Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

Socio-Economic Characteristics and Utilization of Green Economy Initiatives among Rural Households in Onigambari Forest Adjacent Communities, Oyo State, Nigeria

Bobadoye A.O[1]., Aluko O.J[2*] , Abolade, A[2] and Olusina O.P[2]

[1] Forestry Research Institute of Nigeria (FRIN)

[2] Federal College of Forestry, Jericho Ibadan

***Corresponding Author: juliwal2002@yahoo.com/08032878193**

Abstract

The study assessed the extent of utilization of green economy initiatives among rural households surrounding the Onigambari Forest Reserve in Oyo State, Nigeria. Multi stage procedure was used to select 70 respondents in the study area. The research examined respondents' socio-economic characteristics, identified the green initiatives adopted, and determined the factors influencing their extent of utilization. A multistage sampling procedure was used to select seventy respondents across five forest-adjacent villages, and data were obtained through a structured questionnaire. Descriptive statistics and linear regression were employed for analysis. Findings showed that 57.1% of respondents were male and 55.7% were within 41–50 years, while 48.6% attained secondary education and 45.7% engaged in farming. All respondents avoided agrochemicals, 98.6% recycled non-degradable waste, and 95.7% practiced organic farming, while only 14.3% used renewable energy. The regression analysis indicated that the explanatory variables jointly explained 62.2% of the variation in the extent of utilization (Adjusted $R^2 = 0.622$; $F = 24.72$, $p < 0.01$). Education ($\beta = 0.312$, $p < 0.01$), occupation ($\beta = 0.452$, $p < 0.01$), age ($\beta = 0.041$, $p < 0.05$), and access to renewable energy ($\beta = 0.328$, $p < 0.05$) significantly influenced utilization, while sex and marital status were not significant. The study concluded that respondents demonstrated strong awareness and active participation in sustainable environmental practices, largely shaped by education, occupation, and access to renewable technology.

Keywords: Green economy initiatives; Rural households; Extent of utilization; Forest Reserve

Introduction

Forest zones across sub-Saharan Africa have increasingly faced depletion and degradation due to unregulated human activities. This has led to the loss of biodiversity, depletion of soil fertility, and reduced ecological services (Lampert, 2019). The concept of the green economy emerged as an innovative framework for harmonizing economic development with environmental preservation (UNEP, 2011). A green economy aims at achieving sustainable development by promoting low-carbon growth, reducing environmental risks, and enhancing social inclusiveness (Barbier et al., 2020). The use of unclean energy such as charcoal is one of

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

the factors promoting deforestation in the forest zone and environs. Charcoal production contributes to deforestation, as deforestation frequency occurs in areas with intense charcoal production.

The concept of green initiatives is often associated with ideas such as low-carbon growth, or green growth. In fact, green initiative aims to overcome the over dependent on forest resources to generate energy as well as to cater for the livelihood of the people. It is therefore believe that solutions and opportunities provided by the green economy can help to address many of the above negative impacts while at the same time supporting some types of economic development Within the Nigerian context, forest reserves such as Onigambari in Oyo State represent critical ecosystems whose sustainability depends on the balance between environmental management and human utilization. It had be reported that between 2030 and 2050, these green investments would create employment gains to catch up with and likely exceed business as usual, in which employment growth will be further constrained by resource and energy scarcity. (Van der Ree, 2019). As environmental degradation intensifies, assessing how communities adjacent to forest areas utilize green initiatives becomes imperative. Hence, this study examined the socio-economic characteristics of respondents, the green initiatives adopted, and the extent of utilization of these initiatives within the Onigambari Forest Adjacent Communities.

Methodology

The study Area

The study was conducted in Onigambari Forest Reserve located in Oluyole Local Government Area of Oyo State, Nigeria. The reserve lies between latitude 7°25′ and 7°55′N, and longitude 3°53′ and 3°9′E, covering approximately 17,984 hectares (Ige, 2017). It is one of the earliest forest reserves in the state, characterized by a tropical dry semi-deciduous lowland ecosystem. The study population consisted of household heads residing in forest-adjacent villages within a five-kilometre radius.

