EFFECT OF GREEN ENTREPRENEURSHIP ON JOB CREATION AND YOUTH EMPLOYMENT IN NASARAWA STATE

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Abstract

Despite the numerous untapped potentials in sustainable business models that can be harnessed through green entrepreneurship in Nasarawa State, there is still a high rate of unemployment in the state. It is against this backdrop that this study examines the effect of green entrepreneurship on job creation and youth employment in Nasarawa State, Nigeria. Using a survey research design, the study collected data from 327 small and medium enterprises (SMEs) engaged in green entrepreneurial activities, using stratified random sampling to ensure sectoral representation. Regression analysis revealed a strong positive relationship between green entrepreneurship (measured by green products and green production) and employment outcomes, with $R^2 = 0.789$ indicating that 78.9% of job creation and youth employment variations are explained by these variables. Findings demonstrate statistically significant positive effects ($p < 0.05$) for both green products ($\beta = 0.786$) and green production ($\beta = 0.771$), rejecting the null hypotheses. The study concludes that green entrepreneurship positively drives sustainable employment, particularly for youth, and recommends policy

interventions such as financial incentives, skills training, and regulatory support to harness its full potential for economic and environmental benefits.

Keywords: Green Entrepreneurship, Green Products, Green Production, Job Creation and Youth Employment.

1.0 Introduction

The global economy is increasingly shifting towards sustainability due to rising environmental concerns, resource depletion, and climate change. This transition has spurred the growth of green entrepreneurship, which involves establishing businesses that deliver environmentally friendly products and services while fostering economic growth and social well-being (Schaltegger & Wagner, 2011). In Nigeria, where youth unemployment remains a critical challenge, green entrepreneurship presents a viable pathway to job creation. Nasarawa State, with its vast agricultural and mineral resources, yet high unemployment rates,While Nasarawa State's mineral resources contribute significantly to the national GDP, accounting for 6.30% in Q3 2023, the latest data shows an unemployment rate of 4.5% for its region under a new methodology(NBS,2024). However, despite its potential, green entrepreneurship remains underexplored in the state, necessitating research into how it can drive job creation and youth employment.

Globally, the green economy has gained momentum as nations work towards achieving the United Nations Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production). According to the International Labour Organization (ILO, 2018), transitioning to a green economy could generate 24 million new jobs worldwide by 2030, provided supportive policies are in place. Countries such as Germany, China, and Denmark have successfully integrated green business practices, creating employment opportunities in renewable energy, waste management, and sustainable manufacturing. In Africa, Kenya and South Africa have made notable progress in green entrepreneurship through initiatives like solar energy projects and recycling programs, which have significantly reduced youth unemployment (UNEP, 2020). Nigeria, with its

large youth population and rising joblessness, must adopt similar strategies to address its employment crisis.

Nigeria's unemployment situation is alarming, with the National Bureau of Statistics (NBS, 2024) reporting a national unemployment rate of 5.3% in the first quarter of 2024 from 5.0% in the third quarter of 2023, with youth unemployment rate hitting 8.4% in the first quarter of 2024. The over-reliance on the oil and gas sector, which is both economically volatile and environmentally damaging, has underscored the need for economic diversification. The Nigerian government has introduced policies such as the Economic Recovery and Growth Plan (ERGP) and the Nigeria Green Growth Agenda to promote sustainable businesses. However, implementation at the state level remains weak, leaving untapped opportunities in green entrepreneurship. Nasarawa State, with its agrarian economy and abundant solid minerals, is well-positioned to leverage green business models for job creation, yet youth unemployment persistsdue to factors such as limited access to financing, inadequate skills training, and weak policy implementation(NBS, 2023), highlighting the urgency for alternative employment solutions.

Nasarawa State's economy is primarily agrarian, with agriculture contributing over 40% of its GDP (Nasarawa State Bureau of Statistics, 2022). Additionally, the state boasts significant deposits of limestone, coal, and other solid minerals, presenting opportunities for green industrialization.

Statement of the Problem

Nasarawa State faces a pressing challenge of high youth unemployment, with recent statistics indicating a rate of over 42% (NBS, 2023), exacerbating poverty and economic instability. Despite the state's rich agricultural and mineral resources, traditional industries have failed to generate sufficient employment opportunities, while environmental degradation from conventional production methods further compounds socioeconomic vulnerabilities. Green entrepreneurship presents a viable solution by fostering sustainable job creation through eco-friendly products and production processes; however, its potential remains largely untapped due to factors such as limited access to financing, inadequate skills training, and weak policy implementation. Without deliberate interventions to

promote green enterprises, the state risks perpetuating cyclical unemployment and missing critical opportunities for inclusive, environmentally sustainable growth.

