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Recycling Waste into Wealth: The Role of Green Entrepreneurship in Promoting Sustainable Economic Development in Anambra State

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Abstract

This study examined the role of green entrepreneurship in transforming waste into wealth and promoting sustainable economic development in Anambra State. The increasing rate of environmental pollution, unemployment, and poor waste management practices has become a major challenge to sustainable development in Nigeria. The study investigated how recycling activities and environmentally friendly entrepreneurial practices contribute to job creation, income generation, and environmental sustainability in Anambra State. A descriptive survey research design was adopted, and and data were collected from a sample of 210 respondents using purposive sampling. Data were analyzed using descriptive statistics such as frequencies and percentages, while Pearson Product Moment Correlation (PPMC) was used to test the hypothesis at the 0.05 level of significance. The findings revealed that green entrepreneurship significantly contributes to employmentgeneration , poverty reduction, environmental protection, and efficient resource utilization. The study also identified inadequate funding, low public awareness, weak government support, and poor recycling infrastructure as major constraints affecting the growth of recycling enterprises. The study concluded that effective investment in waste recycling and green entreprleneurial initiatives can enhance sustainable economic growth and support environmental sustainability. It therefore recommended increased government incentives, environmental education, public-private partnerships, and access to finance to strengthen recycling activities and sustainable wealth creation in the state. Recent studies have emphasized that green entrepreneurship remains a viable strategy for achieving sustainable development and circular economy objectives in developing economies.

Keywords: *Green Entrepreneurship, Waste Recycling, Sustainable Economic Development, Waste-to-Wealth, Environmental Sustainability.*

INTRODUCTION

The issue of environmental sustainability has gained global attention due to the increasing challenges associated with waste generation, environmental pollution, and depletion of natural resources. Across the world, countries are seeking innovative ways to balance economic development with environmental protection in order to achieve sustainable development goals. In developing nations such as Nigeria, rapid urbanization, industrialization, population growth, and changing consumption patterns have contributed significantly to the increase in solid waste generation. According to the United Nations Environment Programme (UNEP, 2024), ineffective waste management systems in many African countries have resulted in severe environmental problems, including land pollution, blocked drainage systems, greenhouse gas emissions, and health hazards. The increasing accumulation of waste materials has therefore created the need for sustainable waste management strategies capable of transforming environmental problems into economic opportunities. In Nigeria, waste management has remained a major environmental and socio-economic challenge. Large quantities of plastic waste, scrap metals, paper, electronic waste, and organic refuse are generated daily from households, markets, industries, and commercial centers. Ezeudu, Tenebe, and Ujah (2024) observed that Nigeria generates millions of tonnes of municipal solid waste annually, with a significant percentage remaining unmanaged or improperly disposed of. The authors further noted that inadequate waste collection systems, poor recycling culture, weak environmental regulations, and limited government investment in waste management infrastructure have worsened environmental degradation across the country. Improper waste disposal practices such as indiscriminate dumping and open burning continue to threaten public health, agricultural productivity, and environmental sustainability. As concerns over environmental degradation continue to rise, green entrepreneurship has emerged as an important strategy for addressing waste management challenges while promoting economic development. Green entrepreneurship refers to business activities that integrate environmental sustainability into entrepreneurial operations through eco-friendly innovations, recycling, renewable resource utilization, and sustainable production processes. According to Anabaraonye, Orji, Ewa, and Arinze (2023), green entrepreneurship creates opportunities for individuals and businesses to generate wealth while simultaneously protecting the environment. It encourages the transformation of waste materials into valuable products such as recycled plastics, organic

fertilizers, reusable materials, and renewable energy products. Through these activities, green entrepreneurs contribute to employment generation, poverty reduction, environmental conservation, and sustainable economic growth.

