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Promoting environmental sustainability through eco-friendly products: A critical review for sustainable development

Michael Ikenna Udodiugwu[1], Ugochukwu Jude Obiakor[2], Kingsley Enyinna Eneremadu[3], Njoku Christian Onwuegbuchulem[4], Chioma Ezinwanne Anyaegbunam[5]
Chukwuemeka Odumegwu Ojukwu University, Nigeria[1]
Federal Polytechnic Oko, Nigeria[2]
Alvan Ikoku Federal University of Education, Owerri, Nigeria[3&4]
Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Nigeria[5]
udodiugwu@gmail.com[1], ugochukwu.obiakor@federalpolyoko.edu.ng[2], kingsley.eneremadu@alvanikoku.edu.ng[3], njoku@alvanikoku.edu.ng[4], ce.anyaegbunam@coou.edu.ng[5]

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Abstract

Purpose: This study was conducted to address critical issues that affect the sustainability of the environment and to recommend eco-friendly policies for driving sustainable economic growth and development.

Research Methodology: This study employed a qualitative approach by reviewing the extant literature to assess key concepts and theories, thereby providing comprehensive recommendations for individuals, households, corporate organizations, and governments.

Results: The study observed that the implementation of environmental sustainability measures in Nigeria and other developing nations may be delayed due to a lack of readiness, but it is crucial to overcome this.

Conclusions: The incorporation of eco-friendly products into our daily routines holds significant potential for effecting positive changes on the planet and serves as a source of inspiration for others to do the same.

Limitations: This study used a qualitative approach. However, we observed that Nigeria significantly lags in embracing emerging technology, and this study identified areas for improvement and emphasized guidelines to steer purchasing decisions toward sustainable development.

Contribution: This study contributes to knowledge by adding more perspectives to the body of literature and also makes mankind understand that eco-friendly products are indispensable in shaping a sustainable future, promoting health, supporting the circular economy, and contributing significantly to cultivating a more sustainable and environmentally conscious society.

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1. Introduction

The economic and social activities of humans continually pose challenges to ecosystems. The available renewable resources that should serve mankind for many generations are deteriorating due to unethical practices, such as consistent burning of fossil fuels, land degradation, deforestation without replacement, and extraction of minerals as the sole source of revenue for developing nations (Agbo & Egbunike, 2024; Kotzé et al., 2022). Consequently, societal leaders are urging mankind to halt all forms of unsustainable production activities that are harmful. Organizational leaders also focus on sustainability by developing production processes that are sustainable with little or no threat to the societal climate. Nelson (2024) stated that multinational organizations such as Coca-Cola are also following the trend by engaging in the recycling of plastic containers for packaging their beverages, and advocating for reporting their sustainable activities.

What is the link between sustainability and production processes and what does sustainability mean? According to Purvis, Mao, and Robinson (2019), sustainability refers to the long-term coexistence of people on Earth. Scholars have different definitions of "sustainability," which have varied based on the literature, context, and time(Bosselmann, 2022; Obrecht et al., 2021; Vadén et al., 2020). Sustainability typically includes three dimensions: environmental, economic, and social (Vadén *et al.*, 2020). Many scholars, in their efforts to define sustainability, have emphasized the ecological dimension, focusing on addressing major environmental issues, such as climate change and biodiversity loss(Ekins & Zenghelis, 2021).

The idea of sustainability can guide decisions at global, national, and individual levels. Organizations are starting to focus on sustainable manufacturing of eco-friendly products to meet international standards while competing in the global market (Abdelrahman, 2024; Berg, 2019). Popular eco-friendly products include solar energy devices, recycled materials, bamboo products, organic skincare, and reusable items (Esquivel et al., 2022).

Virtanen, Siragusa, and Guttorm (2020) argued that every product or service purchased by an individual or an organization has an impact on the environment. This is because the product or service generates environmental impacts throughout its lifecycle, from the raw materials and energy used to manufacture or supply it to the way it is recycled or managed at the end of its life. Hardyment (2024) states that an environmentally friendly product or service, also known as an eco-friendly product or service, should not harm the environment or harm it the least, compared to similar products or services. NetRegs (2024) adds that, in the different aspects of the production processes, use, and disposal of a product, and in the case of a service, in any aspect of the delivery of the service, these products and services should generate less pollution or deplete fewer resources than other products or services for the same purpose (Persson et al., 2022; Udodiugwu, 2024). This may be due to factors such as being more energy-efficient, being made of recycled materials or materials that would otherwise be considered waste, or making use of locally sourced resources.

The rising demand for solar energy devices in Nigeria and some developing countries in Africa and Asia is gradually gaining ground in corporate organizations, manufacturing industries, and households. In particular, during periods of electricity shortage and blackout, the benefits of solar energy are significant (Caglar & Askin, 2023). The banking sector and other service-providing firms have seen increased expenditures and diesel consumption for generating energy to power their electronic devices. Carbon oxide emitted by generator sets has raised serious environmental concerns, contributing to long-term environmental pollution. However, Fletcher *et al.'s* findings revealed that eco-friendly products have a significantly positive impact on sustaining the environment. This aligns with Smith's study on the recycling of plastic, which highlighted the harmful impact of mass production and monopolistic utilization of plastic on society because of the way it is disposed and littered in the environment.

