



**QUANTIFYING THE ECONOMIC VALUE OF ENVIRONMENTAL SAFETY
PROGRAMS IN NIGERIA: THE CONTINGENT VALUATION APPROACH (CVA)**

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Abstract

In Nigeria, the severe problems of environmental deterioration, pollution, and climate change jeopardize economic sustenance. These factors have dire consequences on public health, agricultural production, and life standards. Hence, investments in environmental safety programs like waste management, adoption of renewable energy, and pollution control can improve economic sustainability. The aim of this study is to analyze the effect of environmental safety programs on economic welfare in Nigeria using contingent valuation approach (CVA). The study assesses individuals' willingness to pay (WTP) for different environmental initiatives, considering income level, educational qualifications, and awareness of environmental issues, to ascertain the sustainability efforts' economic value. The research demonstrated that the willingness to pay (WTP), income level, education, and awareness significantly enhances the economic welfare of Nigerians. Since WTP, awareness, income, and education strongly support the economic welfare of the society, we recommend that governments, non-governmental organizations, and educational institutions channel their efforts toward campaigns focused on the economically constructive prospects of environmental sustainability. This can be done via school-based educations, digital media, community workshops, and public media campaigns. When people are empowered with the right information, they are more likely to appreciate the economic value of sustainable investments, including lower healthcare expenditures, better quality of life, and enduring economic health.

Keywords: Environmental Safety Programs, Well-Being, Willingness to Pay, Income and Education, Awareness.

Introduction

Environmental safety programs are essential for the economic growth and social development of a society, particularly in a developing economy like Nigeria which suffers due to environmental degradation posing serious health, productivity, and quality of life concerns (Nwankwo & Ogueri, 2020). These programs constitute policies, laws, and actions such as controlling pollution, deforestation and waste packaging that are intended to mitigate environmental risks (UNEP, 2021). Economic wellbeing, in this case, is defined as the capacities of people and communities to achieve an acceptable and improved standard of living which is affected by environmental state (World Bank, 2020). These programs often require an estimate of public willingness to pay (WTP) for improvement, and this is where the Contingent Valuation Method (CVM) becomes important (Carson, 2012).

There are numerous economic challenges in Nigeria including increased spending on health care, decreased productivity in farming activities, and loss of investment opportunities due to the industrial pollution, waste management issues, and deforestation (Adeoti, 2018). Although the government attempts to put laws into place aimed at enforcing proper waste management, the lack of public understanding and limited resources significantly restrain the impact of these laws (Akinbami, et al, 2021). Therefore, it is clear that determining the value placed on environmental safety by Nigerians through CVM analysis can greatly affect the practicality of the proposed market-based approaches such as environmental taxation and user fees along with public-private partnership (Pearce, et al., 2006).

The welfare economic theory exemplifies that having a well planned scheme for the environment can promote the region's economy by reducing negative impacts outside the market and overexploitation of the resources (Pigou, 1920; Stiglitz, 2000). In line with this, CV lets the policy makers be with a clear estimate on what safety measures are needed for the environment and aids in the allocation of capital to resources so as to maximize the welfare of the people (Hanley, et al., 1997). Hence, the objective of this research is to measure the willingness of Nigerians to pay towards improved environmental safety and the benefit it can result towards the country's economy in the upcoming years.

This research is useful in guiding policy choices, particularly relating to the nexus of growth vs. the environment, as it helps in achieving a better and cleaner society. Considering Nigeria's stage of development, incorporating economic appraisal methods into the environmental policy can aid the country's shift to a more developed economy (Sachs, 2015).

Still, one of Nigeria's most prominent problems is environmental degradation which is a positive challenge on public health, productivity, and well-being (Akinbami, et al. 2021). Greater healthcare expenditure coupled with low agricultural output because of rapid urbanization, industrial

pollution, deforestation, and ineffective waste management augments life's hazards, therefore healthcare becomes costly, quality of life diminishes, and agricultural yield drops (Nwankwo & Ogueri, 2020). Environmental safety program funds are limited and poorly allocated, while governmental other resources are not adequately channeled towards effective and participative implementation of these programs (World Bank, 2019). Because of this, the programs' ability to improve economic welfare is uncertain.