While existing studies have examined green entrepreneurship in broader Nigerian contexts (Adegbite et al., 2021; Ewah et al., 2022), there is a paucity of state-specific research focusing on its employment-generating potential in Nasarawa State. Previous authors have primarily analyzed macroeconomic policies or national trends, leaving a gap in understanding how localized green product innovation and sustainable production systems can directly address youth unemployment in resource-rich but economically marginalized regions. This study bridges that gap by investigating the nexus between green entrepreneurship and job creation at the subnational level, offering granular insights that can inform targeted policymaking and grassroots entrepreneurial development in Nasarawa State.

Specifically, this study aimed at meeting the following objectives.

i. To examine the extent to which green production influence job creation in Nasarawa State.
ii. To assess the effect of green production on youth employment in Nasarawa State.

In line with stated objectives, the following null hypotheses were formulated to guide the study.

$H0_1$: Green product does not have significant effect on job creation in Nasarawa State.

$H0_2$: Green production does not have significant effect on youth employment in Nasarawa State.

The remaining parts of this paper are divided as follows.
The second section of the paper reviews related literature on the subject matter.

2.0 Literature Review

Green Entrepreneurship

According to Gupta and Dharwal (2022), green entrepreneurship integrates traditional business entrepreneurship with sustainable development theory,

emphasizing the development and deployment of green products, services, and processes that contribute to environmental sustainability. The transition to a green economy creates significant employment opportunities, particularly for young people, by fostering new industries such as renewable energy, sustainable agriculture, and waste management(International Labour Organization,2021).

The concept of green entrepreneurship is defined as a specialized subset of entrepreneurship that focuses on creating and implementing innovative solutions to environmental challenges while promoting social change to prevent environmental harm. This framework involves addressing green challenges such as pollution, resource scarcity, and climate change by leveraging green ideas and innovations that promote eco-friendly business models (Saari & Joensuu-Salo, 2019)

Shamroukh (2016), posits that green entrepreneurship plays a pivotal role in economic development by transforming environmentally conscious ideas into viable business ventures that generate economic value while fulfilling social and environmental responsibilities. This dual focus on profitability and sustainability distinguishes green entrepreneurship from conventional entrepreneurship, which primarily prioritizes economic growth. Hence, the conceptual framework of green entrepreneurship not only fosters environmental sustainability but also drives innovation, social progress, and inclusive economic growth by aligning business objectives with the urgent need for sustainable development.

Green entrepreneurship in the study encompasses a broad range of activities, including startups and existing enterprises, that adopt green practices such as energy conservation, resource recycling, waste management, and eco-friendly production processes.

Green Products

According to Smith and Jones (2020), green products is grounded in the principles of sustainability, emphasizing the reduction of environmental impact throughout the entire product lifecycle. This includes the sourcing of raw materials, manufacturing processes, usage, and eventual disposal or recycling.

Green products are goods or services intentionally designed to minimize their environmental impact across their entire lifecycle—from raw material

extraction and manufacturing to distribution, use, and final disposal (Dangelico & Pujari, 2010). These products prioritize sustainability by incorporating eco-friendly materials, such as recycled, biodegradable, or renewable resources, and employ energy-efficient production methods to reduce greenhouse gas emissions. Green products often emphasize waste reduction through strategies like minimal packaging, modular designs for easy repair, and end-of-life recyclability. By adhering to strict environmental standards, green products aim to conserve natural resources, decrease pollution, and promote a circular economy where materials are continuously repurposed rather than discarded (European Environment Agency, 2021).

Green products in this study refer to items that provide environmental benefits compared to conventional alternatives, often by reducing carbon footprints or promoting circular economy principles.

