

ASSESSMENT OF GRAPHIC POSTER DESIGN AND ENVIRONMENTAL SUSTAINABILITY IN AKWA IBOM STATE

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ABSTRACT

This study assessed graphic poster design and environmental sustainability in Akwa Ibom State. Graphic poster design plays a crucial role in communicating environmental sustainability messages, influencing public perception, and shaping eco-friendly behaviours. In the context of carrying out this research, the following subheads were expounded on, among others: the concept of graphic design, the concept of graphic poster design, and the concept of environmental sustainability. Furthermore, the study mentioned visual identity, marketing/advertising, and publication graphic design among many others as types of graphic designs. It also stated the types of graphic poster designs to include: dynamic posters, traditional illustration posters, and data visualisation posters, to mention a few. The effects of graphic poster design on environmental sustainability, as mentioned in the study, included raising awareness about environmental issues, encouraging sustainable behaviour, and promoting environmental campaigns among many others. Remedies to the negative effects of graphic poster design on environmental sustainability as mentioned in the study included: utilization of sustainable materials, implementation of energy-efficient design practices and embracing digital media. The study concluded that graphic poster design plays a vital role in promoting environmental sustainability by shaping public perception and encouraging eco-friendly behaviours. One of the recommendations made was that graphic designers and printing industries in Akwa Ibom State should transition to sustainable materials such as biodegradable inks, recycled paper, and reusable substrates to minimise environmental pollution and promote sustainability.

KEYWORDS: Graphic Poster Design, Environmental Sustainability and Akwa Ibom State

Introduction

Graphic poster design plays a crucial role in communicating environmental sustainability messages, influencing public perception, and shaping eco-friendly behaviours. In Akwa Ibom State, where rapid urbanisation and industrialisation have contributed to environmental challenges, graphic posters serve as powerful tools for raising awareness about sustainability initiatives. Through compelling visuals, strategic typography, and thought-provoking messages, graphic design has the potential to inspire collective action towards environmental conservation (Alahira, Ninduwezuor-Ehiobu, Olu-lawal, Ani & Ejibe, 2024). However, the effectiveness of these posters depends on their design quality, cultural relevance, and alignment with environmental policies.

The intersection of graphic poster design and environmental sustainability extends beyond mere aesthetics to encompass the psychology of visual communication and behavioural change. Studies suggest that well-designed environmental posters can influence attitudes and promote pro-environmental actions such as waste management, afforestation, and climate change mitigation. In Akwa Ibom State, where environmental challenges such as deforestation, coastal erosion, and improper waste disposal persist, strategic poster designs could serve as intervention tools to

educate and mobilise the public. This study, therefore, seeks to assess how graphic poster design contributes to environmental sustainability efforts in the region.

An effective environmental poster must incorporate elements of persuasive design, including strong visual hierarchy, emotionally engaging imagery, and clear sustainability messaging. Research indicates that posters that combine vivid graphics with concise, action-orientated text are more likely to capture attention and drive behavioural change (Rice, Shellhorn, Bloomgren, and Booth, 2023). In Akwa Ibom, localising poster content to reflect indigenous symbols, languages, and cultural narratives could enhance public engagement and foster a stronger sense of environmental responsibility. Understanding these design dynamics is crucial for maximising the impact of sustainability campaigns.

Beyond aesthetics and messaging, the sustainability of graphic posters themselves is another critical concern. Many posters are printed on non-biodegradable materials, contributing to environmental pollution rather than mitigating it. Sustainable graphic design practices advocate for the use of eco-friendly inks, recyclable paper, and digital alternatives to minimise waste (Rocky Mountain College of Art, 2025). In Akwa Ibom State, adopting such sustainable design strategies could align poster production with broader environmental conservation goals, creating a more holistic approach to sustainability communication.

