

Benefits of Recycling for Future Generation: A Study Conducted in Mysuru.

Author Name¹: **Pushpa k**

Second Author Name²: **Madhunayaka**

MBA Student, Vidya Vikas Institute of Engineering and Technology, Mysuru

Assistant Professor, Vidya Vikas Institute of Engineering and Technology, Mysuru.

Abstract

Recycling is one of the most effective environmental management practices that helps conserve natural how recycling can minimize waste generation, conserve energy, reduce greenhouse gas emissions, and ensure the availability of natural resources for future generations. Primary data were collected through a structured questionnaire administered to selected respondents in Mysuru, while secondary data were obtained from journals, books, government reports, and reliable online sources. The collected data were analyzed using descriptive statistical tools such as percentages, tables, and charts to interpret respondents' opinions and recycling behaviours. The findings indicate that although awareness of recycling is relatively high among the respondents, the adoption of consistent recycling practices is influenced by factors such as access to recycling facilities, environmental education, and government initiatives. The study concludes that promoting recycling through public awareness campaigns, educational programs, and improved waste management infrastructure can significantly contribute to environmental conservation and sustainable development. The research highlights that active participation in recycling today will help create a cleaner, healthier, and more resource-efficient environment for future generations in Mysuru and beyond.

INTRODUCTION

Recycling has become one of the most important environmental practices in today's world, especially as societies face increasing challenges related to waste generation, resource depletion, and environmental pollution. With rapid industrialization, urbanization, and population growth, the amount of waste produced by humans has increased significantly over the past few decades. This growing waste problem has created serious concerns for the health of our planet and the well-being of future generations. In this context, recycling emerges as a practical and sustainable solution that helps reduce waste, conserve natural resources, and protect the environment.

The concept of recycling is based on converting used or discarded materials into new products instead of disposing of them as waste. Materials such as paper, plastic, glass, metal, and electronic waste can often be recycled and reused in manufacturing processes. By doing so, society can reduce the demand for raw materials, decrease energy consumption, and minimize the harmful environmental impacts associated with extraction, production, and disposal activities. Recycling is not merely a waste management technique; it is a responsible lifestyle choice that contributes to environmental sustainability and resource conservation.

The importance of recycling becomes even more evident when considering its impact on future generations. The decisions made today regarding resource use and waste management will directly influence the quality of life of people in the future. If current generations continue to consume resources without considering sustainability, future generations may face shortages of essential natural resources, increased pollution levels, and greater environmental degradation. Recycling helps address these concerns by promoting the efficient use of resources and reducing the pressure on ecosystems.

Furthermore, recycling contributes to the reduction of greenhouse gas emissions, which are a major cause of climate change. Manufacturing products from recycled materials generally requires less energy compared to producing them from raw materials. This reduction in energy consumption leads to lower carbon emissions, helping to combat global warming and its long-term consequences. As climate change continues to affect weather patterns, biodiversity, and human livelihoods, recycling serves as an important strategy for creating a more sustainable future.

Another significant benefit of recycling is its role in fostering environmental awareness and responsibility among individuals and communities. When people participate in recycling programs, they become more conscious of their consumption habits and the impact of their actions on the environment. This awareness encourages sustainable that can be passed on to future generations, creating a culture of environmental stewardship and social responsibility.

In addition to environmental benefits, recycling also offers economic and social advantages. The recycling industry creates employment opportunities in collection, sorting, processing, and manufacturing sectors. It supports economic growth while promoting sustainable development. By reducing waste management costs and generating valuable materials for production, recycling contributes to a more efficient and circular economy.

