

Creative Utilization of Plastic Straws for Wall Decoration

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ABSTRACT

This study explores how plastic straws can be creatively reused to make decorative wall art. Using a Descriptive Developmental design and secondary data, it looked into techniques used, the overall look and quality of the outputs, their environmental relevance, and the common challenges faced during the process. Findings show that simple methods like folding, layering, and coiling can turn straws into appealing designs. The finished works can be neat and attractive when done carefully. While reusing straws doesn't solve the plastic crisis, it helps raise awareness and reduce waste in small ways. Some issues, such as glue not sticking, and straws being too flimsy, can be resolved with simple solutions. As the study concludes, straw-based art is creative and functional; therefore, straw is useful in schools, or possibly as community art projects, because students can form part of a sustainable program through hands-on art-based activities.

INTRODUCTION

The creative repurposing of used plastic straws into wall decorations demonstrates the potential of art as an environmental remedy and offers a sustainable substitute for conventional waste management techniques. Because of their accessibility, price, and inappropriate disposal, plastic straws continue to contribute significantly to pollution even after repeated bans and the advent of biodegradable alternatives. In addition to keeping garbage out of landfills and rivers, turning these single-use plastics into ornamental artworks encourages resource efficiency, ecological awareness, and community involvement. This study argues that creative reuse can make a significant contribution to sustainability initiatives by transforming waste materials into useful and beautiful expressions that address environmental issues and cultural appreciation of design.

With environmental problems growing and sustainability becoming a focus around the world, the need for effective management of plastic waste is becoming urgent. In recent years, conversations about environmental sustainability and conservation, which started several decades ago, have grown exponentially, and interest from international organizations and various sectors of society has burgeoned (Rwelamila & Purushottam, 2015 as cited in Shange, 2025).

An item that is still a permanent pollutant in the face of bans and regulations is the small plastic drinking straw. Due to their affordability and high flexibility, these straws are widely used; however, their limited usability and frequent improper disposal contribute significantly to resource inefficiency and environmental degradation (Guo et al., 2023). More than 50% of artificial plastics are discarded after a single use, resulting in 150 million tons of plastic waste annually. Plastic straws and stirrers make up about 7% of this waste (Roy et al., 2021).

This environmental issue allows for creativity and innovation to be part of sustainability. Today's creativity in the 21st century is being identified as a critical competency, and design thinking is embraced in order to realize practical, resourceful solutions. Ogbeibu et al. (2021) emphasized that generating and sharing eco-friendly ideas supports strategies aligned with the United Nations Global Compact and the Sustainable Development Goals (SDGs).

A powerful example of such creative activism is seen in artist Benjamin Von Wong's "Strawpocalypse" project in Vietnam, where over 168,000 used plastic straws were collected and transformed into a massive art installation with the help of 500 volunteers. As the Saigoneer article reports, "With the help of Zero Waste Saigon, Starbucks Vietnam, and hundreds of volunteers, [they] spent over 6 months to gather a total of 168,000 straws to bring this project to life" (Jwyanza, 2019). This collaborative effort used waste as a message, turning visual art into a bold statement about plastic pollution. The project echoes this study's intention: to reveal how discarded materials, when creatively reimagined, can engage communities, elevate environmental awareness, and become a form of visual storytelling and advocacy that helps societal problems.

Another globally scaled project is Benjamin Von Wong's installation, "The Parting of the Plastic Sea," which was awarded a Guinness World Record (2019). According to reports, "over the course of 6 months, straws were collected, resulting in 168,037 straws repurposed into a supported installation to raise awareness of the issue surrounding single-use plastic pollution." This case demonstrates how discarded straws can work as both art and environmental storytelling when visualized artistically at scale.