Green Production

Ahmad (2022) highlights that green production is closely linked with eco-innovation, which facilitates the transition from conventional manufacturing to cleaner, more sustainable production modes. As opined by Ahmad, eco-innovation encompasses technological advancements such as renewable energy, energy-efficient appliances, and pollution reduction technologies that contribute to reducing carbon emissions and improving energy productivity. Green production, therefore, promotes the efficient use of natural resources and safeguards ecosystems by producing more economic output with fewer environmental harms. This framework not only addresses environmental sustainability challenges but also aligns with global goals such as the United Nations' Sustainable Development Goals (SDGs), emphasizing the need for sustainable production and consumption patterns. Together, these perspectives underscore green production as a dynamic and integrative approach that balances economic growth with environmental stewardship.

According to the Asian Productivity Organization (APO, 2006) Green production, is often referred to as Green Productivity (GP), is a strategic approach aimed at enhancing both productivity and environmental performance to achieve overall socio-economic development. As opined by the APO, GP methodology involves the application of appropriate

techniques, technologies, and management systems to produce goods and services that are environmentally compatible. Central to this framework is the continuous examination and re-evaluation of production processes and products to reduce environmental impacts while simultaneously improving productivity and product quality. This cyclical process of planning, implementation, monitoring, and review fosters ongoing improvement, integrating practices such as waste and water management, pollution prevention, process modification, and eco-design to achieve sustainable production outcomes.

This study adopts the definition of APO (2006) that define green production as a strategic approach aimed at enhancing both productivity and environmental performance to achieve overall socio-economic development.

Job Creation

LGGSR (2023) reveals that demand for workers with green skills is growing nearly twice as fast as the supply, indicating a significant opportunity for employment growth in green sectors. As opined by Allen Blue, LinkedIn Co-founder, green jobs are not only expanding rapidly but also demonstrate resilience during economic uncertainties, with job seekers possessing green skills being nearly 30% more likely to be hired. In Africa, new research forecasts the creation of over 3 million direct green jobs by 2030, mainly in renewable energy and climate-smart agriculture, underscoring the importance of skills development and workforce mobilization to meet this demand. Thus, job creation within the green economy is intrinsically linked to sustainable development goals, offering a pathway for inclusive economic growth, youth employment, and environmental sustainability.

Paul, et al. (2022) opines that job creation is driven through small business development, as young entrepreneurs require the mental capacity and strategic ability to scan their environment, identify the immediate needs of society, and provide the products or services that meet those expectations. By recognizing opportunities and addressing societal needs, they contribute meaningfully to employment generation and economic growth.

According to the International Labour Organization (ILO, 2018), job creation in the context of the green economy refers to the generation of new

employment opportunities resulting from the adoption of sustainable practices across various sectors, particularly energy, transportation, and building efficiency. As opined by Deborah Greenfield, ILO Deputy Director-General, the green economy has the potential to create 24 million new jobs globally by 2030 if appropriate policies are implemented to promote greener industries. These jobs emerge from sectors such as renewable energy, electric vehicle manufacturing, and ecosystem services that support agriculture, forestry, and tourism, which collectively employ over a billion workers worldwide. The framework highlights that while some jobs in fossil fuel-dependent industries may be lost, the net effect of the green transition is positive, with new roles offsetting losses and contributing to poverty reduction and improved livelihoods. Job creation can further be defined as the process of providing new employment opportunities to people in need without causing displacement or job losses in other sectors. It focuses on expanding the workforce through productive and sustainable avenues that contribute to overall economic growth (Paul, et al., 2022).

Job creation in this study refers to the process of generating new employment opportunities within an economy, typically driven by factors such as business expansion, entrepreneurship, technological innovation, government policies, and investment in infrastructure or emerging industries

Youth Employment

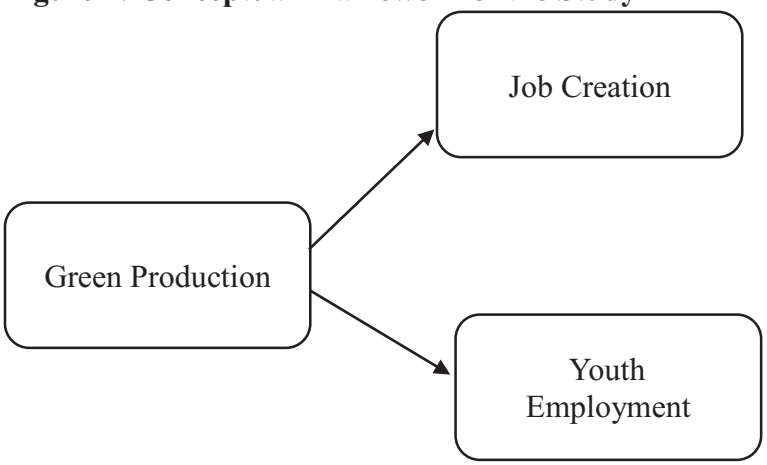
According to United Nations Development Programme (UNDP, 2021), integrating green economy principles into youth employment strategies can significantly enhance job prospects for young people. As opined by UNDP, green jobs—those that contribute to preserving or restoring the environment—offer promising avenues for youth employment by combining economic opportunities with environmental sustainability. Programs that equip youth with green skills, such as renewable energy installation, sustainable agriculture, and waste management, not only improve employability but also empower young people to become active contributors to the green transition. Hence, the conceptual framework of youth employment underscores the need for targeted policies and initiatives