Despite the potential of graphic posters in promoting environmental awareness, challenges such as poor design execution, limited accessibility, and lack of governmental support can hinder their effectiveness (Gonçalves, Rebelo, Lopes, and Rebelo, 2022). Inadequate funding for environmental campaigns, low literacy levels, and cultural resistance to sustainability messages may also affect how these posters are perceived and acted upon. Addressing these barriers requires a strategic collaboration between graphic designers, environmental agencies, and policymakers to ensure that sustainability messages are visually compelling, contextually relevant, and widely disseminated.

Concept of Graphic Design

Graphic design is a visual communication discipline that involves the use of typography, imagery, color, and layout to convey messages effectively. It is applied in various industries, including advertising, branding, digital media, and publishing. Graphic design has significantly evolved due to technological advancements, changing aesthetic trends, and the increasing role of artificial intelligence (AI) in creative processes.

Graphic design is often defined as the practice of visually representing ideas and information using text and images (Meggs & Purvis, 2020). Over the years, the field has evolved from traditional print-based media to digital and interactive platforms. The 21st century has seen the integration of digital tools such as Adobe Creative Suite, Canva, and AI-driven design applications that enhance creativity and efficiency (Brown, 2021). With the rise of social media and e-commerce, businesses increasingly rely on graphic design for branding, marketing, and customer engagement (Nguyen, 2022). The concept of graphic design is the process of using visual elements to convey a message or communicate information. Palombi, (2023) defined graphic design as the art of composing visual elements—such as typography, images, colours, and shapes to communicate information or convey a message effectively. Designing the layout of a magazine, creating a poster for a theatre performance, and designing packaging for a product are all examples of graphic design.

Graphic design is “the art and practice of planning and projecting ideas and experiences with visual and textual content,” according to the American Institute of Graphic Arts (AIGA). In

simple terms, graphic designers make visuals to communicate certain messages. These visuals can be as simple as a business logo or as complex as page layouts on a website. Graphic design is a craft where professionals create visual content to communicate messages. By applying visual hierarchy and page layout techniques, designers use typography and pictures to meet users' specific needs and focus on the logic of displaying elements in interactive designs to optimise the user experience.

Concept of Graphic Poster Design

Graphic poster design is a multifaceted discipline that combines visual elements to communicate messages effectively. According to Lin et. al. (2023), advertising posters blend visual and linguistic modalities, requiring multiple steps and necessitating design experience and creativity. The creative process involves using visual images to think creatively, highlighting the importance of graphic creativity in modern design. This approach focuses on the logic of displaying elements in interactive designs to optimize user experience.

In the realm of poster design, graphics serve as the foundational elements that convey the intended message. Yang (2023) emphasizes that poster design is the most widely used form of visual communication, with graphics playing a central role. The study rigorously explores the multifaceted impact of visual imagery on poster design, uniting theory with practicality, and dissects the strategic, semiotic, and technical aspects of poster creation. This highlights the importance of graphic creativity in modern design.

The fundamental components of a poster include a title, graphics, text, and white space. Eleyan (2023) discusses how the understanding of art has evolved from ancient times to the present, giving rise to design works. With the development of the internet and computer technologies in the 20th century, the understanding of design has also changed. The impact of computer technology on the drawings in poster works is highlighted, especially how they began in the 1950s and 1960s and developed throughout the century.

Historically, movements like Plakatstil, initiated by Lucian Bernhard in 1905, have shaped poster design by emphasizing simple visual languages of sign and shape. This approach reduced images to elemental, symbolic forms placed over flat background colors, with bold lettering, creating a striking and memorable visual impact. The evolution of poster design reflects the dynamic interplay between artistic expression and technological advancement, continually adapting to cultural and societal shifts.

Graphic poster design is a dynamic field that integrates art and technology to communicate ideas. By understanding and applying principles such as visual hierarchy, layout, and the effective use of graphics and text, designers can create compelling posters that effectively convey their intended messages. The continuous advancement in design tools and methodologies further enhances the potential for innovation in poster design, ensuring its relevance in contemporary visual communication.

