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Impact of Environmental Taxation on Environmental Sustainability in Nigeria

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Abstract

Many nations have imposed environmental taxes to boost green development since green development has become a worldwide movement. Using a descriptive survey research approach, this study examines the influence of environmental taxes on environmental sustainability in Anambra State. The researcher devised two study questions and collected data using a self-created questionnaire. The personnel of the Anambra State Internal Revenue Service, chosen using a purposeful random sample procedure, makes up the sample size. Fifty copies of the questionnaire were administered for data collection. The data collected was analysed using the mean, standard deviation, and t-test statistics. The study found that environmental taxes encourage energy conservation and the adoption of renewable energy sources; Also, environmental taxation might create cash for governments, allowing for the reduction of other taxes or the implementation of environmental initiatives. Generally, the tax must be legal, and the rate must be predictable in order to encourage environmentally-friendly activities. It was advocated that understanding the effectiveness of environmental taxes and levies in instilling beneficial environmental behaviour is also important for ensuring that environmental pricing policies are designed in accordance with environmental aims. This research offers a practical and promising perspective on the function of environmental taxes in green growth, and it has the potential to be used in other regions and nations.

Keywords: *Environment, Environmental sustainability, Taxation.*

Introduction

Onitsha Governments are under growing pressure to develop solutions to lessen negative ecological impact while minimizing harm to economic growth as a result of environmental concerns. Regulations, information programs, innovation regulations, environmental subsidies, and environmental taxes are among the green policy tools available to governments [1]. Environmental taxes provide a number of significant benefits, including environmental efficacy, economic productivity, the potential to generate public funds, and openness. Environmental taxes are levied on activities that are destructive to the environment's health. They are essential to halting climate change because they are based on a simple principle: those who pollute pay. Environmental taxes have proven to be effective in addressing a variety of issues, including sewage treatment, water contamination, and air quality. The design of environmental taxes, as well as concerns of political economy in their application, are critical drivers of their overall economic consequences [2]. Environmental taxation is one of the environmental policy methods used to achieve green growth targets.

The environment refers to everything that surrounds us and provides us with food, water, and air to breathe, as well as all other essentials for everyday existence, and it inevitably comprises a life-support system. The atmosphere (air), the lithosphere (rocks), the

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hydrosphere (water), and the biosphere, or better still, living beings, are the basic components of the environment, according to Kachurin, Komashchenko, and Morkun [3]. However, population increase and unsustainable exploitation of natural resources have resulted in diminished biodiversity, greenhouse gas build-up, deforestation, hazardous spills, and environmental deterioration. As a result, environmental taxes may be found in economies all over the globe, and they are imposed on things like energy, transportation, natural resources, and pollution. The accounting records of Nigerian provincial and federal budgets reveal some usage of environmental taxes, according to a working paper published by the Central Bank of Nigeria; however, no uniform technique for recognizing, classifying, and assessing such monetization strategies has been discovered. As a result, the absence of a uniform approach may be owing in part to ambiguous interpretations of environmental taxes, which differ in theory and practice.

Environmental taxation is a significant economic policy instrument for central governments since it promotes society's and economy's long-term viability. Its meaning may be broad, but in general, it is a tax with predominantly environmental effects or a tax that controls the effects of particular green initiatives in a major way [4]. Selective excise taxes, the most important of which is the fuel tax, which accounts for a considerable portion of the tax ratio, are the primary environmental taxes in general. Environmental taxes offer rewards for people and corporations to incorporate environmental issues into business activities and reduce negative impacts on the environment by internalizing environmental costs (for example, activities that burden the environment will be taxed, whereas activities that contribute to the preservation of the environment will receive a tax break). Because environmental taxes create cash that may be used to fund additional environmental initiatives or reduce other taxes. Environmental taxes provide cash that can be utilized for environmental preservation or for non-environmental purposes. Environmental tax revenues can be used to reduce other taxes such as income tax, business tax, and social insurance premiums [5]. Environmental taxes, in principle, provide a pricing incentive to curb ecologically detrimental behaviour. In reality, though, many environmental levies are merely revenue-raising mechanisms with no intention of providing any environmental benefit. Due to these ambiguous definitions, it is easy to misread the computation of environmental taxes.

An environmental tax is a levy imposed by the government on activities or items that have a detrimental environmental impact. Environmental taxes are imposed in Nigeria on the fuel, infrastructure, health, and environmental assets tax bases. The federal gas tax, as well as provincial taxes on mineral usage and waste management, are examples of environmental taxes in Nigeria [6]. While it is evident that environmental levies are utilized in Nigeria, it is less clear how many and how much they cost. This is attributable to the fact that a methodology for gathering this data is still yet to be published in Nigeria. The additional problem is that statistics agencies' definitions of environmental taxes differ from how they are described in the publications [7].