Therefore, understanding the benefits of recycling for future generations is essential for promoting sustainable development and environmental conservation. Recycling is not only a solution to present-day environmental challenges but also an investment in the future of humanity. Through responsible recycling practices, society can help ensure that future generations inherit a cleaner, healthier, and more sustainable world where natural resources

Review of Literature

1. Raghu and Rodrigues (2020), Raghu and Rodrigues examined the behavioural aspects of solid waste management and emphasized that public participation in recycling significantly reduces waste generation and environmental pollution. Their study concluded that increased recycling awareness and responsible waste disposal practices can help conserve natural resources and create a cleaner environment for future generations. **Shahabuddin et al. (2022)** Shahabuddin and colleagues reviewed electronic waste (e-waste) recycling and highlighted its importance in recovering valuable materials while reducing environmental hazards. The authors found that effective e-waste recycling protects ecosystems from toxic substances and ensures sustainable resource availability for future generations. **Tsuchi moto and Kajikawa (2022)** Tsuchi moto and Kajikawa conducted a systematic review of plastic waste recycling research. They reported that recycling plastic waste helps reduce landfill accumulation, decreases environmental pollution, and supports the circular economy. Their findings suggest that improved recycling systems are essential for maintaining environmental sustainability for future generations. **Shanker et al. (2022)** Shanker and co-authors analysed the Indian plastic recycling scenario and future opportunities. Their study revealed that recycling plastic waste conserves natural resources, reduces greenhouse gas emissions, and creates economic opportunities. The researchers emphasized that strengthening recycling practices will benefit future generations through improved environmental quality and resource conservation. **Bayram and Greiff (2023)** Bayram and Greiff reviewed construction and demolition waste recycling using life cycle assessment methods. Their findings showed that recycling construction materials reduces the demand for virgin resources, lowers carbon emissions, and minimizes landfill use. These benefits contribute to long-term environmental sustainability for future generations. **Peng et al. (2023)** Peng and colleagues investigated the recycling of municipal, agricultural, and industrial waste into useful products such as energy, fertilizers, and construction materials. The study concluded that waste recycling supports sustainable development by conserving resources, reducing pollution, and enhancing economic growth for future generations. **Wilson (2023)** Wilson reviewed the historical development of waste and resource management from 1970 to 2020. The study emphasized that improved recycling and waste management systems can significantly reduce ocean pollution, mitigate climate change, and support several Sustainable Development Goals (SDGs), thereby ensuring a healthier future for coming generations. **Maalouf and Agamuthu (2023)** Maalouf and Agamuthu analyzed waste management evolution in developing countries. They found that recycling initiatives have improved environmental protection, resource recovery, and public health outcomes. The authors suggested that expanding recycling programs is crucial for sustainable development and future environmental security. **Cerqueira-Streit et al. (2023)** Cerqueira-Streit and colleagues reviewed packaging waste management within the circular economy framework. Their research demonstrated that recycling packaging materials reduces waste generation, conserves resources, and promotes sustainable production and consumption patterns that benefit future generations. **Karimi (2023)** Karimi conducted a scoping review on alternatives to landfilling and sustainable waste management practices. The study highlighted recycling as a key strategy for reducing landfill dependence, minimizing environmental degradation, and preserving natural resources for future generations.

Statement of the Problem

In today's world rapid growth of population, urbanization, industrial activities, and consumerism has resulted in a significant increase in the generation of solid waste across the world. Large quantities of paper, plastic, glass, metal, and electronic waste are discarded daily, creating serious environmental challenges. Improper waste disposal practices contribute to pollution of land, water, and air, while the excessive extraction of natural resources for manufacturing new products leads to resource depletion and environmental degradation. Despite the growing awareness of environmental issues, recycling practices are still not widely adopted by many individuals, communities, and organizations.

Need for the Study

The need for this study arises from the increasing environmental challenges caused by excessive waste generation, rapid consumption of natural resources, and growing levels of pollution. As the global population continues to increase, the demand for raw materials, energy, and consumer products is placing significant pressure on the environment. Large amounts of waste are being disposed of in landfills and open dumping sites, leading to environmental degradation and health hazards. Recycling has emerged as an effective solution to these problems by reducing waste, conserving natural resources, saving energy, and minimizing pollution. However, despite its importance, many people are still unaware of the long-term benefits of recycling and its contribution to sustainable development.