In response to this growing problem, the researcher proposes a study on the creative utilization of small plastic drinking straws as material for wall decoration. As environmental laws tighten and the circular economy is pushed forward, the role of education in promoting sustainable practices becomes even more vital. This study aims to repurpose an environmental burden into something useful, meaningful, and artistically expressive by investigating the creative repurposing of small plastic drinking straws for use as wall decoration. Specifically, it seeks to determine the operational aesthetic of artistic methods in making decorative wall artworks from plastic straws, evaluate the craft process involved in creating such artworks, examine the perceived ecological footprint of plastic straws in decorative art, and analyze the problems encountered in their reuse while exploring potential solutions. This research contributes to these discussions by emphasizing creative reuse as a practical and aesthetic response to environmental challenges.

LITERATURE REVIEW

The issue of plastic waste remains a pressing concern in the Philippines, especially with the country's exposure to imported waste materials labeled as recyclables. Despite various laws, regulations, and policies to curb plastic waste, including the Ecological Solid Waste Management Act (RA 9003), the fact that the necessary infrastructure for recycling is underdeveloped and poorly implemented makes it challenging to curtail the ongoing inflow of plastic waste into the Philippines. Greenpeace and the Eco Waste Coalition (2020) emphasized that the increase in plastic waste imports in 2019 was alarming. Additional concerns included the unclear destinations of these materials – often ending up in poorly managed recycling facilities – or their diversion into unregulated waste piles, leading to environmental leakages and threats to public health.

The world's production of plastic waste was approximately 6.3 billion tons between 1950 and 2015 (Liang et al., 2021). Of this, around 9% was recycled, while more than 80% was either sent to landfills or released into marine environments. The unregulated growth in plastic production was largely driven by industrial demand, with global usage estimates ranging from 2 million to 320 million tons between 2011 and 2015 (Aryan et al., 2019, as cited in Kibria et al., 2022).

Given the vast generation of plastic waste over the past few decades – and the proportion that is recycled – there is a growing realization that traditional recycling alone will not be sufficient to curb the plastic waste crisis. This has led to an interest in alternative methods that not only divert waste from landfills but can also add value.

In this regard, a life-cycle assessment conducted by Konečný et al. (2022) comparing traditional polypropylene (PP) straws to alternatives like polylactic acid (PLA) and paper (PA) straws highlighted the environmental trade-offs of substitution-based strategies. Although PLA and paper straws reduce marine litter impacts, their production often results in higher greenhouse gas emissions, depending on scale and energy sourcing.

Extending the LCA analysis, a more recent study in a Chinese context revealed deeper trade-offs among straw types. When comparing 100 units of straws, PLA exhibited lower global warming potential (26 kg CO₂ eq) and acidification (0.12 kg SO₂ eq) than paper – but paper straws yielded significantly higher GWP (1,225 kg CO₂ eq) and AP (1.5 kg SO₂ eq) due to energy-intensive pulping and production processes. Eutrophication potential was negligibly small for both. These findings suggest that while biodegradable alternatives may reduce marine litter, their overall environmental benefits are conditional on production methods and energy inputs—highlighting that upcycling existing materials like plastic straws may avoid high-production impacts altogether, aligning better with low-carbon, resource-efficient circular strategies.

The study emphasized that simply replacing plastic with ‘biodegradable’ or paper alternatives does not always yield net environmental benefits. This reinforces the urgency of adopting creative reuse approaches—such as upcycling—where value is added without the need for energy-intensive remanufacturing or industrial transformation. Traditional recycling systems face several challenges, including low recovery rates, contamination issues, and energy-intensive processing, which limit their effectiveness in managing the growing volume of plastic waste (Pandey et al., 2023). Consequently, many researchers are advocating for alternative strategies that emphasize waste diversion and ecological value addition.

The environmental risks posed by single-use plastic straws are well-documented, particularly in the wake of the COVID-19 pandemic, where increased reliance on disposable utensils heightened global plastic waste (Aragaw, 2023). These straws, due to their lightweight and small form, often escape conventional waste management and contribute to marine and terrestrial pollution. Aragaw further emphasizes the need for sustainable strategies to mitigate this issue. In this context, creative upcycling practices—such as repurposing plastic straws for artistic or decorative use—offer a promising alternative that aligns with environmental sustainability efforts.