Environmental issues related to the preservation and restoration of the natural environment occupy a significant position among global concerns of humanity at this phase of development in order to assure conformity with the goals of sustainable development. Environmental taxes are a classic tool used by the government to reduce the negative consequences of economic activities on the environment. Simultaneously, ongoing changes in environmental taxation systems in the pursuit of the most efficient system need the creation of methods to optimize the potential of

environmental taxes as a tool for reducing unreasonable environmental usage [8].

As a result, measuring the environmental effect of environmental taxes, as well as updating the criteria for using financial and economic levers of influence in order to improve their efficiency, is a pressing issue. Because of the magnitude of environmental issues and the rise in pollution, environmental policies and businesses must be directed in order to remove them and encourage them to seek out instruments of ecological and financial administration based on principles of sustainable development.

Theoretical Framework

From a theoretical standpoint, the notion of Environmentally Related Taxation (ERT) states that environmental levies and taxes help to safeguard the environment [9]. Although carbon emission reduction can be accomplished in a variety of ways, ERT and charges can encourage the market adoption of environmentally friendly mechanisms and reduce energy consumption, which is the primary source of CO2 emissions, by promoting energy efficiency and clean technologies [10]. Furthermore, tax shocks have the ability to improve the energy mix in favour of renewables, which are the greatest option for reducing emissions, by driving focused technical progress and green growth [11, \12]. Pollution charges also have an impact on regional deterioration, which has varying aspects depending on the economic, regional, or country. Standard economic perspectives, on the other hand, are concerned about taxes in general because of the contractionary impact they have on economic growth.

The basic concept is straightforward. An adverse externality occurs when the creation or usage of a thing causes harm to something other than the buyer or seller of that good. This is a market failure since the buyer and seller's decisions fail to account for the external cost. As a result, an unfettered free market will almost always produce an inefficiently large supply of any good with a negative externality. The externality can be corrected by levying a tax on the good that generates the externality. If the tax rate is equal to marginal external damage (the entire harm caused by one more unit of the product to persons other than the buyer and seller), the external cost is included in the transaction, guaranteeing that the buyer pays the full marginal social cost of the good. As a result, the tax incentive assures that the market provides the most efficient amount of the item (in the absence of any other uncorrected market failures).

From this perspective, a reduction in the output should result in a reduction in carbon emissions. The key idea here is that short-term views might be deceiving, but long-term experiences should be prioritized. Empirical research on the long-run behaviour of ERT will give insight into how carbon emissions react to ERT, taking into account both classic and current viewpoints on the subject. The question of whether ERT reduces CO2 emissions by managing economic growth and other associated variables has been the subject of empirical investigation.

Purpose of the Study

The main purpose of this study is to survey the impact of environmental taxation on environment sustainability in Anambra state. Specifically, it aims to determine the:

1. Impact of environmental taxation on environmental sustainability in Nigeria.
2. Strategies to enhance environmental taxation for environmental sustainability in Anambra State.

Hypothesis

The study is guided by the following hypothesis:

1. There is no significant difference on the views of male and female tax officers regarding the impact of environmental

taxation on environment sustainability in Anambra state.

Design of the Study

The survey research design was used for this project, which is a form of study in which a group of people or products is investigated by collecting and evaluating data from a small number of individuals or items that are deemed representative of the entire group [13]. This design was chosen since it has previously proven successful in comparable research.

Area of the Study

This research was carried out at Anambra State Internal Revenue Service (AIRS) Awka. Identifying taxpayers and taxable activities, determining assessable incomes, assessing activities to personal income tax and other applicable tax levies, collecting amounts assessed, and reporting assessment and collection activities are the primary functions of AIRS.

Secondly, AIRS is in charge of developing new revenue-generating sectors, checking conformity, enforcing defaults, and advocating such IGR-related efforts as the State Legislature may dictate.

Population, Sample, and Sampling Techniques

The employees of the Anambra State Internal Revenue Service in Awka were the study's target group. The study's sample consisted of fifty (50) employees, fifteen (15) men, and thirty-five (35) women, who were chosen using purposive sampling procedures.

Instrument for Data Collection

The instrument used for data collection was a questionnaire titled: 'Environmental Taxation Impact Scale (ETIS). The ETIS contained twenty items on a four-point scale of strongly agreed (SA=4), Agreed (A=3), Disagreed (D=2), and Strongly Disagreed (SD=1).

