Types of Visitors, Locations, Deity Worshipped.

Classification Table Interpretation:

The classification table evaluates the model's predictive accuracy for the variable any restrictions.

Observed vs. Predicted:

For category 3: Out of 9 cases where Any Restrictions was observed as 3, the model correctly predicted 6 cases and incorrectly predicted 3 cases. The percentage of correct predictions for this group is 66.7%.

For category 4: Out of 21 cases where `Any Restrictions` was observed as 4, the model correctly predicted 19 cases and incorrectly predicted 2 cases. The percentage of correct predictions for this group is 90.5%.

Overall Percentage: The model's overall prediction accuracy is 83.3%, which indicates that it correctly predicted the outcome for 83.3% of the cases.

Variables in the Equation:

This table provides details on the contribution of each predictor variable in the logistic regression model:

1. Waste Generation:

- B: -0.548
- S.E. (Standard Error): 1.425
- Wald Statistic: 0.148

- df: 1
- Sig. (p-value): 0.70
- Exp(B): 0.578

Interpretation:

The coefficient (B) is -0.548, indicating that higher values of `waste Generation' are associated with lower odds of `Any Restrictions`. However, with a p-value of 0.701, this effect is not statistically significant.

2. Final Dumping

- B: 1.367
- S.E.: 0.996
- Wald Statistic: 1.882
- df: 1
- Sig. 0.170
- Exp(B): 3.924

Interpretation:

The coefficient (B) is 1.367, suggesting that higher values of `Final Dumping` increase the odds of `Any Restrictions`. However, the p-value is 0.170, indicating that this effect is not statistically significant.

3.TypesofVisitors:

- B: -2.349
- S.E.:1.134
- Wald Statistic: 4.289
- df:1
- Sig.: 0.03
- Exp(B): 0.095

Interpretation:

The coefficient (B) is -2.349, indicating a strong negative association between `Types of Visitors` and the outcome `Any Restrictions`. The p-value is 0.038, making this effect statistically significant at the 0.05 level.

4. Locations:

- B: -3.87
- S.E.: 1.865
- Wald Statistic: 4.325
- df: 1
- Sig.: 0.038
- Exp(B): 0.021

Interpretation:

The coefficient (B) is -3.878, suggesting a strong negative association between `Locations` and `Any Restrictions`. The p-value is 0.038, indicating that this effect is statistically significant at the 0.05 level.

5. Deity Worshipped:

- B: -0.434
- S.E.: 0.219
- Wald Statistic: 3.913
- df: 1
- Sig.: 0.048
- Exp(B):0.648

Interpretation:

The coefficient (B) is -0.434, showing a negative association between `Deity Worshipped` and `Any Restrictions`. The p-value is 0.048, making this effect statistically significant at the 0.05 level.

6. Constant:

- B: 112.729
- S.E.: 50.761
- Wald Statistic: 4.932
- df: 1
- Sig.: 0.026
- Exp(B): 9.070E+048 (a very large number)

Interpretation:

The constant term is highly significant (p = 0.026), indicating a substantial baseline oddof `Any Restrictions` when all predictor variables are zero. The very large Exp(B) value suggests extremely high odds in the baseline condition.

Overall Interpretation:

Model Accuracy: The model correctly predicts `Any Restrictions` with 83.3% accuracy, which is relatively strong.

Significant Predictors:

Types of Visitors`, `Locations`, and `Deity Worshipped` are statistically significant predictors, indicating that these variables have a meaningful impact on the outcome. Both `Types of Visitors` and `Locations` have strong negative associations with `Any Restrictions`.

Non-significant Predictors: `Waste Generation` and `Final Dumping` are not statistically significant, suggesting that they may not have a meaningful impact on the outcome.

Summary, the model performs well overall, with significant contributions from `Types of Visitors`, `Locations`, and `Deity Worshipped` in predicting `Any Restrictions`. However, not all variables contribute equally, and some may not be necessary in the model.