Concept of Environmental Sustainability

Environmental sustainability is a fundamental concept that ensures natural resources are utilized responsibly to maintain ecological balance, economic development, and societal well-being for present and future generations. It emphasizes the need for conservation, responsible consumption, and innovative solutions to mitigate environmental degradation. Over the years, human activities such as deforestation, industrial pollution, and excessive carbon emissions have led to serious environmental challenges, making sustainability a crucial global priority. The principles of environmental sustainability advocate for a harmonious relationship between human progress and ecological preservation.

Environmental sustainability encompasses practices and policies that support long-term ecological health. It involves reducing carbon footprints, managing waste efficiently, promoting renewable energy, and fostering biodiversity conservation. Sustainable development ensures that natural ecosystems are not compromised for short-term economic gains but are preserved for future generations. The concept of sustainability became widely recognized after the 1987 Brundtland Report, which defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). This definition underscores the interdependence between human welfare and environmental integrity.

Environmental sustainability is an essential framework for balancing human development with ecological integrity. By implementing sustainable practices in energy, agriculture, waste management, and urban planning, societies can mitigate climate change, protect biodiversity, and enhance economic stability. Governments, businesses, and individuals must collaborate to create a sustainable future where natural resources are preserved, pollution is minimised, and future generations inherit a healthy environment. Achieving sustainability requires global cooperation and commitment to long-term environmental stewardship.

Over-exploitation of natural resources can lead to scarcity, affecting food security, water availability, and energy production. Sustainable management of resources ensures their availability for future generations and reduces dependency on non-renewable sources (FAO, 2019). Environmental sustainability must be inclusive, ensuring that all communities have fair access to resources and a clean environment. Disadvantaged populations often bear the brunt of environmental degradation, making social equity a crucial aspect of sustainability (World Bank, 2020). Sustainable practices foster economic resilience by promoting green industries, job creation, and long-term investment opportunities. Renewable energy, sustainable agriculture, and eco-friendly manufacturing contribute to a stable economy (OECD, 2019).

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Types of Graphic Design

Graphic design is a broad field that encompasses various specialisations. Each type serves a unique purpose, catering to different industries and communication needs. Below are the major types of graphic design along with journal references.

Visual identity: Uses images, colours, and fonts to communicate a brand. Visual identity comprises the visual elements that communicate a brand, such as images, fonts, and colours. Graphic designers specialising in this area often are to create typography and colour palettes for brands so all marketing material is consistent throughout, (Smith & Roberts, 2022). This type focuses on branding and corporate identity. Designers create logos, typography, colour schemes, and brand guidelines to ensure consistency in branding. Companies use visual identity design to establish brand recognition.

Marketing and advertising: Marketing and advertising designers work with other marketing professionals, companies, directors, and their managers to create marketing material, such as magazine ads or billboards. They make visual content that is engaging and communicative to promote a company's service or products, (Anderson, 2023). This specialisation involves creating promotional materials such as posters, social media ads, banners, and brochures. The goal is to attract and engage target audiences effectively.

Publication Graphic Design: A publication designer works with traditional material, such as books, magazines, and catalogues. They handpick layouts, typography, and images, like photos, illustrations, or graphics, for publications. (Carter, 2021). This type involves designing layouts for printed and digital publications such as books, magazines, newspapers, and e-books. It focuses on typography, imagery, and layout organisation.

Packaging Graphic Design: A packaging designer works to make the packaging of products appealing and informative, making it another marketing tool. Part of their work includes creating prototypes and files that are ready to print, (Wilson & Green, 2022). Packaging design involves creating visually appealing and functional product packaging. It helps businesses market their products effectively and influence consumer purchasing decisions.

Motion Graphic Design: A motion designer adds movement to their graphics. They create designs such as animations and movements for title and closing sequences of film and television and advertisements, (Lopez, 2023). Motion graphics involve animated design elements for video content, including social media videos, film intros, animated ads, and corporate presentations.

Environmental Graphic Design: An environmental designer enhances people's experiences outdoors. Some of the designs they create are wall murals, office branding, and the interiors of retail stores. As stated by Thompson (2024) this field focuses on designing signage, wayfinding systems, murals, and other visual elements for physical spaces such as offices, museums, and public areas.