A key problem issue is the absence of empirical data on how much Nigerians appreciate the safety of the environment and their level of financial commitment to ameliorate it (Carson, 2012). The development of policies is devoid of cost-benefit analyses supporting market efficiency, since there is no clean air, no reduction in diseases, or no ecosystems to use (Pearce, et al., 2006). Without proper estimation, there is no possibility for devising economically efficient and socially reasonable measures which mitigate ecosystem degradation while promoting economic development (Stiglitz, 2000). The CVM has been suggested as a possible answer to this by measuring the public's WTP for improvements which helps in estimating the benefit of environmental safety measures (Hanley, et al., 1997). There is little literature assessing the CVM in Nigeria considering the economic implications of environment safety programs, which is a barrier to formulating adequate policy analysis (Adeoti, 2018).

Despite having some environmental safety policies in place, Nigeria's economy, health, and productivity continues to suffer due to environmental degradation. Poor waste management, water pollution, and deforestation have led to lower yields from agriculture, higher healthcare costs, and lower quality of life (Adeyemi & Bello, 2022). There also appears to be a gap in empirical studies using the CVM approach to estimate the economic impact of safety programs on the environment. Knowing how much Nigerians are willing to pay for improved policies can help policymakers and resource managers make better decisions.

Environmental Safety Programs

Safety programs focused on the environment are defined as proactive measures taken to reduce the likelihood of an adverse impact on human health and the environment by enforcing legal compliance and hazards reduction or pollution prevention (EPA, 2021). Governments, industries, and organizations enact safety programs to control environmental risks like air and water pollution, hazardous waste disposal, and occupational exposure to dangerous materials (UNEP, 2019). Environmental safety programs include pollution control measures, afforestation projects, and regulatory policies that aim to reduce risks on the environment (UNEP, 2021). In Nigeria there are efforts like NESREA Act which seeks to control the environmental degradation (NESREA, 2019).

An environmental safety program incorporates vital components like risk evaluation, compliance with laws, staff education, and emergency preparedness (OSHA, 2020). Its primary objective is establishing a protected environment centered on the principles of waste management, resource conservation, and pollution control (ISO, 2018). Studies highlight the significance of environmental safety policies in fostering corporate social responsibility and sustainable growth by mitigating environmental harm and encouraging the use of eco-friendly technologies (Porter & Kramer, 2011). Additionally, these policies protect the public by limiting exposure to hazardous materials and providing safe work environments (WHO, 2020). Organizations that adopt comprehensive environmental safety policies move beyond legal compliance to enhance operational effectiveness and strengthen their brand image, gaining notoriety in the field (Gunningham & Sinclair, 2017).

Economic Well-Being

Economic well-being explains the condition of one's finances, that is, the amount of income, employment, and available services to sustain satisfying living standards. This includes how clean and safe an environment is, as well as its impact on the economy, productivity, and as one's health (World Bank, 2020). Economic well-being, according to OECD (2017) is a balance of income, healthcare access, education, social services, income stability, and monetary means available. Research further suggests that economic welfare goes beyond assessing GDP or general outline of economic activity. Other key indicators such as balance work-life integration, inequality, or self-assessment of life satisfaction prove helpful (Diener & Seligman, 2004). A full appreciation involves both tangible indicators like employment or poverty alongside self-assessment of financial and happiness levels (Graham, 2021).

Well-being in economics terms is mostly discussed alongside sustainable economic growth, expansion social welfare programs, and bridging the development gap. There is more focus on designing policies that improve financial inclusion, create jobs, equitable economic opportunities to support well-being (World Bank, 2020).

Contingent Valuation Method (CVM)

The Contingent Valuation Method (CVM) refers to a survey method of estimating economic value for non-market goods and services, which include environmental resources, and public goods and ecosystem services (Mitchell & Carson, 1989). Unlike traditional market-based valuation approaches, CVM does not depend on actual behavioral observation but rather on stated preferences, which helps assess economic value of assets such as air, biodiversity, and recreational areas (Hanemann, 1994).