4. **Deity Worshipped**

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	98.480	256	1.000
Deviance	69.328	256	1.000

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 98.480
- Degrees of Freedom (df):256
- Significance (Sig.): 1.000

Deviance Chi-Square Test

- Chi-Square Value: 69.328
- Degrees of Freedom (df): 256
- Significance (Sig.):1.000

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value is 98.480 and Deviance Chi-Square Value is 69.328. These values represent the deviation between the observed and expected frequencies. Higher values indicate greater deviation.
- **Degrees of Freedom:** With 256 degrees of freedom, the test is applied to a model with many categories. This can make the Chi-Square distribution more spread out.
- **Significance Level (p-value):** Pearson p-value is1.000 and Deviance p-value is 1.000. A p-value of 1.000 indicates that the observed data fits the expected data extremely well. Essentially, there is no significant difference between observed and expected frequencies.

Conclusion:

The very high p-values (1.000) suggest that the observed frequencies fit the expected frequencies exceptionally well, meaning the model or distribution being tested aligns closely with the actual data. Despite the Chi-Square values being relatively large, the large degrees of

freedom dilute their impact, leading to a non-significant result. Therefore, we accept the null hypothesis.

5. **Timings:**

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	21.848	32	.911
Deviance	21.532	32	.919

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 21.848
- Degrees of Freedom (df): 32
- Significance (Sig.): 0.911

Deviance Chi-Square Test

- Chi-Square Value: 21.532
- Degrees of Freedom (df): 32
- Significance (Sig.): 0.919

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value is 21.848 and Deviance Chi-Square Value is 21.532. These values indicate the amount of deviation between observed and expected frequencies. Lower Chi-Square values in comparison to the degrees of freedom suggest a better fit.
- **Degrees of Freedom:** With 32 degrees of freedom, the test is applied to a model with 18 categories (or groups) minus one.
- **Significance Level (p-value):** Pearson p-value is 0.911 and Deviance p-value is 0.919. Both p-values are very high (much greater than the common alpha level of 0.05), indicating that the differences between observed and expected frequencies are not statistically significant.

Conclusion

The high p-values (0.911 and 0.919) indicate that there is no significant difference between the observed data and the expected data. The data fits the expected distribution very well. The results suggest that the model or distribution is an adequate fit for the data, with very little deviation. Therefore, we accept the null hypothesis.

6. Locations

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	42.151	48	.710
Deviance	29.029	48	.986

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 42.151
- Degrees of Freedom (df): 48
- Significance (Sig.): 0.710

Deviance Chi-Square Test

- Chi-Square Value: 29.029
- Degrees of Freedom (df): 48
- Significance (Sig.): 0.986

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value is 42.151 and Deviance Chi-Square Value is 29.029. These values represent the discrepancy between the observed and expected frequencies. In general, lower Chi-Square values relative to the degrees of freedom indicate a better fit.
- **Degrees of Freedom:** With 48 degrees of freedom, the model has 35 categories or groups.

- **Significance Level (p-value):** Pearson p-value is 0.710 and Deviance p-value is 0. 986.. Both p-values are very high, which means that the differences between the observed and expected frequencies are not statistically significant.

Conclusion

The very high p-values indicate that there is no significant deviation between the observed data and the expected distribution. The data fits the expected model or distribution extremely well. The results suggest that the model or distribution are testing is an excellent fit for the data, with negligible differences between observed and expected values. Therefore, we accept the null hypothesis.

7. Occupation

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	18.107	16	.318
Deviance	18.933	16	.272

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences**.**

Pearson Chi-Square Test

- Chi-Square Value: 18.107
- Degrees of Freedom (df):16
- Significance (Sig.):0.318

Deviance Chi-Square Test

- Chi-Square Value:18.933
- Degrees of Freedom (df):16
- Significance (Sig.): 0.272

Interpretation

- **Chi-Square Values**: Pearson Chi-Square Value: 18.107 and Deviance Chi-Square Value:18.933. These values measure the extent to which the observed data deviate from what the model expects. The closer these values are to the degrees of freedom, the better the model fit.

- **Degrees of Freedom:** The degrees of freedom (16) are determined by the number of categories or groups in the data minus the number of parameters being estimated.
- **Significance Level (p-value):** Pearson p-value: 0.318 and Deviance p-value:0.272. The p-values are both above the common significance threshold of 0.05, indicating that there is no significant difference between the observed and expected data. This means the model fits the data well.

Conclusion

The Goodness-of-Fit tests show that the model fits the data very well, with both tests indicating that the observed data aligns closely with what the model predicts. There's no significant evidence of misfit, meaning the model is appropriately specified for the data at hand. Therefore, we accept null hypothesis.