Infographic and Data Visualisation Design: Art and illustration designers create their own original artwork to narrate a story or as decoration. Examples of things they create are images for shirts, comic books, stock images and album art, (Martin, 2025). Infographic design involves creating visually engaging ways to present data and complex information. It is widely used in reports, research presentations, and social media.

Types of Graphic Poster Designs

Graphic poster design is an essential visual communication tool that blends creativity, typography, and color to convey messages effectively. Over time, different types of posters have emerged, each with distinct characteristics and purposes. Below is an extensive discussion on key types of graphic poster designs.

Dynamic Posters: Dynamic posters integrate motion elements, making them more engaging than traditional static designs. These posters are particularly effective in the digital era, where interactivity plays a crucial role in capturing audience attention. According to Chen & Zhang (2021), dynamic posters utilize animation and multimedia effects to enhance user engagement. They are widely used in digital advertising, social media campaigns, and interactive billboards.

The ability to incorporate movement makes them stand out in crowded visual spaces. Furthermore, these posters allow for creative storytelling, making the content more memorable.

Traditional Illustration Posters: Traditional illustration posters emphasize hand-drawn or painted elements, giving them a unique artistic appeal. These posters utilize techniques such as watercolors, pastels, ink, and charcoal to create visually captivating designs. According to Liang et al. (2022), illustrated posters are often used in artistic, cultural, and educational campaigns. The hand-crafted aesthetic provides a personal touch that digital methods sometimes lack. They evoke nostalgia and can be effective in branding and storytelling. Many contemporary designers merge traditional illustration with digital tools to create hybrid styles.

Data Visualization Posters: Data visualization posters transform raw data into visually appealing graphics, making complex information easier to understand. These posters are commonly used in academic, corporate, and scientific settings to present research findings. As explained by Smith & Andrews (2023), infographics, charts, and pictograms help in enhancing comprehension and retention. Effective use of color coding and typography further improves clarity. These posters are particularly beneficial in health campaigns, environmental awareness programs, and financial reports. The rise of AI-driven design tools has further revolutionized data visualization poster creation.

Font-Centric Posters: Typography is a powerful design tool, and font-centric posters rely heavily on text as the main visual element. The choice of fonts can convey emotions, brand identity, and cultural significance. These posters often use custom typography, letter manipulation, and bold typefaces to create striking compositions. The simplicity of these posters makes them effective for minimalistic and modern design trends. They are commonly used for advertising, film promotions, and event announcements. Font-centric designs also make excellent use of negative space, enhancing readability and impact.

Color Contrast Posters: Color contrast is an essential principle in poster design, affecting both aesthetics and readability. High-contrast color combinations can create specific moods such as vibrancy, warmth, or nostalgia. These posters use complementary or opposing colors to draw attention to key elements. Effective color contrast improves visibility, especially from a distance, making them ideal for public campaigns. Many brands use color contrast strategically to reinforce brand identity and recognition. In addition, accessibility considerations ensure that color-blind individuals can interpret the poster effectively.

Culturally Themed Posters: Culturally themed posters incorporate visual elements, symbols, and motifs that reflect a particular tradition, belief, or social identity. These posters are often used in festivals, heritage celebrations, and awareness campaigns. They rely on colors, typography, and imagery that resonate with the intended audience. A culturally relevant design ensures deeper emotional connection and engagement. Designers often study cultural aesthetics and semiotics to avoid misrepresentation or appropriation. By embracing cultural diversity, these posters effectively communicate across different demographics (Martinez & Patel, 2022).

Computer-Based Graphic Design Posters: Advancements in digital technology have transformed the way posters are designed, introducing new levels of precision and creativity. Computer-based poster designs allow for intricate detailing, layered compositions, and dynamic effects. Software like Adobe Illustrator, Photoshop, and AI-powered design tools enable designers to experiment with various styles. These posters are widely used in commercial advertising, movie promotions, and gaming industries. The flexibility of digital tools allows for quick revisions and

adaptability for multiple platforms. Moreover, modern AI-driven designs help create posters based on user engagement data.