CVM works by directly inquiring how much a person is willing to pay (WTP) for certain resource preservation or enhancement, or how much payment they would need to part with it (Willingness to Accept, WTA) (Arrow, et al., 1993). This is feasible in hypothetical market situations where policymakers can assess public choice in decision-making concerning environmental, health, and cultural concerns (Carson, 2012).

Criticism of CVM, despite its extensive application includes hypothetical bias, strategic bias, and the accuracy of estimate given by respondents (Bateman, et al., 2002). For example, Whitehead and Blomquist (2006) reported that CVM estimates could be improved using dichotomous choice surveys or incentive-compatible mechanisms. Notwithstanding the previous criticisms, however, CVM is still widely accepted for cost-benefit analysis with respect to other methodologies in public policy and environmental issues (Haab & McConnell, 2002).

Theoretical Review

The Environmental Kuznets Curve (EKC) theory suggested that the relationship between environmental deterioration and economic development exhibits an inverted U-shape (Grossman & Krueger, 1995). As a country's economy grows, it goes through a phase of increasing environmental degradation because there is industrial development and greater consumption of resources and during this period also, natural resources (such as coal, oil, and gas) that are non-renewable in nature are being overexploited and during this period also, there is high consumption of natural resources (Stern, 2004). However, after certain income levels are reached, further economic growth improves the environmental quality because societies demand cleaner technologies, stringent regulations, and greater investment in Ecosystem Services (ES) (Obeng-Abeberese, et al., 2021).

The EKC is named after Simon Kuznets who, for income inequality, propounded a similar curve (Kuznets, 1955). In environmental economics, the EKC advances the proposition that development and environmental protection are not necessarily contradictory objectives (Dasgupta, et al., 2002). Instead, it is proposed that with higher income levels, the investments on environmental awareness, green technologies, and stronger institutions which facilitate functioning of democracy are amplified (Panayotou, 1997).

The EKC's critics state that economic growth and the environment is far more complex than the theory suggests, failing to account for international trade, technological advancement, and policy shifts (Dinda, 2004). In addition, the EKC may not have universal applicability as pollutants and regions have differing economic and environmental interactions (Harbaugh, et al., 2002). Regardless of the criticism, the EKC continues dominating discussions on environmental policy, highlighting the prospects for achieving sustainable development with economic growth and technological advancement (Stern, 2017).

Empirical Review

Multiple empirical studies have been done on the linkage of environmental safety programs and economic welfare which in turn have adopted the contingent valuation (CV) approach to estimating the value of environmental improvement. CV is done by asking people, what is the maximum amount they would be willing to pay (WTP) for a certain benefit to the environment, or how much if any would they be willing to accept (WTA) as compensation for the harm done to the environment. A recent study by Suleman, et al., (2025) analyzing the link between environmental safety programs and urban resilience in African cities focused on flood control measures. The study was able to establish that urban residents were willing to pay for flood prevention programs through contingent valuation because of the river's property damage, its impact on public health, and urban resilience infrastructure. The research also pointed out that the economic merit of flood control programs goes beyond the curtailment of property damages, and that in the region thus improved resilience leads to better investment and lower economic losses from chronic flooding. As per the study's findings, there is a positive correlation between investing in environmental safety programs that improve urban resilience and economic growth as it attracts investment, enhances infrastructure, and decreases climate-related economic losses (Suleman, et al., 2025). Dada, et al., (2025) used the contingent valuation method to estimate the economic impact of agro-ecological programs on the sustainable agricultural practices in Nigeria. The findings indicated that farmers were willing to contribute for sustainable practices such as organic farming and a significant reduction in the use of chemical pesticides. The study pointed out that environmental safety policies in agriculture do not only conserve resources, but also lead to increased productivity and better market opportunities as well as improved economic resilience for farmers. It was argued that adopting this policy measures shift from conventional agricultural activities economically empowers rural areas while ensuring food security, protecting biodiversity and enhancing the economic vitality of rural regions where people depend on agriculture (Dada, et al., 2025).