8. Adherence to Guidelines

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	13.932	16	.604
Deviance	18.817	16	.278

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 13.932
- Degrees of Freedom (df):16
- Significance (Sig.): 0.604

Deviance Chi-Square Test

- Chi-Square Value: 18.817
- Degrees of Freedom (df): 16
- Significance (Sig.): 0.278

Interpretation

- **Chi-Square Values:** Pearson Chi-Square Value: 13.932 and Deviance Chi-Square Value: 18.817. These values measure the discrepancy between the observed and

expected frequencies. Lower Chi-Square values relative to the degrees of freedom suggest a better model fit.

- **Degrees of Freedom (df): The** degrees of freedom (16) indicate the number of independent comparisons that can be made in the data.
- **Significance (p-value)**: Pearson p-value: 0.604 and Deviance p-value:0.278. The p-values are both above 0.05, indicating no significant difference between the observed and expected frequencies. This suggests that the model fits the data well.

Conclusion

The Goodness-of-Fit tests show that the model fits the data very well, with both tests indicating that the observed data aligns closely with what the model predicts. There's no significant evidence of misfit, meaning the model is appropriately specified for the data at hand.

9. Local Authorities collect waste

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	21.831	16	.149
Deviance	29.549	16	.020

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 21.831
- Degrees of Freedom (df): 16
- Significance (Sig.): 0.149

Deviance Chi-Square Test

- Chi-Square Value:29.549
- Degrees of Freedom (df): 16
- Significance (Sig.): 0.020

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value:21.831 and Deviance Chi-Square Value: 29.549. These values assess how well the model's predicted values match the

observed data. Lower Chi-Square values relative to the degrees of freedom indicate a better fit.

- **Degrees of Freedom (df):** (16) This represents the number of independent comparisons that can be made within the data.
- **Significance (p-value):**

Pearson Test: The p-value of 0.149 is above the common significance threshold of 0.05, suggesting that the model's predictions do not significantly differ from the observed data, implying a good fit.

Deviance Test: The p-value of 0.020 is below 0.05, indicating that there is a significant difference between the observed and expected values according to the deviance test, suggesting a potential misfit.

10. Education Qualification

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	71.774	75	.584
Deviance	56.271	75	.948

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 71.774
- Degrees of Freedom (df): 75
- Significance (Sig.): 0.584

Deviance Chi-Square Test

- Chi-Square Value: 56.271
- Degrees of Freedom (df): 75
- Significance (Sig.):0.948

Interpretation

- **Chi-Square Values:** Pearson Chi-Square Value: 71.774 and Deviance Chi-Square Value: 56.271. Both values are close to their corresponding degrees of freedom (75),

suggesting that the model's predictions are in reasonable agreement with the observed data.

- **Degrees of Freedom (df): (75)** This represents the number of independent comparisons within the data.
- **Significance (p-value):** Pearson p-value:0.584 and Deviance p-value: 0.948. The p-values are both above 0.05, indicating no significant difference between the observed and expected frequencies. This suggests that the model fits the data well

Conclusion

The Goodness-of-Fit tests show that the model fits the data very well, with both tests indicating that the observed data aligns closely with what the model predicts. There's no significant evidence of misfit, meaning the model is appropriately specified for the data at hand.

11. Year of Experience

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	72.627	96	.964
Deviance	64.420	96	.994

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 72.627
- Degrees of Freedom (df):96
- Significance (Sig.): 0.964

Deviance Chi-Square Test

- Chi-Square Value: 64.420
- Degrees of Freedom (df): 96
- Significance (Sig.): 0.994

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value: 72.627 and Deviance Chi-Square Value: 64.420. Both values are lower than their corresponding degrees of freedom (96),

suggesting that the model's predicted values are in close agreement with the observed data.

- **Degrees of Freedom (df):** (96) This indicates the number of independent comparisons within the data.
- **Significance (p-value):** Pearson p-value: 0.964 and Deviance p-value: 0.994. The p-values are both above 0.05, indicating no significant difference between the observed and expected frequencies. This suggests that the model fits the data well

Conclusion

The Goodness-of-Fit tests demonstrate that your model fits the data exceptionally well. Both tests show that the observed data aligns very closely with the model's predictions, indicating that the model is well-specified and effectively captures the relationships in your data.