This study is important because it helps create awareness about how recycling can protect the environment and improve the quality of life for future generations. Understanding the benefits of recycling encourages individuals, communities, and organizations to adopt responsible waste management practices and promote environmental conservation. Furthermore, the study highlights the role of recycling in reducing greenhouse gas emissions, preserving valuable resources, and supporting economic growth through job creation. By examining the significance of recycling, this research aims to emphasize the need for greater participation in recycling activities and encourage sustainable practices that will ensure a cleaner, healthier, and more sustainable future for generations to come.

Research Objectives

1. To analyse the concept and importance of recycling in environmental conservation and sustainable development.
2. To examine the benefits of recycling for future generations in terms of resource conservation and environmental protection.
3. To evaluate the impact of recycling on waste reduction and the efficient management of natural resources.

Hypothesis

Null Hypothesis (H_0)

There is no significant relationship between recycling practices and the perceived benefits for future generations among the residents of Mysuru.

Alternative Hypothesis (H_1)

There is a significant relationship between recycling practices and the perceived benefits for future generations among the residents of Mysuru

Research methodology

Research Design

The study adopts a descriptive research design as it seeks to describe and analyze the perceptions, awareness, and opinions of respondents regarding the benefits of recycling for future generations.

Sources of Data

Primary Data

Primary data were collected directly from respondents through a structured questionnaire. The questionnaire included questions related to recycling practices, awareness levels, environmental benefits, and perceptions about the impact of recycling on future generations.

Secondary Data

Secondary data were collected from books, journals, research articles, government reports, websites, and other published sources related to recycling and environmental sustainability.

Sampling Technique

The study employed a **convenience sampling technique**, where respondents were selected based on their availability and willingness to participate in the survey.

Sample Size

A sample of **100 respondents** from Mysuru City was selected for the study. (You may modify the sample size according to your actual research.)

Plan of Analysis

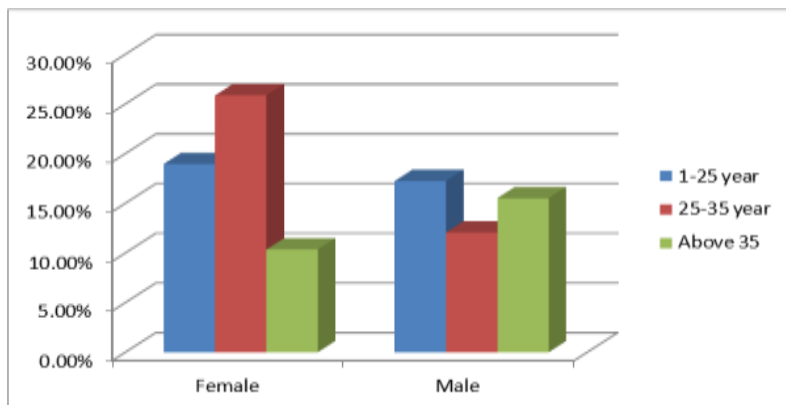
The data collected through the questionnaire will be carefully edited, coded, classified, and tabulated for analysis. Descriptive statistical tools such as frequency distribution and percentage analysis will be used to summarize and present the responses of the participants. Tables, charts, and graphs will be prepared to provide a clear understanding of the demographic profile, awareness levels, and recycling practices of the respondents in Mysuru. The study will analyze respondents' perceptions regarding the environmental, economic, and social benefits of recycling for future generations. To test the research hypothesis, the Chi-square test will be employed to determine whether a significant relationship exists between recycling practices and the perceived benefits for future generations. The results obtained from the analysis will be interpreted and discussed in relation to the research objectives. Based on the findings, conclusions and recommendations will be provided to enhance recycling awareness and encourage sustainable waste management practices among the residents of Mysuru.

Limitations of the Study

1. The study is limited to Mysuru City only.
2. The sample size may not represent the entire population.
3. The findings are based on respondents' opinions and perceptions.
4. Time and resource constraints may affect the scope of data collection.