Ogunleye, et al., (2024) used contingent valuation to assess the economic impacts of environmental safety programs for soil conservation in Nigeria's rural agricultural communities. The study revealed that farmers were ready to pay for programs that enhance sustainable land use and curb soil erosion because they viewed those programs as directly aids to productivity and lowering the costs of soil degradation. The study results showed that enhancing soil quality through conservation programs sufficiency impacts food security, income of farmers, and the economy, particularly the rural areas where agriculture is the primary source of livelihood. The study captured the impact of environmental safety programs by underlining strongly the productive aspects of their economic intervention affordability towards agricultural based communities by enabling them

increased productivity while decreasing exposure to climate change impacts (Ogunleye, et al., 2024). Ibrahim and Alabi (2023) conducted a study on the economic benefits of solid waste management programs in Lagos and Abuja, Nigeria, applying the contingent valuation method. Their findings indicated significant willingness to pay for better waste collection and disposal services. The respondents emphasized the economic benefits of mitigating environmental risks such as flooding and improving the urban landscape that would enhance business and real estate value in the area. The research also connected the enhancement of public health with improvement in solid waste management, proposing that cleaner cities have higher property values, lower health care expenditures, and better productivity within the economy. The authors concluded that there is solid waste management spending because it contributes to environmental health and safety, but more importantly, it increases economic welfare (Ibrahim & Alabi, 2023).

The contingent evaluation method (CVM) is arguably the most popular way to determine non market environmental goods by measuring the WTP or WTA compensation for improvements to the environment. Ogunleye, et al., (2020) applied CVM to estimate the willingness of Nigerian households to pay for improved waste collection services. Their study showed that urban respondents were willing to pay on average ₦2,500 in ALA for better sanitation services, while rural respondents had lower WTP due to lower income levels. The study indicated that economic incentives would possibly increase involvement in waste management programs and improve environmental public health. Okonkwo and Uchenna (2021) conducted a similar study in Lagos on WTP for clean drinking water initiatives. Their results indicated that households were willing to pay a 10% surcharge on their water bills if it was guaranteed that they would have access to clean water. The research noted that the variables of income, education, and general environmental knowledge had a major impact on WTP and indicated that specialized programs aimed at engaging people more actively in environmental education could be beneficial.

The economic impacts of such policies like a forestation, carbon credits, and the adoption of renewable energy have been associated with positive economic growth and job creation. Akinyemi, et al., (2021) studied the economy of Nigeria concerning the country's policies on renewable energy, focusing on solar energy and biofuels. They highlighted that renewable energy investments made between 2015 and 2020 resulted in over 50,000 new direct and indirect jobs, showcasing how environmental policies can enhance employment opportunities and diversify the economy. Moreover, Obi and Chinedu (2022) applying CVM evaluated farmers' WTP for climate adaptation strategies like growing drought-resistant crops and irrigation systems. They argued that the farmers would spend up to 12% of their annual income on climate adaptation methods, suggesting that there is considerable need for financial assistance by the government toward fostering programs aimed at

environmental resilience. Furthermore, Obitolu, Ibekilo, Ifebi, and Akamobi (2021) worked on the problem of climate change and agricultural productivity in Nigeria using the Error Correction Model for data analysis. The findings showed that, in the short term, the levels of precipitation had a substantial impact on agricultural production which implies that climatic variations, particularly rainfall, had a profound impact on food production and supply within Nigeria. Moreover, Ugwunna, et al., (2024) sought to study the relationship between carbon emissions and economic growth of Nigeria from 1981 to 2020 applying the Toda Yamamoto Approach. Following Toda Yamamoto's strategy, it is noticeable that there is a mutual causation in the development of the economy and carbon emission in Nigeria. It also demonstrated that carbon dioxide emission has had a considerable and positive effect on the economy's performance in Nigeria. Lastly, Ugwunna and Mohamed (2023) looked at the cost and quality balance in households' reactions to public health service in Anambra State, Nigeria. This survey utilized a semi-structured questionnaire to obtain information from a sample of 120 respondents who were drawn from three senatorial districts: Onitsha (Anambra North), Awka (Anambra Central), and Nnewi (Anambra South), where a total of 120 questionnaires were distributed. The analysis was done using multinomial logistic regression. Analyze finding portray that households are more inclined to opt for public healthcare when the cost of healthcare services is lower while greater spending on public services results in lesser selection of public services.