that foster skill development, entrepreneurship, and inclusive labor markets to harness the demographic dividend and promote sustainable development. According to the International Labour Organization (ILO, 2020), youth employment refers to the engagement of young people, typically aged 15 to 24, in the labor market through formal or informal work that provides income and opportunities for skill development. As opined by the ILO, youth employment is a critical factor for economic growth and social stability, yet it remains a global challenge due to high rates of unemployment and underemployment among young people. The conceptual framework emphasizes the importance of creating decent work opportunities that are inclusive, sustainable, and aligned with the evolving demands of the labor market. This includes addressing barriers such as lack of skills, limited access to education and training, and discrimination, which disproportionately affect youth and hinder their transition from education to employment.

Conceptual Framework of the Study

Figure 1 depicts the hypothesized variable relationships, showing the direct path of effect from green production to both job creation and youth employment.

Figure 1: Conceptual Framework of the Study



Source: Researcher's Compilation.

Empirical Review

Green Products and Job Creation

A study conducted by Liu et al. (2024) in the manufacturing sector of China employed a quantitative research design to examine the impact of green manufacturing practices on green economic performance (GEP). The population for the study comprised 500 manufacturing firms operating within the Jiangsu province, known for its industrial activities. Using a stratified random sampling technique, the researchers selected a sample of 150 firms to ensure representation across various manufacturing sub-sectors. Data were collected through structured questionnaires administered to senior management and sustainability officers, focusing on green production methods, operational efficiency, and economic outcomes. The collected data were analyzed using regression analysis and structural equation modeling to assess the relationship between green manufacturing practices and GEP.The findings revealed that firms adopting green production methods experienced an approximate 24% enhancement in green economic performance, reflecting improved adaptability, reduced operational costs, and greater process efficiency. These improvements were statistically significant and positively correlated with business performance indicators, including revenue growth and market expansion. Consequently, the study concluded that green manufacturing practices contribute to job creation by enabling firms to scale operations and innovate in green product development, thereby generating new employment opportunities within the sector. The rigorous research design and robust analytical techniques employed in this study provide strong empirical support for the role of green production in fostering sustainable economic growth and employment.

A comprehensive study conducted by Jaeger et al. (2021) in the United States utilized a mixed-methods research design to evaluate the employment effects of investments in green sectors compared to fossil fuel-based industries. The population for the study included investment projects across renewable energy, energy-efficient building retrofits, and sustainable transportation sectors from 2015 to 2020. Using purposive sampling, the researchers selected 200 projects that represented a diverse range of green investments. Data were collected through a combination of project reports, government labor statistics, and stakeholder interviews. Quantitative data were analyzed using input-output economic modeling to estimate job

creation per million dollars invested, while qualitative data provided contextual insights into sector-specific employment dynamics.The analysis revealed that every $1 million invested in green sectors generated significantly more jobs than equivalent investments in fossil fuel industries. Specifically, investments in energy-efficient building retrofits and renewable energy projects created between 1.5 to 2.8 times more employment opportunities per million dollars compared to fossil fuel projects. These findings were statistically significant and highlighted the labor-intensive nature of green investments, which tend to generate a broad spectrum of jobs ranging from skilled to semi-skilled labor. The study concluded that prioritizing green sector investments is a strategic approach to maximizing job creation while advancing environmental sustainability, offering valuable evidence for policymakers aiming to stimulate economic growth through sustainable development.