The overall theme of the items was based on the impact of environmental taxation on environment sustainability in Anambra state.

Validation of the Instrument

The questionnaire was handed to two specialists in measurement and assessment to analyse and make required modifications and comments in order to determine the instrument's face and content validity. These experts were given the study's aim and research questions, as well as the questionnaire items, to review and make any required revisions and comments. The researcher employed their feedback to make changes to the questionnaire's items before releasing the final version.

Reliability of the Instrument

The researcher employed five (5) tax officers that were not involved in the main study. They were given copies of the questionnaire to complete and these were collected right away. The questionnaire's contents were reorganized and altered before being given to the responders two weeks later. Person product-moment correlation was used to correlate the ratings of the data obtained.

Method of Data Collection

The questionnaire was individually conducted by the researcher. He gave each of the 50 responders 50 copies of the questionnaire. They were quickly gathered from the respondents; 50 copies of the questionnaire were obtained, yielding a 100% response rate.

Method of Data Analysis

The researcher utilized Mean and Standard Deviation to answer the study question while evaluating the data. The items' approval points were 2.5 on a scale of one to ten (ie $SA^{4,}$ SA^{3}, SD^{2}, D^{1}) totalling 10. Therefore, the Mean score equal $\frac{10}{4}$ = 2.5. Also, t-test statistics was also used to test for the hypothesis.

Results and Discussion

The results of the findings were presented in tables 1-2 and analysed using appropriate statistics.

Research Question 1: To what extent do environmental taxation impact environmental sustainability in Anambra State?

Table 1. Arithmetic Mean and Standard Dispersion of Responses of Male and Female Tax Officers on Impact of Environmental Taxation on Environment Sustainability

S/N	Item	Male		Female	
		$\bar{x}$	STD	$\bar{x}$	STD
1	Environmental taxes encourage energy conservation and the usage of renewable energy.	3.13	0.88	2.89	0.85
2	Anti-environmental behaviour is discouraged through environmental taxes.	2.93	1.00	3.31	0.71
3	Companies are compelled to innovate in the field of sustainability as a result of environmental taxes.	3.33	0.79	3.26	0.87
4	Environmental taxation creates cash for governments, enabling for the reduction of other taxes or the implementation of environmental initiatives.	3.00	1.03	2.91	1.13
5	People are enticed to avoid paying environmental taxes by using or producing less of the taxed commodity.	2.13	1.02	3.31	0.82
6	Pollution control expenses are reduced as a result of environmental taxes.	2.53	1.09	3.37	0.86
7	Environmental taxation promotes the development of innovative technologies, processes, and goods.	2.80	0.75	3.54	0.87
8	Environmental taxes might be used to directly solve environmental issues by encouraging people to engage in more ecologically friendly activities.	2.80	1.05	2.34	1.17
9	Environmental taxes are the most cost-effective technique of collecting revenue.	2.13	1.15	3.00	0.99
10	Environmental taxation offers authorities and companies more control over the future costs of anti-pollution programs.	2.67	0.94	3.43	1.05
Total		**27.45**	**9.7**	**31.36**	**9.32**

Table 1 shows the extent to which environmental taxation impact environmental sustainability in Anambra State. It was observed that environmental taxation could motivate companies to innovate in sustainability (Male=3.33, Female=3.26). However, the male and female respondents differ on environmental taxation and provision of incentives to avoid the tax by using or generating less of, the substance being taxed (Male=2.13, Female=3.31). Meanwhile, both male and female respondents agreed that environmental taxation promotes energy saving and the use of renewable sources. In all, items 1, 2, 3, 4, 6, 7, 8, and 10 having a mean score of 3.13, 2.93, 3.33, 3.00, 2.53, 2.80, 2.80, and 2.67, corresponding to a standard deviation of 0.88, 1.00, 0.79, 1.03, 1.09, 0.75, 1.05 and 0.94 were accepted, while item 5 and 9 with a mean score of 2.13 and 2.13 corresponding to standard deviation of 1.02 and 115 were rejected by the male respondents. Similarly,

items 1, 2, 3, 4, 6, 7, 9 and 10 having mean score of 2.89, 3.31, 3.26, 2.91, 3.31, 3.37, 3.54, 3.00 and 3.43 corresponding to standard deviation of 0.85, 0.71, 0.87, 1.13, 0.82, 0.86, 0.87, 0.99 and 1.05 were accepted, while item 8 with mean score of 2.34 corresponding to standard deviation of 1.17 were rejected by female respondents.