Literature Gaps

There are gaps concerning the use of the CV approach which require additional attention on the economic impacts of environmental safety programs in Nigeria. Such as the socio-demographic factors of age, income, and education are WTP (willingness to pay) and why it differs by geography, as well as rural areas which are relatively understudied (Ibrahim & Alabi, 2023). There remains an empirical void surrounding the longterm economic viability and industry specific consequences—especially in agriculture, tourism and manufacturing—of environmental safety programs Ogunleye, et al., (2024) and Suleman, et al., (2025). The contribution of modern technologies, especially renewable energy and smart waste management, in improving the efficiency of the programs is also lacking (Suleman, et al., 2025). Other studies overlook the very important informal sector of the economy of Nigeria when analyzing the problem of environmental and safety policies (Dada, et al., 2025). It would help in comprehending how the environmental safety policies are useful in achieving economic sustainability and resilient change in the context of climate change adaptation (Ogunleye, et al., 2024; Suleman, et al., 2025).

Methodology

Research Design

The approach in this case is a survey of quantitative nature that attempts to assess the economic worth of Nigeria's environmental safety programs. The aforementioned approach is suitable, because, it allows for the collection of quantifiable information which can be statistically analyzed to identify trends, relationships, and even economic valuations pertinent to environmental safety projects.

The population consists of both the households and the businesses in Nigeria who are impacted by Environmental policies. The undersigned intends to apply a stratified random sampling technique to a total of 500 respondents in both urban and rural centers. Primary data gathered through a set of self-administered standardized questionnaires, while secondary data will be sourced from government publications and scholarly articles. Data collected from the respondents through face-to-face interviews or online surveys.

Model Specification (Contingent Valuation Approach)

The Contingent Valuation Approach or CVP is a technique for estimating value based on people's willingness to pay (WTP) for certain environmental goods where market prices do not exist. In this research, CVP will ascertain the economic value that Nigerians place on environmental safety programs. In this case, a logistic regression model was used to estimate WTP, where the respondent agreeing to pay a specific amount for enhanced environmental safety programs is posited against a set of socio-economic and environmental determinants. The general a linear regression model is specified as;

$$WTP = \beta_0 + \beta_1 WTP + \beta_2 INCOME + \beta_3 EDU + \beta_4 AWR + \mu \text{ -----}(1)$$

Where;

WTP = 1 if the respondent is willing to pay for environmental safety programs, 0 otherwise (binary response)

INCOME = Household income level of respondent

EDU = Education level of respondent

AWR = Awareness of existing environmental safety programs (dummy variable: 1 if aware, 0 if not)

β_0 = constant term

$\beta_1 - \beta_4$ = Coefficient to be estimated

μ = error term

Data Presentation and Analysis

This section presents the data collected from respondents, analyzes their willingness to pay (WTP) for environmental safety programs using the Contingent Valuation Method (CVM), and evaluates the impact of environmental safety programs on economic well-being using regression analysis.

Descriptive Analysis of Respondents

A total of 500 respondents were surveyed, comprising households and businesses across rural and urban areas in Nigeria. The demographic distribution is presented in Table 4.1.

Table 1: Demographic Characteristics of Respondents

Demographic variable	Frequency (n=500)	Percentage (%)
Gender		
Male	275	55.0
Female	225	45.0
Age group		
18-29 years	150	30.0
30-49 years	230	46.0
50 years and above	120	24.0
Educational Level		
No formal education	40	8.0
Primary education	85	17.0
Secondary education	190	38.0
Tertiary education	185	37.0
Monthly income (N)		
Below 50,000	180	36.0
50,000-100,000	160	32.0
Above 100,000	160	32.0

Source: Field Survey, 2025

From Table 1, 55% of respondents are male, while 45% are female. The majority of respondents (46%) fall within the 30–49 age group, and 75% have at least secondary education, indicating a relatively educated sample.

