

A Survey Study on the Local Content Development in the Oil and Gas Industry of Nigeria (Using Petroleum Training Institute as a Case Study).

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Abstract— This paper presents people's view on local content in the oil and gas industry of Nigeria. Analyzing questionnaires was done using Graph pad software to know people's view on local content in the oil and gas industry of Nigeria in terms of its level, Petroleum Training Development Fund (PTDF) contribution towards achieving the targeted local content level and international recognitional level of Nigeria local content. This analysis is of importance in order to scale ourselves on the indigenous involvement in the petroleum industry of Nigeria. After the whole study, it was concluded that local content has not improved as expected in the oil and gas industry of Nigeria because of some major drawbacks such as non-compliance by the international companies operating in the countries to the rule of the policies, idle capacity in the indigenous oil companies due mainly to inability to win consistent and sizable contracts from these international oil companies, absence of strategy that will grow local capacity in a sustainable and targeted manner, over reliance of national development activities on external capacity and poor implementation of Nigerian content policy. However there is need to increase this level because of its necessity to the nation's development.

Index Terms -. Local Content, Oil and Gas, Indigenous, Nigeria and Policy.

1 INTRODUCTION

For a country regarded as one of the world largest producing oil countries, it is expected that the country should be deriving maximum benefit from its natural reserves channeled towards the nations' development but the reverse is the case. Nigeria initiated the local content act in early 2000's to tackle this issue through indigenous in-

Local content development has been defined by many authors in different ways but essentially refers to the quantum of composite value added or created in the Nigerian economy through the utilization of our human and material resources for the provision of goods and services to the oil and gas industry adhering to predefined quality, health, safety, and environmental standards in order to stimulate the development of indigenous capabilities [1].

"Local Content Development in Nigeria has generated a large body of literature, which its focus ranging from the development of theoretical frameworks [2,3,4,5] to surveys and early empirical work aimed at appraising Local Content Development policy objectives" [6,7]. The history of the Local Content Development policy in Nigeria is traceable to the Petroleum Act of 1969, which stated that " the entire ownership and control of all petroleum in, under or

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v involvement in the exploration and production of oil and gas.

upon any lands[...] shall be vested in the state" [8]. The petroleum Act of 1969 was later amended by the Petroleum (Drilling and Production) Amendment Regulations Act. Such legislation was followed by the Joint Operating Agreement (JOA) and Production Sharing Contracts (PSCs) Act, which became effective from 1971 [9]. The development of the Marginal Field Programme as contained in the Petroleum (Amendment) Decree No.23 of 1996 was also geared toward the development of LCD. A "marginal field" is defined as any field that has reserves booked and reported annually to the Department of Petroleum Resources (DPR) and which has remained untouched for a period of 10 years [10]. This law was promulgated to help recover marginal fields from various international oil companies (IOCs) and re-allocate them to indigenous firms. The conditions and requirements for this re-allocation were such that current holders of oil prospecting licenses (OPLs) and oil mining licenses (OMLs) were excluded from applying, having ownership, operating, or acquiring participatory interests in any marginal field [11].

The creation of petroleum technology development fund which was initially regarded as gulf oil company fund act was also to help to increase the level of local content in the oil and gas industry of Nigeria through providing training and education to Nigerians in the oil and gas industry. The Petroleum Training Institute (PTI) Act of 1972 led to the establishment of the PTI in 1973. Although the institute was established as a prerequisite for the membership of the Organization of Petroleum Exploring Countries (OPEC), it was also set up to train Nigerians to meet the labour force requirement of the Nigerian oil and gas industry. The objective was, and still is "...to deliver quality education and provide efficient technological manpower to build a competent and committed workforce that will sustain and service the continental oil and gas industry" [12].

Despite these great moves to increase the local content to an expected level, Nigeria has not been able to meet this target. The low level of local content in the oil and gas industry of Nigeria has made the country a junior partner in her joint venture arrangements with the International Oil Companies (IOCs). For a country with over five decades' experience in oil and gas exploration and production activities and proven recoverable reserves of billion barrels, her

inability to use the resource wealth in nation's development has perhaps been the greatest challenge facing the country. These challenges points towards how Nigeria can derive maximum benefit through the use of indigenous competencies as practiced by countries like Norway, Indonesia, Brazil and Norway. Though Nigeria started oil exploration and production activities before these countries, they have been unable to record a remarkable feat as recorded by these countries. "An average investment of \$10 billion per annum is made by Nigeria in oil and gas sector, but the contribution to Gross Domestic Product (GDP) is minimal an average of less than 30%" [13]. What now is the prevailing factors inhibiting Nigeria from making the required progress.