Research Question 2: What are the strategies to enhance environmental taxation for environmental sustainability in Anambra State?

Table 2. Arithmetic Mean and Standard Deviation of Responses of Male and Female Tax Officers on Strategies to Enhance Environmental Taxation for Environmental Sustainability in Anambra State

S/N	Item	Male		Female	
		$\bar{x}$	STD	$\bar{x}$	STD
11	Polluting conduct should be subject to environmental taxes.	3.07	0.93	2.71	1.00
12	The scope of an environmental tax should be as broad as the harm it is meant to alleviate.	2.93	1.00	3.11	0.78
13	The tax rate should be proportionate to the quantity of pollution caused.	3.27	0.68	3.11	0.92
14	The tax must be legal, and the rate must be predictable in order to encourage environmentally friendly activities.	2.93	1.06	3.43	0.55
15	Earnings from environmental tax reform can be used to supplement funds or to aid in the reduction of other taxes.	3.07	1.06	3.31	0.85
16	To reduce distributional implications, political courage and laws should be deployed.	2.53	0.81	3.17	0.84
17	Concerns concerning competitiveness must be thoroughly investigated, not to obstruct taxation, but to enable for policy cooperation.	3.33	0.87	3.26	0.91
18	Environmental taxes must be carefully articulated in order for the public to accept them.	3.60	0.49	2.31	1.37
19	Environmental taxes may need to be combined with other environmental measures to tackle specific problems.	2.40	1.02	3.63	0.54
20	Governments, academics, and stakeholders working together.	3.13	0.96	3.09	1.05
Total		**30.26**	**8.88**	**31.13**	**8.81**

Table 2 shows that male participants agree with a mean score of 3.60 and standard deviation of 0.49 that environmental taxes must be conveyed well in order for the public to accept them, whereas female respondents disagreed with a mean score of 2.31 and standard deviation of 1.37. Concerns regarding competition, on the other hand, must be thoroughly investigated, not to obstruct taxation, but to allow for policy coordination (Male=3.33, Female=3.26). Meanwhile, the male respondents disagreed that to solve specific difficulties, environmental taxes may need to be paired with other environmental initiatives (2.40). It is obvious that the tax rate should be proportional to the amount of environmental harm produced (Male=3.27, Female=3.11). On the whole, items 11, 12, 13, 14, 15, 16, 17, 18 and 20 with mean scores of 3.07, 2.93, 3.27, 2.93, 3.07, 2.53, 3.33, 3.60 and 3.13 corresponding to standard deviation of 0.93, 1.00, 0.68, 1.06, 1.06, 0.81, 0.87, 0.49 and 0.96 were accepted, while item 19 with mean score of 2.40 corresponding to standard deviation of 1.02 was rejected by male respondents. Similarly, items 11, 12, 13, 14, 15,

16, 17, 19 and 20 with mean scores of 2.71, 3.11, 3.11, 3.43, 3.31, 3.17, 3.26, 3.63 and 3.09 corresponding to standard deviation of 1.00, 0.78, 0.92, 0.55, 0.85, 0.84, 0.91, 0.54 and 1.05 were accepted respectively, while item 18 with mean score of 2.31 corresponding to standard deviation of 1.37 were rejected by female respondents.

Hypothesis 1: There is no significant difference in the views of male and female tax officers regarding the impact of environmental taxation on environment sustainability in Anambra state.

Table 3. Summary of t-test on Male and Female Tax Officers regarding the Impact of Environmental Taxation on Environment Sustainability

Source	N	Mean	Std. dev	t-cal	t-crit	d_f	P. Value
Male	15	27.45	9.7	1.3214	2.010	48.00	0. 1926
Female	35	31.36	9.32	-	-	-	-

Sig < 0.05

Table 3 shows that at a 0.05 level of significance and 48° of freedom, the calculated t = 1.3214 is less than the critical t = 2.010; therefore the hypothesis is accepted, and the researchers conclude that there is no significant difference on the views of male and female tax officers regarding the impact of environmental taxation on environment sustainability.

Discussion of Findings

The first research question was to see how many environmental taxes affects environmental sustainability in Anambra State. Environmental taxes, according to the report, encourage energy conservation and the adoption of renewable energy sources. This viewpoint was originally expressed by [14], who claimed that environmental taxes deter anti-environmental behaviour. Green taxes, according to [15]., are intended to make polluters pay a price that reflects the cost of their externalities. Environmental taxation, according to the findings, might create cash for governments, allowing other taxes to be reduced or environmental programs to be implemented. This is comparable to the findings of [16], who found that collecting environmental taxes and levies is a critical method for governments to produce public money that allows them to invest in human capital, infrastructure, and the provision of services to residents and enterprises. Environmental taxes are frequently cited as a critical component of more effective environmental protection. Environmental taxation stimulates the development of new technology, processes, and goods [17].