Effects of Graphic Poster Design on Environmental Sustainability

Graphic poster design has a significant impact on promoting environmental sustainability by educating the public, inspiring action, and encouraging behavior change. Well-designed posters can influence attitudes and drive awareness of environmental issues, ranging from waste reduction to climate change. Below is a list and explanation of the effects that graphic poster design has on environmental sustainability.

Raising Awareness about Environmental Issues: Graphic posters are powerful visual tools for raising awareness about pressing environmental issues such as climate change, pollution, deforestation, and resource depletion. Through effective design, posters can capture attention and communicate complex information in an easily digestible format. Posters with compelling visuals and concise messaging can make environmental issues more relatable and urgent, influencing public perception. They help communicate the significance of issues like global warming, biodiversity loss, and pollution, encouraging people to take these matters seriously.

Encouraging Sustainable Behavior: Graphic posters can influence individuals' behavior by promoting sustainable practices like recycling, reducing waste, conserving water, and reducing carbon footprints. When designed effectively, posters can inspire individuals to take action, such as reducing energy consumption or choosing eco-friendly products. Posters featuring specific calls to action, like "Reduce, Reuse, Recycle," or visual representations of sustainable actions, can serve as daily reminders of environmentally friendly behaviors. They can also encourage participation in environmental campaigns, such as Earth Day events, local clean-ups, or sustainability programs.

Promoting Environmental Campaigns: Environmental campaigns often use graphic posters as part of their strategy to reach a broad audience. Posters act as both a form of advertisement and an educational tool that communicates the core message of the campaign, whether it's for plastic-free living, climate change awareness, or energy conservation. Posters can spread campaign messages quickly, especially when strategically placed in high-traffic areas like public transport stations, city centers, and universities. The use of striking imagery and bold typography can make a campaign more memorable, reinforcing the urgency and importance of environmental protection.

Influencing Policy and Public Perception: Graphic posters have been used in many historical social movements to influence public opinion and policy. In the context of environmental sustainability, posters can be used to lobby for policy change, advocate for stricter environmental regulations, or demand government accountability. The use of graphic design in activism can play a key role in shaping public dialogue, putting pressure on political leaders to enact policies that promote environmental sustainability. Effective design can appeal to emotions, making complex environmental issues more accessible to the general public, and influencing collective social responsibility toward sustainability.

Visualizing Environmental Data: Graphical posters can help simplify and communicate complex environmental data, such as carbon emissions, deforestation rates, or water consumption patterns. By visualizing this data through infographics, charts, and illustrations, posters make it easier for the public to grasp the gravity of environmental issues. This visualization often makes statistics more impactful, providing tangible evidence of the changes that need to be made to preserve the

environment. Environmental organizations can use these posters to show trends, highlight solutions, and display the benefits of adopting sustainable practices.

Enhancing Cultural and Community Engagement: Posters can play a significant role in fostering community engagement in environmental sustainability efforts. Through the use of culturally relevant design, posters can connect with local communities, utilizing symbols, colors, and themes that resonate with specific cultural values. Engaging local communities through design can lead to more effective environmental initiatives tailored to the unique challenges and needs of each region. Posters that incorporate local environmental issues, traditions, and imagery can inspire collective action on a grassroots level, fostering collaboration on sustainability goals.

Enhancing Corporate Social Responsibility (CSR): Companies often use graphic design in the form of posters to showcase their commitment to environmental sustainability. Posters in corporate settings can communicate green policies, sustainability initiatives, and corporate social responsibility efforts to both employees and customers. This type of design helps improve a company's image, aligning its values with environmental sustainability, and attracting eco-conscious consumers. When placed in the workplace or public spaces, such posters can encourage employees to adopt environmentally responsible practices, such as reducing waste or using less paper.