Smith (n.d.) emphasized that the presence of plastics may lead to excessive combustion and the release of toxic compounds such as dioxins, furans, mercury, polychlorinated biphenyls (PCBs), microplastics, and phthalates. These substances pose a threat to human health and contribute to climate change,

biodiversity loss, ozone layer depletion, and global warming ((Ebrahimi Sirizi et al., 2023). However, when collected after use, sorted by form and color, and recycled, plastics can be environmentally friendly and possess significant economic value. It is therefore important to highlight the importance of dioxins. Dioxins are a group of chemically related persistent environmental pollutants (POPs). They are found worldwide in the environment and accumulate in the food chain, particularly in the fatty tissues of animals. Addressing health issues stemming from the release of dioxins from plastics should be a significant concern if we aim to extend the human lifespan.

In a study by Kotzé et al. (2022), eco-friendly products were found to be highly beneficial for sustainable economic development with an enormous positive environmental impact. However, it is crucial to raise global awareness and concern regarding this issue. Advocating the production and maintenance of eco-friendly products in Nigeria is of paramount importance for all stakeholders committed to development goals. As a country striving for sustainable governance and corporate sustainable initiatives, it is essential to start and embrace the implementation of current innovative technologies and global standards for delivering products and services. This will contribute to creating a sustainable socioeconomic environment that can withstand the test of time. This study was conducted using a qualitative approach to achieve the following objectives:

1. To review the concepts of environmental sustainability and eco-friendly products
2. To evaluate the importance and strategies for safeguarding our environment
3. Review the theories that underpin environmental sustainability.

2. Literature Review

2.1 Introduction of Basic Concepts and Relevance of Environmental Sustainability

2.1.1 Concept of Environmental Sustainability

Environmental sustainability refers to the ability to maintain an ecological balance in the planet's natural environment and conserve natural resources to support both present and future generations (Arora & Mishra, 2019). It involves safeguarding the natural world, ensuring that practices and habits do not detrimentally impact ecosystems, and making deliberate efforts to conserve and protect them. According to Narancic, Cerrone, Beagan, and O'Connor (2020), environmental sustainability can be defined as the responsible management and utilization of natural resources to meet the pressing needs of mankind without compromising the ability of future generations to achieve theirs. Other scholars argue that environmental sustainability aims to balance ecological, economic, and social goals such as reducing carbon emissions, promoting renewable energy, and ensuring equitable resource access (Patterson, 2022).

Environmental sustainability can be described as a state of balance, resilience, and interconnectedness that enables human society to meet its needs without surpassing the capacity of its supporting ecosystems to continue providing necessary services (UNCCD, 2022). The pillar of environmental sustainability aims to safeguard the environment for the future generations. Organizations committed to environmental sustainability take measures to improve efficiency, reduce resource consumption and waste, and monitor carbon emissions throughout their supply chains(France, 2022). Today, many organizations are ramping up their environmental initiatives by leveraging advanced technologies such as cloud and IoT sustainability solutions, which enable them to monitor and minimize their environmental footprint (Rosenboom, Langer, & Traverso, 2022).As the global impact of climate change becomes more apparent, an increasing number of stakeholders, including corporate organizations, government agencies, and individuals, are advocating for environmental sustainability (Caglar, Guloglu, & Gedikli, 2022). These groups are dedicated to achieving the goal of decarbonizing the world to protect global ecosystems for future generations. It has become evident that most scholars agree that environmental sustainability involves acknowledging the limited supply of the Earth's resources and advocating for sustainable practices.

2.1.2 Importance of Environmental Sustainability

Pollution of land, air, and water significantly impacts our quality of life and the ability of local communities and society to prosper. Environmental sustainability is crucial for the survival of our planet

and humanity. Let us examine the significance of adhering to environmental sustainability measures as outlined by Lafarge (2024) and Caglar, Yavuz, Mert, and Kilic (2022).

i. Ensuring the Well-being of Future Generations
Environmental sustainability fundamentally concerns securing the well-being of future generations. This involves making choices that do not jeopardize the ability of future generations to thrive. This requires responsible resource management to ensure that sufficient resources are preserved in the future. It also contributes to conserving the planet's biodiversity and protecting its various life forms, which are essential not only for nature but also for our own well-being.

ii. Mitigating and Adapting to Climate Change
Climate change poses a significant challenge to humanity, and environmental sustainability is vital to addressing this challenge. By reducing greenhouse gas emissions, we can work proactively towards stabilizing the climate. This is not only about temperature changes but also about the habitability of our planet. Sustainability also involves preparing for the impact of climate change by building resilient communities and adapting economies to thrive in a changing world.