12. Rules and Regulation

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	21.331	16	.166
Deviance	21.757	16	.151

In a Chi-Square Goodness-of-Fit test, we compare the observed data to the expected data to see if there are significant differences

Pearson Chi-Square Test

- Chi-Square Value: 21.331
- Degrees of Freedom (df):16
- Significance (Sig.): 0.166

Deviance Chi-Square Test

- Chi-Square Value: 21.75
- Degrees of Freedom (df): 16
- Significance (Sig.): 0.151

Interpretation:

- **Chi-Square Values:** Pearson Chi-Square Value: 21.331 and Deviance Chi-Square Value:21.757. These values are close to their respective degrees of freedom (16), which generally indicates that the model's predicted values are not far from the observed data.

- **Degrees of Freedom (df): (16)** This number reflects the complexity of the model and the data structure.
- **Significance (p-value):** Pearson p-value: 0.166 and Deviance p-value: 0.151. Both p-values are above the common significance threshold of 0.05, indicating that there is no significant difference between the observed and expected frequencies. This suggests that the model fits the data well.

Conclusion

The Goodness-of-Fit tests show that your model fits the data well. The observed data aligns closely with the model's predictions, with no significant differences detected by either the Pearson or Deviance tests. This suggests that the model is well-specified and appropriate for the data.

13. Dustbin Installed

Classification Table[a]

Observed			Predicted		
			Dustbins installed		Percentage Correct
			4	5	
Step 1	Dustbins installed	4	9	2	81.8
		5	4	15	78.9
	Overall Percentage				80.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Local authorities collect waste	.119	1.150	.011	1	.918	1.126
	Rules and Regulations	4.016	1.704	5.551	1	.018	55.459
	Waste generation	2.548	2.681	.903	1	.342	12.779
	Adherence to guidelines	3.236	1.254	6.657	1	.010	25.432
	Constant	-44.133	18.429	5.735	1	.017	.000

a. Variable(s) entered on step 1: Local authorities collect waste, Rules and Regulations, waste trans, Adherence to guidelines.

Classification Table Interpretation:

The classification table shows how well the model predicts the category (either "4" or "5") for the variable "Dustbins installed.

Observed 4:

- Correctly predicted as "4": 9 cases
- Incorrectly predicted as "5": 2 cases
- Percentage Correct: 81.8%

Observed 5:

- Correctly predicted as "5": 15 cases
- Incorrectly predicted as "4": 4 cases
- Percentage Correct: 78.9%

Overall Percentage Correct:80.0%

This means that the model correctly classified 80% of the cases overall.

Variables in the Equation Interpretation:

These variables were included in the model to predict "Dustbins installed."

1. **Local authorities collect waste:**
    - B (Coefficient):0.119
    - S.E. (Standard Error):1.150
    - Wald: 0.011
    - df (Degrees of Freedom):1
    - Sig. (p-value): 0.918 (Not significant)
    - Exp(B):1.126

Interpretation: This variable has a positive but non-significant impact on the likelihood of dustbins being installed.

2. Rules and Regulations:

- B (Coefficient): 4.016
- S.E.: 1.704
- Wald: 5.551
- df: 1
- Sig.:0.018 (Significant)
- Exp(B): 55.459

Interpretation: This variable is a strong and significant predictor, suggesting that stronger rules and regulations greatly increase the likelihood of more dustbins being installed.

3. Waste Generation:

- B (Coefficient): 2.548
- S.E.:2.681
- Wald:0.903
- df: 1
- Sig.: 0.342 (Not significant)
- Exp(B): 12.779

Interpretation: While this variable has a positive coefficient, it is not statistically significant, indicating that waste transportation does not have a strong or consistent impact on the installation of dustbins.

4. Adherence to guidelines:

- B (Coefficient): 3.236
- S.E.: 1.254
- Wald:6.657
- df: 1
- Sig.: 0.010 (Significant)
- Exp(B):25.432

Interpretation: This is a significant predictor, indicating that better adherence to guidelines significantly increases the likelihood of dustbins being installed.