Age				
Gender	1-25 year	25-35 year	Above 35	Grand Total
Female	18.97%	25.86%	10.34%	55.17%
Male	17.24%	12.07%	15.52%	44.83%
Grand Total	36.21%	37.93%	25.86%	100.00%

Approximate monthly household				
Gender	25k-50k	50k and ABOVE	Below 25k	Grand Total
Female	37.93%	12.07%	5.17%	55.17%
Male	18.97%	6.90%	18.97%	44.83%
Grand Total	56.90%	18.97%	24.14%	100.00%



Analysis

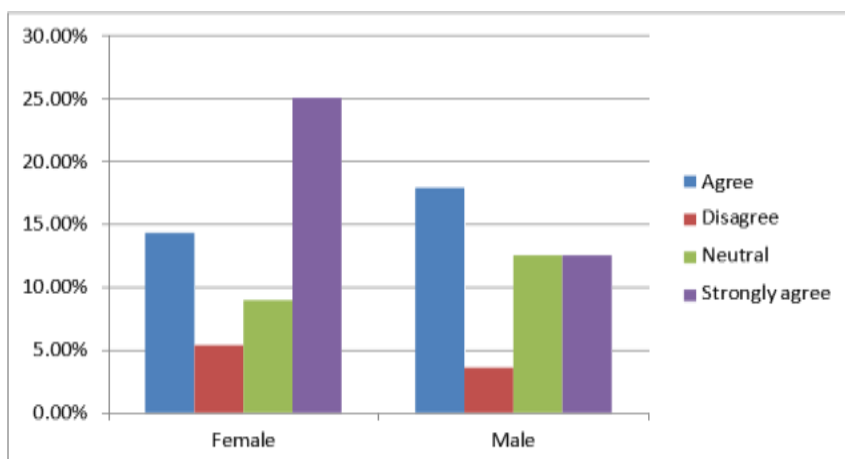
The data shows 55.17% of respondents are female and 44.83% are male. Age-wise, the 25-35 group is largest at 37.93%, followed by 1-25 at 36.21% and above 35 at 25.86%. Among females, participation peaks in 25-35 (25.86%), while for males it peaks above 35 (15.52%).

Interpretation

The survey skews slightly toward females and young to mid-aged adults, suggesting stronger engagement from women aged 25-35. The higher male share in the "above 35" group indicates older males are more represented, while younger males have the lowest participation.

I regularly segregate wet and dry waste at my home before disposal

Gender	Agree	Disagree	Neutral	Strongly agree	Grand Total
Female	14.29%	5.36%	8.93%	25.00%	53.57%
Male	17.86%	3.57%	12.50%	12.50%	46.43%
Grand Total	32.14%	8.93%	21.43%	37.50%	100.00%

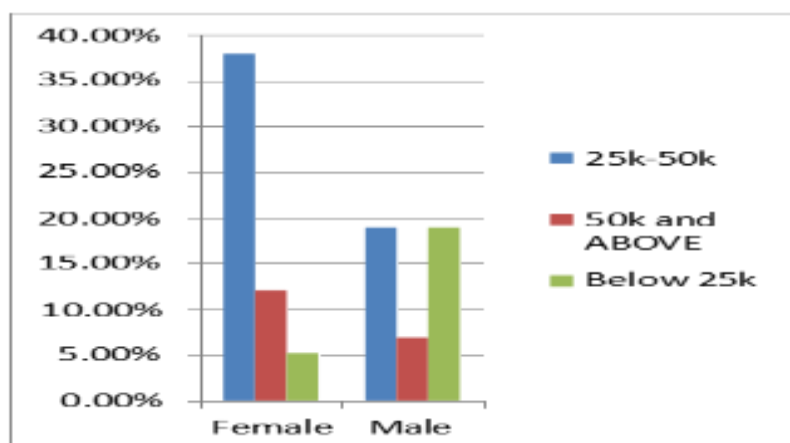


Analysis

The table shows 55.17% of respondents are female and 44.83% are male. Most households fall in the 25k-50k income bracket at 56.90%, followed by Below 25k at 24.14% and 50k and above at 18.97%. Among females, 37.93% are in the 25k-50k range, while males are evenly split between 25k-50k and Below 25k at 18.97% each.