2.1.3 Strategies for Implementing Environmental Sustainability
2.1.3.1 Individual Level
a. Sustainable Lifestyle Choices.
Everyday decisions matter. By making sustainable choices, such as reducing waste, conserving water and energy, and supporting eco-friendly products, we are not only improving our environmental footprint, but also setting an example for others to follow (Lafarge, 2024).

b. Advocacy and Awareness:
Our voices are a powerful tool. By advocating sustainable practices and raising awareness about environmental issues, we can inspire change on a larger scale. Whether it's through social media, community events, or conversations with friends and family, it's clear that our advocacy can ignite a movement aimed at preserving our planet (Guloglu, Caglar, & Pata, 2023).

2.1.3.2 Community and Organizational Level
a. Local Initiatives and Programs
Active participation in local sustainability initiatives can profoundly impact communities. We can choose to join or support programs focused on clean energy, waste reduction, and conservation. In doing so, we encourage our community to adopt eco-friendly practices (Guloglu et al., 2023).

b. Corporate Social Responsibility (CSR):
If we are part of an organization or business, it is important to advocate sustainable business practices in the pursuit of sustainable development. We can also encourage our company to adopt CSR initiatives that prioritize environmental sustainability (Caglar, Guloglu, et al., 2022). This could include reducing emissions, implementing recycling programs, and supporting local communities.

2.1.3.3 Governmental and Global Level
a. Policy-making and regulation
We should engage local and national governments to influence policies and regulations. It is important to support lawmakers who prioritize environmental issues and advocate for policies that promote sustainability. Our vote and participation in advocacy groups can drive change (Wang, Ma, Zhao, Zhao, & Heydari, 2022).

b. International Cooperation and Agreements
Environmental issues often transcend borders. It is essential to support and engage in international agreements and organizations aimed at addressing global challenges, such as climate change and biodiversity conservation. Our participation reinforces global efforts toward a sustainable future (Wang et al., 2022).

2.1.4 Concept of Eco-Friendly Product

According to the European Consumer Center France (ECCF), eco-friendly products have a lower impact on the environment throughout their life cycle. This means that, from the fabrication processes to their design, transport to the end-user, their length of use, and their capacity to be recycled, they do not pose a threat to mankind and their inhabitants (Udodiugwu, 2023). In addition, in the international market and its manufacturing operations, the Federal Trade Commission (FTC) has strict guidelines on eco-friendly claims in 2024. The FTC, a US government organization responsible for preventing unfair or dishonest business activities, stated in its green guide that for a product to be properly labeled as "eco-friendly," the packaging must explain why it is environmentally responsible. Otherwise, depending on how consumers use a product, it could be harmful to the environment. In addition, the guides outlined certifications and seals of approval that products can receive to substantiate their claims.

When creating products, every aspect, from production to packaging, should prioritize environmental safety. Adedoyin, Erum, and Ozturk (2022) explained that local manufacturers must strictly adhere to measures and procedures throughout the production process. This is because the environment in which production takes place significantly affects the final product's efficacy, quality of materials used, production conditions, personnel professionalism and competence, quality control measures, and manufacturers' goal to meet stipulated requirements set by control bodies, such as the Standard Organization of Nigeria (SON), Manufacturing Organization of Nigeria (MAN), and the National Food Drugs Administration and Control (NAFDAC) in Nigeria.

According to Alola, Olanipekun, and Shah (2023), the concept of eco-friendly products has sparked debate among scholars in various fields, leading to differing opinions on the definition of an eco-friendly product or service. The ECC has outlined that while there is no specific standard in Europe for eco-friendly products, there are criteria to identify products that, despite being more expensive, are likely to be more sustainable and can help consumers save money in the long run.

i. Natural Origin Products

For eco-friendly products, items made from natural materials and ingredients are often preferred over those made from synthetic materials and chemicals. For example, products such as wooden toys and clothing made of linen, hemp, or wool are considered more environmentally sustainable. Organic products are known to promote biodiversity and environmental conservation in the agricultural industry. However, it is important to consider the distance these products travel to reach consumers. Buying 100% of a natural product that has been shipped from the other side of the world can result in significant CO2 emissions. In such cases, it may be beneficial to opt for locally produced recycled products.

ii. Energy-Efficient Products

A sustainable product emits fewer CO2 emissions, the primary greenhouse gases contributing to global warming, and consumes less water and energy during production. For instance, 'energy' devices consist of solar cookers, solar ovens, solar air conditioners, solar refrigerators, solar panels, solar batteries, solar fans, and solar lights. Consumers often struggle to identify the most suitable products for purchase. Moreover, the production of cotton, which is extensively used in the textile industry, requires more water and fertilizer than flax or hemp. However, a convoluted manufacturing process is typically inefficient. Consequently, some European manufacturers are transitioning toward 'low-tech' products that require less energy.