The concept of "waste-to-wealth" has become increasingly popular in contemporary environmental and economic discussions. Waste-to-wealth refers to the process of converting waste materials into economically valuable products and services through recycling, reuse, and recovery processes. Solaja, Omodehin, and Awobona (2023) explained that recycling activities not only reduce environmental pollution but also stimulate innovation, industrial growth, and entrepreneurial development. Recycling industries create job opportunities for waste collectors, recyclers, manufacturers, transporters, and marketers, thereby contributing to economic empowerment and social inclusion. Furthermore, recycling reduces dependence on raw materials, conserves natural resources, and promotes the development of a circular economy where waste materials are continuously reused instead of discarded. In Anambra State, the rapid expansion of commercial activities, urban settlements, and industrial operations has led to a significant increase in waste generation. Major cities and commercial centers within the state produce large quantities of plastic waste, metal scraps, food waste, paper materials, and other forms of refuse daily. Poor waste disposal practices have contributed to environmental pollution, drainage blockage, flooding, and health-related issues in many communities. Despite these environmental challenges, waste materials in the state also present enormous economic opportunities for green entrepreneurs involved in recycling and waste conversion businesses. Several individuals and small-scale enterprises in Anambra State are actively engaged in waste recycling activities such as plastic collection and processing, scrap metal recycling, compost production, and creative reuse of waste materials for commercial purposes. Kolawole, Kolawole, Sanni-Manuel, and Ewansiha (2024) stated that waste recycling enterprises contribute significantly to income generation, employment creation, and sustainable economic development in Nigeria when effectively supported. Through recycling activities, entrepreneurs are able to convert waste into marketable products, thereby reducing environmental pollution while improving economic productivity. Green entrepreneurship has therefore become an important tool for promoting environmental sustainability and socio-

economic development within the state. However, despite the growing importance of green entrepreneurship, several challenges continue to hinder its growth and effectiveness in Anambra State. These challenges include inadequate access to finance, insufficient government support, low public awareness of recycling practices, poor technological facilities, weak implementation of environmental policies, and inadequate recycling infrastructure. According to Ezeudu et al. (2024), many recycling businesses in Nigeria operate informally and face difficulties in accessing modern equipment, stable markets, and institutional support. In addition, the lack of proper environmental education and poor waste segregation practices among residents limit the availability of recyclable materials for recycling industries.

Furthermore, government policies and institutional frameworks relating to waste management and environmental sustainability have not been fully effective in promoting green entrepreneurship in many parts of Nigeria. Although environmental agencies and private organizations have introduced various waste management initiatives, the level of implementation and public participation remains inadequate. UNEP (2024) emphasized that sustainable waste management requires strong collaboration between government institutions, private investors, communities, and environmental entrepreneurs. Effective policy implementation, investment in recycling infrastructure, and public awareness campaigns are therefore necessary for achieving sustainable economic development through green entrepreneurship. It is against this background that this study seeks to examine the role of green entrepreneurship in recycling waste into wealth and promoting sustainable economic development in Anambra State. The study aims to evaluate how recycling activities contribute to employment generation, income creation, environmental protection, and economic sustainability, while also identifying the challenges affecting the growth of green entrepreneurship in the study area.

Statement of the Problem

The increasing rate of waste generation and poor waste management practices have become major environmental and economic challenges in Nigeria. According to Ezeudu, Tenebe, and Ujah (2024), inadequate recycling systems and improper disposal of waste materials such as plastics, metals, and organic waste contribute significantly to environmental pollution, flooding, and public

health hazards. Despite the economic potential of waste recycling, a large proportion of recyclable waste in Nigeria remains underutilized. In Anambra State, increasing commercial and urban activities have led to the generation of large volumes of waste materials, while the level of green entrepreneurial participation in recycling activities remains low. Solaja, Omodehin, and Awobona (2023) noted that inadequate funding, poor government support, low public awareness, and weak recycling infrastructure hinder the growth of green entrepreneurship in Nigeria. Although green entrepreneurship has the potential to promote employment generation, income creation, and environmental sustainability, limited studies have examined its role in transforming waste into wealth in Anambra State. Therefore, this study seeks to investigate the role of green entrepreneurship in promoting sustainable economic development through waste recycling in the state.

Objectives of the Study

The main objective of this study is to examine the role of green entrepreneurship in recycling waste into wealth and promoting sustainable economic development in Anambra State.

The specific objectives are to:

1. examine the effect of green entrepreneurship on employment generation and income creation in Anambra State;
2. assess the contribution of waste recycling activities to environmental sustainability in the state; and
3. determine the relationship between green entrepreneurship and sustainable economic development in Anambra State.

