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Research Article

Innovative Textile Production: Transforming Non- Non-conventional Materials into Sustainable Products for National Growth

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Abstract

Textile design traditionally involves techniques such as printing, dyeing, weaving, and embroidery, which depend heavily on conventional materials. However, the growing scarcity and unavailability of these materials in the market have necessitated the exploration of alternative solutions. This study investigates the potential of non-conventional materials—specifically plastic waste, coconut coir, nylon, and pieces of beverage sachets—as viable substitutes in contemporary textile art. Employing a studio-based research methodology, the study draws from both primary and secondary data sources. The findings reveal that these environmentally sourced materials not only offer practical alternatives to conventional textile inputs but also serve as innovative media for artistic expression. Furthermore, the integration of non-conventional materials in textile design provides a platform for addressing societal issues and promoting sustainable development. The research concludes that artists can harness the abundance of locally available, unconventional resources to contribute meaningfully to national development through eco-conscious textile art.

Keywords: Appropriation, Non-conventional, Conventional materials, Contemporary, textile and wastes

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1. Introduction

The environment profoundly influences human behaviour and development, functioning not only as a living space but also as the central hub for daily activities. For artists, the environment serves as a vital source of inspiration, particularly through the transformation of found and discarded objects into expressive forms of textile art. In recent years, many artists have embraced the creative reuse of waste materials, breathing new life into refuse and demonstrating that innovation and sustainability can coexist within artistic practice. By adopting non-conventional materials, artists can reduce environmental waste while producing distinctive, aesthetically compelling textile works. The Nigerian government's ban on the importation of certain foreign goods has led to a scarcity of conventional textile materials in local markets. This scarcity has, in turn, compelled artists to seek creative alternatives, sparking a renewed interest in the use

of indigenous and environmentally sourced materials. This situation has opened new pathways for innovation in textile design, encouraging artists to incorporate non-traditional elements such as plastics, nylons, coconut coir, and beverage sachets into their creations. Historically, the use of conventional textile materials such as jute, cotton, and acrylic yarns is evident in the works of prominent Nigerian fibre artists, particularly those from the Nsukka Art School. Uche Okeke's *Owuelo* utilises cotton, jute, and rayon, while Ifedioramma N. Dike's mixed-media piece *Resonance* incorporates cloth, fibre, and pigment. Godson Diogu's tapestry *Expectation* also demonstrates the creative application of conventional fibres like cotton and jute. These artists have contributed significantly to the development of Nigerian textile art, inspiring the younger generation to experiment with both traditional and unconventional materials available within their immediate environment.

In the context of contemporary textile art, non-conventional materials are employed as alternatives to standard textile media. These materials are often adapted for various functions, including wearable art, interior decoration, and wall installations. The term *appropriating discarded materials* refers to the strategic use of unconventional, often overlooked objects as functional elements in textile creation. This practice offers fertile ground for research and experimentation, encouraging the exploration of locally available resources. Modern Nigerian artists have increasingly turned to their surroundings for artistic materials, pushing the boundaries of traditional textile media. One prominent example is Bright Eke, often referred to as a master of waste materials. Drawing on childhood experiences, Eke has utilised discarded water sachets, cellophane bags, biscuit wrappers, and beverage cans as expressive media. Other notable artists working with non-conventional materials include Okedu, Clara Olamma Nwagwu, Elizabeth Chizoba Eze, and Rev. Sr. Maria Ikechukwu. Their artistic practices prominently feature natural and synthetic waste materials such as banana and plantain fibres, polypropylene bags, and *utemmiri* fibres. As Diogu (2004) suggests, the exploration of indigenous fibre processing methods reflects a broader need to identify alternative resources for textile production. For contemporary artists and researchers alike, the environment offers a rich repository of materials that can be creatively reimagined. This study, therefore, aims to explore and rediscover innovative textile materials within the local environment to foster sustainable, culturally relevant artistic practices. Ultimately, the use of indigenous and non-conventional materials not only encourages self-reliance and creativity but also contributes to the evolution of a uniquely Nigerian aesthetic in textile art.

2. Materials and Methods

Tools: Scissors, Razor, cutter. Brushes, Wooden frame (loom), Nails, Hammer and coloured maker

Materials: Fabric**,** Glue**,** Straws**,** Biscuit sachets**,** Water sachets, Wooden frame, Fishing net ropes, Sachet biscuits, Coir.