iii. Durable Products

Sustainability is often determined by the length of time a product remains in use as well as its potential for reuse, repair, or repurposing. For instance, rechargeable batteries, repairable toothbrushes, and microfiber cloth can contribute to sustainable practices. Repairability is a crucial aspect of a sustainable product. The prevalence of single-use and short-shelf-life items has resulted in a throwaway culture, where replacing products is often seen as more convenient and cost-effective than repairing them. Additionally, built-in obsolescence in technological products poses a challenge to sustainability. To create more environmentally friendly products, it is essential to prioritize repairability in design and manufacturing processes. A sustainable product should be easy to repair and replacement spare parts

should be readily available. France became the first European country to enforce a reparability index for household appliances and electronic products, with plans to extend the index to other categories.

iv. Encourage Local Manufacturing by patronizing locally made Products
To minimize our carbon footprint, it is advisable to support the purchase of furniture and appliances that are manufactured and sold in Nigeria, or at the very least, are made from locally sourced materials. This is important because transportation is the second-highest contributor to greenhouse gas emissions, after energy and electricity. However, it is difficult to identify the origin of a product is not always easy. Some retailers might use "Made in Nigeria" labels for their products, but these items could actually come from Asia, Europe, or other distant locations. It is crucial to verify the true origin of products before purchasing them. If the information is unclear, consider reaching out to inquire about or visit the workshop of a local manufacturer to make a more environmentally conscious choice.

v. Ethical and Fair-Trade Products
Fair-trade products are created in a shorter timeframe and have a more transparent supply and trade chain. This allows small-source producers to earn a decent from their work. However, ethical products consider working conditions during the design and distribution processes.

2.1.5 A Guide to Promoting Sustainable and Smart Shopping

In order to advance towards a sustainable economy by making thoughtful purchasing decisions, it is
i. Think Circular.
The concept of a circular economy aims to prevent the creation of waste by challenging the traditional "take-make-waste" approach. This approach involves extracting materials from Earth, using them to manufacture products, and then discarding them. For instance, consider a chip bag that is designed to be single-use and typically cannot be reused, recycled, or composted, leading to its disposal as waste.

ii. Be Cautious about how much yyou buy.
Remember this text: One of the concepts of environmentally friendly practices involves purchasing only necessary items. This is because a significant amount of energy and resources is required for a product to reach the end user. By purchasing fewer items, the environmental impact can be reduced by decreasing the demand for the production process. If we realize that we are accumulating seldom-used products, it is time to reassess.

iii. Opt for Reusable Items.
Remember to bring your reusable bags when you go shopping to reduce plastic waste. Using reusable sandwich bags can significantly decrease single-use plastic consumption. In addition, the environmental impact should be considered when purchasing items with excessive single-serve packaging.

iv. If you must buy new buys recycled.
To promote sustainability, it is crucial to prioritize purchasing products or packaging made from recycled materials. This choice reduces the need for additional resource extraction and increases the demand for recycled materials, ensuring that they are more likely to be processed in the future instead of ending up in landfills.

2.1.6 Impact of Eco-Friendly Products on Environmental Sustainability

As the importance of environmental sustainability continues to grow, an understanding of the significance of eco-friendly products has become crucial. Eco-friendly products are designed to minimize their negative impact on the environment, making them an essential part of transitioning to a greener lifestyle (Jabeen, Wang, Işık, Alvarado, & Ongan, 2024). Eco-friendly products encompass a wide range of items, including household goods, personal care products, and clothing. These products are typically made using sustainable materials such as organic cotton, bamboo, or recycled materials, and are manufactured using eco-friendly processes that minimize waste and energy consumption.

Jiang and Liu (2023) added that one of the main advantages of eco-friendly products is reduced environmental impact. Choosing eco-friendly products can help reduce pollution, conserve natural

resources, and protect ecosystems. Similarly, eco-friendly products often promote fair-trade practices and support local communities. By purchasing these products, we contribute to a more sustainable and socially responsible supply chain(Hadiwijaya and Yustini, 2023). Another key benefit of eco-friendly products is their long-term cost effectiveness. While they may have a slightly higher upfront cost than traditional products, eco-friendly alternatives are often more durable and require less frequent replacement. Additionally, Udodiugwu (2022) posited that they can help save energy costs, as many of them are designed to be energy efficient.

Eco-friendly products have gained significant attention in recent years as more people have become aware of the impact their choices have on the environment. (I. Khan, Zakari, Ahmad, Irfan, & Hou, 2022) opine that exploring the benefits of eco-friendly products is essential to understanding why they are becoming increasingly popular and how they contribute to sustainable development. One of the key benefits of eco-friendly products is their positive environmental impact (Lee et al., 2022). Unlike traditional products, Fletcher et al. (2024) designed eco-friendly products to reduce their carbon footprint and minimize waste throughout their life cycle. They are often made from renewable materials, use eco-friendly manufacturing processes, and can be recycled or biodegraded at the end of their use. Consumers can play an active role in reducing pollution and preserving natural resources by choosing eco-friendly products.

In addition to its environmental benefits, Lafarge (2024) adds that eco-friendly products offer economic advantages. While they may initially have a higher upfront cost than conventional products, their long-term benefits often outweigh the initial investment. For example, energy-efficient appliances can help reduce electricity bills, while durable and high-quality sustainable clothing can last longer than fast-fashion alternatives. By choosing eco-friendly products, consumers can save money in the long run, while promoting a more responsible and sustainable economy.