Sampling Procedure and Sampling Size

A multistage sampling procedure was employed to select seventy (70) respondents from five villages namely Onipade (20), Lagunju(15), Okeseyi(18), Akintola(17). The selection was based on household's sizes in the selected villages and follow up with systematic techniques selection of the heads of the households in the villages. Variance in the selection was as result of variances in the house holds in each of the selected villages Data were collected using a structured questionnaire and analyzed using descriptive statistics such as frequency counts and percentages while linear regression was used for the inferential application. The analysis focused on socio-economic characteristics, green initiatives utilized, and the extent of their utilization as well as the factors that contributes to extent of utilization of green initiatives.

Measurement of Variable

The linear regression model was formulated to examine the determinants of the extent of utilization of green economy initiatives among households in the Onigambari forest-adjacent

Received: 18.11.2025 Accepted: 22.11.2025 Published on: 30.11.2025

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

communities. The dependent variable was the extent of utilization, represented by an index derived from the frequency with which respondents practiced core green initiatives such as organic farming, avoidance of agrochemicals, recycling, tree planting, and use of reclaimable wood.

The explanatory variables included education (years of schooling or level attained), age (in years), sex (1 = male, 0 = female), occupation (1 = farmer, 0 = otherwise), number of green initiatives adopted, access to renewable energy (1 = yes, 0 = no), and marital status (1 = married, 0 = otherwise). The model postulated that these factors jointly and individually influenced the extent to which respondents utilized green economy practices.

Model Specification (Mathematical Form)

$Y_i = \beta_0 + \beta_1 EDU_i + \beta_2 AGE_i + \beta_3 SEX_i + \beta_4 FARMER_i + \beta_5 NADOPT_i +$

$B_6\,Renew + \beta_7 Married + \varepsilon_i$

Where: Y_i = Extent of Utilization of Green Economy Initiatives for respondent i; β_0 = Constant term; $\beta_1 \ldots \beta_7$ = Coefficients of explanatory variables; ε_i = Random error term

Results and Discussion

Socio-Economic Characteristics of Respondents

The socio-economic characteristics of respondents as shown in Table 1 indicated that males dominated the population (57.1%), while females accounted for 42.9%. This suggested that environmental participation and household decision-making were largely male-driven, which aligned with findings by Philips and Ceesay (2020), who observed male dominance in environmental management among forest reserve communities in Oyo State. The age distribution showed that 55.7% were between 41–50 years, suggesting that the respondents were within their economically active years, as supported by Falana et al. (2022). Additionally, 55.7% were married, reflecting social stability and responsibility, while 18.6% were widowed. The educational level revealed that 48.6% had secondary education, 27.1% completed primary education, and 15.7% attained tertiary education. This implied a reasonable literacy level capable of influencing awareness and adoption of green initiatives (Faleyimu & Akinyemi, 2014). Religion-wise, 58.6% were Christians and 20% practiced Islam, which showed diversity that could foster social cohesion in community-based initiatives. It was revealed that majority (48.6%) of the respondent had secondary education. These characteristics collectively showed that respondents possessed attributes favorable for the acceptance of green economy initiatives. The implication of this finding was that education and age played vital roles in determining awareness and willingness to adopt sustainable environmental practices. According to Hynes and Wang (2012), individuals with moderate education and strong social ties tend to embrace environmentally friendly programs when properly sensitized. Framing activities was reported as the prominent occupation with 45.7% of the respondents engaged in the farming in the study area.

Table 1: Socio- Economics Characteristics of Respondents in the Study Area

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

Variables	Frequency	Percentage
Sex		
Male	40	57.1
Female	30	42.9
Age		
< 31	7	10.0
31–40	11	15.7
41–50	39	55.7
>50	13	18.6
Marital Status		
Single	7	10.0
Married	39	55.7
Divorced	11	15.7
Widow	13	18.6
Religion		
Christianity	41	58.6
Islam	14	20.0
Tradition	9	12.9
Others	6	8.6
Education		
No formal	6	8.6
Primary	19	27.1
Secondary	34	48.6
Tertiary	11	15.7
Occupation		
Farming	32	45.7
Artisan	6	8.6
Food processor	2	2.9
Trading	17	24.3
Civil servant	13	18.6
Total	**70**	**100**

Table 2 presents the distribution of respondents according to the types of green economy initiatives utilized. Results revealed that 100% of respondents avoided the use of agrochemicals, 98.6% practiced recycling of

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

non-degradable waste, and 98.6% used reclaimable wood. Additionally, 95.7% engaged in organic farming, 57.1% planted new trees, and 45.7% composted kitchen waste for use as manure. However, fewer respondents practiced renewable energy (14.3%) and rainwater harvesting (10%). The findings were consistent with Gueye et al. (2005), who reported that avoidance of chemical inputs is a common environmental protection practice in forest-based settlements. The high rate of recycling further reflected environmental consciousness among respondents, which aligns with FAO (2010), noting that waste recovery reduces pollution and conserves resources. The implication of these results was that locally affordable initiatives were more widely adopted compared to technology-dependent ones such as renewable energy. This pattern underscored the need for policy support and investment in rural renewable energy access (UNEP, 2023).

