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## BEYOND LANDFILLS -: USING POST - CONSUMER WASTE FOR ACCESSORIES AND HOME DÉCOR

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### Abstract:

Textile waste is one of the significant environmental concerns, as discarded textiles often end up in landfills, contributing to pollution. Every year, India accumulates around 7,793 kilotons of textile waste, with approximately 51% coming from consumer usage, 42% from manufacturing leftovers, and 7% from imported sources. This paper develop an innovative process by transforming post-consumer textile waste into high-quality resin-based consumer goods in the category of Accessories and Home décor products. The abstract focuses on post-consumer textile waste in the context of the 17 Sustainable Development Goals (SDGs) and also explores strategies to address these challenges, including recycling and up-cycling. By following the SDGs, we can work towards reducing the environmental impact of textile waste while promoting sustainable economic growth and social well-being.

Keywords: Sustainability, Post – consumer waste, Accessories, Home décor, Entrepreneurship.

### Introduction:

Fabric waste, particularly post-consumer waste, has become a pressing global issue. Today the world produces 92 million tons of textile waste every year which are discarded and also contribute to environmental degradation. Between 80 and 100 billion new clothing garments are produced globally every year. Fast fashion, characterized by rapid production and consumption, aggravate this problem by encouraging disposable clothing culture. This trend not only depletes natural resources but also emits greenhouse gases during production and disposal. The impact of fabric waste on the environment is multifaceted. It leads to overflowing landfills, as textiles take a long time to decompose. Synthetic fabrics release microplastics into the environment, further harming ecosystems. Addressing these challenges aligns with the United Nations Sustainable Development Goals. Reusing clothing, extending their lifecycle, and adopting circular economy principles are essential strategies. Furthermore, promoting durable designs and sustainable materials helps mitigate the negative effects of fast fashion. Incorporating circular economy principles involves creating closed-loop systems where products are designed for easy disassembly and recycling. This approach reduces resource consumption and minimizes waste. By

adopting sustainable practices, we can contribute to goals like responsible consumption and production, climate action, and life on land and below water.

This study aims to develop an innovative process by transforming post-consumer waste into high-quality resin-based consumer goods in the category of Accessories and Home décor products to ensure durability, aesthetics, and also to reduce environmental impact.

The primary objective of this study is to develop products by up-cycling post-consumer waste into high-quality resin-based consumer goods and also to develop a cost-effective method for producing aesthetically pleasing resin-based consumer goods from post-consumer waste and to minimize environmental impact, and establishing a market presence through effective branding and consumer education and also to ensure proper recycling and thus completing the sustainability cycle.

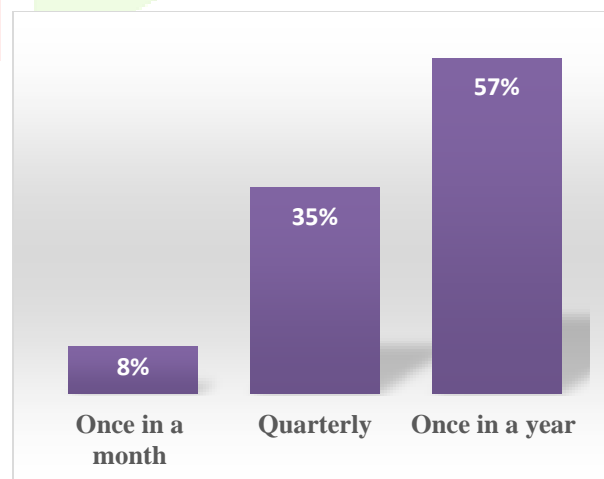
### Methodology:

A pre survey was carried out with 130 participants, consisting of nine closed-ended questions where respondents selected their answers from predefined options simplifying to analyze and understand the attitude toward up-cycling post - consumer waste and primary data for the survey was gathered using a Google Form. The sampling techniques employed were convenient and snow-ball sampling. Using the insights gained from the survey, the inspiration for creating the products stemmed which highlighted a growing concern for sustainability and eco-friendliness. By using post-consumer waste in shredded cut form combined with resin, to promote recycling and reduce waste. The three distinct product categories were designed to cater to various aspects of daily life: Accessories for personal use, Home Decor items for beautifying living spaces, and aesthetic Puja products to blend tradition with environmental consciousness. Development of products showcases a commitment to sustainable practices and waste reduction. The creation of three distinct product categories - Accessories, Home Decor items, and Aesthetic Puja products - demonstrates a thoughtful approach to addressing both environmental concerns and the diverse needs of consumers. It reflects an innovative way to merge eco-friendliness with everyday utility, aligning with the growing demand for responsible and conscious consumer choices.

### Results and Discussion:

The preliminary questions in the survey inquired about the frequency of discarding old and used clothes. The distribution of responses across these options can shed light on participants' disposal behaviors. This data could be discussed in relation to the development of products using post-consumer waste.