In a comparative consumer study by Liang et al. (2023), paper straws—widely promoted as eco-friendly alternatives—absorbed up to 30% of fluid within 10 minutes, compromising their taste, structural integrity, and user acceptance. Conversely, compostable PLA straws-maintained form and consistently scored higher on insertion ease and overall liking. However, PLA degraded minimally (< 0.3%) in soil burial tests, raising concerns about lifecycle effectiveness. Notably, over 50% of participants lacked awareness of straw composition or environmental impact, underlining the need for educational and awareness-raising strategies—a gap that sustainable art forms, such as decorative reuse of plastic straws, may help fill.

As society continues to focus on being more environmentally responsible, plastic pollution has received increased attention from researchers, policymakers, the media, and society due to its environmental and health risks. Plastics have many advantages that improve factors such as comfort and hygiene and increase the level of safety in our daily lives; however, their single-use design and method of disposal dismantle a benefit unless managed correctly (Kumar et al., 2021).

One example of such methods is upcycling, which has the potential to provide a viable solution in the larger scope of sustainable design and circularity with materials. Upcycling is the act of obtaining items or materials that are at the end of their already diminished lifecycle and refurbishing, improving, or redesigning them into products of value. Unlike recycling, which can adversely affect the natural quality of materials, upcycling helps retain the original properties of materials as much as possible by capturing value in the final product (Sung et al., 2019 as cited in Singh, 2022).

In addition, upcycling has become a great avenue to reduce damage caused by plastics in use as well as their production. It provides value-added output of discarded plastics, promotes efficient use of resources and conscious design, and replaces the fortune of recycling plastics in general rather than their reuse disrupting the value. Upcycling goes beyond recycling—it involves creatively reusing materials, giving them a second life without contributing further to pollution.

However, emerging research suggests that upcycling contributes in oft-overlooked ways to resource recovery through the reduction of landfill capacities and familiarity with environmental elements and artistic topics, especially in affordable and place-based design models that support community involvement.

While plastic straws can be mechanically recycled into industrial products—such as anti spalling fibers used in refractory castables—this type of reuse demands specialized processes and facilities (Salomão & Pandolfelli, 2020). In contrast, creative upcycling—like transforming plastic straws into wall décor—is more community-oriented and accessible, providing immediate aesthetic value while reinforcing environmental stewardship.

When considering plastic waste, including single-use products such as straws, upcycling presents a valuable opportunity to shift waste to resources, produce something worthwhile, and create sustainably while addressing environmental issues. This research is an extension of this concept by looking at how plastic straws might be upcycled into wall decorations for both environmental purposes and artistic expression. This creative format is celebrated as a way to help relieve the global waste crisis by keeping materials out of landfills and back into the value chain through intentional upcycling. They have been shown to be an ideal vehicle for promoting sustainable consumption by giving people and communities an opportunity to make resourceful decisions while caring for the environment (Sung et al., 2019). Upcycling provides opportunities to design behaviors that are internally resourceful and integrally environmental through creative responses.

In the specific case of plastic waste, upcycling presents a meaningful response to the environmental burden posed by single-use plastics. Studies such as that of Ghisellini and Ulgiati (2020) emphasize the importance of creative reuse in supporting circular economy principles, especially in low- to middle-income countries where waste infrastructure may be underdeveloped.

In the same way, Niinimäki et al. (2020) argue that design-led sustainability – including the intersectionality of aesthetics, function, and environmentally sensitive design – is valuable and can potentially reduce material use and modify raw material production methods. Within this framework, the repurposing of plastic straws into wall art, explored within this study, is part of a growing shift towards design interventions that are engaged, inexpensive, community-focused, and could reduce waste with local reuse opportunities and is a means for wider dissemination of the message around responsible material usage.

Though outside of this engagement context, recent research (Ogbeibu et al., 2021) also supports green creativity and innovation in organizations and communities as fundamental to sustainability outcomes. The present study builds on these ideas by demonstrating how discarded materials – such as plastic straws – can be creatively repurposed to support both environmental and aesthetic goals. Furthermore, this situation has brought renewed attention to creative reuse as an alternative way to manage plastic waste.