According to Pata, Yilanci, Hussain, and Naqvi (2022) Health and safety are one of the core roles of eco-friendly products. Many conventional products contain chemicals and toxins that can be detrimental to human health. On the other hand, eco-friendly products are typically made from non-toxic materials that are safe for both consumers and the environment. From organic skincare products to nontoxic cleaning supplies, choosing sustainable options can help create a healthier living environment for everyone.

Eco-friendly products often have additional social benefits. Many companies that produce eco-friendly products prioritize fair labor practices, ensuring that workers receive fair wages and operate in safe working conditions(Pearce, Markandya, & Barbier, 1989). By supporting these companies, consumers can contribute to creating a more equitable society. Overall, eco-friendly products offer a wide range of benefits, from environmental conservation and economic savings, to improved health and social responsibility. By choosing sustainable products, consumers can positively impact the world and contribute to a more sustainable future for generations.

Understanding the importance of eco-friendly products is crucial as we strive towards environmental sustainability. These products are designed to minimize their negative impact on the environment and play a vital role in transitioning to a greener lifestyle. They encompass various items, including household goods, personal care products, and clothing, and are typically made using sustainable materials, such as organic cotton, bamboo, or recycled materials.

By choosing eco-friendly products, we can significantly reduce pollution, conserve natural resources, and protect the ecosystem. They also promote fair-trade practices and support local communities, contributing to a more sustainable and socially responsible supply chain. Additionally, eco-friendly products offer long-term cost-effectiveness and energy efficiency despite their slightly higher upfront costs.

Rosenboom et al. (2022) believe that eco-friendly products have a positive impact on the environment. They are designed to reduce their carbon footprint, utilize eco-friendly processes, and can be recycled

or biodegraded at the end of their life cycle. In addition to their environmental benefits, eco-friendly products also offer economic advantages such as reduced energy costs and long-term savings.

Smith (n.d.) strongly believes that eco-friendly products are known for their health and safety benefits, as they are typically made from non-toxic materials that are safe for both consumers and the environment. They also come with social benefits, as many companies prioritize fair labor practices, contributing to a more equitable society.

In conclusion, choosing sustainable, eco-friendly products enables consumers to make a positive impact on the world and contribute to a more sustainable future for future generations.

2.1.7 Economic Impact of Eco-Friendly Products to Sustainable Development

Sustainable living and eco-friendly practices are of utmost importance in today's world. According to Harmony (2023), the use of eco-friendly products is a key element in sustainable living (Mabhanda, 2022). These products are thoughtfully designed with the environment in mind, encompassing their entire lifecycle, from production to disposal. GreenHarmony also highlights the vital role of eco-friendly products in contributing to sustainable development.

i. Reduced Environmental Impact

Choosing eco-friendly products means choosing items that are made using sustainable processes and materials with minimal impact on the environment. These products are often produced from renewable resources, recycled materials, or biodegradable substances. By switching to eco-friendly products, we can all play a part in reducing our carbon footprint and conserving natural resources.

ii. Health Benefits

Avoiding conventional products that contain harmful chemicals can significantly improve health. Choosing eco-friendly products made with natural ingredients and free from toxic substances is not only better for our well-being, but also for the environment. For example, eco-friendly cleaning products eliminate exposure to harsh chemicals such as bleach and ammonia, which can be harmful to the skin and respiratory system. Opting for natural alternatives, such as vinegar or baking soda, allows us to keep our homes clean without risking exposure to toxins harmful to ourselves and our families.

iii. Promoting a Circular Economy

It is important to understand that eco-friendly products are specifically crafted to adhere to the principles of circular economy. The circular economy focuses on minimizing waste and optimizing resource use by advocating for recycling, repurposing, and reuse. By actively choosing eco-friendly products, a more sustainable economic system can be created. For instance, when purchasing items made from recycled materials, the demand for recycled content is directly driven and manufacturers are motivated to integrate more recycled materials into their production processes. This aids in reducing raw material extraction and decreasing the volume of waste sent to landfills.

iv. Setting a Positive Example

Embracing and advocating eco-friendly products can serve as a catalyst to motivate others to follow suit. Your decisions and conduct can create a domino effect, motivating those around you, including loved ones and businesses, to embrace sustainable practices. When you communicate your favorable encounters with eco-friendly products, whether through personal discussions, social media, or other means, you magnify their influence. People are more inclined to explore eco-friendly options when they witness the tangible benefits and positive impacts they can have on the environment.

