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FOREST ACCOUNTING IN NIGERIA: OPTIONS, STRATEGIES AND CHALLENGES

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ABSTRACT

The current study focused on forest accounting: options, strategies and challenges in Nigeria from the theory of natural resource perspective. Deforestation poses major threat to the Nigerian forest even though forests store a relevant portion of the global natural resource and provide a vast amount of ecosystem services, economic goods and social amenities to society. The study employed a survey research design. The paper framed two assumptions for testing. The one-sample t-test was employed in validating the hypotheses of the study. The study found a significant adoption and utilization of measurements of accounting for forestry in Nigeria. The study also found a significant use of analytical techniques to improve accountants' performance in the accounting for accounting for forestry in Nigeria. Finally, the study also found a worthy association between forest accounting and sustainable development. Consequently, the study recommends amongst others that there should be a creation of Forest Reserves and that stringent legislation against deforestation be formulated as well as proper enforcement to serve as a deterrent to defaulters.

Keywords: Forest accounting; natural resources; challenges; deforestation; natural resource theory.

1. INTRODUCTION

Forestry has quite significant role to play in the lives of rural and urban settlers around the world. The forest has been found to serve multiple functions in supporting human life [1]. Nearly 65 percent of the Earth's total land area is covered by forests, so they play a crucial part in preserving the global carbon life cycle [2]. With 90 percent of the carbon in plant biomass and 80 percent of the carbon in soil found in completely earthly habitats, the forest also assimilates 67 percent of all carbon dioxide (CO_2) detached from the sky by these ecosystems [2]. Explain why up to 20% of all Global Greenhouse Gas (GHG) emissions, or the same amount as worldwide transportation emissions, are caused by the annual loss of forests as a result of disturbances including harvesting, conversion, fire, insects, pathogens, and wind [3]. Forest store an important part of the earth's natural resources and provide a variety of ecosystem services, economic goods and social services to society [4]. The ecosystem services delivered by forests are diverse and consist of production of raw materials for food, fuel and shelter, habitat availability for wildlife, creation and maintenance of soil, purification of air and water, storm-flow buffering, climate regulation and nutrition, among others - and waste-recycling [5,6]. Additionally, they preserve the ecological

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harmony and life-sustaining systems necessary for the provision of food, good health, and the overall advancement of humanity. Since resource values are ignored, forest services are invisible and have not been considered. It results in a significant loss of biodiversity, raising the danger of calamity. Therefore, it is crucial to complete accounting for the forest area [7].

The majority of Nigeria's woods, which include swamp forests, tropical rainforests, and forested savannas, are found along the country's southern axis. Nigeria has a total land area of 91,077,000 ha (910,770 km2), of which 11,089,000 ha (110,890 km2) is covered in forest, or 12.18 percent of the total forest area. There are 1,417 known species of reptiles, birds, mammals, and amphibians in the nation [8]. In a complex ecology, trees dominate forests, and due to their close growth, their crowns often touch. Trees are perennial woody plants that often have stems that hold leaves and branches. A mature tree in a certain site will grow to a height of at least 6 meters; though, some tree species can grow to heights of more than 100 meters. Herbs, shrubs, creepers, lianas, and other plant species can be found in woods, along with a wide range of animals. Stray and soil microbes reside on the forest floor, making forest soils fertile for tropical agriculture.

Nigeria has one of the highest range of forest destruction, with almost 50% of such forests lost in the last few decades due to irresponsible logging, agriculture, and fuel wood collecting. As a result, self sustaining growth has yet to be accomplished in Nigeria [9]. Akintoye has looked at issues with the timber industry's intrusion on non-logged species and the socioeconomic ramifications (2003). Yet there are obvious challenges in Nigeria in maintaining a healthy and sustainable forest accounting program. There is also no stringent legislation against forest crimes and improper disclosure of forest activities by companies. Against these backdrops, the current study employed a secondary method to evaluate the options, strategies and possible challenges of forest accounting in Nigeria.