5. Constant:

- B (Coefficient): -44.133
- S.E.: 18.429
- Wald: 5.735
- df:1
- Sig.: 0.017 (Significant)
- Exp(B):0.000

Interpretation: The negative constant suggests that without considering other variables, the likelihood of dustbins being installed is extremely low.

Overall Interpretation:

Model Accuracy: The model correctly predicts the installation of dustbins in 80% of cases, which is a relatively good performance.

Key Predictors:

- Rules and Regulations and Adherence to Guidelines are significant predictors, with strong positive impacts on the likelihood of installing dustbins.

- Local Authorities Collect Waste and Waste Transport are not significant predictors, suggesting their impact is minimal or inconsistent in this model.

Actionable Insight: Strengthening rules, regulations, and adherence to guidelines could significantly increase the likelihood of more dustbins being installed.

CHAPTER-5

CONCLUSION

5.1 Conclusion

The analysis, utilizing both non-parametric tests and logistic regression, demonstrates a strong fit between the model and the observed data. The Chi-Square Goodness-of-Fit tests consistently show high p-values, indicating no significant deviation between observed and expected frequencies and suggesting that the model aligns exceptionally well with the data. Despite some large Chi-Square values, the substantial degrees of freedom diminish their impact, affirming the model's appropriate specification. The logistic regression model exhibits robust predictive performance, with an overall accuracy of 83.3% for the variable "Any Restrictions." The model accurately predicts categories with high precision, achieving 66.7% accuracy for category 3 and 90.5% for category 4. Significant predictors include "Types of Visitors," "Locations," and "Deity Worshipped," all of which show meaningful effects on the likelihood of "Any Restrictions," with strong negative associations. Conversely, "Waste Generation" and "Final Dumping" do not demonstrate statistically significant effects. For the variable "Dustbins Installed," the model's accuracy stands at 80%, with significant predictors including "Rules and Regulations" and "Adherence to Guidelines," which positively influence dustbin installation. In contrast, "Local Authorities Collect Waste" and "Waste Transportation" do not show significant effects. Overall, the analysis reveals that the model is well-fitting and robust, highlighting the importance of strengthening rules, regulations, and adherence to guidelines to improve practical outcomes related to dustbin installation and restrictions.

5.2 Recommendations

Thus, prospects for temple waste management holds promise for addressing environmental concerns and improving hygiene in Old City Jammu.

- **AI-powered Waste Segregation**: Using smart technology to automatically sort different kinds of trash, making it easier and faster.
- **Waste-to-fuel Technologies:** Turning leftover garbage into energy that can be used to power things, like lamps or other operations in the temple.
- **Vertical Composting Systems**: Setting up composting bins that stack on top of each other to save space, where food scraps and other organic waste can turn into natural fertilizer.

- **Virtual Reality Learning Modules**: Using virtual reality to create fun and interactive lessons about how to manage waste properly.
- **Sustainable Temple Construction**: Building or renovating temples in a way that's good for the environment, using eco-friendly materials and methods.
- **Temple-led Environmental Activism**: Temples taking action to protect nature, like organizing events to clean up trash or planting trees.
- **Data-driven Decision Making:** Using information from waste systems to make smart choices, like deciding when and where to collect trash based on data.
- **Partnerships with Tech Start-ups**: Working together with new tech companies to create cool gadgets or tools that help temples manage waste better.

References

1. Study.com. Waste management system overview. Retrieved From- https://study.com/academy/lesson/waste-management-systems-overview-examples.html
2. Safetyculture.com. Waste management system. Retrieved From- https://safetyculture.com/topics/waste-management-system/
3. Wbwaste.com. Waste Disposal. Retrieved From- https://www.wbwaste.com/blog/five-methods-for-waste-disposal/
4. Britannica.com.Waste Disposal Style. Retrieved From- https://www.britannica.com/technology/waste-disposal-syste
5. Upperinc.com. Waste Management Challenges. Retrieved From- https://www.upperinc.com/blog/waste-management-challenges/#:~:text=One%20of%20the%20major%20waste,including%20littering%20and%20illegal%20dumping.
6. Nextias.com. Challenges. Retrieved From: https://www.nextias.com/blog/waste-management-in-india/
7. Bio.libretexts.org. Waste Generation. Retrieved From- https://bio.libretexts.org/Bookshelves/Ecology/Environmental_Science_(Ha_and_Schleiger)/06%3A_Environmental_Impacts/6.01%3A_Solid_Waste_Management/6.1.01%3A_Waste_Generation
8. Greeksforgeeks.org. Biodegradable and non-Biodegradable. Retrieved From: https://www.geeksforgeeks.org/biodegradable-and-non-biodegradable/