2.2 Theoretical Framework

The theory of environmental sustainability encompasses the idea of safeguarding natural resources for future generations, while addressing current needs. It advocates for practices such as water treatment, waste reduction, pollution control, and resource conservation through renewable methods (Khanna, Konyukhov, & Burmistrov, 2022). Environmental sustainability is a global concern that necessitates collaboration between corporate entities, individuals, governments, and agencies. Sustainable

environmental theories are rooted in the principle of conducting business with minimal environmental impact, while preserving resources for the future. This theory emphasizes the importance of interdisciplinary knowledge and decision making for sustained economic growth and development. It also emphasizes the shift from unrestricted growth and consumption to regulated usage and savings, without compromising growth. This theory recognizes the importance of respecting nature, safeguarding natural resources, and using them judiciously as the foundation for achieving environmental sustainability. However, this study was based on green economy theory and the theory of green consumerism.

2.2.1 Green Economy Theory

The term "green economy" was first introduced in a significant 1989 report commissioned by the United Kingdom government. Titled "Blueprint for a Green Economy," the report was authored by leading environmental economists Pearce, Markandya, and Barbier. A green economy is focused on reducing environmental risks and ecological scarcities while striving for sustainable development without causing harm to the environment (Georgeson, Maslin, & Poessinouw, 2017; Loiseau et al., 2016). It is closely linked with ecological economics, but has a more practical, politically applied approach. As Halton (2023) states, green economic theories encompass various concepts that revolve around the interconnected relationship between humans and the environment. Green economists advocate that all economic decision making should be somehow connected to the ecosystem and acknowledge the economic value of natural capital and ecological services.

The 2011 UNEP Green Economy Report emphasizes that for an economy to be considered green, it must prioritize both efficiency and fairness. Fairness involves acknowledging equity considerations at both the global and national levels, especially in the transition towards an economy that is low-carbon, resource-efficient, and socially inclusive. In addition, consumer-facing indicators such as green stickers and ecolabel practices have gained significance in showcasing a commitment to environmental friendliness and sustainable development. These practices are increasingly being adopted by various industries as a means to promote their environmentally friendly initiatives in a rapidly globalizing economy (Telukdarie, Katsumbe, Mahure, & Murulane, 2024). Commonly referred to as sustainability standards, these are specialized guidelines that ensure that the products being purchased do not harm the environment or the workers involved in their production.

In a recent publication, Allan and Meckling (2023) highlighted the proliferation of environmental and sustainability standards, emphasizing their potential to contribute to the development of a new, environmentally friendly economy. This shift towards a green economy involves a heightened focus on economic sectors such as forestry, farming, mining, and fishing, while also prioritizing environmental concerns such as the preservation of water sources and biodiversity, along with efforts to reduce greenhouse gas emissions(Afrin, Sehreen, Polas, & Sharin, 2020). This transition also encompasses the reinforcement of social protections and workers' rights, as well as a nuanced approach to various stages of production processes (Udodiugwu, Enyinna, Onwuegbuchulem, Ezinwanne, & Jude, 2024).

Furthermore, Aswathanarayana, Harikrishnan, and Kadher-Mohien (2010) underscored the necessity of transitioning to renewable energy sources in order to establish sustainable green economies. This involves the replacement of fossil fuels with renewable energy, as well as a concerted effort towards energy conservation and efficient energy usage. The potential for solar energy and wind energy to replace fossil fuels for electricity by 2035, with a view towards complete displacement of fossil fuel usage by 2050, has been highlighted by Telukdarie et al. (2024).

2.2.2 Criticism of Green Economics

The concept of building a sustainable economy using renewable energy sources is undoubtedly appealing, but the field of green economics has its critics. Attempts to separate economic growth from environmental harm have not been entirely successful. Most economic growth relies on nonrenewable technologies and resources. Switching to renewable energy sources is a challenging task, and has not been entirely effective. Critics also argue that the focus on green jobs as a solution to social justice is misleading. Raw materials for green energy often come from mines with poor working conditions and

low wages. For example, the production of electric car batteries may involve mining materials from environmentally sensitive areas or conflict zones. Another critique is that green economics relies heavily on a technological approach that provides an advantage to companies with access to advanced technology.

2.2.3 Relevance of Green Economy Theory to Environmental Sustainability

The concept of a green economy focuses on the efficient and effective use of resources in a sustainable manner to minimize waste and reduce environmental impacts. It aims to shift the current consumer-driven model towards a more sustainable approach in terms of natural resource utilization. The United Nations Environment Programme (UNEP) contributed to the significance of green economy theory in its promotion of sustainable practices, advocating for reduced carbon emissions, and ensuring the preservation of natural assets for the ongoing well-being of humanity. Additionally, the following outlines various other important aspects of the green economy theory:

i. Human Wellbeing as a People-Centric Model

A green economy prioritizes the overall well-being of individuals by emphasizing not only economic prosperity but also human, social, physical, and cultural development. It promotes access to education, environmentally friendly production methods, and sustainable infrastructure to enhance people's quality of life, while ensuring the responsible use of natural resources.

ii. Justice and Good Governance

Emphasizing transparency and accountability, a green economy fosters good governance through resilient and transparent institutions. It advocates inclusive decision-making processes and discourages vested interests, thereby promoting collaboration and public involvement to address challenges.

iii. Poverty Eradication

The transition to a green economy creates opportunities for new economic sectors, leading to job creation and investment in specialized skills. It promotes fairness and equal opportunities, with the aim of reducing inequalities among individuals and communities.

iv. Energy Efficiency

A green economy focuses on optimizing resource use to minimize waste, thereby fostering a more sustainable approach to natural resource utilization.

v. Low-Carbon Development

By promoting the use of renewable energy sources with minimal CO_2 emissions, a green economy encourages low-carbon development, emphasizing the sustainable generation of energy and electrification in various aspects of life.