Interpretation

The data indicates female respondents dominate the sample and are concentrated in middle-income households, while males have a larger share in the lower-income category. Overall, the majority of surveyed households are middle-income, suggesting the target group for any program or NGO activity is likely in the 25k-50k range.



Analysis

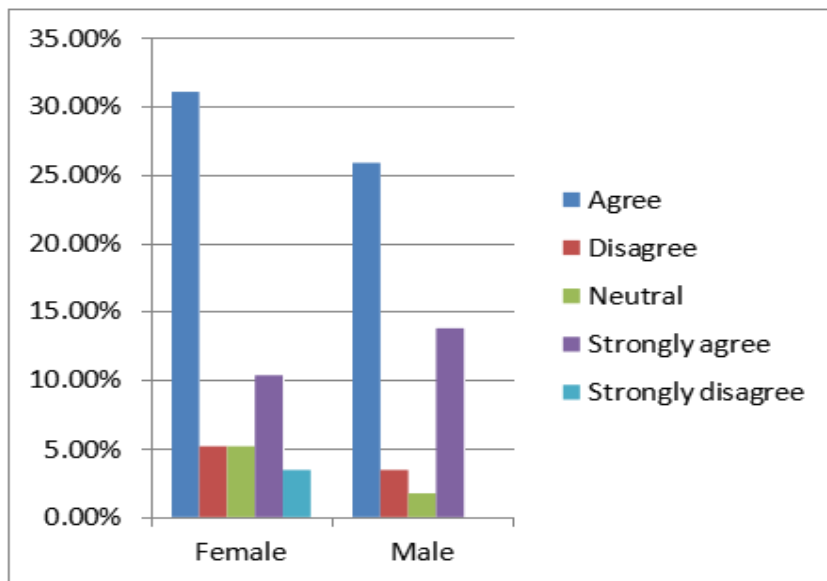
Overall, 69.64% of respondents either "Agree" or "Strongly agree" that they regularly segregate wet and dry waste, with 37.50% strongly agreeing. Females make up 53.57% of respondents and show higher strong agreement at 25.00%, while males are 46.43% and have higher agreement at 17.86%. Disagreement is low overall at 8.93%.

Interpretation

The data suggests waste segregation is widely practiced, especially among females who show stronger commitment. Males are more likely to simply "agree" than "strongly agree," and a notable 21.43% remain neutral, indicating room for awareness programs to convert neutral respondents into active participants.

Consistent recycling habits will lead to a cleaner, pollution-free environment for the next generation.

Gender	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Grand Total
Female	31.03%	5.17%	5.17%	10.34%	3.45%	55.17%
Male	25.86%	3.45%	1.72%	13.79%	0.00%	44.83%
Grand Total	56.90%	8.62%	6.90%	24.14%	3.45%	100.00%



Analysis

81.04% of respondents either "Agree" or "Strongly agree" that consistent recycling leads to a cleaner environment, with 56.90% agreeing and 24.14% strongly agreeing. Females are 55.17% of respondents and show higher agreement at 31.03%, while males are 44.83% with 13.79% strongly agreeing. Disagreement is low overall at 12.07%.

Interpretation

The data shows strong belief across genders that recycling benefits the next generation, but females lean toward "Agree" while males have a higher proportion of "Strongly agree." With only 6.90% neutral, awareness is high, so efforts can focus on turning belief into consistent recycling action rather than basic education.

Analysis

75.44% of respondents either "Agree" or "Strongly agree" that widespread recycling will reduce waste management costs, with 63.16% agreeing and 12.28% strongly agreeing. Females make up 56.14% of respondents and show higher agreement at 38.60%, while males are 43.86% with more neutral responses at 8.77%. Overall disagreement is low at 10.53%.

