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RECLAMATION COST AND CORPORATE PERFORMANCE OF OIL AND GAS COMPANIES IN NIGER DELTA, NIGERIA

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ABSTRACT

The study instigated reclamation cost and corporate performance of oil and gas companies in Niger Delta. The study adopted correlational survey research design. The population and sample size are three (3) oil companies in Niger Delta. The formulated hypothesis is tested using the simple Regression analysis with model summary explaining the relationship and determinant percentage of the relationship with the R and R-square respectively and the significance of the variability will be tested using the hypotheses acceptation and rejection at 0.05 levels of significant using Coefficients table with the aid of the SPSS platform. The finding revealed that there is negative relationship (effect) between revegetation and reforestation costs cost and profitability of oil and gas companies in Niger Delta. It was recommended that companies within the oil industry should be apt to cultivate reclamation costs in their activities in order to sustain the environment for the future generation and to avoid hostility from host communities that will affect the company's profitability.

Keywords: Reclamation Cost, Revegetation and Reforestation costs cost, Corporate performance and Profitability.

INTRODUCTION

Earth and its environment a rich inheritance passed on by generations for us to take adequate care for the next generation in the mist of our enormous individual and corporate activities. Thus, there has been an increased public awareness on environmental reclamation between host communities, government, and companies. This enlightenment gears towards environmental degradation control, resources depletion control, ozone layer depletion control, ecological reclamation, revegetation and reforestation costs, etc, which are unlikely been practiced. Thereby causing an economic and social imbalance in the Nigerian society, especially Niger Delta region (Adekanmi, 2015). Corporate organizations, particularly oil & gas companies are thereby faced with the needs to impact positively on ecological rejuvenation of host communities, by taking upon themselves certain reclamation cost responsibilities on the sites or oil & gas fields drilled, and not to abandon them like the case of Olobiri oil well and the ecological damage in the community and many others oil & gas sites or fields drilled and abandon in the Nigeria Delta, in order to increase their societal and environment influence (Orukwo, 2015).

Reclamation means measures undertaken to bring about the necessary reconditioning or restoration of land or water that has been affected by exploration or mineral development, mining or onsite processing operations, and waste disposal, in ways which will prevent or control onsite and offsite damage to the environment. The primary goal of reclamation on oil and gas lands is to restore site stability and ecosystem functions, returning disturbed lands to their original use or use prior to disturbance, such as crop production or wildlife habitat. The benchmark for successful reclamation typically is the establishment of a native plant community that is self-sustaining and meets standards for density and forage production, and the re-contouring of all disturbed surface areas to match or blend with the original landform (Smith, 1993). Richard (2010), in recent times environmentally friendly field developments, an operator's permit to drill usually includes a limit on the total surface area that can be disturbed at one time. Because of this restriction, interim reclamation is conducted during the construction, drilling, and well production phases of oil and gas development to ensure that surface disturbance is within the limits established in the drilling permit. During interim

reclamation, land on a well site that is not being used for production but has been disturbed should be undergoing the reclamation process through recontouring, topsoil replacement, and revegetation and reforestation costs.

A firm's performance can be heavily influenced by its reputation. Thus, reputation management is a crucial strategic activity for managers. Because audiences increasingly consider a firm's social performance when assessing the firm's overall reputation (Brenner & Molander, 2008), social reputations have also become necessary for firms to manage. To do so, many firms have adopted corporate social responsibility (CSR) initiatives (Orlitzky, Schmidt, & Rynes, 2003).

Thus corporate performance according to Orukwo (2015), is the totality of the internal processes and systems that are required and are undertaken in all parts or sections of the organization in order to consistently achieve goals and objectives of the business entity in terms of measuring, monitoring and evaluating the key performance indicators such as profitability, return on investment, return on capital employed, operational costs effectiveness, productivity, growth, sustainability, etc.

Statement of Problem

In developing countries like Nigeria most oil companies still do not see any reason for corporate social responsibility accounting policy recognition, acceptability or implementation. Oil companies that reluctantly accepted and adopted the corporate social responsibility accounting policies, do so for majorly deviant or political purposes. Thus, allow host communities to suffer from all sort of environmental (water, air and land) and ecological degradations, pollution, poisonous chemical emission, oil spillage, unethical or no ecological reclamation practices, etc, especially in the Niger Delta.