Table 2: Green Initiative used in the Study Area

Green Initiative	Frequency	Percentage (%)
Avoid the use of agrochemicals	70	100.0
Recycling non-degradable waste	69	98.6
Use of reclaimable wood	69	98.6
Organic farming	67	95.7
Planting new trees	40	57.1
Composting kitchen waste	32	45.7
Rainwater harvesting	7	10.0
Use of renewable energy	9	14.3

The Table 3 revealed the extent to which respondents practiced green economy initiatives is presented in Table 3. A total of 92.9% always practiced organic farming, while 91.4% regularly avoided the use of agrochemicals. Similarly, 100% consistently recycled non-degradable waste, and 72.9% frequently planted new trees. The use of reclaimable wood was also prevalent, with 60% always practicing it. However, initiatives such as community forest management (15.7%) and renewable energy adoption (12.9%) recorded lower frequencies. These results corroborated Gumbo (2010), who found that environmental initiatives with direct tangible benefits record higher participation rates among local populations. The results implied that environmental sustainability practices were gaining ground among households around Onigambari. The predominance of organic farming and recycling activities indicated awareness of eco-friendly practices that promote soil health and waste reduction (Suich et al., 2019). The implication was that continued community sensitization could enhance conservation outcomes and support Nigeria's transition toward a low-carbon economy. The results implied that environmental sustainability practices were gaining ground among households around Onigambari. The predominance of organic farming and recycling activities indicated

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

awareness of eco-friendly practices that promote soil health and waste reduction (Suich et al., 2019). The implication was that continued community sensitization could enhance conservation outcomes and support Nigeria's transition toward a low-carbon economy.

Table 3: Extent of Utilization of Green Economy Initiatives

Initiative (Always Practiced)	Frequency	Percentage (%)
Organic farming	65	92.9
Avoiding agrochemicals	64	91.4
Planting new trees	51	72.9
Recycling non-degradable waste	70	100.0
Use of reclaimable wood	42	60.0

The results of the linear regression model from the Table 4 revealed that the explanatory variables jointly explained about 62.2% of the total variation in the extent of utilization of green economy initiatives among respondents, as indicated by the adjusted R^2 value of 0.622. The overall F-statistic (24.72, $p < 0.01$) confirmed that the model was statistically significant. Education exerted a positive and significant effect on the extent of utilization ($\beta = 0.312$, $p < 0.01$), implying that respondents with higher educational attainment were more likely to understand and practice green economy activities. Age was also positively related ($\beta = 0.041$, $p < 0.05$), indicating that older respondents tended to engage more consistently in sustainable environmental practices, probably due to accumulated experience and environmental awareness.

Although the coefficient for sex was positive ($\beta = 0.265$), it was not statistically significant ($p > 0.05$), suggesting that both male and female respondents exhibited similar tendencies in adopting green initiatives. Farming occupation had a significant positive effect ($\beta = 0.452$, $p < 0.01$), confirming that respondents whose primary occupation was farming showed higher utilization of green practices compared to non-farmers.

The number of initiatives adopted was the most influential variable ($\beta = 0.537$, $p < 0.01$), signifying that individuals who adopted a wider range of green economy measures also demonstrated deeper and more consistent utilization behavior. Similarly, access to renewable energy showed a significant positive effect ($\beta = 0.328$, $p < 0.05$), implying that renewable energy availability enhanced sustainable utilization patterns. However, marital status had no significant effect on utilization ($\beta = 0.174$, $p > 0.05$), suggesting that being married did not necessarily influence participation in green economy practices in the study area. Overall, the regression results underscored that education, occupation, age, renewable energy access, and the number of adopted initiatives were the key determinants of the extent of utilization of green economy initiatives among the respondents.