Repurposing discarded materials (like plastic straws) into decorative items is not only an environmentally responsible way to dispose of waste, but it is also a moderately safe and visual way to demonstrate some creativity. The act of making an item out of a discarded item is more than just an exciting design idea; it is a commitment to help alleviate the impact of the ongoing plastic crisis while cultivating sustainable practices within everyday routines. This DIY art-making process aligns with a growing appreciation for visual aesthetics, especially among younger generations who seek innovative ways to express identity through their environment.

As Zhang (2019, cited in Li, 2023) suggests, wall art is desirable for representing elements of contemporary taste and culture; hence, the fusion between upcycled products, materiality, and decorative design represents a social, cultural, and environmental discourse that is especially relevant right now.

Li (2023) also highlighted that wall decoration, though based on historic traditions, has evolved into a contemporary and meaningful art form. In the present context, it is much more than a medium for religious expression, and it contributes to the overall efficiency and emotion of spaces, helping beautify the human environment.

Additionally, as wall art transforms from a traditional religious symbolism to a more functional and aesthetic expression, it creates new opportunities for individuals and groups to implement sustainable practices. The use of repurposed materials, such as plastic straws, in DIY wall decor projects is a combination of artistic ability and passion and eco-responsibility. This transition is mirroring bigger culture, where communities and individuals (particularly youth) are participating in eco-conscious movements – turning

everyday waste into creative, decorative collections that can beautify shared spaces while helping our sustainability principles. Furthermore, as global environmental implications are increased with growing concerns related to resource consumption and waste generation, upcycling has perhaps never been as relevant as it is today. Around the world, cities are starting to advance upcycling initiatives through the development of DIY repair cafés and makerspaces to create a more sustainable and resource-aware community (Singh, 2022).

While several international initiatives have documented upcycling and decorative reuse, there is still a significant absence of relevant research within a local, community-based context that has investigated the artistic use of plastic straws for wall decoration and, more specifically, with respect to the Philippine context. The current study's aim is to fill that void by documenting and investigating how waste plastic straws can be creatively repurposed as wall decoration by connecting environmental action with design-based practice. The current study furthers the conversation on sustainability and creative reuse while developing the local practices of waste minimization and visual culture.

To conclude the literature review for this chapter, the above subsections have provided a solid basis for this study since they highlight the critical need to respond to plastic waste, the challenges associated with recycling practices, and the potential value that upcycling may afford as a sustainable and creative approach. Upcycling, especially through the reuse of plastic straws, appears to provide a mechanism for environmentally conscious practitioners to not only reduce waste and pollution but also demonstrate artistic expression and community engagement, particularly in the maker movement, DIY, and low-cost design movements. The research also emphasizes the rise of wall decoration as a viable form of aesthetic and functional expression, with younger generations valuing art that is both personal and environmentally friendly.

METHODOLOGY

This study employed a descriptive developmental research approach in order to examine current practices and advances in the creative reuse of plastic straws for wall decorating, which emphasizes how waste materials are changed through artistic processes. By mapping environmental effects at each stage, this design promotes descriptive methodologies in sustainability research and assesses environmental consequences during a material's lifecycle in accordance with the Life Cycle Assessment (LCA) framework (Jiang et al., 2022). The study only used secondary data from peer-reviewed publications, sustainability-focused research, documented case studies, and reports on environmental design and upcycling.