The Nigerian Oil and Gas Development Law 2010 defines local content as "the quantum of composite value added to or created in Nigeria through utilization of Nigerian resources and services in the petroleum industry resulting in the development of indigenous capability without compromising quality, health, safety and environmental standards"[14]. The local content policy action started in 1971 through the establishment of the Nigerian National Oil Corporation, (NOC). Nigerian National Oil Corporation (NOC) was established as a vehicle for the promotion of Nigeria's indigenization policy in the oil and gas sector [14]. In 1977, Nigeria National Petroleum Corporation (NNPC) was formed through the conglomeration of Nigerian National Oil Corporation and petroleum industry. Nigeria National Petroleum Corporation (NNPC) started the implementation of the local content initiative through acquisition of interests in the operations of the International Oil Companies (IOCs) under different contract types [14]. There have been a lot of challenges limiting the efficiency of the local content policy implementation which has made the whole struggle seems like a mere paperwork. There is a need for the country to wake up and tackle this imminent menace which is indirectly affecting the country's revenue since the country's main source of income is petroleum. People's views on the importance and the level of improvement on the country's technical capacity and professionalism were accessed here in view to create a way forward for the implementation of adequate local content policies in the oil and gas industry of Nigeria.

2. Materials and Methods

This study employed the use of survey research design. The choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the study as the study sought to examine workers view on local content in the oil and gas industry using Petroleum Training Institute Effurun as a case study. The population of this study consisted of thirty six (36) staff of Petroleum Training Institute Effurun, Nigeria. As a result of the inability to effectively study the whole staff strength (population) of the organization, a representative number was chosen as the sample size population. Thirty six (36) staff was used as the sample size. Data were collected from primary and secondary sources. Primary data were obtained through questionnaire with both management and senior staff of the organization. The questionnaire contains sections A and B. Section A contains personal information about the respondents. Section B is the main body of the questionnaire. This section contains eight (8) close ended questions using a five (5) point scale instrument through which the opinions of the respondents were expressed. Their responses were measured by means of a five category rating system:

SA	-	Strongly agree	5
A	-	Agree	4
UD	-	Undecided	3
D	-	Disagree	2
SD	-	Strongly disagree	1

Reliability in this context refers to the measure of consistency of the instrument used in eliciting relevant and desirable responses from respondents so that the objectives can be reliably and meaningfully achieved. In order to determine the reliability of the instrument used in the study, the corrected questionnaire was administered randomly on selected staff of Petroleum Training Institute Effurun, Nigeria. This approach was repeated with the same group after a Two – month's period and the results obtained from the first and second pre-test were consistent, therefore, the instrument is reliable. The questionnaires were personally

administered to the respondents during official hours at the office. The exercise was done with the help of head of operations of the institute to enhance high return rate. Tables and simple percentage was used as a technique of analyzing the research questions while chi-square was used to test the research hypotheses for the parts that cannot be concluded from the data gotten. All the tests were conducted at 0.05 level of significance. Graph pad software was used for the chi-square calculation. The decision to either reject or accept the null hypothesis (H_0) was reached using the following rules:

If the calculated value (t_{cal}) is greater than the table value (t_{tab}), the null hypothesis (H_0) will be rejected in favor of the alternative hypothesis (H_i) and if the table value (t_{tab}) is greater than the calculated value (t_{cal}) the alternative hypothesis (H_i) will be rejected in favor of the null hypothesis (H_0).

3. Results and Discussion

Presentation, analysis and interpretation of the data gathered are carried out in this section. The data are presented in tables and the analysis is done using percentage and the chi square test (in a situation where direct inference cannot be derived from the result gotten from the percentage or the data itself).

Bio Data of Respondents

Table 1: Sex of Respondents

Sex	Frequency	Percent (%)
Male	24	75.0
Female	12	25.0
Total	36	100.0

Source: field survey, October, 2017.

Table 1 above shows the gender distribution of the respondents used for this study.

24 respondents which represent 75.0 percent of the population are male. 12 respondents which represent 25.0 percent of the population are female.

Table 2: Age of Respondents.

Age	Frequency	Percent (%)
below 20 years	2	5.6
21-30 years	7	19.4
31-40 years	9	25.0
41-50 years	11	30.6
51-60 years	7	19.4
Total	36	100.0

Source: field survey, October, 2017.

Table 2 above shows the age grade of the respondents used for this study.

2 respondents which represent 5.6 percent of the population are below 20yrs.

7 respondents which represent 19.4 percent of the population are between 21-30yrs.

9 respondents which represent 25.0 percent of the population are between 31-40yrs.

11 respondents which represent 30.6 percent of the population are between 41-50yrs.

7 respondents which represent 19.4 percent of the population are between 51-60yrs.

Table 3: Educational Background of Respondents

	Frequency	Percent (%)
WASSCE	6	16.7

HND/BSC	14	38.9
MSC/PHD	11	30.6
OTHERS	5	13.8
Total	36	100.0

Source: field survey, October, 2017.