Widespread recycling will reduce the economic costs of waste management for future local governments.

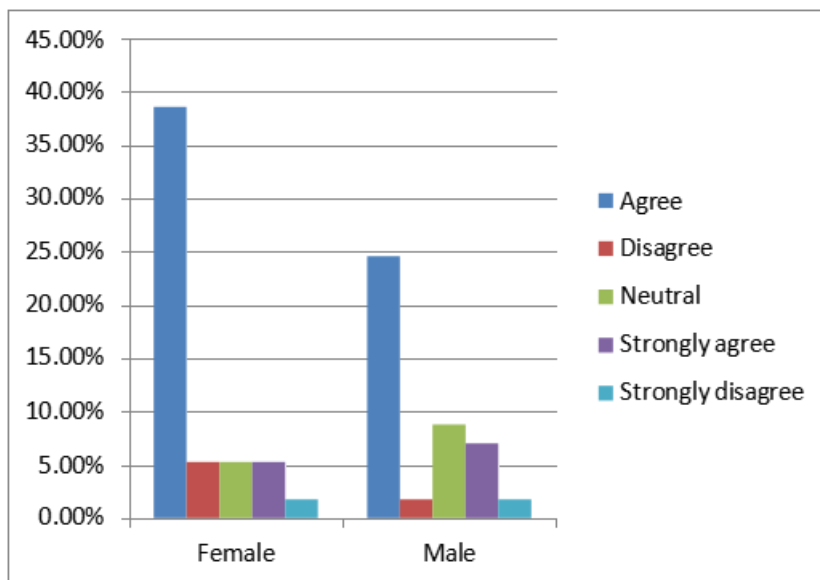
Gender	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Grand Total
Female	38.60%	5.26%	5.26%	5.26%	1.75%	56.14%
Male	24.56%	1.75%	8.77%	7.02%	1.75%	43.86%
Grand Total	63.16%	7.02%	14.04%	12.28%	3.51%	100.00%

Interpretation

There is broad support for recycling as an economic solution, especially among females who show stronger agreement. The higher neutral share among males suggests some uncertainty about the economic link, indicating awareness campaigns could focus on cost-benefit data to convert neutral respondents into supporters.

SPSS TEST

HYPOTHESIS TEST



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
12	The categories of Practicing recycling now ensures that natural resources (like water and forests) will be preserved for our children. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
13	The categories of Consistent recycling habits will lead to a cleaner, pollution-free environment for the next generation. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
14	The categories of Widespread recycling will reduce the economic costs of waste management for future local governments. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
15	The categories of Teaching the next generation about recycling today will successfully instill lifelong eco-friendly values in them. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

CHI-SQUARE TEST

Continuous recycling will significantly reduce the burden on landfills for future generation			
	Observed N	Expected N	Residual
1	15	11.6	3.4
2	11	11.6	-.6
3	9	11.6	-2.6
4	20	11.6	8.4
5	3	11.6	-8.6
Total	58		

DESCRIPTIVE TEST

Descriptive Statistics								
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Primary source of information about Waste Management.	56	3.88	1.113	1	5	3.00	4.00	5.00
I regularly segregate wet and dry waste at my home before disposal	57	4.00	.982	2	5	3.00	4.00	5.00
The waste collection system in my area makes it easy to recycle	58	3.71	1.170	1	5	3.00	4.00	5.00