Research Questions

1. What effect does green entrepreneurship have on employment generation and income creation in Anambra State?

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2. How do waste recycling activities contribute to environmental sustainability in Anambra State?

3. What is the relationship between green entrepreneurship and sustainable economic development in Anambra State?

Hypothesis of the Study

H_0: There is no significant relationship between green entrepreneurship and sustainable economic development in Anambra State.

Conceptual Reviews

Green Entrepreneurship

Green entrepreneurship refers to business activities that focus on achieving economic growth while promoting environmental sustainability through eco-friendly innovations, recycling, renewable resource utilization, and sustainable production practices. According to Anabaraonye, Orji, Ewa, and Arinze (2023), green entrepreneurship involves transforming environmental challenges into economic opportunities by creating products and services that reduce environmental degradation. Green entrepreneurs engage in activities such as waste recycling, renewable energy production, organic farming, and environmentally sustainable manufacturing processes. The concept emphasizes balancing profit-making with environmental responsibility and social well-being. Green entrepreneurship has become increasingly important in developing countries because it promotes job creation, poverty reduction, resource conservation, and environmental protection. It also supports the achievement of sustainable development goals by encouraging responsible production and consumption practices. Through innovation and recycling initiatives, green entrepreneurs contribute to the development of a circular economy where waste materials are reused instead of discarded.

Waste Recycling

Waste recycling refers to the process of collecting, processing, and converting waste materials into reusable products for economic and environmental purposes. Waste materials such as plastics,

metals, paper, glass, and organic refuse can be recycled into valuable products instead of being disposed of as waste. According to Ezeudu, Tenebe, and Ujah (2024), recycling reduces environmental pollution, conserves natural resources, minimizes landfill waste, and promotes sustainable resource utilization. Waste recycling is a major component of waste-to-wealth initiatives because it transforms waste materials into economic assets capable of generating income and employment opportunities. Recycling activities also reduce dependence on raw materials and lower production costs for industries. In Nigeria, recycling businesses have emerged in areas such as plastic recovery, scrap metal processing, compost production, and creative reuse of waste materials.

Sustainable Economic Development

Sustainable economic development refers to economic growth that meets present needs without compromising the ability of future generations to meet their own needs. It involves balancing economic progress, environmental sustainability, and social well-being. According to the United Nations Environment Programme (UNEP, 2024), sustainable economic development promotes efficient resource utilization, environmental protection, social inclusion, and long-term economic stability. Sustainable economic development focuses on creating employment opportunities, improving living standards, reducing poverty, and protecting natural resources. Green entrepreneurship contributes to sustainable economic development by encouraging environmentally friendly business activities capable of generating wealth while reducing environmental degradation. Recycling waste into wealth therefore serves as an important strategy for promoting sustainable development, especially in developing economies such as Nigeria.

Waste-to-Wealth

Waste-to-wealth refers to the process of converting waste materials into useful and valuable products through recycling, reuse, and recovery processes. The concept is based on the idea that waste materials possess economic value and can be transformed into resources capable of generating income, employment, and industrial growth. Solaja, Omodehin, and Awobona (2023)

explained that waste-to-wealth initiatives encourage innovation, entrepreneurship, and environmental sustainability by reducing the harmful effects of waste disposal.

Waste-to-wealth activities include plastic recycling, organic waste conversion into fertilizer, scrap metal recovery, paper recycling, and creative reuse of waste products. These activities contribute to environmental cleanliness, poverty reduction, and economic empowerment. In many developing countries, waste-to-wealth initiatives have become an effective strategy for addressing unemployment and environmental pollution simultaneously.

Environmental Sustainability

Environmental sustainability refers to the responsible use and management of natural resources in a manner that preserves the environment for present and future generations. It focuses on reducing environmental degradation, conserving natural resources, minimizing pollution, and promoting eco-friendly practices. According to the United Nations Environment Programme (UNEP, 2024), environmental sustainability involves maintaining ecological balance through efficient waste management, renewable resource utilization, and sustainable production and consumption patterns. Environmental sustainability has become increasingly important due to the rising challenges of climate change, pollution, deforestation, and improper waste disposal. Recycling activities and green entrepreneurship contribute significantly to environmental sustainability by reducing the volume of waste disposed into landfills and minimizing environmental pollution. Through waste recycling and resource recovery, green entrepreneurs help conserve raw materials, reduce greenhouse gas emissions, and improve environmental quality.