There have been complaints and counter accusations on going environmental reclamation, and policies in Nigeria. As more than 80% of firms (ranging from small scale to multinationals) do not complied with environmental and ecological reclamation laws and regulations for sustainable development (Olayinka & Temitope, 2011).). Taking the case of the Ogoni clean-up that has not been implemented even after many years of issuing approval and which even the sitting federal government has toyed or deceived with politics. Also relating the issues of Nernbe and Nigeria Agip Oil Company in Bayelsa State. Others are Eket people and Exxon Mobil Producing Company in Akwa Ibom state which also leads to increasing agitation for environmental reclamation concerns. The number 1 oil rich community (Olobiri) vibrates till date because of oil and gas exploration activities done without reclamation of the environment. There is need for oil and gas companies to take cognizance of the effect of their activities within the environment for future generations.

Purpose of the Study

The study focused on reclamation cost and corporate performance of oil and gas companies in Niger Delta, Nigeria. The specific purpose is on;

1. To investigate the effect of revegetation and reforestation costs cost on profitability of oil and gas companies in Niger Delta.

Hypothesis

1. There is no significant relationship between revegetation and reforestation costs cost and profitability of oil and gas companies in Niger Delta.

Literature Review

Reclamation Cost

As part of the life cycle of a surface petroleum mine, completed mine areas must undergo rehabilitation. When mining ends, operators must restore the land to its approximate original contour (AOC) or leave the land graded and suitable for a "higher and better" post-mining land use (PMLU) that has been approved as part of the original mining permit application. Exceptions are provided when a community or surface owner is in need of flat or gently rolling terrain. Acceptable

post-mining land uses include commercial, residential, recreational, agricultural or public facility improvements (Jay, 2013).

According to Kristin (2018), mine reclamation cost is cost incurred by a company in the process of restoring land that has been mined to a natural or economically usable state. Although reclamation expenses occur once mining is completed, the planning of reclamation cost activities occurs prior to oil and gas operating lease permit (OPL) being issued. Oil & gas reclamation creates useful landscapes that meet a variety of goals ranging from the restoration of productive ecosystems to the creation of industrial and municipal resources. In the United States, oil and gas reclamation cost is a regular part of modern mining practices. Modern reclamation cost minimizes and mitigates the environmental effects of mining.

Reclamation cost means the environmental ecological cost obligations assumed by oil & gas companies as part of the liabilities for the closure of the oil fields, wells and sites to meet the all events and economic performance for future sustainability. The costs associated with reclamation may be a relatively small percentage of the capital cost to drill and develop an oil and gas well. However, reclamation can become a significant factor in the operating expenses associated with a well, particularly on older wells where less sophisticated reclamation measures were used. Often, issues in Lease Operating Expense (LOE), a metric commonly used in the oil and gas industry, are followed closely by managers and financial analysts as indicators of profitability. LOE per unit of oil or gas produced is often used as an indicator of an operator's efficiency. Unexpected inputs and resource allocation can lead to some level of impact to profitability (Saxowsky,2015).

The primary goal of reclamation on oil and gas lands is to restore site stability and ecosystem functions, returning disturbed lands to their original use or use prior to disturbance, such as crop production or wildlife habitat. The benchmark for successful reclamation typically is the establishment of a native plant community that is self-sustaining and meets standards for density and forage production, and the re-contouring of all disturbed surface areas to match or blend with the original landform.

International legal requirements (laws) that may impact the surface owner

Saxowsky (2015), outline some international legal practices of oil and gas companies on reclamation activities.

- ❖ All waste associated with exploration or production of oil and gas, or resulting from a spill or leak must be disposed of properly.
- ❖ Water remaining in a drilling or reserve pit must be removed and disposed of properly.
- ❖ Saltwater, drilling mud, crude oil, waste oil or other waste may not be stored in earthen pits or open receptacles (however, the regulation provides several exceptions).
- ❖ Pits and ponds containing oil must be fenced, screened and netted. A pit needs to be fenced, screened and netted if "such pit is not reclaimed within ninety days after completion of drilling operations.
- ❖ Drill cuttings and other solids resulting from well drilling may be buried as long as the pit can be constructed, used and reclaimed in a manner that prevents pollution of land surface and freshwater.
- ❖ Drill cuttings and solids must be stabilized before being placed in a cuttings pit; liquid must be removed from cutting pits; the pit must be diked; pits may not be located in or hazardously near water and cannot block natural drainage; state government can require the pit to be fenced; drilling pits must be reclaimed within 30 days after drilling or the expiration of a drilling permit.
- ❖ Fluids from a spill or leak must be removed properly by the well operator.
- ❖ Wells must be plugged to confine oil, gas and water permanently in separate strata.
- ❖ Saltwater (produced) liquids must be processed, stored and disposed of without polluting freshwater; underground injection/disposal of saltwater must be conducted accordingly to state law; surface saltwater facilities must be free of leaks and properly constructed; dikes must be maintained around saltwater tanks; discharged (spilled) saltwater must be removed properly; operators must

minimize the amount of solids stored at the site; open pits containing saltwater must be fenced if not reclaimed with 90 days after completion of drilling.