Table 3 above shows the educational background of the respondents used for this study.

6 respondents which represent 16.7 percent of the population are WASSCE holders.

14 respondents which represent 38.9 percent of the population are HND/BSC holders.

11 respondents which represent 30.6 percent of the population are MSC/PHD holders.

5 respondents which represent 13.8 percent of the population are OTHERS.

Table 4: Marital Status of Respondents

Marital Status	Frequency	Percent (%)
Single	8	22.2
Married	26	72.2
Divorced	0	0
Widowed	2	5.6
Total	36	100.0

Source: field survey, October, 2017.

Table 4 above shows the marital status of the respondents used for this study.

8 respondents which represent 22.2 percent of the population are single.

26 respondents which represent 72.2 percent of the population are married.

0 respondents which represent 0 percent of the population are divorced.

2 respondents which represent 5.6 percent of the population are widowed.

Tables Based on Research Questions

Table 5: Local content is significant to the growth of the economy?

Response	Frequency	Percent (%)
strongly agree	12	33.3
Agree	16	44.4
Undecided	6	16.7
Disagree	2	5.6
Total	36	100.0

Source: field survey, October, 2017.

Table 5 above shows the responses of respondents that local content is significant to the growth of the economy.

12 respondents which represent 33.3 percent of the population strongly agreed that local content is significant to the growth of the economy.

16 respondents which represent 44.4 percent of the population agreed that local content is significant to the growth of the economy.

6 respondents which represent 16.7 percent of the population were undecided.

2 respondents which represent 5.6 percent of the population disagreed that local content is significant to the growth of the economy.

Generally from this result, we can now say that majority of the respondent agreed that the local is significant to the growth of the economy.

Table 6: Local content in the Nigerian oil and gas industry is actually improving as expected?

Response	Frequency	Percent (%)
strongly agree	12	33.3
Agree	5	13.9
Undecided	1	2.8
Disagree	6	16.7
strongly disagree	12	33.3
Total	36	100.0

Source: field survey, October, 2017.

Table 6 above shows the responses of respondents that local content in the Nigerian oil and gas industry is actually improving as expected.

12 respondents which represent 33.3 percent of the population strongly agreed that local content in the Nigerian oil and gas industry is actually improving as expected.

5 respondents which represent 13.9 percent of the population agreed that local content in the Nigerian oil and gas industry is actually improving as expected.

1 respondent which represent 2.8 percent of the population is undecided.

6 respondents which represent 16.7 percent of the population disagreed that local content in the Nigerian oil and gas industry is actually improving as expected.

12 respondents which represent 33.3 percent of the population strongly disagreed that local content in the Nigerian oil and gas industry is actually improving as expected.

Since the result is uncertain, further analysis will be done on this category using chi-square test.

Table 7: PTDF is actually fulfilling its setout objective of initiation?

Response	Frequency	Percent (%)
strongly agree	18	50.0
Agree	9	25.0
Undecided	1	2.8
Disagree	3	8.3
strongly disagree	5	13.9
Total	36	100.0

Source: field survey, October 2017.

Table 7 above shows the responses of respondents that PTDF is actually fulfilling its setout objective of initiation.

18 respondents which represent 50.0 percent of the population strongly agreed that PTDF is actually fulfilling its setout objective of initiation.

9 respondents which represent 25.0 percent of the population agreed that PTDF is actually fulfilling its setout objective of initiation.

1 respondent which represent 2.8 percent of the population were undecided.

3 respondents which represent 8.3 percent of the population disagreed.

5 respondents which represent 13.9 percent of the population strongly disagreed that PTDF is actually fulfilling its setout objective.

From the data above it can be inferred that PTDF is actually fulfilling its setout objective.

Table 8: Nigerian oil and gas industry still lack world-wide reputation for technical capacity and professionalism.

Response	Frequency	Percent (%)
Strongly Agree	10	27.8
Agree	9	25.0
Undecided	0	0.0
Disagree	9	25.0
Strongly Disagree	8	22.2
Total	36	100.0

Source: field survey, October 2017.

Table 8 above shows the responses of respondents that Nigerian oil and gas industry still lacks world-wide reputation for technical capacity and professionalism.

10 respondents which represent 27.8 percent of the population strongly agreed that there are challenges of ensuring local content in the Nigerian oil and gas industry.

9 respondents which represent 25.0 percent of the population agreed that there are challenges of ensuring local content in the Nigerian oil and gas industry.

0 respondents which represent 0 percent of the population were undecided.

9 respondents which represent 25.0 percent of the population disagreed.

8 respondents which represent 22.2 percent of the population strongly disagreed that there are challenges of ensuring local content in the Nigerian oil and gas industry.