Waste Management

Waste management refers to the collection, transportation, processing, recycling, and disposal of waste materials in ways that minimize environmental and health hazards. Effective waste management practices are essential for maintaining environmental sanitation, reducing pollution, and promoting sustainable development. According to Kolawole, Kolawole, Sanni-Manuel, and Ewansiha (2024), poor waste management remains a major environmental challenge in Nigeria due to inadequate infrastructure, weak regulatory systems, and low public participation in

recycling activities. Waste management involves different approaches such as waste reduction, reuse, recycling, composting, and safe disposal methods. Recycling is considered one of the most effective waste management strategies because it reduces waste accumulation while creating economic opportunities. Green entrepreneurship supports effective waste management by establishing businesses that collect, process, and convert waste materials into useful products. These activities contribute to environmental cleanliness, employment generation, and economic growth.

Entrepreneurship Development

Entrepreneurship development refers to the process of enhancing entrepreneurial skills, innovation, creativity, and business opportunities for economic growth and social transformation. It involves identifying opportunities, mobilizing resources, and creating enterprises capable of generating income and employment. According to Anabaraonye, Orji, Ewa, and Arinze (2023), entrepreneurship development plays an important role in promoting sustainable economic growth through innovation and productive business activities. Green entrepreneurship is a specialized form of entrepreneurship development that focuses on environmentally sustainable business practices. Entrepreneurs involved in recycling and waste-to-wealth initiatives contribute to industrial development, poverty reduction, and environmental conservation. Through innovation and resource recovery, green entrepreneurs transform waste materials into valuable products capable of improving economic productivity and environmental sustainability.

Theoretical Review

This study is anchored on the Ecological Modernization Theory and the Sustainable Development Theory. These theories provide a suitable framework for explaining how green entrepreneurship and waste recycling contribute to sustainable economic development.

Ecological Modernization Theory

Ecological Modernization Theory was developed by Joseph Huber and later expanded by scholars such as Arthur Mol and Gert Spaargaren in the 1980s. The theory emphasizes that economic

development and environmental protection can be achieved simultaneously through technological innovation, environmental reforms, and sustainable entrepreneurial activities. The theory argues that environmental problems such as pollution and waste generation can be addressed through modernization processes that encourage eco-friendly production systems, recycling, renewable energy use, and sustainable industrial practices.

According to Mol and Spaargaren (2023), environmental sustainability can be integrated into economic activities through innovation, institutional support, and environmentally responsible business practices. The theory further explains that entrepreneurs and private organizations play important roles in developing sustainable solutions to environmental challenges through green innovations and recycling initiatives. The relevance of Ecological Modernization Theory to this study lies in its emphasis on recycling and green entrepreneurship as tools for reducing environmental degradation while promoting economic growth. Green entrepreneurs in Anambra State engage in waste recycling activities that transform waste materials into useful products, thereby creating employment opportunities, reducing pollution, and contributing to sustainable economic development. The theory supports the idea that waste materials should not be viewed merely as environmental problems but as economic resources capable of generating wealth and promoting sustainability. Despite its significant contributions, Ecological Modernization Theory has attracted criticism. Scholars argue that the theory places considerable reliance on technological innovation and market-driven solutions, which may not adequately address structural inequalities and institutional weaknesses prevalent in many developing economies. Limited financial resources, inadequate infrastructure, weak environmental regulations, and low technological capacity may hinder the effective implementation of ecological modernization strategies. Nevertheless, proponents contend that appropriate policy interventions and institutional reforms can overcome these challenges and facilitate sustainable development.

Ecological Modernization Theory is particularly appropriate for this study because it explains the mechanisms through which green entrepreneurship and waste recycling can simultaneously generate economic benefits and improve environmental outcomes. The theory underscores the potential of sustainable entrepreneurial practices to transform environmental challenges into opportunities for wealth creation, employment generation, and ecological preservation.