This strategy is supported by the fact that sustainability and life cycle assessment (LCA) studies frequently extract valuable insights by synthesizing pre-existing datasets rather than conducting direct experiments (ISO 14044). For example, Moy et al. (2021), Mazhandu et al. (2023), and Lai et al. (2024) showed how secondary data can be used to measure environmental impacts and creative reuse practices, while Tarani and Chrissafis (2024) compared bioplastic, bamboo,

paper, and wheat straws and found significant differences in sustainability and durability. Using academic databases (ScienceDirect, JSTOR, and Google Scholar), a systematic literature review was carried out to collect data. Search phrases used included sustainable wall art, ornamental reuse, and upcycling plastic straws. Before being conceptually evaluated into categories including approaches, design outputs, environmental contributions, and hurdles, sources were vetted for relevance, reliability, and documentation of procedures, outcomes, and issues. To meet the goals of the study, patterns were combined. This study complied with ethical guidelines for secondary data-based research because it only used publicly available and published data, all sources were appropriately cited to uphold academic integrity, and there were no ethical issues with human participation, consent, or confidentiality.

RESEARCH RESULT AND DISCUSSION

This chapter presents results derived from a synthesis of secondary data from published studies, case reports, and record of instances when plastic straws had been reused for artistic or decorative purposes. The discussion is primarily organized around the objectives of the study and focuses on the researcher's line of reasoning, particularly as it relates to reflective descriptive analysis.

Artistic Techniques of Plastic Straws in Wall Décor

A range of creative ways that blend sustainability and creativity are used to turn used plastic straws into ornamental wall art. These techniques show how common garbage may be transformed into significant artistic expressions, demonstrating how resource constraints can spur creativity. Artists and communities alike can produce aesthetically pleasing and ecologically conscientious designs that emphasize both aesthetic and ecological value by utilizing straightforward yet adaptable techniques.

As noted, various sources documented a range of artistic techniques that involved the reuse of plastic straws. Methods such as cutting, folding, coiling, flattening, and twisting were all methods that the community art programs and DIY projects used in the artistic techniques. Often these methods were supplemented with the activities of layering, painting, and the use of colours to help enhance visual detail and visual texture (Sung et al., 2019 as cited in Singh, 2022). More sophisticated designs also use symmetry or geometry to create a composition that draws on floral or mandala-like patterns. Such designs had an aesthetic quality and were easy to use - requiring only minimal tooling or previous training (Li, 2023). This is what makes plastic straw art an accessible medium for inclusive art participation. These practices reaffirm the Creative Problem-Solving (CPS) framework and creative thinking while building on the research to practice work where old or waste materials are considered as creative materials. The various techniques of plastic straw art will showcase flexibility and versatility that shows how constraints and the design process is a springboard for creative expression.

These methods demonstrate the wider social and environmental benefits of creative reuse in addition to its beauty and usefulness. Communities may develop inclusivity through accessible art practices and raise environmental

consciousness by turning used plastic straws into eye-catching artworks. In addition to keeping garbage out of landfills, this form of creative engagement shows how common materials may be repurposed for ecological and cultural goals. Furthermore, the idea that sustainability can be approached through artistic and cultural expressions in addition to scientific or policy interventions is reinforced by the use of symmetry, texture, and color in plastic straw art, which offers opportunities for artistic innovation, educational integration, and community involvement.

These practices demonstrate the essential features of the Creative Problem-Solving (CPS) framework – that is, the creativity is found within the ordinary or waste materials. The variability and flexibility show how constraints can encourage new ways of expression through design thinking.

Aesthetic Value and Craftsmanship of the Outputs

The aesthetic merit and skill of artworks created from waste materials are important factors in deciding how they are viewed and valued in the context of creative reuse. Beyond sustainability, these characteristics enable upcycled art to transcend its initial status as garbage and establish itself as a meaningful and visually striking form of artistic expression. When properly planned and performed, plastic straw artworks show that trash can have both true artistic value and environmental relevance.

Research findings and project reports suggest that artworks made with plastic straws achieved levels of aesthetic value that were very high when there were clear intention and craftsmanship behind them. Zhang (2019) pointed out that there is a greater interest in expressive and personal forms of art, especially in younger artists and art-makers, which value creativity over the material where it originated.

Artistic outputs exhibited excellent craftsmanship when the design achieved a sense of balance, clean execution and originality. Ogbeibu et al. (2021) stated that when recycled materials were finished appropriately, the artworks created were generally indistinguishable from artworks created using non-recycled materials - undermining any notion that upcycled art should be considered less valuable. Overall, this suggests that it is probably the execution and creativity that contribute to how a piece is perceived rather than the material.