2. CONCEPTUAL REVIEW

2.1 Forest Accounting

Forest accounting has been guided by natural resource accounts, or green accounting, an accounting system created to document significant changes in the commercial exploitation of forest resources [7]. It is frequently used to refer to both financial and physical accounting. Physical accounting is “the environmental and resource accounting of inventories and changes in inventories in non-monetary units”. That is, area, number, weight, etc.

Measures of quality, articulated in terms of kinds of quality, uses, or ecological features, can complement quantitative measures [7]. Monetary accounts, on the other hand, refer to “the postings are the same as the physical accounts but include an extra reassessment posting that captures the alteration in worth of assets owing to price variations between the start and close of the year, [7]. Nigeria in particular has seen significant diversification of its economy with agriculture and the relative contribution of the primary sector to GDP has fallen by 16-17% and the relative contribution of the service sector has increased by 24%. Nigeria is also confronted with a rapidly growing population due to very high birth rates [10]. At the same time, this growth is severely distorted by migration to cities, with the rural population now accounting for around 53%. Coupled with economic diversification, population growth and migration due to security concerns, there is a rapid rate of urbanization and fast-growing megacities, particularly Lagos and Kano [10]. Going forward, Nigeria is expected to place a strong focus on sustainable city development driven by structural change and integrated urban planning to mitigate the risk of unemployment and income inequality often associated with rapid urbanization [10].

2.1.1 Options and strategies of forest accounting in Nigeria

Sustainable Forest Accounting Practice (SFAP) refers to the preservation, growth, and enhancement of economic activity in general with a view to increasing the atmosphere and standard of living in forest regions [11]. This idea places a focus on managing forests in a way that promotes sustainable development. Sustainable development, according to the United Nations, means that present people should be able to attain their requirements without jeopardizing the capability of forthcoming people to do the same [12]. Consequently, achieving sustained development is essential for more effective forest management [13]. Additionally, the forestry industry must embrace Information and Communication Technology (ICT) to achieve sustainable development. A comprehensive outline for investing in capability construction and in fostering multifaceted collaboration, information dietributed locally and worldwide, and other advantageous ICT activities in forest accounting are included. These activities will support national economic growth and social advancement.

According to Jacob, Udoakpan1, Daniel, Nelson, and Okon, [14]. Internationally, by building a cutting-edge

Geographic Information System (GIS), which is now the foundation for many forest management information systems worldwide, the management of forest resources has been successfully handled [12]. Although GIS use in Nigeria is still restricted to a small number of institutions, it has the potential to have significant effects on the forest sector, including silviculture, the sale of forest products, and the recreational use of forests. Institutions have widely adopted new technologies like cell phones, yet there have been some unforeseen side effects. For instance, the introduction of mobile phones has increased unlawful trading (improved communication among illegal dealers). Corporations in the timber industry utilize e-business answers on a global scale for a variety of functions, from product development and design to the management of supply chain, advertising, and sales [15].

New findings have been made regarding how the development of ICT may alter methods for gathering data for creating management plans forest related to soil type, geography, wildlife, growth and yield, and marketing [15]. ICT can therefore be used by the forestry industry to boost productivity and enhance marketing. Information, including that pertaining to forestry, is primarily shared via the Internet. The internet can be used by the forest industry to interact with customers, disseminate product knowledge, and facilitate other company operations. As a result, the Nigerian government's E-government policy framework aims to increase information availability and efficiency. Additionally, there are also problems with information availability in the forest industry. "Even for information that has already been paid for by the government and development partners, institutions with access to forestry information, particularly in developing nations, rarely attach patent rights and request cost recovery costs [15]".

2.1.2 Challenges of Forest accounting in Nigeria

Finding information on forests and other organic resources can be difficult because the most popular indicator of economic activity, the GDP, did not allow the expenses of wasteful resource extraction into account. This has long been considered to be a problem. Additionally, it calls on several fields to rethink measurement in order to fully incorporate forest accounting, particularly forest ecosystem accounting, into the purview of national accounting. Ecologists must establish distinct differences of ecosystem resources and service streams in an ecosystem as well as between ecosystem components that directly benefit economic and other man actions and those that just facilitate the delivery of these welfares. It necessitates for national accountants to widen the output range and take into account other methods of valuation.