Consequently, it provides a comprehensive theoretical basis for investigating the role of green entrepreneurship in promoting sustainable economic development and environmental sustainability in Anambra State.

Empirical Reviews

Anabaraonye, Orji, Ewa, and Arinze (2023) examined green entrepreneurial opportunities in wastewater management and sustainable economic growth in Nigeria. The study adopted a descriptive research design and relied on secondary data from environmental reports and existing literature. The findings revealed that green entrepreneurship contributes significantly to employment generation, poverty reduction, environmental sustainability, and economic development through recycling and waste management activities. The study further showed that inadequate government support and low investment in recycling infrastructure hinder the growth of green enterprises in Nigeria. Solaja, Omodehin, and Awobona (2023) investigated the development of ecopreneurial initiatives through plastic bottle waste recycling in contemporary Nigerian society. The study utilized qualitative analysis and data obtained from environmental agencies and recycling operators. The findings indicated that recycling activities promote environmental cleanliness, income generation, and entrepreneurial development. The study also found that poor public awareness and weak environmental policies negatively affect the effectiveness of recycling initiatives in Nigeria. Ezeudu, Tenebe, and Ujah (2024) examined plastic waste management and the prospects for a circular plastics economy in Nigeria. Using a review-based research approach, the study found that recycling and waste recovery activities contribute to resource conservation, environmental protection, and sustainable industrial development. The study further revealed that Nigeria faces major challenges in waste recycling due to poor waste collection systems, inadequate technological facilities, and insufficient investment in recycling industries. Kolawole, Kolawole, Sanni-Manuel, and Ewansiha (2024) studied the economic impact of waste from food, water, and agriculture in Nigeria. The study adopted a descriptive research method and found that waste recycling activities contribute significantly to sustainable economic

development by generating employment opportunities and reducing environmental pollution. The study recommended stronger government policies and increased private sector participation in waste recycling initiatives. Adebayo and Okorie (2024) investigated the relationship between green entrepreneurship and sustainable economic growth among small-scale enterprises in Nigeria. The study employed survey research design and data were collected from selected green entrepreneurs. The findings showed that green entrepreneurial activities positively influence income generation, business sustainability, and environmental conservation. The study concluded that green entrepreneurship is an effective strategy for achieving sustainable development goals in developing economies.

Methodology

This study adopted a descriptive survey research design to examine the role of green entrepreneurship in recycling waste into wealth and promoting sustainable economic development in Anambra State. The study was conducted among selected green entrepreneurs, waste recyclers, and small-scale business operators involved in recycling activities within major commercial areas of the state. The population comprised 442 registered waste recyclers, green entrepreneurs, and waste management operators in Anambra State, The population of the study consisted of registered and unregistered recycling operators, waste collectors, and green entrepreneurs operating in Anambra State. A sample size of 210 respondents were used to determine using Taro Yamane's formula. Primary data were collected through the use of structured questionnaires administered to the respondents, while secondary data were obtained from journals, textbooks, government publications, and online materials related to waste recycling and green entrepreneurship. The instrument for data collection was validated through expert review to ensure content validity, while reliability was tested using the test-retest method. Data collected were analyzed using descriptive statistical tools such as frequency tables, percentages, mean scores, and standard deviation. The hypothesis formulated for the study was tested using Pearson Product Moment Correlation (PPMC) at a 0.05 level of significance. The methodology was considered appropriate because it enabled the researcher to obtain relevant information on the relationship between green entrepreneurship, waste recycling, and sustainable economic development in Anambra State.

$$n = \frac{N}{1+N(e)2}$$

Where:

n = Sample size;

N = Population size (442);

e = Margin of error (0.05).

Demographic Characteristics of Respondents

Table 1: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	126	60.00
Female	84	40.00
Total	210	100

Source: Field Survey, 2026.

Interpretation

The table shows the distribution of respondents by gender. The result reveals that male respondents constituted the majority with 126 respondents representing 60% of the total respondents, while female respondents accounted for 84 respondents representing 40%. This indicates that both genders were adequately represented in the study, thereby providing balanced opinions and reliable information for the research.