TEST STASTICS

Question	Chi-Square	df	Asymp. Sig.
Primary source of information about Waste Management.	24.179	4	.000
I regularly segregate wet and dry waste at my home before disposal.	11.561	3	.009
The waste collection system in my area makes it easy to recycle.	17.690	4	.001
I actively choose to reuse plastic containers, bottles, and bags instead of throwing them away.	31.828	4	.000
I actively participate in or support local	25.966	4	.000

cleanliness and recycling drives (e.g., Swachh Bharat/MCC).			
---	--	--	--

FINDINGS

1. A majority of the respondents are aware of the importance of recycling and its positive impact on environmental protection.
2. Most respondents believe that recycling helps conserve natural resources such as water, forests, and minerals for future generations.
3. The study found that recycling significantly reduces the amount of waste sent to landfills, contributing to a cleaner environment.
4. Many participants agreed that recycling helps reduce pollution by minimizing air, water, and soil contamination.
5. Respondents recognized that recycling saves energy compared to producing goods from raw materials.
6. Environmental awareness campaigns and educational institutions play an important role in encouraging recycling practices among the public.
7. The study revealed that lack of proper recycling infrastructure and collection facilities is a major challenge in Mysuru.
8. Many respondents expressed willingness to participate in recycling programs if convenient collection systems and awareness initiatives are provided.

CONCLUSION

The study on “Benefits of Recycling for Future Generations: A Study Conducted in Mysuru” concludes that recycling is a vital practice for achieving environmental sustainability and ensuring the conservation of natural resources for future generations. The findings reveal that while a large number of respondents are aware of the environmental and economic benefits of recycling, there is still a need to improve regular recycling practices through better infrastructure, public awareness, and community participation. Recycling not only reduces waste and pollution but also conserves energy, decreases greenhouse gas emissions, and supports a cleaner and healthier environment. The study emphasizes that the combined efforts of individuals, educational institutions, local authorities, and the government are essential to strengthen recycling initiatives in Mysuru. By promoting responsible waste management and encouraging sustainable lifestyles, Mysuru can contribute significantly to environmental conservation and create a better quality of life for present and future generations.

SUGGESTIONS

1. Increase Public Awareness

The Mysuru City Corporation, educational institutions, and NGOs should conduct regular awareness campaigns on the importance of recycling through workshops, seminars, social media, and community programs.

2. Improve Recycling Infrastructure

More recycling bins and waste collection centers should be installed in residential areas, schools, colleges, markets, and public places to make recycling convenient for citizens.

3. Promote Waste Segregation at Source

Households and commercial establishments should be encouraged to separate biodegradable, non-biodegradable, and recyclable waste before disposal to improve recycling efficiency.

4. Strengthen Government Policies

The government should introduce stricter regulations, incentives, and monitoring systems to encourage recycling and reduce improper waste disposal.

REFERENCES

1. Raghu, S., & Rodrigues, L. L. R. (2020). Behavioural aspects of solid waste management and public participation in recycling. *Journal of Environmental Management*, 267, 110610.
2. Shahabuddin, M., et al. (2022). Electronic waste recycling: Challenges, opportunities, and sustainable resource recovery. *Journal of Cleaner Production*, 350, 131450.
3. Tsuchimoto, Y., & Kajikawa, Y. (2022). A systematic review of plastic waste recycling research. *Waste Management*, 138, 156–170.
4. Shanker, A., et al. (2022). Plastic recycling in India: Current status, challenges, and future opportunities. *Resources, Conservation and Recycling*, 181, 106245.
5. Bayram, A., & Greiff, K. (2023). Construction and demolition waste recycling: A life cycle assessment review. *Sustainable Production and Consumption*, 37, 335–349.
6. Peng, W., et al. (2023). Waste recycling for sustainable development: Municipal, agricultural, and industrial waste utilization. *Journal of Cleaner Production*, 394, 136354.
7. Wilson, D. C. (2023). Waste and resource management: A historical review (1970–2020). *Waste Management & Research*, 41(2), 115–130.
8. Maalouf, A., & Agamuthu, P. (2023). Evolution of waste management in developing countries: Challenges and future directions. *Waste Management*, 157, 87–101.
9. Cerqueira-Streit, J. A., et al. (2023). Packaging waste management and the circular economy: A systematic review. *Resources, Conservation and Recycling*, 193, 106935.
10. Karimi, B. (2023). Alternatives to landfilling: A scoping review of sustainable waste management practices. *Journal of Environmental Management*, 338, 117753.