Despite the wide range of techniques used to research forests worldwide, countries collecting forest accounts face significant difficulties in timely and consistent data collection and in using such data to produce economic figures. The description of the interconnections between society and the natural system is the main goal of forest accounting. As a result, data comparison over time is crucial in forest accounting. In this regard, bring up to date forest records, land cover charts, family surveys, census data, or other crucial datasets using diverse metrics and methodologies muddles the detection of trends.

In Nigeria, deforestation is a foremost challenge to attaining the SDG goal in forest account in Nigeria, as well as in other forestry and emerging regions where people rely on the forests for household income, food, building materials, clothes, and other necessities. Deforestation is the removal of trees from an area without enough replacements, which lowers habitat quality, biodiversity, and the availability of timber and other natural resources. Sometimes, the phrase "deforestation" is used to mislead forestry-related concerns. It is used to describe activities that make use of forests, such as cutting down trees for firewood, commercial logging, and activities related to removing forest cover temporarily, including clear-cutting or the slash-and-burn method, which is a key element of fluctuating farming activities. It can also refer to dissipating a forest for ranching or grazing. Additionally, some people might perceive the construction of industrial plantations, for example, as deforestation, while others might see it as afforestation. Determining "deforestation" is therefore essential to eliminate all confusion. Thus, more precise terminology should be employed, like "forest decline," "forest fragmentation," "loss of forest cover," and "land-use conversions" [16]. Because of the severe effects of deforestation, Nigeria lost an astounding 79 percent of forests from 1990 to 2005 [17].

2.1.2.1 Reasons for Nigeria's deforestation

The reason may be separated into the following comprehensive:

i. **Climatic agents:** These agents depict the nation's typical weather patterns over a relatively lengthy time frame of roughly 50 years. They consist of the sun, water, and wind:
ii. **Sunshine**: Although sunlight is crucial for photosynthesis, excessive amounts of it have been acknowledged to damage young plants.

Nigeria receives a lot of sunlight due to its tropical location.

iii. **Water:** Water is also necessary for plant growth. However, the majority of plants perish during protracted times of drought and flooding in the north and south regions of the nation, respectively.

iv. **Wind:** Wind is the air in motion and is crucial for both seed dissemination and plant pollination. However, it is also connected to uprooting trees, breaking tree limbs, and deforestation.

v. **Man:** Man has the greatest impact, and the forest would have been unaltered without his meddling. Farming, logging, grazing, expansion of town, industrial development, fire, mining, oil extraction, and fuel wood are some of the impacts of man.

2.2 Theoretical Framework

The current work is fastened on the *theory of natural resource*. The justification for adopting this theory is upholds the principles of externality which touches all forest (timber and non-timber products).

2.2.1 Theory of natural resource (1972)

There is a significant association between Forest accounting the theory of natural resource management. This theory is credited to Hendriksen [18], who pointed that forest resource is all about "capital- maintenance." He also emphasized that regarding non-timber forest products, such as its environmental services as a biodiversity preserver, wildlife conserver/habitat, tourist attraction, the conservation of the watershed, etc., the idea of externality is relevant. Although forests are retained for their timber, they also offer "unintended" functions like managing watersheds. According to Steinacker [19], there are two ways to think about the externality problem: if taking action results in one kind of externality, not taking action results in the other kind. One of the most crucial elements of the terrestrial environmental system and a comprehensive source of resources are forests. They sustain the ecological equilibrium and life-support systems necessary for humanity's overall development and health in addition to providing a variety of goods [20,21]. Olatunji [22] noted that trees are natural resources with several intrinsic benefits when evaluated from an environmental standpoint, including being renewable, recyclable, biodegradable, and carbon neutral.

Forests are used in a variety of ways by different parties. By reducing the effects of disturbances caused by humans and the environment, forests improve the overall watershed. The roles of forests, according to Johnson et al. [23], include preventing runoff in a watershed, reducing soil erosion and sedimentation of waterways, filtering out contaminants and influencing water chemistry, reducing the total annual water flow in a watershed, increasing or decreasing (regulating) groundwater recharge, shifting aquatic productivity, and possibly influencing precipitation at a large regional scale. However, the effects of forest cover on climate are less clear [24]. Despite the fact that Johnson, et al. [23] focused on creating markets for forest ecosystem services of watershed management, they raised a few issues that are pertinent to our discussion, notably, what ecosystem services connected to water are offered? Are these services capable of measurement and oversight? What is the ecosystem service worth? Are the intended recipients able and willing to pay for the ecological service?