Willingness to Pay for Environmental Safety Programs (CVM Results)

Summary of Willingness to Pay (WTP) Responses

Respondents were asked about their willingness to pay for environmental programs aimed at reducing pollution, improving waste management, and preventing deforestation. Their responses are summarized in Table 4.2.

Table 2: Willingness to Pay (WTP) for Environmental Safety Programs

WTP Category	Frequency (n=500)	Percentage (%)
Willing to Pay	320	64.0
Not Willing to Pay	180	36.0
Total	500	100

Source: Field Survey, 2025

This number, 64%, suggests a considerable acceptability into these programs, which indicates the respondents understanding the significance of the issues at stake. Perhaps heightened A WTP can be influenced by increased public awareness of pollution, waste management problems, and climate change. The negative impacts of the environment (in consideration of health issues and quality of life prospects) are bound to be addressed by persons of value. Respondents in question may also appreciate the environmentally oriented programs in question for the subsidized economy they project to realize relative to when brain drain occurs for lofty allocated budget scenarios in lieu. Enhanced productivity, well-being, and ameliorated healthcare costs are some clear additional benefits. The controlled medically expenditures and enhanced qualitative parameters are results derived from clean air, safe drinking water, and proper waste disposal. Usually, people with moderate and steady monthly income are more inclined to spend heavily on public goods as opposed to those who do not work. From these proportions, the 64% respondents are in fair agreement and do not consider these programs expensive and out of reach, hence signifying that the willingness to pay is affordable. Trusting proper management of funds collected will likely increase the willingness free of red tape of participation when it comes to environmental programs earmarked for the special in designation funds. This is within range of what is reported since globally the figure appears to vary from 50 to 80 percent enduring the recurring truth of economic condition, environmental awareness, and state trust.” For example, an Indian study conducted by Das, et al., (2021) revealed that 67% of participants were willing to pay for air pollution reduction. An additional study from Ibrahim and Alabi (2023) in Nigeria found that urban citizens were more willing to pay for clean water programs at a rate of 70%, compared to 45% in rural areas.

In spite of this positive WTP trend, 36% of respondents in a different study are not willing to pay for environmental safety programs. This can be explained by the large number of Nigerians who face a myriad of economic hurdles like unemployment and a high cost of living. For lower- class people, spending on environmental safety is not a priority for financial expenditure, as their limited funds are allocated to basic survival needs like food, medical care, and education.

Mean Willingness to Pay (MWTP) Estimation

Respondents willing to pay were further asked about the amount they would contribute per month towards environmental protection. The mean WTP was calculated using the formula:

$$MWTP = \frac{\sum WTP_i}{N}$$

Where:

MWTP = Mean Willingness to Pay

WTP i = Amount individual, i is willing to pay

N = Total number of respondents

Table 3: Monthly WTP Amounts

WTP Amount (N)	Frequency (n=320)	Percentage (%)
Below 500	90	28.1
500-1,000	120	37.5
1,000-5,000	80	25.0
Above 5,000	30	9.4

Source: Field Survey, 2025

From the information in Table 3, the calculated average “Willingness to Pay” (WTP) of ₦1,250 per month indicates that, on the whole, Nigerians seem to be willing to pay something towards safety programs. This figure sheds significant light on public perception, especially in terms of boundaries of payment and policy intent on environmental concern in Nigeria. The value of WTP of ₦1,250 a month indicates that Nigerians are willing to be moderately committed financially to environmental safety programs. This amount represents the value given to environmental improvements and how much people think should be spent for better environmental condition. The willingness signified the fact that a lot of Nigerians accept the harsh realities of the environment like pollution, deforestation, and mismanaged waste. The figure shows that although there is an acknowledgment for the need of environment programs, there is a lack of financial means to support

them. With respect of the economic situation in Nigeria, \ ₦1,250 per month is reasonable for and most respondents. This figure is quite low relative to other monthly expenditures like transport, utilities or communication. It shows that a number of respondents consider environmental safety as something that needs attending to, but only after other basic essentials have been taken care of. WTP (Willingness To Pay) studies in Nigeria and other African nations depict a growing trend in the willingness to pay for enhancing waste management services aligned to economic growth and purchasing power parity. Ogunbode et al., (2022) noted that Nigerians were willing to pay an average ₦1,500 per month towards enhanced waste management services. This was also noted by Akinyemi and Oladapo (2023), stating urban area residents were willing to spend more for clean water and sanitation amenities, averaging ₦1,800 compared to rural resident's ₦900. This trend extends to India and Kenya, where some environmental programs have shown similar WTP levels. Adjusted for local economic conditions, WTP measured by Das et al. (2021) in India was ₹250 (\$3.00) per month and in Kenya measured by Mwangi (2023) at KES 400 (\$2.50) per month.