The artistry of artworks made from plastic straws also emphasizes how crucial artistic discipline and skill development are to creating sustainable art. In addition to increasing the perceived worth of repurposed materials, well-made items help dispel the myth that trash cannot be attractive or desired. Discarded straws can be transformed into art that rivals traditional pieces in terms of quality and appeal when accuracy and inventiveness are combined. Such works of art can encourage artists and viewers to reconsider the limits of material use and artistic expression by highlighting uniqueness and precise execution. This implies that the creativity and craftsmanship that convert repurposed art give it aesthetic worth, so reaffirming the notion that sustainability and artistic expression may coexist in potent and significant ways.

Environmental Significance and Perceived Impact

Art is now positioned as a platform for ecological advocacy as well as a means of expression due to the growing severity of environmental issues. Specifically, the inventive repurposing of plastic straws shows how waste items that appear inconsequential can be turned into works of art with social, environmental, and symbolic significance. Straw-based upcycled wall décor challenges traditional notions of waste and inspires communities to reevaluate their consumption patterns by fusing sustainability with artistic expression. Plastic straw artworks are placed inside a larger conversation about sustainability, awareness, and creative responsibility thanks to this blending of artistic and environmentalism.

A concept referenced in the literature is the environmental significance of creative reuse Roy et al (2021) reported that plastic straws and stirrers make up approximately 7% of the global plastic waste stream. Straws are often deemed insignificant objects, but they take on a meaningful degree when accounted for collectively in multiple communities. By converting waste into wall art, artists are doing more than visual art practice, they are also acting as companions to environmental stories. Upcycling eco-art provides a space for environmental advocacy, and the previously useless item becomes a piece that prompts valuable dialogue. Sung et al. (2019, as cited in Singh, 2022) noted that creative reuse projects create eco-focused attitudinal shifts and have an impact on community environmental awareness.

Similarly, Ogbeibu et al. (2021) stated that visible, community-based innovations are tied to larger aims like the United Nations Sustainable Development Goals (SDGs), specifically the SDG on Responsible Consumption and the SDG on Climate Action. Hence, decorative reuse of plastic straws can be both artistically representative and relevant outside of just an artistic expression for the environment.

Reusing plastic straws has artistic and environmental importance that goes beyond design and artistry. A culture of environmental consciousness where creativity becomes a tool for sustainability is fostered by the increasing visibility of artworks created from discarded materials. The impact of these techniques on behavior and awareness can be increased by incorporating them into advocacy campaigns, school art curricula, and community education programs. Larger-scale initiatives like this show how environmental issues may be reframed as chances for creativity, with art acting as a bridge between cultural expression and ecological responsibility. In the end, plastic straw art's ramifications serve as a reminder of how creative reuse may significantly advance both artistic advancement and environmental conservation.

Common Roadblocks and Realistic Solutions

The use of plastic straws in artistic endeavors demonstrates sustainability and inventiveness, but like many novel ideas, it has drawbacks that must be resolved. These difficulties stem not only from the material's physical characteristics but also from how society views these kinds of artworks. Understanding these challenges is crucial because it enables communities,

schools, and artists to improve their techniques and increase the legitimacy of upcycled art in modern society.

Although already promising, the creative reuse of plastic straws has challenges. A chief concern is sanitation, especially when using post-consumer waste. Most projects use basic cleaning practices (for example, soaking in soapy water and brushing), but some projects circumvent this issue by using pre-consumer discarded would-have-been wasted but unused straws (Greenpeace & EcoWaste Coalition, 2020).

Adhesion is another common challenge, as bonding to plastic straws can be difficult due to the smooth surface of the straws; solutions are employing hot glue guns, roughening surfaces to increase adhesion, or employing strong adhesion or tape (Li, 2023). Structural instability (especially in larger pieces) can be remedied by mounting the artworks to rigid backings or adding interior frames or supports (Ghisellini & Ulgiati, 2020).