2.2.4 Theory of Green Consumerism

Green consumerism is linked to sustainable development and consumer behavior. This involves making consumption choices that protect the environment for current and future generations. Green consumerism emphasizes the responsibility of consumers to address environmental issues through actions such as opting for organic products, using clean and renewable energy, and selecting goods from companies with minimal environmental impact, such as zero waste, zero-emissions vehicles, and zero-energy buildings (Connolly & Prothero, 2008).

In the 1960s and the early 1970s, green consumption emerged in developed nations as awareness of the need to protect the environment and people's health from industrial pollutants and economic and population growth increased. The 1980s saw the emergence of the first American "green" brands, which rapidly gained popularity. Although green products grew slowly in the 1990s, they remained a niche phenomenon. Interest in green products surged again in the early 2000s and continued to grow steadily (Elliott, 2013).

Mercado (2024) emphasized that the entire lifecycle of the products we use involves energy consumption, production, and transportation, all of which contribute to greenhouse gas emissions. To combat this, Mercado highlighted the importance of practicing the 4Rs: Reduce, Reuse, Recycle, and Rot (compost). She suggested that these principles should guide consumer behavior, with an emphasis on reducing consumption, followed by reuse, recycling, and composting when appropriate. For example, while recycling plastic water bottles is important, it is better to avoid purchasing them altogether by using a reusable bottle or opting for refillable containers when possible. In regions such as Nigeria, where treated water is available in sachets, bottles, or cans, the use of refillable water cans can help reduce littering and waste.

2.2.5 Relevance of Green Consumerism Theory to the Study

Green consumerism is a crucial aspect of a sustainable living. This means choosing eco-friendly products made from recycled materials, conserving energy and water, and minimizing waste and pollution. Consumers play a vital role in protecting the environment by making these choices (Debata, 2023). Debata emphasizes the significance of green consumerism theory, highlighting its relevance.

i. Energy Efficiency and Cost Savings

Engaging in green consumerism, which involves making environmentally friendly purchasing decisions, can lead to significant benefits such as decreased energy usage, lower utility expenses, and long-term financial savings. When individuals opt for energy-efficient appliances and products, they play a crucial role in conserving energy and minimizing their overall environmental footprint.

ii. Emission Reduction:

"Green consumerism involves making environmentally conscious choices such as purchasing energy-efficient appliances, using renewable energy sources such as solar or wind power, and supporting sustainable products and businesses. By embracing these practices, individuals can play a significant role in reducing greenhouse gas emissions and addressing the urgent challenges of climate change. This shift towards a more sustainable lifestyle not only benefits the environment but also contributes to a cleaner, healthier future for generations to come."

iv. Economic Growth and Energy Demand

Green consumerism is the driving force behind the demand for sustainable and clean energy solutions, which fuel innovation and economic growth in the renewable energy sector. This shift to cleaner energy sources is essential for meeting the increasing energy demand while minimizing environmental impact. Embracing green consumerism is the most effective way to protect the environment and to promote sustainable living. Green consumers play a pivotal role in conserving energy, supporting renewable resources, practicing sustainable consumption, and minimizing waste. By selecting eco-friendly products and adopting energy-efficient practices, individuals can contribute significantly to a greener future, reduce their environmental footprint, and inspire others to do the same.

3. Methodology

This study adopted the qualitative approach of the research method by reviewing concepts, theories, and empirical literature that underpin the concept of environmental sustainability and eco-friendly products. This method also provides an opportunity to review the extant literature on why and why not patronize only eco-friendly products.

4. Result and discussions

4.1 Discussion of Findings

Promoting green purchases is a strategic initiative aimed at cultivating a community of environmentally conscious consumers, by highlighting the multifaceted benefits of eco-friendly consumption and production practices. Our study revealed that effective strategies for fostering sustainability encompass a range of initiatives such as enhancing energy efficiency in homes and businesses, promoting recycling programs that divert waste from landfills, and actively working to minimize resource waste throughout the supply chain. Additionally, the utilization of sustainable materials, such as organic, biodegradable,

and recycled resources, along with responsible production techniques, including fair labor practices and reduced chemical usage, plays a pivotal role in these efforts to create a circular economy.