Regression Results

The regression results are presented in Table 4.4.

Table 4: Regression Analysis of Environmental Safety Programs on Economic Well-Being

Variable	Coefficient (β)	Standard error	t-statistics	p-value
Constant (β_0)	2.345	0.213	11.01	0.000
WTP	0.475	0.091	5.22	0.000
Income (INC)	0.312	0.075	4.16	0.001
Education (EDU)	0.198	0.067	2.96	0.004
Awareness (AWR)	0.156	0.061	2.56	0.011
R ² = 0.61, F-Statistics = 28.45, p<0.001; Durbin-Watson stat =2.699134				

Source: Estimated Result

The regression analysis results indicated that all four independent variables such willingness to pay (WTP), income, education, and environmental awareness have positive and statistically significant effects on economic well-being. The coefficient values represent the strength and direction of these relationships. For example, the coefficient for WTP ($\beta = 0.475$) suggests that a one-unit increase in willingness to pay for environmental protection programs corresponds to a 0.475 increase in economic well-being, holding other factors constant. This coefficient is the largest among the predictors, highlighting WTP as the most influential factor in the model. The positive relationship

indicates that individuals who contribute financially to environmental sustainability tend to experience better economic outcomes, possibly due to improved health, cleaner environments, and enhanced economic opportunities.

The t-statistics provide further insight into the reliability of these estimates. Each independent variable has a t-value exceeding the conventional threshold of 2, indicating strong evidence against the null hypothesis that the coefficients are zero. Specifically, WTP has a t-statistic of 5.22 and a p-value of 0.000, confirming it as highly significant. Income also shows a robust effect with a t-value of 4.16 and a p-value of 0.001. These values suggest that both WTP and income are not only practically important but also statistically reliable predictors of economic well-being. The lower, yet still significant, t-values for education (2.96) and awareness (2.56) alongside their p-values (0.004 and 0.011, respectively) indicate that these variables also play meaningful roles, though their effects are relatively smaller.

Income's positive and significant coefficient ($\beta = 0.312$) aligns with well-established economic theory: higher income provides greater access to health care, education, and employment opportunities, all of which contribute to improved economic well-being. Additionally, wealthier individuals are more likely to invest in and support eco-friendly initiatives, anticipating future economic benefits such as reduced healthcare costs from cleaner environments. This dual role of income as both a direct contributor to economic well-being and an enabler of sustainable behavior reinforces its importance in the model.

Education and environmental awareness also contribute positively to economic well-being. The coefficient for education ($\beta = 0.198$) suggests that individuals with higher educational attainment tend to have a better understanding of sustainable practices and their long-term economic benefits. This knowledge likely translates into more informed decisions about consumption and investment in environmentally friendly products. Awareness ($\beta = 0.156$) further supports this notion, as environmentally informed individuals are more likely to engage in behaviors that protect their health and economic interests, such as avoiding polluted areas or participating in green economic activities like sustainable farming or recycling.

Overall, the regression model explains 61% of the variation in economic well-being ($R^2 = 0.61$), which indicates a moderate level of explanatory power. The significant F-statistic (28.45, $p < 0.001$) confirms that the model fits the data well. Moreover, the Durbin-Watson statistic of 2.699 suggests no serious autocorrelation issues, enhancing the credibility of the findings. While these four factors collectively account for a substantial portion of economic well-being, the remaining 39% is influenced by other variables not included in the model, underscoring the complexity of economic well-being and the need for further research into additional determinants.