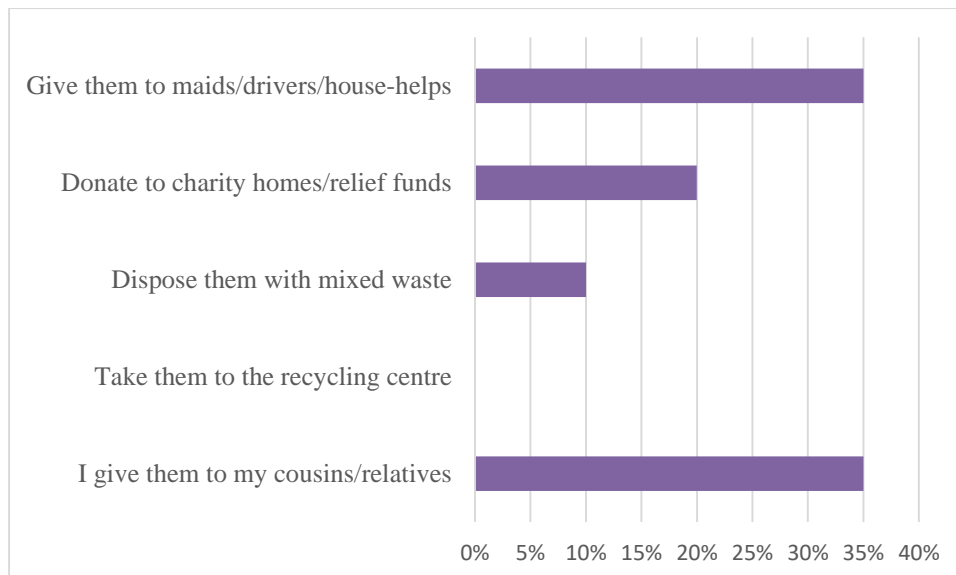
#### 1. Frequency of discarding old clothes



**Fig. No. 1** Frequency of people discarding old clothes

The above figure indicates 57% of individuals dispose their clothing items annually, possibly due to the annual home cleaning associated with festivals. Very few participants discard their old clothes on a monthly basis.

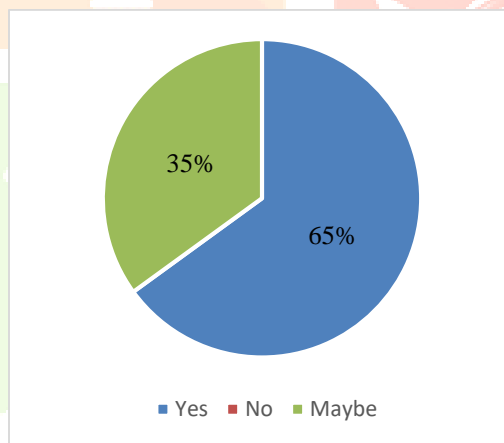
## 2. Ways of discarding old clothes



**Fig. No. 2 Ways of discarding old clothes**

The above figure shows that none of the respondents indicated a tendency to take their clothes to recycling centers for disposal. This insight underlines the need for greater awareness and convenience regarding proper recycling methods for clothing items and also encourage more responsible disposal practices in the future.

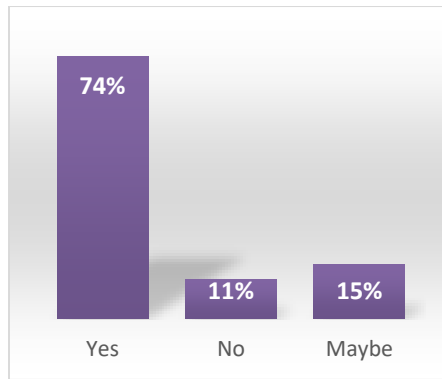
## 3. Percentage of participants up cycling old clothes



**Fig. No. 3 Percentage of participants up cycling their old clothes**

The above figure illustrates that 35% of people refrain from the practice of upcycling their clothing. This implies that a significant portion of the surveyed individuals do not actively participate in reusing or repurposing their old garments, which may have implications for sustainability.

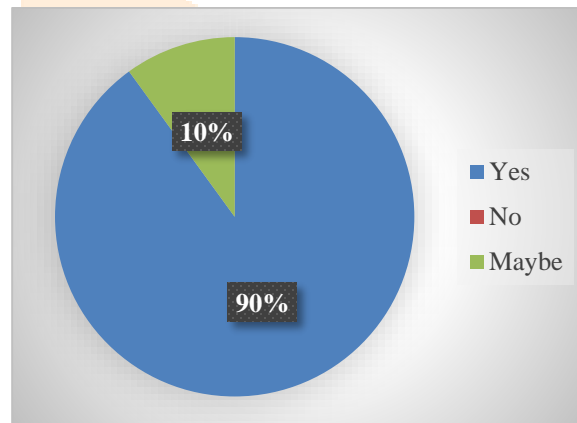
#### 4. Availability of old clothes



**Fig. No. 4 Availability of old clothes**

The above figure indicates that 74% people have old and used clothes at home. This question aimed to gauge the presence of potential post-consumer waste materials that could be utilized for the creation of products.