- ❖ Newly constructed underground gathering pipeline must be free of leaks and constructed properly.
- ❖ The operator of any well or hole is responsible for plugging and site reclamation; the state-mandated bond covers drilling, plugging and reclamation, as well as the operation of underground gathering pipelines.

Revegetation and reforestation costs Cost

The expenses incurred in oil and other environmental cleaning, clearing, refilling, planting native-vegetations and its labour expenses, by companies, government, for ecological and environment sustainability for future generations. Standards for revegetation and reforestation costs cost on oil and gas lands vary by state but typically include a specified level of cover, density, vigor, resiliency, diversity; control of highly competitive non-native species; and freedom from noxious weeds (Chenoweth, Holland, Jacob, Kruckenberg, Rizza, Whitely, 2012).

a. **Seeding Methods:** There are many approved methods for re-seeding and culturing, including drilling, broadcast seeding, hydroseeding, dozer track walking, mulching, irrigating, and fertilizing. If seed fails due to drought or other extreme conditions, the surface management agency may grant the operator a delayed timeline for re-seeding until the adverse conditions have passed. They may also require additional culturing such as mulching or irrigating.

b. **Seed Mixes:** Soil type, market availability, wildlife needs, and agency or landowner requirements should all be considered when choosing a seed mix for a site. While the surface management agency or a private landowner may approve select non-native species for reseeding, mixes composed primarily of species indigenous to the area being seeded typically are preferred or required. In some cases, the appropriate agency field office will prescribe an already determined seed mix.

(Chenoweth, Holland, Jacob, Kruckenberg, Rizza, Whitely, 2012). In addition to some component costs (fencing, seedlings, and sometimes chemical spraying and tree guards) tending to make up a large proportion of total revegetation and reforestation costs costs, revegetation and reforestation costs tends to be more costly in some regions than in others. It costs significantly more to revegetate areas in three of the six regions surveyed: the moist tropical region, the central arid region, and the warm moist temperate with hot summers region. The first two of these in general incur higher costs of revegetation and reforestation costs than the third region.

Corporate performance

Corporate performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. It is a general measure of a firms overall financial health over a given period of time and can be used to compare similar firms across the same industry. Kaplan and Norton (1992), argues that, performance can also be assessed on a balanced scorecard of critical success factors through four perspectives financial, customers, internal business processes and learning and growth.

Liargovas and Skandalis (2008), state that financial performance is the level of performance of a business over a specified period of time, expressed in terms of overall profits or losses during that time. Evaluating the financial performance of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms. It is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues.

Profitability

Doris and Jordan (2013), profitability is a measure of financial performance that indicates earnings after expenses and other deductions are made. There are several levels or indices of profitability including: gross profit margin (deducting cost of sales from the revenue figures and dividing by it

revenue figure), net profit margin (net operating profit after interest and taxes), operating margin or operating efficiency (earnings before interest and tax) and inventory turnover (dividing cost of goods sold with average inventory for that period). Thus, profitability is an economic indicator that calculates the financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity (Salaheldin, 2015).

Theoretical review

Stakeholder Theory

Stakeholder theory is a theory of management that concerns itself with matters related to morals and ethics in running a business. Ian Mitroff, in his 1983 book "Stakeholders of the Organizational Mind," originally laid out the concept. R. Edward Freeman's book "Strategic Management. It emphasizes the interconnections between business and all those who have a stake in it, namely customers, employees, suppliers, investors and the community. The business to serve the needs of the stakeholders, and not just the shareholders.

Stakeholder theory views the corporation as part of a larger social body and not a separate entity. Thus, companies have reclamation cost responsibilities to the host communities, groups and government other than profit only to its owners. Its environmental impacts on the lives of individuals like communities, customers and especially employees, who are dependent on the firm, is a large contribution on the corporate economic performance.

METHODOLOGY

The study adopted correlational survey research design. The population and sample size are three (3) oil companies in Niger Delta. The formulated hypothesis is tested using the simple Regression analysis with model summary explaining the relationship and determinant percentage of the relationship with the R and R-square respectively and the significance of the variability will be tested using the hypotheses acceptation and rejection at 0.05 levels of significant using Coefficients table with the aid of the SPSS platform.

Model Specification

Thus the formula for simple regression: $\psi = ao + bx_1 + e$……..1

To test the hypotheses of the study, this study has two main variables, dependent and independent and a moderating variable. Reclamation cost (RCOST) is the independent variables of the study as well as its dimension in term of Revegetation and reforestation costs Cost (REVCOST). Whereas Corporate Performance (CORP) its measures Profitability (Profit). The following models were used to analyses the relationship between the variables.