Research Hypothesis

Ho: local content is actually improving now as expected.

Hi: local content is actually not improving now as expected.

Ho: Nigerian oil and gas industry still lacks world-wide reputation for technical capacity and professionalism.

Hi: Nigerian oil and gas industry does not lack worldwide reputation for technical capacity and professionalism.

Level of significance: 0.05

Decision rule: reject the null hypothesis if the p-value is less than the level of significance.

	Local content in the oil and gas industry of Nigeria is Actually improving now as expected?
Chi- Square	7.529
Df	4
P-value	0.013441

	Nigeria oil and gas industry still lacks worldwide reputation for technical capacity and professionalism.
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Chi-Square	8.084
Df	4
P-value	0.054191

Conclusion based on the decision rule

Since the p-value (0.013341) is less than the level of significance (0.05), we reject the null hypothesis therefore concluding that Local content in the Nigerian oil and gas industry is not actually improving as expected. Also, since the p-value (0.054519) is greater than the level of significance (0.05), we accept the null hypothesis that Nigeria oil and gas industry still lacks worldwide reputation for technical capacity and professionalism.

5. Conclusion

From the result above, it is evident that the local content is essential to the growth and development of the Nigerian oil and gas industry and thus should be encouraged of its necessity. The study showed that local content is not improving as expected and despite the petroleum technology development fund fulfilling its objective of developing indigenous competencies, the local content has not improved as a result of several challenges like lack of funds. There is a need to establish a development bank that would empower local contractors. Technology transfer strategy is of importance as well so that we will not be spending money on training without deriving the impact. Local content act would be amended in a way that would encourage the local contractors/investors. Finally, the issue of corruption needs to be addressed as this also affects contracts allocation.

Conflicts of Interest: The author declares no conflict of interest.

References

- [1] NOGIC Act. Nigeria Oil and Gas Industry Content Bill. Explanatory Memorandum, 2010, 1-33.
- [2] Heum, P. (2008) Local content development: Experiences from oil and gas activities in Norway. Institute for Research in Economics and Business Administration (SNF), Bergen, Norway. SNF Working Paper 02/08SNF. 2008, Project 1285, pp. 1-21.
- [3] Heum, P.; Quale, C., Karlsen, J.E.; Kragha, M.; Osahon, G. Enhancement of local content in the upstream oil and gas industry in Nigeria: A comprehensive and viable policy approach. Joint Study by SNF Institute for Research in Economics and Business Administration, Bergen, Norway SNF Report No. 25/03, August, 2003.
- [4] Ihua, U.B. Local content policy and SMEs sector promotion: The Nigerian oil industry experience. *Inter. J. Bus. & Man.* 2010, 5(5), 1-11.
- [5] Omenikolo, I.A.; Amadi R.O. Challenges facing Nigerian local content in oil and gas industry. *Conti. J. Rene. Energy.* 2010, 1, 15-20.
- [6] Bakare, A.S. Local content policy in oil sector and the capacity utilization in Nigerian manufacturing industry. *Bus. & Man. Rev.* 2011, 1(6), 82-92.
- [7] Ihua, U.B.; Olabowale O.A.; Eloji K.N. Entrepreneurial implication of Nigeria's oil industry local content policy perceptions from the Niger Delta region. *J. Enter. Comm.* 2011, 5(3), 223-241.
- [8] Petroleum Act .Laws of the Federation of Nigeria. 1990. Chapter 10 (350 LFN 1990). Available online: [www1chr.up.ac.za>Nigeria>Legislation](http://www1chr.up.ac.za/Nigeria/Legislation) (Accessed on 8th November, 2017).
- [9] Ameh, M.O. The shift From Joint Operating Agreements to Production Sharing Contracts in the Nigeria Oil Industry: Any Benefits for the Players? University of Dundee, Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP). 2011, 1-15.
- [10] Ayodele, O.R.; Frimpong S. Economics of Nigerian Marginal Oil Fields SPE Hydrocarbon Economics and Evaluation Symposium. Dallas: Texas Society of Petroleum Engineers, 2003.
- [11] Emole, C.E. The petroleum (Amendment) decree of Nigeria. *J. Afri.Law.*1997, 41(2), 239-245.
- [12] Petroleum Training Institute. Vision and Mission Statement. 2011. Available online: <http://ptinigeria.org/> (accessed on 8th November, 2017).
- [13] Okafor, J.; Anichie, E. A critical Appraisal of Enforcement of Nigerian Oil and Gas Industry Content Development (NOGICD) Act, 2010. *J. Law, Pol. & Glob.* 2014, 31, 2224-3259.
- [14] Balouga, J. Nigeria Local Content: Challenges and Prospects. *International Assoc. for Energy Econ.* 2012, 23-26.