2.1. Exploration procedure

This stage involves using these Non-conventional materials to explore various textile techniques such as appliqué, tapestry and plain weave to produce textile art.

2.2. Appliqué This is a French word; it means "to apply".

Step 1: Get a plain fabric of any colour, mark out the proposed design using chalk pastel.

Step 2: Cut out different coloured pieces of fabric, separate them into different containers, which may serve as a colour palette.

Step 3: Apply glue on any part marked out, and paste the cut-out piece of fabric on it. This process is done continuously until the whole plain fabric is covered with the different colours of cut pieces of fabric.



Plate 1: The researcher gumming Pieces of beverage sachets on a large cloth.



Plate 2: The researcher is pasting shredded beverage sachets on a large cloth.

2.3. Tapestry is a form of textile art traditionally woven on a vertical loom.

Step 1: Make a square or rectangular frame; fix ½cm spacing of nails on one side of the frame continuously from end to end, repeatedly on the other side of the frame using ½inch nail size.
Step 2: Make the warp over the nails using fishing net ropes to make sure it is well tensioned.
Step 3: Place a drawing on a paper behind the warped frame fasten it with cello tape. Then, gradually trace out the image on the paper called "Cartoon". This drawing on the warp helps during weaving.
Step 4: Put the coir on the warp, one after the other, while following the line marked on the warp.



Plate 3: The researcher preparing the warp.



Plate 4: The researcher is putting different Biscuit wrappers and Coconut husks across the warp.

2.4. Plain Weaving is a method of textile production in which two distinct setup yarn or threads are inter-laced at right angles to form a fabric or cloth.

Step 1: Make a square frame of any size
Step 2: Divide the sachet water into three sides, leaving the fourth side to hold the two end leaves of the sachet water.
Step 3: Tie the sachet water together end to end to form strand-like threads.



Plate 5: The researcher is warming the sachet of water on the frame.



Plate 7: The researcher is weaving with the sachet of water.

3. Analysis and Discussion of Findings

This chapter comprises the analysis and discussion of the outcome from studio exercises; it is presented based on the finished works.



Plate 8: Ijele Masquerade, Appliqué on Canvas, 24cm x 36cm, researcher's work 2015

3.1 Ijele Masquerade

This artwork is a striking composition created using a collage of colourful beverage sachets and shredded newspapers to depict the *Ijele* Masquerade—an iconic figure revered and respected by other masquerades in Igbo culture. By employing discarded materials such as beverage sachets as an alternative to traditional fabric, the artist offers a compelling commentary on sustainability and innovation in contemporary textile art. The composition is constructed using basic shapes, executed through the cut-and-paste technique. Shredded newspapers are integrated to add texture and depth, enhancing the uniqueness of the piece. The colour palette features rich shades and hues of red, yellow ochre, and burnt sienna, which are harmoniously arranged to complement the green background. This background transitions

smoothly from a darker shade at the bottom to a lighter tint at the top, creating a sense of movement and depth. The use of contrasting colours—particularly the interplay between red and green—draws visual focus to the central figure of the *Ijele*. Symbolically, the artwork conveys profound cultural meaning. The *Ijele* masquerade stands as a representation of unity, prestige, courage, leadership, and strength within the Igbo community. The flags adorning the head of the figure signify authority and cohesion, while the robust body structure conveys power and honour. The presence of smaller masquerade forms surrounding the central figure emphasises the *Ijele*'s preeminence and respected status. Through the imaginative use of colour and non-traditional materials, the artist creates a thought-provoking visual narrative. The moral and cultural undertones embedded in the work resonate with themes of community, leadership, and environmental consciousness. As such, the piece holds significant relevance for society, illustrating how contemporary artists can employ local and discarded materials to express complex cultural identities and societal values.