The First Model: the first hypothesis test model; the relationship between revegetation and reforestation costs cost and corporate Performance: $CORP_{it} = \beta 0 + b_1(REVCOST) + e\ (.05)$

Data presentation and analysis

Test of Hypothesis

There is no significant relationship between revegetation and reforestation costs cost and profitability of oil and gas companies in Niger Delta.

The First Model: the first hypothesis test model; the relationship between revegetation and reforestation costs cost and corporate Performance: $CORP_{it} = \beta 0 + b_1(REVCOST) + e\ (.05)$

Table 1 **Model Summary[b]**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.784[a]	.615	.230	26.32531	1.880

a. Predictors: (Constant), REVCOST
b. Dependent Variable: PROFIT
Source: output of SPSS v22

The results from the table above evinces the presence of a strong bearing between revegetation and reforestation costs cost and profitability. The value of the correlation coefficient represented as "R" of 0.784[a] (78.4%) provides the attestation. The coefficient of determination (R^2) of 0.615 suggest that 61.5% of the variability in revegetation and reforestation costs cost can be explained by changes in profitability related activities while the remainder is accounted for by other extraneous factors not harnessed into the model
The adjusted R^2 suggest the extent to which we can postulate about the result. In view of this, with 1.880 Durbin-Watson value we can speculate that the model auto-robustness avails a reasonable predictability of good fit.

Table 2 **Coefficients[a]**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	423.122	47.236		8.958	.071
	REVCOST	-1.515	1.199	.784	-1.264	.426

a. Dependent Variable: PROFIT

The above coefficient table shows a Beta (β) value (same correlation coefficient, R) of 0.784, produced a t-value of -1.264 which is not significant at P (0.426) greater than the chosen alpha of (0.05). The result is not significant thus; the null hypothesis is accepted (P-Value > 0.05). Hence, there is negative relationship (effect) between revegetation and reforestation costs cost and profitability of oil and gas companies in Niger Delta.

CONCLUSION AND RECOMMENDATION

Oil and gas company's reclamation cost activities is key ecological sustainability and environmental development strategy in the oil rich Niger Delta of Nigeria. In view of the discoveries made in this study, it seems oil companies are apathetic to their environmental responsibility and might experience eventual crashes on their profitability if their investors are rational in considering the future value of the firm based on its present state of reclamation cost activities. The hypothesis indicates that there is negative relationship (effect) between revegetation and reforestation costs cost and profitability of oil and gas companies in Niger Delta. Thus, companies within the oil industry should be apt to cultivate reclamation costs in their activities in order to sustain the environment for the future generation and to avoid hostility from host communities that will affect the company's profitability.

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Appendix

Profit Margin of Three Oil Companies

S/N	Firms	2013	2014	2015	2016	2017
1	Total Nig. Plc	78.76	89.38	-	85.85	86.19
2	Seplat Petroleum Development Company	73.19	72.50	71.23	71.30	72.31
3	Addax Petroleum	85.78	87.65	61.13	76.74	87.87

Revegetation and reforestation costs Costs: in cost comprise of the three companies; Seedlings cost, Tree guards' expenses, Chemicals cost, Clean-up expenses, Labour cost and Miscellaneous expenses.

S/N	Total Nig. Plc	Seplat Petroleum Development Company	Addax Petroleum
2013	12.322	10.071	02.630
2014	01.204	11.197	05.120
2015	12.240	07.230	09.091
2016	14.103	06.102	02.001
2017	01.029	16.124	01.456

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  /DEPENDENT PROFIT
  /METHOD=ENTER REVCOST
  /RESIDUALS DURBIN.
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Regression

Notes

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Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	REVCOST[b]	.	Enter

a. Dependent Variable: PROFIT

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.784[a]	.615	.230	26.32531	1.880

a. Predictors: (Constant), REVCOST
b. Dependent Variable: PROFIT

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1106.878	1	1106.878	1.597	.426[b]
	Residual	693.022	1	693.022		
	Total	1799.900	2			

a. Dependent Variable: PROFIT
b. Predictors: (Constant), REVCOST

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	423.122	47.236		8.958	.071
	REVCOST	-1.515	1.199	-.784	-1.264	.426

a. Dependent Variable: PROFIT

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	346.2720	392.3691	366.6000	23.52528	3
Residual	-21.05893	14.25800	.00000	18.61480	3
Std. Predicted Value	-.864	1.095	.000	1.000	3
Std. Residual	-.800	.542	.000	.707	3

a. Dependent Variable: PROFIT