Interview Schedule

Title of the Study: Divine Responsibility: A Study of Waste disposal and management in Temples of Jammu city

To conduct interviews with temple priests OR pandit ji to gather insights and information on current practices and perspectives related to temple waste collection and management, aiming to understand existing challenges, identify potential improvements, and contribute to the development of more effective and sustainable waste management strategies for religious institutions.

SECTION –A

This section deals with the collection of information about the respondent.

1) Name of the respondent: Rahul Sharma

2) Age : 30

3) Gender : Male/Female

4) Your martial status:
   a. Married
   b. Unmarried ✓
   c. Divorced

5) Education qualification of the respondent

   a. Primary
   b. Secondary
   c. Higher Secondary
   d. Graduation
   e. Post Graduation ✓
   f. Ohers

6) Number of members in your family : 6

7) Area Belong to: udhampur

8) Area you serve : Jammu

9) For how many years have been staying or caring for this temple? 20

10) Source water supply: Inside the temple /Outside the temple ✓

11) Occupation
    Primary: Priest
    Secondary:

SECTION – B

This section deals with collection of information regarding the Temple.

1) Name and location of the temple:

Shri Sanatan Dharam Sabha Geeta Bhawan, Jammu

2) Deity worshipped in the temple :

Lord Vishnu

3) Types of offerings :

a. Flowers

b. Sweets

c. Fruits

d. Halwa etc.

4) Year of temple built .....

5) Who built this temple .....

6) Timings of this temple

Morning.....6 AM - 11:00 AM

Evening.....5:00 PM - 9:00 PM

Whole Day.....

7) How many visitors come to your temple daily ?

10 - 20

8). Type of Visitors

Days	Number of Visitors
MONDAY	10
TUESDAY	12
WEDNESDAY	11
THURSDAY	20
FRIDAY	7
SATURDAY	12
SUNDAY	10

a). Local ✓
b) Migrant workers ✓
c) Tourists ✓

3

SECTION – C

This section deals with waste generations from these temples asked from temple's respondent.

1). Type & amount of waste generated in the temple daily .

DAY	TYPE OF WASTE *	AMOUNT / QUANTITY(in kgs)
MONDAY	flowers,	100 g
TUESDAY	"	150 g
WEDNESDAY	"	200 g
THURSDAY	"	400 g
FRIDAY	"	100 g
SATURDAY	"	150 g
SUNDAY	"	100 g

*Type of waste: organic (flowers, food waste), non-biodegradable (plastic, paper), and recyclables.

2). How do you currently handle the disposal of offerings including flowers and prasad the temple?

a) Direct involvement in disposal
b) Delegation to temple staff or volunteers ✓
c) Use of dustbins
d) Others

3). If dustbins , are they properly segregated ?
a) Yes ✓
b) No

4). Are there specific events or days where the amount of waste generated significantly increases?
a) Yes ✓
b) No

1) If yes , then what are these events & how much waste gets generated ?

	Name of the Events	Type of waste	Waste Disposal
a.	Amarnath Yatra	flowers etc.	Generally handled by specific team alloted by JMC
b.			
c.			
d.			
e.			
f.			

5). How often do you review or assess the waste management practices in the temple premises?
a) Regularly ✓
b) Weekly
c) Monthly
d) Irregular schedule

6). Do you believe there is a need for increased awareness among temple staff, volunteers & visitors regarding proper waste segregation?

5

a) Yes
b) No

7) Do local authories collect waste? Yes/ No

8) How often do local authorities collect waste
   a) Daily
   b) Alternative day
   c) Weekly
   d) Monthly

9) Is there a regular schedule for waste collection and disposal at temples?
   a) Yes
   b) No

SECTION – D

This section focuses on current waste strategies by these temples in order to manage waste.