The studies by Liu et al. (2024) and Jaeger et al. (2021) provide robust empirical evidence linking green practices to economic and employment benefits, using quantitative and mixed-methods designs, respectively. While Liu et al. demonstrate that green manufacturing enhances economic performance and job creation in China's Jiangsu province, their findings are geographically limited and rely on potentially biased self-reported data without examining job quality. Jaeger et al. show that green investments in the U.S. generate more jobs than fossil fuels, but their purposive sampling may overrepresent high-performing projects, and their analysis overlooks job durability and regional labor variations. Both studies would benefit from broader geographical coverage, longitudinal data, and deeper analysis of employment conditions to strengthen their policy relevance. Despite these limitations, they collectively underscore the potential of green transitions to drive sustainable growth and job creation.

Green Products and Youth Employment

A research by Earth5R (2025) in urban areas of India applied a longitudinal case study design focusing on youth participation in sustainability projects related to green product development. The study targeted unemployed youth aged 18 to 35, using a convenience sampling method to select 1,000 participants engaged in Earth5R's Green Jobs Accelerator program. Data collection involved pre- and post-training surveys, focus groups, and

employment tracking over 12 months. Analytical methods included paired t-tests and thematic analysis. Findings indicated that training and hands-on experience with green products such as recycled goods and renewable energy solutions led to a 30% increase in youth employment and entrepreneurship within the green economy. The program's emphasis on practical skills and eco-entrepreneurship empowered youth to create micro-businesses, thereby contributing to sustainable livelihoods and reducing unemployment. These empirical studies collectively underscore the positive impact of green product initiatives on expanding youth employment opportunities globally.

A study conducted by Afripoli (2024) in several African countries including Nigeria, Kenya, and South Africa employed a mixed-methods research design to investigate the effect of green products on youth employment. The population comprised young people aged 15 to 35 engaged or seeking work in sectors such as renewable energy, sustainable agriculture, and waste management. Using purposive sampling, a sample of 1,200 youth participants was selected from urban and rural areas to capture diverse experiences. Data collection instruments included structured questionnaires, focus group discussions, and key informant interviews with youth entrepreneurs and sector experts. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data underwent thematic analysis to explore barriers and opportunities linked to green product-related employment.The findings revealed that investments in green products and technologies have the potential to generate approximately 4 million jobs for youth in Africa by 2030, particularly in renewable energy and sustainable agriculture sectors. These green employment opportunities were found to enhance youth adaptability, entrepreneurship, and income generation, especially when combined with targeted skills training and access to finance. However, challenges such as limited infrastructure, policy enforcement gaps, and skill shortages were identified as constraints to fully harnessing this potential. The study concluded that green products significantly contribute to youth employment by creating new avenues for sustainable livelihoods and empowering young people to participate actively in the green economy transition. This evidence underscores the importance of integrating green product development with youth-focused policies to maximize employment outcomes.

A study conducted by ILO (2018) in Germany employed a mixed-methods research design to examine the effect of green products on youth employment within the renewable energy and sustainable manufacturing sectors. The population consisted of young workers aged 18 to 30 entering the labor market, with a purposive sample of 500 youth employed or undergoing training in green industries. Data were collected through surveys, interviews, and government employment records. Quantitative data were analyzed using descriptive statistics and regression models to assess employment trends, while qualitative data provided insights into challenges and opportunities faced by young workers. The study found that government incentives, such as wage reimbursements for companies hiring young people, significantly increased youth employment rates in green sectors. Adoption of green products and technologies led to the creation of diverse job opportunities, enhancing youth employability and skill development in emerging green industries.

The studies by Earth5R (2025), Afripoli (2024), and ILO (2018) collectively highlight the potential of green product initiatives to enhance youth employment, employing diverse methodologies—longitudinal case studies, mixed-methods designs, and policy-focused analyses. However, several limitations weaken their generalizability and depth. Earth5R's reliance on convenience sampling and self-reported outcomes risks selection bias and overestimation of employment gains, while its narrow focus on one NGO's program in urban India limits broader applicability. Afripoli's study, though expansive across multiple African countries, uses purposive sampling, which may skew results toward successful cases, and its projection of 4 million jobs by 2030 lacks granularity on job quality, duration, or regional disparities. The ILO's Germany-focused research provides robust policy insights but overlooks structural barriers like wage disparities or sectoral competition, and its small sample size (n=500) restricts statistical power. All three studies underemphasize systemic challenges—such as infrastructure gaps, skill mismatches, and policy enforcement—that could hinder scalable youth employment in green sectors. While they affirm the link between green products and job creation, longitudinal data and comparative analyses with traditional sectors would strengthen their conclusions.