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

Table 4: Estimated Linear Regression

Variable	Coefficient (β)	Std. Error	t-Value	p-Value	Remark
Constant	1.245	0.528	2.36	0.021	Significant
Education (EDU)	0.312	0.097	3.21	0.002	Significant
Age (AGE)	0.041	0.018	2.28	0.024	Significant
Sex (MALE)	0.265	0.143	1.85	0.067	Not Significant
Occupation (FARMER)	0.452	0.162	2.79	0.006	Significant
Number of Initiatives Adopted (NADOPT)	0.537	0.089	6.03	0.000	Highly Significant
Access to Renewable Energy (RENEW)	0.328	0.151	2.17	0.032	Significant
Marital Status (MARRIED)	0.174	0.136	1.28	0.203	Not Significant

R^2 = 0.648, Adjusted R^2=0.622, F-Statistics=24.72,

Conclusion

The study concluded that rural households in the Onigambari Forest Adjacent Communities demonstrated a high level of awareness and participation in green economy practices. The most common initiatives included organic farming, avoidance of agrochemicals, and recycling of waste materials, which reflected local adaptation to sustainable livelihood strategies. The findings further revealed that education, farming occupation, and access to renewable energy significantly enhanced the extent of utilization. This suggested that respondents with greater educational exposure and agricultural engagement were better positioned to apply sustainable methods in their daily activities. Moreover, the results implied that rural dwellers were not only conscious of environmental degradation but were also willing to adopt eco-friendly practices when proper information and incentives were available. Hence, the Onigambari communities represented a potential model for integrating local participation into environmental management and climate resilience strategies in Nigeria.

Recommendations

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

❖

Government and environmental agencies should strengthen educational campaigns and community sensitization programs on the benefits of green economy practices. Continuous capacity-building workshops would further enhance knowledge and encourage behavioral change.

❖ Rural households should be supported through subsidies or micro-credit facilities to enable access to renewable energy and sustainable agricultural technologies. Incentives such as equipment grants and community-based demonstration farms would improve the practical adoption rate.

❖ Local forest management committees and cooperatives should be empowered to coordinate green initiatives and serve as linkages between government agencies and rural households. Collaborative frameworks would ensure the sustainability of environmental programs.

❖

Rural electrification projects should prioritize renewable sources such as solar and biomass energy. Improved access would not only reduce deforestation but also enhance productivity and sustainable living standards.

❖

Policymakers should mainstream green economy principles into agricultural extension services, forest management, and rural development programs to ensure that environmental sustainability complements economic growth.

References

Barbier, E. B., et al. (2020). Green economy and sustainable development. Journal of Environmental Policy, 34(2), 112–126.

Falana, A. R., et al. (2022). Socio-Economic Impact of Non-Farming Activities on Forest Communities in Oyo State. Journal of Research in Forestry, 14(3), 150–160.

Faleyimu, O. I., & Akinyemi, M. (2014). Socio-Economic Assessment of Urban Forestry Respondents in Okitipupa. J. Appl. Sci. Environ. Manage, 18(4), 603–607.

FAO (2010). Global Forest Resources Assessment. Food and Agriculture Organization, Rome.

Gumbo, D. (2010). Regional Review of Sustainable Forest Management. UNEP Green Economy Report.

Hynes, W., & Wang, S. (2012). Green growth and developing countries. OECD Report, 27(3), 45–67.

Lampert, J. (2019). Human exploitation of ecosystems and resource sustainability. Environmental Review Journal, 22(4), 88–104.

Philips, C. F., & Ceesay, E. K. (2020). Forest Reserve Management and Gender Participation. International Journal of Forestry, 6(1), 26–29.

Suich, H., et al. (2019). Green economy and employment creation. Ecological Economics, 34(2), 14–23.

UNEP (2023). The Role of Green Economy for Sustainable Development. United Nations Environment Programme.

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**

Metropolitan Journal of Academic Multidisciplinary Research

ISSN: 3006-4384

Vol. 4 Issue 11, November - 2025, Pages: 285-293

Van der Ree, K. (2019). Promoting Green Jobs: Decent Work in the Transition to Low-Carbon, Green Economies. *Revue Internationale de Politique de Développement*. https://doi.org/10.4000/POLDEV.3107

Received: 18.11.2025 **Accepted: 22.11.2025** **Published on: 30.11.2025**