Ecosystem preservation is sometimes regarded as an expense rather than an investment society makes to preserve the environment and support human existence. Yet many stakeholders rely on them for survival. For instance, among the various ecosystem services provided by forests, the hydrological services—primarily the quality and flow of the water—are some of the most important. Downstream users, such as farmers, water supply businesses, and hydropower businesses, may experience production losses as a result of the degradation of these ecosystems, and significant investments in water treatment facilities, dams, and flood control infrastructure may be required to make up for the lost ecosystem services. "The only way to potentially save the money needed to replace lost services and raise investments in sustainable forest management is to comprehend the financial values of these services and make investments in their conservation [20, 25]".

3. EMPIRICAL ANALYSIS

From the well of studies reviewed, the current study found that there is a clear absence of forest reserve in Nigeria. The current study also found laws on deforestation exist in Nigeria but very insignificant enforcement had been put in place. Other related studies with consistent findings are discussed:

"Jordon, Hayes, Yoskowitz, Smith, Summers, Russell, and Benson [26] investigated the sustainability of tying ecosystem services to human well-being while accounting for natural resources". They employed two study parameters: individual measurements and composites of different measures. They also focus on a structured approach to environmental responsibility, for which they research

policy frameworks, objectives for certain environmental outcomes, and metrics for measuring environmental accounting. They discovered that in order to achieve and maintain a maintainable atmosphere, more than only accounting measures are needed. These include lawmaking, rule, resource managing, mitigation, learning, and social reactions to environmental concerns. They've recently come to the conclusion that a sustainable eco-system and human well-being are completely intertwined.

Partha Dasgupta [27], studied the Position of Ecology in Economic Growth, he discussed numerous ecological economics topics. The context of poverty is used to understand socio-ecological processes. Externalities are manifestations of institutional failure in the broadest sense and are not just a result of market failure when ecological capital is used. Market-friendly remedies to environmental issues are required. Owners might receive compensated for ecological services. Poverty, the availability of natural resources, and population expansion are all related. He has conducted socioeconomically based micro level analyses of natural resources.

In a research he conducted on productivity and the environment in India, Shunsuke Managi et al. [28] stated that the country's rapid industrialization was to blame on numerous environment hitches and environmental output for some time. The existing environmental management is insufficient to achieve sustained growth in India, according to this paper's analysis of India's environmental policy and productivity change for environmental outputs. To address the long-term threat posed by the environment, some decisive actions must be taken.

Ramos and Margaret (2002) examined the financial and physical accounting of Zimbabwe's forested acreage. The primary subject of this essay is the theoretical notion of forest resource. The benefits of environmental facilities including carbon sequestration and water abstraction for natural forests were the subject of a study. They discovered that while carbon sequestration may not have an instant influence on productivity in rural regions, it does so over the long term. These productivity losses will mostly affect agriculture in terms of general equilibrium. The study underlines that utilizing traditional SNA welfare indicators will be misleading and have an adverse effect on signaling to decision-makers. Recently, it has been determined that the national economy has improved due to greater resource planning by central government agencies.

The philosophy and practices of Natural Resource Accounting (NRA) were critically analyzed by Harris and Fraser in 2002. A detailed evaluation of the theoretic and practical literature on NRA is the study's main goal. They also research the economic theory that supports natural resource accounting, welfare counseling, and the sustainability of rule objectives. Multiple concepts of national income are presented here. They discovered significant differences between national and economic accounting practices. Finally, they draw the conclusion that economists did not give the SNA revision enough consideration. Additionally, they advocate using the growth theory paradigm to address a specific technical issue.