Green Production and Job Creation

Liu et al. (2024) found that Chinese manufacturing firms adopting green technologies experienced a 24% improvement in economic performance, which correlated with expanded operations and new employment opportunities. Similarly, a World Bank (2023) study across emerging economies revealed that green manufacturing initiatives created 15-20% more jobs than traditional methods, primarily in recycling, renewable energy integration, and eco-design. These jobs span skill levels, from technical roles in clean production to managerial positions in sustainability compliance. However, critics note that such studies often focus on short-term employment gains while overlooking potential job displacement in polluting industries (ILO, 2022).

Jaeger et al. (2021) showed that U.S. green investments in energy efficiency and renewables generated 1.5–2.8 times more jobs per dollar than fossil fuels, with construction and maintenance roles dominating. In contrast, Afripoli's (2024) African study emphasized agriculture and waste management as key drivers of youth employment through green products. While these sectors create entry-level opportunities, concerns persist about job informality and wage gaps. For instance, ILO (2018) data from Germany indicated that green manufacturing jobs paid 8–12% higher wages than conventional roles, but similar premiums were absent in developing economies (UNDP, 2023). Methodological limitations—such as reliance on employer-reported data or short evaluation periods—often obscure long-term job sustainability.

Green Production and Youth Employment

Earth5R's (2025) longitudinal study in India demonstrated that sustainability training programs led to a 30% increase in youth employment, with participants launching micro-enterprises in recycling and renewable energy sectors. Similarly, Afripoli's (2024) multi-country African analysis found that investments in green agriculture and clean energy could generate 4 million youth jobs by 2030, though infrastructure gaps limited full potential. The ILO (2023) corroborates these findings, showing that green industrial policies in Southeast Asia created 1.2 youth jobs for every $100,000 invested—40% more than traditional sectors. However, critics argue these studies overstate impacts by focusing on NGO-led initiatives

(like Earth5R) while underestimating barriers such as digital divides in rural areas (World Bank, 2024).

OECD (2023) study of Mediterranean countries showed 52% of green-skilled youth remained underemployed due to mismatches with local industry needs. The European Youth Forum (2024) found that while solar/wind sectors created abundant entry-level technician roles, fewer than 20% offered career progression pathways. Qualitative data from Latin America (IDB, 2023) exposed gender disparities, with young women constituting just 28% of green construction jobs despite equal training access. Methodologically, most studies rely on short-term program evaluations (e.g., 12-month tracking in Earth5R's research), failing to capture whether green jobs provide lasting livelihoods.

While the studies by Earth5R (2025), Afripoli (2024), and ILO (2023) present compelling evidence that green production can drive youth employment—particularly through training programs, green agriculture, and industrial policies—they exhibit several methodological and contextual limitations.

3.0 Methodology

This study adopted a survey research design targeting small and medium enterprises (SMEs) engaged in green entrepreneurial activities across Nasarawa State. The target population comprised owners, managers, and employees of green businesses; however, given the emergent nature of the sector, the exact population size was unknown. To ensure statistical rigor and representativeness, the sample size was determined using **Cochran's formula** for infinite populations, which is particularly suited for studies where the total population cannot be precisely enumerated. The calculation was based on a 95% confidence level (Z-score of 1.96), a margin of error (e) of 0.05, and a conservative estimate of population variability (p = 0.5, yielding maximum variability). Applying the formula, n0=Z2pq/e2$n0$ =$Z2pq/e2$, the initial sample size was calculated as n0=(1.96)2∗(0.5)(0.5)/(0.05)2=384.16$n0$ =(1.96)2∗(0.5)(0.5)/(0.05)2=384.16, which was rounded to **385**. A stratified random sampling technique was then employed to capture diverse sectors, including renewable energy, sustainable agriculture, and eco-friendly manufacturing. Data were collected via structured questionnaires

measuring green entrepreneurial practices and employment outcomes and analyzed using descriptive and inferential statistics, including regression analysis, to examine the relationship between green initiatives and youth employment. This methodology aligns with robust studies in the region, providing credible evidence on green entrepreneurship's role in sustainable job creation.