Table 2: Distribution of Respondents by Age

Age Range	Frequency	Percentage (%)
18 - 25 years	52	24.8
26 - 35 years	68	32.4
36 - 45 years	47	22.4
46 - 55 years	28	13.3

56 years and above	15	7.1
Total	**210**	**100**

Source: Field Survey, 2026.

Interpretation

The table shows that the majority of the respondents were within the age bracket of 26–35 years, representing 32.4% of the total respondents. This was followed by respondents aged 18–25 years with 24.8%, while respondents aged 36–45 years accounted for 22.4%. Respondents within 46–55 years constituted 13.3%, whereas those aged 56 years and above had the least representation with 7.1% of the total respondents.

Test of Hypothesis

Hypothesis one

H_{O1}: There is no significant relationship between green entrepreneurship and sustainable economic development in Anambra State.

Table 3: Correlation Analysis

Variables	Mean	Std. Deviation	N	r-value	Sig.(2-tailed)	Decisions
Green entrepreneurship	4.12	0.684	210	0.742	0.000	Reject H_0
Sustainable economic development	4.05	0.731	210	0.742	0.000	Significant

Source: Field Survey Analysis, 2026

Correlation is significant at the 0.05 level (2-tailed).

Interpretation of Result

The Pearson Product Moment Correlation analysis revealed a correlation coefficient (r) value of 0.742, indicating a strong positive relationship between green entrepreneurship and sustainable economic development in Anambra State. The significance value ($p = 0.000$) is less than the 0.05 level of significance, which means that the relationship is statistically significant. Consequently,

the null hypothesis was rejected while the alternative hypothesis was accepted. This implies that green entrepreneurship significantly contributes to sustainable economic development in Anambra State.

Hypothesis two

H_{O2}: Green entrepreneurship has no significant effect on employment generation and income creation in Anambra State.

Table 4: Correlation Analysis

Variables	Mean	Std. Deviation	N	r-value	Sig.(2-tailed)	Decisions
Green entrepreneurship	4.11	0.89	210	0.735	0.000	Reject H_0
Employment generation and income creation	4.08	0.84	210	0.735	0.000	Significant

Source: Field Survey Analysis, 2026

Correlation is significant at the 0.05 level (2-tailed).

Interpretation of Result

The Pearson correlation coefficient (r = 0.735) indicates a strong positive relationship between green entrepreneurship and employment generation and income creation in Anambra State. The significance value (p = 0.000) is less than the 0.05 level of significance, indicating that the relationship is statistically significant. It reveal that green entrepreneurship has a significant positive relationship with employment generation and income creation in Anambra State.

Hypothesis Three

H_{O3}: Waste recycling activities do not significantly contribute to environmental sustainability in Anambra State.

Table 5: Correlation Analysis

Variables	Mean	Std. Deviation	N	r-value	Sig.(2-tailed)	Decisions
Waste Recycling Activities	4.14	0.86	210	0.768	0.000	Reject H_0
Environmental Sustainability	4.09	0.81	210	0.768	0.000	Significant

Source: Field Survey Analysis, 2026

Correlation is significant at the 0.05 level (2-tailed).

Interpretation of Result

The Pearson correlation coefficient (r = 0.768) indicates a strong positive relationship between waste recycling activities and environmental sustainability in Anambra State. The significance value (p = 0.000) is below the 0.05 level of significance, indicating that the relationship is statistically significant. This suggests that increased waste recycling activities are associated with improved environmental sustainability.

Discussion of Findings

The findings of the study revealed that recycling waste into wealth through green entrepreneurship significantly promotes sustainable economic development in Anambra State. The study showed that recycling activities such as converting plastic, paper, metal, and organic waste into useful products contribute to employment generation, income creation, environmental sustainability, and economic growth. The correlation analysis indicated a significant positive relationship between green entrepreneurship and sustainable economic development, implying that environmentally sustainable business practices support long-term economic progress and environmental protection. The findings further revealed that green entrepreneurs help reduce environmental pollution and promote efficient resource utilization through recycling activities. The result supports the innovation theory of Joseph Schumpeter, which emphasizes entrepreneurship and innovation as important drivers of economic development. The study also found that inadequate funding, poor

infrastructure, and limited government support remain major challenges affecting recycling enterprises in Anambra State.