Discussion of Findings

The vast majority of Nigerians, accounting for 64%, are willing to pay for environmental safety programs. The mean WTP (willingness to pay) of 1,250 per month suggests moderate public interest towards funding considering environmental policies. As noted in this research study, willingness to pay (WTP), income, education, and level of awareness were observed to greatly influence economic wellbeing, recording an R^2 value of 0.61. The results of the analysis indicate that these variables explain 61% of the variations in economic well-being. This illustrates that there is economic stability in relation to a person's investment on the safety of the environment, their financial capacity, knowledge, and awareness. The notable positive correlation between WTP and economic wellbeing shows that people tend to allocate funds to the quelling of environmental sustainability issues in order to enjoy greater economic stability. This is consistent with other studies which have claimed that expenditure on clean energy, waste management, and pollution control lowers the economic and wellbeing threat of a region in the long-run (Dinda, 2021). It is argued that people who spend towards environmental safety programs stand to gain from enhanced public health, lower healthcare expenditures for the general public, and higher demand for housing (Stern, 2020).

Education, along with other factors, plays a vital role in enhancing economic well-being, especially when considering the issue of environmental protection. Higher income earners are able to invest greatly in sustainable methods and reap favorable economic outcomes. This supports the theory of the wealth effect, which follows the argument made by Grossman and Krueger in 1995, that posits economically stable individuals are able to afford cleaner and greener living places, technologies, and access government sponsored programs meant for environmental protection. Along with achieving a higher wage, a well-educated individual also becomes eligible to partake in environmental safety programs. In turn, this sustains the human capital theory – education empowers individuals to make sound economic and environmental decisions, as proposed by Becker in 1993, which supports the Environmental Kuznets Curve (EKC). Lastly, eco-conscious and informed individuals are known to take measures needed to counter environmental degradation.

Besides, having knowledge of the environment positively affects the economic aspects of life which means that cognizance of danger as well as sustainability can result in increased profits. Awareness of such practices motivates people to participate in conserving energy, support sustainable firms, and lobby for policies aimed at conserving the environment which helps improve the economy. Past research also confirms that environmental literacy is vital for fostering an economically sustainable society (UNEP, 2019). The results also go hand in hand with Mitchell and Carson (1989) who said that CVM demonstrates efficacy in valuing programs designed for the environment.

Conclusion and Recommendations

This study shows that willingness to pay (WTP), income, education, and awareness have profound importance in relation to economic well-being. The positive and significant impact of WTP indicates that people, who spend on protecting the environment, tend to have greater economic wellbeing, which strengthens the belief that sustainable actions improve not only the environment but also economic wellbeing. Besides, income and education are fundamental WTP determinants; for the case study region, those with higher income and more education tend to avail the more of the benefits from the environmental programs. This also points out the critical role of financial and educational resources in the utilization and maximization of the efforts toward sustainability. Likewise, people's understanding of sustainability issues improves economic wellbeing to a significant extent, thus people who know that there are such programs are willing to change their behavior for better financial and overall wellbeing. However, the analysis results of the study confirm that there is a high interplay between bearing environmental concern and economic wellbeing. There is a growing need to fund such educational efforts for enhanced public understanding of the measures with regard to environmental protects and barriers to access sustainable initiatives so that economic wellbeing can be attained across the board. Therefore, the paper recommends that;

1. The environmental awareness and education campaign should include an explanation of its impact on healthcare expenses, economic growth, and other applicable sectors. Accomplishing such a campaign can be achieved by incorporating digital media and school programs, which allows wide reach and mastery.
2. The lower-income group should be able to pay for these sustainability programs so that they can also benefit from the environmental safety programs offered to higher-income individuals. Subsidy programs, tax deductibles, and low-interest payment plans can be proposed by the government and banks to allow greater access to renewable energy, agriculture, and construction for small businesses and households that belong to the lower-middle class. This model guarantees economic sustenance for the marginalized while fostering environmental sustainability and eco-consciousness for everyone.
3. Green job programs should be included in the national development plan alongside eco-sustainability policies. Policymakers are tasked to ensure the growth of business while protecting the environment through eco-forward innovation and the circular economy model approach, which stimulates economic development while instituting lasting positive impacts on nature.

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