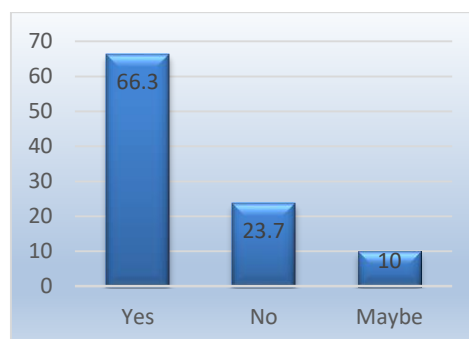
#### 5. Consent to give old clothes for up cycling



**Fig. No. 5 Consent to give old clothes for creating new products out of them**

The above figure shows that 90% of the surveyed individuals are willing to contribute their old and used clothing to our initiative, with the intent of repurposing their garments into new products. This willingness to participate suggests a significant interest in sustainable fashion practices and the potential for collaboration in creating innovative products from existing resources.

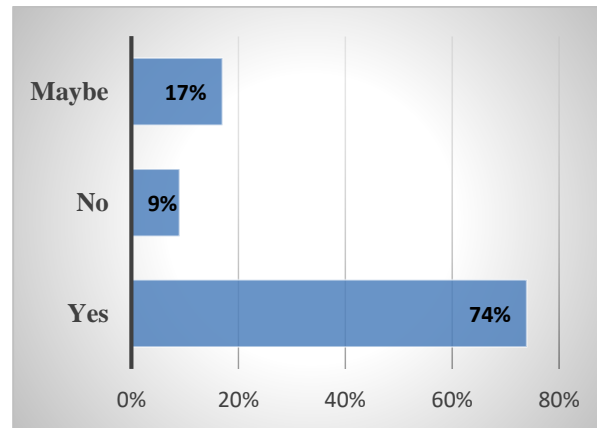
#### 6. Awareness of the impact of fashion industry



**Fig. No. 6 Awareness of the impact of fashion industry on the Environment**

The above figure illustrate that 23.7% of respondents are not aware of the environmental impact of the fashion industry. Additionally, 10% of respondents indicated uncertainty by saying "maybe." This suggests that there is a significant portion of the surveyed population with varying levels of awareness or uncertainty regarding the fashion industry's impact on the environment. Awareness can be created in the population.

## 7. Frequency of people are ready to buy products



**Fig. No. 7 Frequency of people ready to buy products such as Furniture, Home Décor, and Accessories made from recycling old clothes**

The above figure shows that 74% of the respondents, are willing to purchase products made from recycled clothing. This suggests a strong consumer interest in sustainable fashion and a readiness to support products that promote recycling and reuse of textiles.

The results of the survey indicate a notable awareness among consumers regarding the environmental impact of fast fashion. This awareness has led to a willingness to repurpose textile waste, thereby fostering sustainability and mitigating environmental harm and also to develop innovative and distinctive designs/products that contribute to a reduction in waste generation and environmental strain. This alignment of consumer consciousness with such practices underscores the potential for positive change in the fashion industry towards more responsible approaches.

### Product Development:

1. In the initial step, the researcher gathered discarded textile waste from consumers.
2. The second stage involves sanitizing and cleaning of the collected post-consumer waste.
3. Step three includes shredding or cutting the post-consumer waste material.
4. For the fourth step, the researcher utilized epoxy resin to create the products, maintaining a 2:1 ratio by measuring out two parts of resin for every one part of hardener before mixing.
5. In the fifth step, the researcher placed the shredded post-consumer textile waste into molds to craft the desired items.



Fig. No. 8 Steps involved in creating Accessories

## 2. ACCESSORIES





### 3. AESTHETIC PUJA PRODUCTS (PUJA THALI)



Fig. No. 10 Puja Thali

### 4. HOME DECOR ITEMS (CLOCK)



Fig. No. 11 Clock

## Conclusion

The endeavor of creating items from post-consumer waste seamlessly aligns with various Sustainable Development Goals (SDGs). Through the use of shredded or cut waste and resin, the project actively contributes to SDG 12 (Responsible Consumption and Production) by promoting recycling and reducing waste. Furthermore, the development of a wide range of product categories, such as Accessories, Home Decor, and Aesthetic Puja items, fosters SDG 8 (Decent Work and Economic Growth) by encouraging innovation and offering potential economic prospects. Additionally, the project's emphasis on mindful consumption resonates with 17 United Nations Sustainable Development Goals (SDGs) by lessening environmental impacts and preserving natural resources. Overall, this initiative exemplifies a holistic approach to sustainability, addressing multiple SDGs, while delivering practical and attractive products and also creating entrepreneurial opportunities for individuals with a creative mindset.

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