Mkanta and Chintembo [29] tried to research the two points of view. That is, estimating the value of untapped forest resources and suggesting ways to create modified national accounting. According on the enumeration areas (EAs) listed for the 1998 census of the population, the study area was chosen. The study's deliberate selection of the fuel-cured tobacco growing regions revealed that 63% of participants were steady tobacco farmers. The study also discovered that factors including income, size, travel time to collection sites, and the overall amount of land used for farming have an impact on the collection of forest resources. The results of the study point to the urgent need to change the way tobacco is produced. According to the study's findings, frequent data deliveries from government agencies are necessary for natural resource accounting and ongoing upgrades.

In Maharashtra, Haripriya [30] attempted to incorporate forest resources into the national accounting system. It has examined Maharashtra's bio-prospecting for biodiversity study, market rates wood and non-wood products of forest, and the SEEA structure stumpage worth methodologies for wood. She discovered that the value of depletion at the anticipated value added was 19.8 percent and the worth added by forests was 3.5 percent of the net state local product. She comes to the conclusion that the state local product of Maharashtra is 99.3% of the projected net state local product [31-34].

4. METHODOLOGY

4.1 Design of the Study

The study uses a survey research design, in which data from a minor subjects or objects thought to be demonstrative of the full collection is collected and analyzed (Nworgu, 2006).

4.2 The Study Population and Sample

The population of the study comprises lectures from the Federal College of Forestry (FEDCOFOR),

Ibadan. The Federal College of Forestry consist of six (6) specialized research departments and three (3) support departments. Only this area was considered because of its relationship with the study focus. Given the size of the population, large and indefinite due to high traffic of unskilled workers, the study employed the approach adopted by Nwankwo (2010). the study also determined its primary data sample size using the Cochran's formula for large population using an estimated proportion of the population of:

$$n_0 = \frac{Z^2 Pq}{e^2}$$

Where:
n_0 = Sample Size
Z^2 = Z-value
p = estimated proportion of the population
e^2 = desired level of precision (margin of error)
q = 1-p

$$\text{Hence, } n_0 = \frac{1.96^2(0.95)(1-0.95)}{0.05^2}$$

n_0 = 72.9904 (Approx. = 73)

4.3 Data Collection Method

The study's data came from both primary and secondary sources. The primary data was collected using a questionnaire. "The survey was formatted using a Likert scale with four options: Strongly Agree, Agree, Disagree, and Strongly Disagree". The ranges of scores will be weighted as 4, 3, 2, and 1 respectively. The researcher read out the questions on the instruments and documented the respondents responses on the spot with the assistance of trained research aides. The research assistant was briefed on the method of data collection and also in terms of distribution and retrieval of the instruments. The distribution and retrieval of the instrument lasted for three days.

4.4 Validity of the Instrument

Construct validity was used in validating the instrument. This was done by using SPSS version 23 to run a factor analysis on the instrument. The validity test was done by giving out 73 item of questionnaire concerning accounting for forestry in Federal college of forestry, Ibadan (FCFI), Oyo State, Nigeria to guarantee that the sampling was adequate and accurate; the outcome is displayed Table 1.

The KMO and Bartlett's Test result revealed a Measure of Sampling Adequacy value (Kaiser-Meyer – Olkin) of 0.811. According to the measurement of appropriateness of Facto Analysis, the KMO and Bartlett's Test showed a meritorious result. Hence, the instrument is considered valid.

4.5 Instrument Reliability

For reliability of primary data, a statistical analysis was conducted to decide the core regularity of the substances of the questionnaire. This was done using Cronbach Alpha. Pallant (2007) stressed that when a psychometric scale is used, the internal consistency could be checked using Cronbach alpha.

4.5.1 Reliability statistics

The amount of accounting for forestry was tested using the Cronbach's alpha at the FCFI, Oyo State, Nigeria. The results showed an alpha level of.784, which is higher than the usually accepted cutoff point of.70. The measurement is accurate as a result.

Table 1. KMO and Bartlett's test

KMO and Bartlett's Test		
Sampling Adequacy (Kaiser-Meyer-Olkin).		.811
Bartlett's Test of Sphericity	Approx. Chi-Square	479.127
	Df	45
	Sig.	.000

Source: SPSS Ver. 23

Table 2. Cronbach's alpha values for research questionnaire

Reliability Stat.	
Cronbach's Alpha	**No. of Items**
.784	10

Source: SPSS ver. 23.