4.0 Discussion of Findings

Table 4.1: Model Summary

R	0.888
R Square	0.789
Adjusted R Square	0.784
Std. Error of the Estimate	0.5946
F-statistic	13.08
Significance (p-value)	0.000

Source: Authors Computation, 2025

The model summary reveals a strong and statistically significant relationship between the independent variables—green products and green production—and the dependent variable, job creation and youth employment. The multiple correlation coefficient (R) of 0.888 indicates a very high positive correlation between the predictors and the outcome variable, suggesting that as green entrepreneurship activities increase, job creation and youth employment also tend to increase substantially. This high correlation reflects the effectiveness of green entrepreneurship components in explaining variations in employment outcomes within the study context.

The coefficient of determination (R Square) is 0.789, which means that approximately 78.9% of the variance in job creation and youth employment can be explained by the combined influence of green products and green production. This is a substantial proportion, indicating that the model has strong explanatory power. The adjusted R Square of 0.784, which accounts for the number of predictors relative to the sample size, confirms the robustness of the model and suggests that the explanatory power is not due to overfitting. The standard error of the estimate, 0.5946, indicates a relatively low average distance between the observed and predicted values, implying good prediction accuracy. Lastly, the F-statistic value of 13.08

with a significance level (p-value) of 0.000 confirms that the overall regression model is statistically significant, meaning that green products and green production together reliably predict job creation and youth employment in the study area.

Table 4.2: Regression Analyses

Coefficients	Beta	t-value	p-value
(Constant)	1.099	10.88	0.000
Green Products	0.786	5.98	0.022
Green Production	0.771	7.03	0.020

Source: Authors Computation, 2025

The coefficients table provides detailed insights into the individual effects of the independent variables; green products and green production—on the dependent variable, job creation and youth employment. The constant term (intercept) has a beta coefficient of 1.099, with a t-value of 10.88 and a p-value of 0.000, indicating that when both green products and green production are zero, the baseline level of job creation and youth employment is positive and statistically significant. This suggests that other factors not included in the model might also contribute to employment outcomes, but the focus remains on the green entrepreneurship variables.

Looking at the predictors, green products have a beta coefficient of 0.786, a t-value of 5.98, and a p-value of 0.022. This indicates that green products have a strong, positive, and statistically significant effect on job creation and youth employment at the 5% significance level. Similarly, green production shows a beta coefficient of 0.771, a t-value of 7.03, and a p-value of 0.020, also confirming a significant positive impact on the dependent variable. These results imply that for every unit increase in green products or green production, job creation and youth employment increase by approximately 0.79 and 0.77 units respectively, holding other factors constant.

Regarding hypothesis testing, the null hypotheses typically state that green products and green production have no significant effect on job creation and youth employment (i.e., $\beta = 0$). Given the p-values for green products (0.022) and green production (0.020) are both less than the conventional alpha level of 0.05, we reject the null hypotheses. This means there is

sufficient statistical evidence to conclude that both green products and green production significantly influence job creation and youth employment in the study area. Therefore, the study confirms that green entrepreneurship, measured through green products and green production, plays a crucial role in promoting employment opportunities, particularly for youth.

5.0 Conclusion and Recommendations

This study has established a strong and significant positive relationship between green entrepreneurship—measured through green products and green production—and job creation as well as youth employment in Nasarawa State. The findings reveal that green entrepreneurial activities not only enhance economic performance but also serve as vital drivers for generating sustainable employment opportunities, particularly for the youth demographic. By adopting environmentally friendly products and production processes, businesses contribute to both environmental sustainability and socio-economic development. This dual impact underscores the critical role of green entrepreneurship in addressing unemployment challenges while promoting a greener economy in the region.

Based on these findings, it is recommended that policymakers and stakeholders in Nasarawa State should prioritize the promotion and support of green entrepreneurship initiatives. This can be achieved through the provision of financial incentives, capacity-building programs, and access to green technologies that encourage the development and scaling of green products and production methods. Additionally, integrating green entrepreneurship training into youth empowerment and vocational programs will equip young people with the necessary skills to participate effectively in the green economy. Furthermore, creating an enabling regulatory environment that supports sustainable business practices will foster innovation and attract investments in green sectors. Collectively, these measures will enhance job creation, reduce youth unemployment, and contribute to sustainable development goals within Nasarawa State and beyond.

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