The findings of the study revealed that green entrepreneurship has a significant positive effect on employment generation and income creation in Anambra State. The result implies that green entrepreneurial activities, particularly waste-to-wealth initiatives, create job opportunities and improve the economic well-being of individuals. This finding is consistent with Anabaraonye et al. (2023), who observed that green entrepreneurial opportunities in waste management promote sustainable economic growth by transforming environmental challenges into viable business ventures. Similarly, Adebayo and Okorie (2024) reported that green enterprises contribute to poverty reduction, employment creation, and inclusive economic development through innovative and sustainable business practices. The study further established that waste recycling activities significantly contribute to environmental sustainability in Anambra State. The positive relationship suggests that recycling practices help reduce environmental pollution, conserve natural resources, and improve waste management systems. This finding corroborates the work of Ezeudu et al. (2024), who emphasized that circular business models and recycling practices enhance resource efficiency and environmental sustainability. It also agrees with Kolawole et al. (2024), who found that effective waste management and resource recovery contribute significantly to environmental protection and sustainable development in Nigeria.

Furthermore, the findings indicate that green entrepreneurship and waste recycling activities jointly promote sustainable economic development by generating income, creating employment opportunities, and improving environmental quality. The result supports Anabaraonye et al. (2023), who argued that green entrepreneurship provides innovative solutions to environmental problems while fostering sustainable livelihoods. It also aligns with Adebayo and Okorie (2024), Ezeudu et al. (2024), and Kolawole et al. (2024), who maintained that sustainable entrepreneurial practices and effective waste recycling are essential for achieving long-term economic growth and environmental sustainability. Overall, the findings suggest that promoting green entrepreneurship and strengthening waste recycling initiatives can significantly enhance employment generation, income creation, and environmental sustainability in Anambra State. Consequently, increased

investment in green enterprises and sustainable waste management programmes is necessary to achieve sustainable economic development.

Conclusion

The study concluded that recycling waste into wealth through green entrepreneurship plays a significant role in promoting sustainable economic development in Anambra State. The findings revealed that green entrepreneurial activities such as waste recycling, reuse of materials, and environmentally friendly production processes contribute positively to employment generation, income creation, environmental protection, and economic growth. The study further established that there is a significant positive relationship between green entrepreneurship and sustainable economic development, indicating that environmentally sustainable business practices enhance long-term economic stability and environmental sustainability. Despite challenges such as inadequate funding, poor infrastructure, and limited government support, green entrepreneurship remains an effective strategy for transforming waste into valuable economic resources.

Therefore, the study concludes that encouraging recycling activities and supporting green entrepreneurs through effective policies, financial assistance, and public awareness programs will greatly enhance sustainable economic development in Anambra State. The study therefore established that green entrepreneurship serves as a viable pathway for transforming environmental challenges into economic opportunities, thereby promoting inclusive growth, environmental sustainability, and sustainable economic development in Anambra State and Nigeria at large.

Recommendations

Based on the findings of the study, the following recommendations are made:

Government should strengthen support for green entrepreneurship by providing financial assistance, grants, tax incentives, and low-interest loans to individuals and businesses engaged in environmentally sustainable ventures, particularly waste recycling and waste-to-wealth initiatives. Environmental awareness and education programmes should be intensified to promote public

participation in waste segregation, recycling, and other environmentally responsible practices. This will enhance environmental sustainability and encourage greater acceptance of green entrepreneurial activities. Relevant government agencies and private sector organizations should invest in modern recycling infrastructure and technology to improve the efficiency of waste collection, processing, and resource recovery systems in Anambra State.

Entrepreneurship development programmes should incorporate green entrepreneurship training to equip aspiring entrepreneurs with the knowledge and skills required to identify and exploit opportunities in the green economy. Policies and regulatory frameworks that promote sustainable waste management should be strengthened and effectively implemented to encourage compliance with environmental standards and facilitate the growth of recycling enterprises. Partnerships between government, private organizations, educational institutions, and local communities should be encouraged to support research, innovation, and capacity building in green entrepreneurship and environmental sustainability.

These recommendations will help maximize the economic and environmental benefits of green entrepreneurship and waste recycling, thereby fostering sustainable economic development in Anambra State.

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