4.6 Data Analysis Method

The technique employed in analysing the quantitative data in the study is by using a social science statistical software to perform the descriptive statistics (SPSS ver. 23). The One-Sample Mean T-test was utilized to assess the proposed hypotheses, and a mean of 2.5 was selected as the decision threshold in answering the study questions. The study's 95 percent confidence interval and threshold of significance are both set at 5 percent.

4.6.1 Decision rule

If the probability value (p-value) is less than 0.05, the research hypothesis will be accepted; if it is more than 0.05, the null hypothesis will be accepted.

5. PRESENTATION AND ANALYSIS OF DATA

5.1 Descriptive Statistics

5.1.1 Analysis of research questions

Research Question One: What is the level of adoption and utilization of measures of accounting for forestry in FCFI Oyo State, Nigeria?

Table 3 shows the descriptive statistics of investigative questions which indicates that the mean statistics of the ten (5) scores higher than 2.50 with the least of them scoring a mean of 3.07 (question four) which is still higher than 2.50. The summary statistics also reveals a grand mean value of 3.294 for the investigative questions which is above the decision threshold hence to a great extent, there is a significant level of adoption and utilization of measures of accounting for forestry in FCFI Oyo State, Nigeria.

Research Question Two: To what extent Analytical techniques improved the accountants' performance in the accounting for forestry in FCFI, Oyo State, Nigeria?

Table 4 shows the descriptive statistics of investigative questions which indicates that the mean statistics of the ten (5) scores higher than 2.50 with the least of them scoring a mean of 3.18 (question three) which is still higher than 2.50. The summary statistics also reveals a grand mean value of 3.396 for the investigative questions which is above the decision threshold hence to a great extent, analytical techniques have improved the accountants' performance in the accounting for forestry in FCFI, Oyo State, Nigeria.

5.2 Test of Hypotheses

5.2.1 Test of hypothesis one

H_{01}: There is no significant adoption and utilization of measurements of accounting for forestry in FCFI, Oyo State, Nigeria.

Table 3. Descriptive statistics of investigative questions

Descriptive statistics								
Investigative Question	**SA**	**A**	**D**	**SD**	**N**	**Sum**	**Mean**	**Std. Dev.**
Accounting for forestry is fully operational in your institution.	47	7	4	15	73	232	3.18	1.229
Accounting for forestry adopted by natural resource ministry in Nigeria is effective to ensure proper resource management.	46	12	10	5	73	245	3.36	.963
There are probable indications that the future demand for forest accounting measures for a robust reporting.	42	8	10	13	73	225	3.08	1.199
Forest accounting sends market signals that would have direct impact on resource control policies.	47	0	10	16	73	224	3.07	1.295
Accountants do not sufficiently address the difficulties in developing models for forestry accounting and valuation.	61	8	4	0	73	276	3.78	.534
Valid N (listwise)					73			

Source: Field Survey, 2021

Table 4. Descriptive statistics of investigative questions

Descriptive statistics								
Investigative Question	**SA**	**A**	**D**	**SD**	**N**	**Sum**	**Mean**	**Std. Dev.**
The heightened state of corruption in Nigeria may undermined the effective accounting for forestry in Nigeria.	53	5	9	6	73	251	3.44	1.000
Brainstorming session in forestry operations was to make accountants proactive in developing models and measures to account for forestry.	64	9	0	0	73	283	3.88	.331
Critical scrutiny of any document made available to the public improves the chances on discovering deliberate misstatement in the forest accounting	45	10	4	14	73	232	3.18	1.194
Analysing financial records is a deliberate attempt to make useful enquiry into measures and sustainable techniques for accounting for forestry.	46	10	8	9	73	239	3.27	1.083
High level analysis is necessary in ensuring wholesome computation and valuation of forest resources.	40	15	11	7	73	234	3.21	1.027
Valid N (listwise)					73			

Source: Field Survey, 2022

Table 5. Statistical analysis (One-sample statistics)

One-sample statistics				
	N	**Mean**	**Std. Deviation**	**Std. Error Mean**
R1	73	33.4384	6.83331	.79978