Plate 9: Unification, woven coconut husk and Sachet biscuits wrapper, 24cm x 36cm, researcher's work 2015

3.2 Unification

The artwork titled *Unification* presents a compelling visual and conceptual exploration of sustainability through the intricate layering and arrangement of natural and synthetic materials. The interplay between coconut coir and biscuit sachets—both woven meticulously on a warp cord fastened to a loom frame—offers a dynamic juxtaposition that invites viewers to reflect on the relationship between consumption, waste, and creative transformation. The artist's palette is intentionally curated, combining the organic, earthy textures of coir with the vibrant, synthetic hues of biscuit sachets. This contrast is enhanced by the weaving technique, which skillfully interlaces the materials to form a rich tapestry that both captivates the eye and stimulates critical dialogue. The vibrant colours of the synthetic wrappers stand out against the coarse, natural fibres, creating a visual tension that mirrors the broader tension between eco-

logical preservation and modern consumer habits. By repurposing discarded items—materials typically seen as waste—the artist elevates them into a medium of aesthetic and social commentary. *Unification* serves not only as a creative expression but also as a statement on environmental consciousness, urging viewers to reconsider the lifecycle of materials and the broader implications of everyday consumption. The thoughtful arrangement and layering of textures generate a powerful sensory impact while simultaneously provoking discourse on sustainability, resourcefulness, and artistic innovation in the face of environmental challenges.



Plate 10: Environment, Water Sachet Nylon bags, 24cm x 36cm, Researcher's work 2015

3.4 Environment

It is an abstract woven artwork composed primarily of discarded water sachets and nylon bags in a range of colours, including orange, red, green, black, and blue. Executed in plain weave on a framed loom, the piece utilises a knotting or tying technique to transform the found materials into long, strand-like threads that function as both warp and weft. The artist's use of vibrant nylon bags in combination with translucent water sachets exemplifies a strong grasp of the design principles of **variety** and **contrast**. While the composition is dominated by the cool, reflective tones of water sachets, the interspersion of brightly coloured nylon bags adds both visual dynamism and symbolic richness. The colour palette is thoughtfully arranged to accentuate contrast, demonstrating the artist's sensitivity to colour harmony and spatial rhythm. The resulting tapestry is visually compelling, with a layered aesthetic that evokes deeper interpretations of environmental interdependence. Symbolically, the work carries oceanic connotations—its predominantly blue hues suggest a body of water, while the coloured nylon elements represent islands within it. This visual metaphor signifies the interconnectedness of the earth, water, and humanity, high-

lighting how these elements coexist and benefit from one another. The sea becomes a symbol of sustenance and continuity, while the islands serve as representations of human presence and impact within this delicate ecosystem. The work subtly critiques the consequences of modern consumption, where synthetic materials such as water sachets and nylon bags are often carelessly discarded into the environment. By retrieving and repurposing these non-conventional materials, the artist restores value to waste and asserts an alternative narrative of environmental stewardship. The transformation of litter into art underscores a powerful message: that reconnection with our environment can be achieved through conscious acts of reuse and creative intervention. Ultimately, the *Environment* is more than an artwork; it is a call to action. It compels viewers to reflect on the sustainability of their lifestyles and to consider how discarded materials can be reimagined for ecological and artistic benefit. The artist's practice exemplifies how textile art can transcend aesthetics, becoming a meaningful tool for environmental awareness and dialogue.

4. Conclusion

This study highlights the potential of repurposing discarded materials in textile design, emphasising eco-friendly practices and innovative production methods. The research investigates the economic viability and availability of non-conventional textile materials within the immediate environment as alternatives for contemporary textile art. By employing alternative materials such as water sachets, biscuit wrappers, and other forms of waste, the study introduces a novel approach to textile production that is both sustainable and creatively enriching. Throughout the study, the researcher explored and developed innovative techniques for manipulating locally sourced alternative materials. For example, *Ijele*, a piece composed of discarded biscuit sachets, was created by adhering the materials onto a canvas using strong adhesive, transforming waste into a vibrant, meaningful composition. Similarly, *Environment* is a woven artwork crafted from water sachets, intricately tied together to form thread-like strands that were then woven on a loom, demonstrating the adaptability of these unconventional materials to traditional textile techniques. This research contributes significantly to the visual documentation and academic discourse surrounding the use of alternative textile materials in Nigeria. It serves as a valuable reference for textile designers, scholars, and future generations interested in sustainable textile practices. By drawing from materials found within the local environment, this study not only addresses issues of material scarcity but also champions a form of creative reuse that reflects both environmental consciousness and cultural relevance. Ultimately, the study encourages and inspires artists, researchers, and textile designers to explore and embrace waste as a viable artistic medium. It advocates for a paradigm shift in textile production—one that prioritises environmental sustainability, economic practicality, and aesthetic innovation through the creative transformation of discarded materials.

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