The study of Tamboli, Haque, Jojare, and Ohol (2023) indicated that 86% of individuals have changed their shopping habit due to sustainability knowledge. This shows that consumers are becoming more environmentally concerned and are choosing eco-friendly products. Only 14% of the respondents said that sustainability awareness did not change their buying habits. Crucial to this revelation is the clear dissemination of information regarding the environmental impacts of products. Tools such as eco-labeling can effectively inform consumers about a product's carbon footprint, water usage, and other ecological footprints, thereby empowering them to make informed purchasing choices (Udodiugwu, Okafor, Obiakor, & Onyia, 2022). As public awareness of the environmental repercussions of consumption choices continues to grow, there is an increasing demand for products and services designed with sustainability in mind.

Korkmaz and Altan (2023) also found that the alarming rise in environmental disasters, coupled with the profound social, ecological, and economic disruptions driven by rampant overconsumption, has prompted a pivotal shift in focus from the act of production to the nuances of consumption. In this context, sustainable consumption has emerged as a promising solution to counter these escalating challenges. Today's consumers are increasingly discerning, gravitating toward products that boast unique qualities, often labeled as "eco-friendly" or "environmentally friendly." This heightened awareness reflects a growing commitment to make choices that benefit both the planet and society. Consequently, the production of such goods and services has witnessed significant advancements fueled by innovation and a conscientious approach to resource use. Alongside this shift in consumer preferences, there has been a remarkable surge in awareness of the importance of recycling materials, emphasizing the critical role of responsible consumption in fostering a more sustainable future.

Companies that successfully position themselves as environmentally friendly not only appeal to this conscientious consumer base but also gain a competitive edge in the market. By adopting sustainable practices, these organizations can expand their customer demographics, foster customer loyalty, and improve their brand reputation as socially responsible entities committed to making a positive impact on the planet (Udodiugwu, Obiakor, Onyia, & Ilonze, 2022). This alignment with consumer values can lead to an increased market share and potentially higher profit margins. Ultimately, the shift towards greener purchasing decisions is not just a trend, but an essential component of a sustainable future.

5. Conclusion

5.1 Conclusion

The primary objective of this comprehensive investigation was to delve into intricate environmental issues that have tangible and direct effects on human well-being. The study emphasized the significance of implementing sustainable production measures as the foremost approach in equipping individuals with the necessary tools for maintaining a healthy lifestyle while concurrently mitigating the potential hazards associated with unethical practices. It is imperative for humanity to recognize that the continual disturbance of the ecosystem will undoubtedly present formidable challenges for the well-being of future generations. Environmental sustainability encompasses the practice of making informed and conscientious decisions in the present to safeguard the quality of life of future generations. This commitment involves judicious management of resources, preservation of biodiversity, and reduction of pollutants in the environment.

Addressing climate change is a pivotal aspect of environmental sustainability. This encompasses measures to curtail greenhouse gas emissions and fortify preparedness for impending repercussions. Sustainable practices also extend to the development of robust and prosperous communities without sacrificing environmental integrity. In the pursuit of alignment with eco-friendly practices, it is paramount to scrutinize products for certifications and seals that validate their sustainability claims. American consumers are encouraged to seek out designations such as the USDA Organic label, fair-trade certified seal, and Energy Star certification when making purchasing decisions. The incorporation

of eco-friendly products into our daily routines holds significant potential for effecting positive changes on the planet and serves as a source of inspiration for others to do the same.

Eco-friendly products play a vital role in creating a sustainable future. They contribute to reducing the environmental impact, promoting health and well-being, supporting the circular economy, and setting a positive example for others. By choosing eco-friendly products, we can become agents of change and contribute to a more sustainable and environmentally conscious society. It is essential to emphasize the significance of sustainable products, not just for consumers but also for businesses and governments. By comprehending the favorable effects of sustainable products, companies can carefully evaluate and adjust their supply chains and manufacturing processes. Governments also have the opportunity to enforce policies and regulations that encourage the production and utilization of sustainable products, ultimately leading to the development of a more sustainable and robust economy.

5.2 Limitation of the Study

The push for sustainable development is gaining momentum across the globe, with influential figures and organizations leading the charge. This movement emphasized the pivotal role of conserving natural resources and promoting recycling to mitigate environmental damage. However, there are concerns about the lack of adoption of innovative waste recycling and energy generation technologies in developing nations, such as Nigeria and various Asian countries. It is crucial to scrutinize recycling and renewable energy practices in manufacturing firms, companies, and households in these countries and to enhance government policies and waste management measures. Without addressing these challenges, progress in R&D in these nations may be stunted.

5.3 Contribution to Knowledge

This research makes a significant contribution to the existing body of knowledge by thoroughly examining the literature and delving into the concepts of environmental sustainability and eco-friendly products. This study also sheds light on effective strategies for tackling climate change, biodiversity loss, and combustion. Furthermore, it provides valuable insights for encouraging sustainable purchasing behavior among consumers. A key highlight of this study is its focus on promoting the use of solar energy devices over fossil fuels for energy generation in households, institutions, and corporate organizations. Moreover, this study aims to raise awareness about the economic benefits of eco-friendly products while advocating for the reduction, reuse, recycling, and appropriate disposal of materials, emphasizing the importance of sustainability over continuous consumption.

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