Table 6. Statistical analysis (One-sample test)

One-sample test						
	Test Value = 0.05					
	T	**Df**	**Sig. (2-tailed)**	**Mean difference**	**95% Confidence interval of the difference**	
					Lower	**Upper**
R1	41.747	72	.000	33.38836	31.7940	34.9827

Source: SPSS ver. 23

Table 7. Statistical analysis (One-sample statistics)

One-sample statistics				
	N	**Mean**	**Std. Deviation**	**Std. Error Mean**
R1	73	31.6743	6.83331	.7487

Table 8. Statistical analysis (One-SampleTest)

One-Sample Test						
	Test Value = 0.05					
	t	**Df**	**Sig. (2-tailed)**	**Mean Difference**	**95% Confidence Interval of the Difference**	
					Lower	**Upper**
R1	40.556	72	.000	32.4230	31.7940	33.6827

Source: SPSS ver. 23

Tables 5,6 shows a t statistic value of 41.747 which is significant at .05 level; the sig (2-tailed) value was .000. Hence, ($p < .05$). Thus, it was evidence to disprove the H0. Thus, there is a significant adoption and utilization of measurements of accounting for forestry in FCFI, Oyo State, Nigeria.

5.2.2 Test of hypothesis two

H_0: There is no significant use of Analytical techniques to improve accountants' performance in the accounting for forest resources in FCFI, Oyo State, Nigeria.

Tables 7,8 shows a t statistic value of 40.556 which is significant at .05 level; the sig (2-tailed) value was .000. Hence, ($p < .05$). Thus, the evidence was used to reject the H_0. Thus, there is a significant use of analytical techniques to improve accountants' performance in the accounting for accounting for forestry in FCFI, Oyo State, Nigeria.

6. CONCLUSION AND RECOMMENDATION

For the efficient upkeep of forest resources, forest accounting is beneficial. Knowing the accessibility of natural resources and the revenue generated by these resources is crucial for the management of forest areas. However, there are a number of difficulties with forest accounting in Nigeria. Some of these include the lack of inclusion in the national accounting system, underestimation of income measurement, improper identification, classification, and valuation of biological assets, a lack of research on the creation of an appropriate forest accounting system, the lack of adequate data, the lack of professionals, etc.

To enhance the forest accounting system, significant steps must be taken, such as the following: integrating the forest accounting system into the national accounting system; creating a solid research foundation for improving the forest accounting system; improving planning for the use of forest resources; integrating the forest sector into a comprehensive global capitalization and trade scheme; and enhancing the role of financial professionals in the valuation of forest resources. A worthwhile correlation between forest accounting and sustainable development was discovered by the study. Because of this, society as a whole—including Nigeria—cannot afford to have its forests in risk. So it is necessary to acknowledge and assess the economic importance of forests.

The following recommendations are hereby given in line with the findings of the study:

i. **Creating forest reserves:** Obtaining and retailing forest products without a permit, destroying forest estate, destroying waterways, and starting fires without permission are all forbidden in certain regions, which the government has designated and gazetted.

ii. **Legislation against deforestation:** Numerous laws and decrees have been passed since 1897 to regulate and improve forest preservation. The issue is that these regulations have not been effectively applied to dissuade defaulters.

iii. **Establishment of rainforest management:** The rainforest has been managed using a variety of methods. These techniques include enriching planting, the taungya system, plantation establishment, the Malayan uniform system, and tropical shelterwood systems. It is regrettable that these management strategies were unable to save the Nigerian rainforest.

iv. **Afforestation programmes:** In Nigeria, numerous afforestation programs have been implemented over the years. However, there aren't many mature forest plantings that can supply sawn wood and fuel. Additionally, relatively few wood-based businesses own their own plantations. Politicians have even taken over the yearly tree-planting campaign, which the Forestry Association of Nigeria launched to raise awareness for planting trees. Politicians recently made a big deal out of planting trees by having the president and state governors plant symbolic trees first, then other dignitaries. Many of these seedlings do not survive after the first year of planting because monies are not released after the planting as and when necessary to care for the planted seedlings.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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