1) How is temple waste currently being managed in your temple you are referring to?
   a) Waste is collected and disposed of by local authorities.
   b) The temple has its waste management system.
   c) Waste management is not a structured process in this temple .
   d) Any other

2) Are there specific guidelines or practices in place for waste disposal at the temple?
   a) Yes, there are detailed guidelines in place.
   b) Some basic practices are followed.
   c) No specific guidelines for waste disposal.
   d) Cant Say

3) Is there a system for recycling or segregating waste within the temple premises?
   a) Yes, there is an efficient recycling system.
   b) Waste is partially segregated.
   c) No segregation or recycling system in place.
   d) No idea

4) Are the temple authorities or local authorities involved in waste management initiatives?
   a) Both temple and local authorities actively participate.
   b) Only temple authorities are involved.
   c) Local authorities handle waste management.
   d) All three handle waste management

5). Where do the Waste go after its dumping in the bins

a) Waste is transported to (tick any one)

1.landfill site ✓

2.dumped into water bodies.

b) Waste is composted for organic materials.

c) Uncertain/Unknown.

6).Any restrictions or guidelines in place for the disposal of specific types of waste from temples?

a) Yes ✓

b) No

If yes , then what are the guidelines ? Plastics are generally kept separated.

7). Whether they are displayed or not?

a)Yes ✓

b)No

If Yes where.....

8). Do people adhere to it?

a) Yes ✓

b) NO

9). What are the challenges You face? Please mark Tick

1.Lack of Clarity: .....

Temple authorities may face challenges in interpreting and understanding the guidelines related to waste management, leading to confusion in their implementation.

2. Resource Constraints: ..... ✓

Limited financial and human resources may hinder the implementation of comprehensive waste management practices outlined in guidelines.

3.Resistance to Change: .....

Implementing new waste management guidelines may face resistance from temple staff, volunteers, or the local community who may be accustomed to existing practices.

4.Inadequate Infrastructure: ..... ✓

Existing infrastructure in temples may not align with the requirements specified in the guidelines, making it difficult to implement recommended waste management systems.

5.Limited Training:.....
Lack of proper training for temple staff and volunteers on the guidelines and the practical aspects of waste management can impede effective implementation.

6.Community Engagement: .....
Ensuring active involvement and cooperation from the temple-going community in adhering to waste management guidelines can be a challenge.

7.Inconsistent Enforcement: .....
Inconsistent enforcement of guidelines, either due to lack of monitoring or varying levels of commitment, may undermine the effectiveness of waste management initiatives.

8. Regulatory Compliance: .....
Meeting all the regulatory requirements specified in the guidelines may be challenging, especially if the guidelines are complex or subject to frequent changes.

9.Communication Barriers:.....
Difficulties in effectively communicating the guidelines to all stakeholders, including temple visitors, can hinder the successful implementation of waste management practices.

10.Adaptation to Local Context:.....
Guidelines may not always consider the unique cultural, social, or environmental aspects of a particular temple or region, making it challenging to tailor the recommendations to local conditions

SECTION – E

This section focuses on the awareness regarding the problems faced in temples due to waste.

1) How does improper waste management impact the spiritual and cultural significance of the temple?

a) Yes, improper waste management goes against the core beliefs and values of the temple.

b) Yes, it significantly affects the sacredness and purity of the temple premises.

c) No, the temple's spiritual significance is not directly linked to waste management.

d) No, cultural significance remains unaffected by waste management practices. ✓

2) How does waste management align with the principles of cleanliness and purity in the temple environment?

a) Yes, waste management directly impacts the overall cleanliness of the temple. ✓

b) Yes, waste management contributes significantly to maintaining a pure and sacred environment.

c) No, waste management is unrelated to the principles of cleanliness and purity in the temple.

d) No, maintaining a pure environment does not require specific waste management practices.

3) What steps can be taken within the temple community to address waste-related issues and improve waste management practices?

a) Yes, there have been traditional waste management practices in the temple's history. ✓

b) Yes, historical insights can contribute to developing modern waste management solutions.

c) No, there haven't been traditional waste management practices in the temple's history.

d) No, historical insights are irrelevant to modern waste management solutions.

4) What are potential health and hygiene implications for temple community and visitors due to waste accumulation?

a) spread of diseases

b) unpleasant smells

c) accumulation of waste

d) all of above ✓

5) Can historical insights contribute to developing modern waste management solutions?

a) Yes ✓

b) No

9