The second research topic focused on measures to improve environmental taxes in Anambra State in order to ensure environmental sustainability. Based on the findings, the respondents believed that polluting activity should be subject to environmental levies. However, the scope of an environmental tax should be as broad as the harm it is meant to alleviate [18]. The responder stated that in order for the public to accept environmental taxation for sustainable development, environmental taxes must be presented effectively. According to Farber [19], the tax rate should be proportionate to the quantity of environmental damage caused. The tax must be legal, and the rate must be predictable in order to encourage environmentally-friendly activities. The findings also suggest that revenue generated by environmental tax reform can be used as a source of additional financing or to help reduce other taxes. However, according to Li et al., [20] this same tendency implies less room for environmental improvement; in other words, governments must strike a balance between goals like increasing business redeployment, sustained development, and lower compliance

costs, as well as ensuring that the environmental tax system is fair and equitable.

Implications for Policy Makers

Environmental taxes and levies can be an effective policy solution to address environmental externalities in the economy. However, in Nigeria, a uniform approach for calculating and characterizing these instruments has yet to be defined, making it impossible to examine the present usage of environmental taxes and levies. The influence of taxing on economic growth, in particular, must be considered when considering the link between environmental taxation and sustainability. Many studies suggest that taxes have a detrimental influence on economic growth, particularly direct taxes, which are much more so if they are progressive. Indirect taxes can also help boost economic development, especially if they're utilized to fund beneficial government expenditure, which might include environmental spending in some cases. As a result, the optimum circumstance is when environmental taxes are classified as indirect taxes or excise taxes. Environmental taxes, such as excise taxes, must therefore be properly incorporated into the tax mix such that overall taxation promotes environmental activities and economic sustainability while also incentivizing polluters to utilize innovative, environmentally friendly technology. It has also been demonstrated that there is a relationship between economic growth and the effectiveness of environmental tax collection, particularly when the environment is seen as a critical component of the economy.

The research conducted by Sustainable Prosperity gives a preliminary assessment of the worth of environmental taxes and levies in Nigeria. This estimate serves as a starting point for determining the scope and value of environmental taxes and levies in Nigeria, as well as a first step in determining how the design of these fiscal instruments may help the country achieve its environmental goals. While this research is useful in classifying environmental taxes, it leaves many problems unsolved. Policymakers might benefit from more research on the design and goals of particular environmental taxes and levies in order to better understand the effect of such fiscal instruments. Understanding how successful environmental taxes and levies are at instilling beneficial environmental behaviour is important for ensuring that environmental pricing systems are designed in accordance with environmental goals.

Conclusion

The research was able to look at the influence of environmental taxes on environmental sustainability in the state of Anambra. The findings of this study reveal that environmental taxes encourage energy conservation and the adoption of renewable sources of energy; they also show that environmental taxes discourage anti-environmental behaviour and encourage businesses to innovate in sustainability. The research also suggested that polluting conduct should be subject to environmental fees. The research also said that in order to encourage environmentally-friendly activities, the tax has to be legal, and the rate has to be predictable.

Environmental taxation, according to the experts, fosters innovation, which may lead to new technologies, processes, and products; the study's findings will allow governments to produce cash, allowing other taxes to be reduced or environmental initiatives to be implemented. As a result, environmental taxes may benefit from the study in terms of communicating properly in order for the public to accept it. The tax must be legal, and the rate must be predictable in order to encourage environmentally-friendly activities. Government officials may use the findings of this study to motivate others and create a climate that allows for successful tax collection management while also ensuring Nigeria's environmental sustainability.

This article demonstrates that, while the Nigerian environment is continually under attack from a variety of threats, government attempts to address these threats have not been properly streamlined to stop the tide. It has been demonstrated that the majority of policies, including labour regulations, are mostly ineffectual since they are void and even reverse the effects of others. This paper recommends that realistic policies and legal frameworks be implemented in order to align government policies across industries. When the execution of one policy erodes the benefits of another, society's growth objectives become stagnant. As a result, government policy must presume people-centered concepts of development, which envision wholistic interventions rather than merely peripheral activities, if it is not to become just rhetoric. In order to maintain the economy's long-term viability and growth, the government should establish a welcoming and enabling climate for both businesses and investors to prosper. To avoid full decadence, the development and upkeep of all infrastructure facilities should be of essential significance.

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