Creating Emotional Impact: Posters that use striking images of endangered wildlife, polluted landscapes, or natural disasters can create an emotional response that motivates people to act. Emotional appeals are highly effective in raising awareness about the environmental crisis and rallying support for sustainability efforts. By engaging the viewer's emotions, posters can transform abstract environmental concepts into real, tangible problems that require immediate action.

Remedies to the Negative Effects of Graphic Poster Design on Environmental Sustainability

Graphic poster design can have several negative effects on environmental sustainability, including resource depletion, waste generation, and pollution. To mitigate these impacts, designers can adopt the following remedies:

Utilise Sustainable Materials: Opting for eco-friendly materials is crucial. Designers should prioritise the use of recycled or biodegradable papers and non-toxic, vegetable-based inks. This approach reduces the environmental footprint associated with traditional materials. A study by Vadiraj and Harilal (2024) emphasises the importance of selecting sustainable materials to minimise adverse environmental effects. Sustainable design involves designing packaging with the primary goal of minimising environmental impact. This can be achieved by using recycled material.

Implement Energy-Efficient Design Practices: Designers can reduce energy consumption by streamlining design processes and utilizing energy-efficient tools. This includes optimizing digital workflows to minimize resource use and selecting printing methods that consume less energy. The Rocky Mountain College of Art + Design (2024) highlight the significance of energy-efficient practices in sustainable graphic design. According to Alahira, Ninduwezuor-Ehiobu, Olu-lawal, Ani, (2024). Some of the most energy-efficient design practices include: Relying on frequent life cycle assessments to evaluate the environmental impact of the design throughout its entire lifespan.

Strategically selecting sustainable product design materials. Keeping in mind end-of-life considerations for each product throughout every stage of the design process.

Embrace Digital Media: Transitioning from physical posters to digital platforms can significantly decrease material usage and waste. Digital displays and online campaigns offer dynamic alternatives that can be updated without generating physical waste. This shift not only conserves resources but also aligns with contemporary media consumption trends.

Design for Emotional Durability: Creating designs that foster a lasting emotional connection with the audience can reduce the frequency of poster replacements. Ji and Lin (2022) propose strategies for emotionally durable visual communication, suggesting that designs with enduring appeal encourage prolonged use and decrease waste.

Upcycle and Repurpose Materials: Innovative recycling approaches, such as transforming outdated banners into functional products like raincoats, can extend the lifecycle of materials and promote a circular economy. A study published in Sustainability (2023) presents a case where banners were repurposed into raincoats, demonstrating the feasibility of such practices.

Educate and Advocate for Sustainability: Designers should actively promote environmental awareness through their work and collaborate with clients to prioritise sustainability. By integrating sustainable messages and practices into their designs, they can influence public perception and encourage eco-friendly behaviours. Alahira et al. (2024) discuss the role of fine arts in promoting sustainability within design disciplines, highlighting the impact of cross-disciplinary approaches.

Conclusion

Graphic poster design plays a vital role in promoting environmental sustainability by shaping public perception and encouraging eco-friendly behaviours. In Akwa Ibom State, where urbanisation poses environmental challenges, well-designed posters can serve as powerful tools for awareness and advocacy. However, their effectiveness depends on quality, cultural relevance, and sustainability. Using persuasive design elements and eco-friendly materials enhances impact while addressing waste concerns. Despite challenges like poor execution and limited support, strategic collaborations can improve poster campaigns. Assessing their role in environmental sustainability can help optimise design strategies for greater public engagement and long-term conservation efforts in the region.

Recommendations

1. Graphic designers and printing industries in Akwa Ibom State should transition to sustainable materials such as biodegradable inks, recycled paper, and reusable substrates to minimise environmental pollution and promote sustainability.
2. The government should implement policies that regulate the use of non-biodegradable posters while encouraging the adoption of digital billboards and eco-friendly posters. Public awareness campaigns should also be conducted to educate citizens on the environmental impact of graphic poster waste.
3. Graphic design institutions and training centres should incorporate environmental sustainability principles into their curriculum. This will help future designers understand and adopt sustainable design techniques that align with global environmental conservation efforts.

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