Another challenge is that there are varied perceptions—many of the audience see these outputs as "crafts" rather than real art. Niinimäki et al. (2020) suggest that strong presentation, conceptual clarity, and designed intention may remedy this perception and incorporate reuse materials into accepted form of media which can be very useful, especially in today's age and time.

Resolving these issues will have wider effects on the development of upcycled art. Artists make sure that their creations are not only aesthetically pleasing but also long-lasting and safe for exhibition by resolving problems with adhesion, sanitation, and structure. More significantly, dispelling the myth that recycled work is only "craft" enhances its artistic and cultural credibility and promotes broader acceptance in community, professional, and educational contexts. These ramifications highlight the necessity of continual innovation, lobbying, and capacity building to establish upcycled art as a legitimate and sustainable practice that unites artistic expression with environmental responsibility which does not only help reduce waste but can also be used as aesthetics.

Overall, the discussion shows that repurposing plastic straws for wall décor is more than just an artistic endeavor; rather, it represents a significant fusion of sustainability, creativity, and craftsmanship. Communities and artists alike demonstrate that creativity and beauty can arise from what is typically regarded as garbage by turning used straws into artwork. Together, the artistry, aesthetic value, and environmental impact demonstrate that the success of these works of art rests not just in their aesthetic appeal but also in their capacity to raise awareness, encourage discussion, and change people's perspectives toward more environmentally friendly behaviors.

Realistic solutions have demonstrated that these obstacles can be removed with careful design, technical modifications, and intentional presentation, even though issues like adhesion, sanitation, and perceptions of artistic legitimacy still exist. In the end, plastic straw art emphasizes the fundamental reality that restrictions and limitations frequently serve as catalysts for advocacy and innovation. As a result, it reinforces the notion that art may operate as a link between ecological consciousness and cultural enjoyment while also serving as a

monument to human ingenuity and a useful example of incorporating environmental responsibility into artistic expression.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that creative reusing of plastic straws for wall decorating makes an impact, affordable, and useful. It can be used as a medium for decorative art without sacrificing aesthetic quality and can also solve environmental issues. Straws can be turned into aesthetically pleasing pieces that exhibit symmetry, color harmony, and neatness by using techniques like cutting, folding, layering, and coiling. This shows that discarded materials can acquire high artistic value. Despite issues with adhesion, sanitation, and fragility that can be fixed with straightforward fixes like hot glue, surface scoring, or stiff backings, this practice provides a significant environmental response to the global plastic waste problem by raising awareness, promoting waste reduction, and aiding sustainability initiatives. More significantly, it demonstrates how art can be used to advocate for the environment by transforming commonplace items into effective instruments for sustainability campaigns. In light of these findings, the study suggests that students and enthusiasts try using sanitized straws to develop their creativity and balance in their designs; educators and community leaders integrate reuse projects into art and environmental education programs; local governments and waste management advocates encourage upcycling through workshops or community murals; future researchers use primary data to examine audience perceptions, environmental effects, and cultural acceptance of straw-based art; and artists and designers keep coming up with new ideas by producing mixed-media or large-scale installations that broaden the scope of reuse art.

ADVANCED RESEARCH

Future advanced research could focus on developing an interdisciplinary framework that integrates material science, environmental psychology, and digital design to enhance the durability, aesthetic innovation, and socio-environmental impact of straw-based upcycled art. Experimental studies could explore the use of biodegradable binders, eco-resins, or 3D-printed structural supports to overcome limitations of adhesion and fragility, while incorporating color theory and computational symmetry analysis to optimize visual appeal. In addition, mixed-method research employing surveys, visual ethnography, and life-cycle assessment could examine public perception, behavioral change, and measurable reductions in plastic waste resulting from large-scale straw art installations. Such research would not only advance sustainable art practices but also contribute to the global discourse on circular economy, environmental communication, and creative education by demonstrating how artistic innovation can be a catalyst for ecological transformation and community engagement.

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