



IMPACT OF THE OIL AND GAS INDUSTRY IN NIGERIA: AN EVALUATION OF SOME CASES IN THE NIGER DELTA

Ukpong, I. G¹, Inyeinyang, M. M². and Omovwohwovie, E. E¹.

¹School of Agricultural Technology, Federal Polytechnic, Ekowe, Bayelsa State, Nigeria.

²School of Agriculture, Policy and Development, University of Reading, United Kingdom

Corresponding author: Inibehe George Ukpong. Email: inibeheukpong@gmail.com

ABSTRACT

This paper evaluates people's perceptions of the impacts of the O&G industry in Nigeria using the Niger Delta region as a case study. The results indicate a widespread knowledge of negative impacts compared to benefits, suggesting an obvious evidence of inequality in the distribution of oil wealth among the people and communities in the region. The result also indicates high vulnerability to the negative impacts of the industry especially among farmers and fishermen in the region. The result also suggests a wide gap of income inequality which might be due to high rate of unemployment, and loss of livelihood as a result of the various negative impacts of O&G extraction in the region. According to the result, farmers and fishermen seem to be the most vulnerable to the negative impact of the oil and gas industry in the Niger delta. Thus, the need for improved mitigation measures targeted at the main concerns of the people, with high priority to youths, women, farmers and fishermen who seem to be the most vulnerable groups in the region.

Keywords: Oil and Gas industry, cases, Niger Delta.

1. INTRODUCTION

The oil and gas (O&G) industry has been an important economic sector in many countries, playing an indispensable role in contributing to the growth and development of the countries' economies. The industry helps to boost most countries' gross domestic products (GDP) and provides earnings to enhance economic growth and infrastructural development. It also help to promote direct and indirect improvement of people's wellbeing. The O&G industry thus remains a major tool in the quest to address the socioeconomic challenges of modern society, especially in terms of poverty alleviation, employment of labour and energy provision (Ensign *et al.*, 2014; Hughes, 2014).

Macro-economically, the industry has promoted bilateral and international relations among nations; linking both producers of O&G; mainly those from the Middle East, Norway, Russia, and Africa with consumer countries such as the US, Europe, China and India. It remains an internationally recognized element of trade and foreign exchange earnings, and a major reason for many diplomatic ties between nations. As the world faces an increasing energy demand, crude O&G remains the most common and widely used source of energy in the world

(Verrastro & Ladislav, 2007).

In Nigeria, the oil industry contributes substantially to the improvement of the national economy, boosting both international trade and domestic energy consumption (Ogri, 2001).

However, the oil sector remains a potential that to agriculture, food production and food security (Inoni *et al.*, 2006). In recent years, there have been both local and international concerns over the growing evidence of insecurity following increased threats of local insurgency, crimes and porous relationship between O&G firms and communities in the Niger Delta where the bulk of Nigeria's crude oil and gas are extracted (Obi, 2014a; Mohammed *et al.*, 2014; Etekpe, 2007). These threats, might have arisen from the impacts of the industry on people's livelihood in the region, most of which depends on agriculture and fishing.

Studies have shown a hazardous relationship between agriculture and the oil sector, which has left some economies poorer or politically destabilized (Birdsall & Subramanian, 2004), with hazards to which the agricultural sector remains vulnerable. Numerous farmlands have been either displaced by O&G pipelines or destroyed by oil spills and explosions; which reduces the size of agricultural lands and forest hence, the volume of food production (Eregha & Irughe, 2009). According to Ekpebu & Ukpong (2013), pipelines used in transporting crude

O&G across the region have occupied and limited the size of potential farmlands. Oil and gas extraction also destroy water sources which are important for agricultural production, as well as fish and other seafoods. It eventually causes oil spillages which pollute and destroy farms and water bodies resulting in food shortages and an increase in food prices, as well as economic losses to farmers (Abii & Nwosu, 2009; Votier *et al.*, 2005). With the growing threats of the oil and gas industry on agriculture, there is therefore a need to reconcile food production with the growing demand for energy and crude oil production (Dogliotti *et al.*, 2014).

Oil pollution from spills destroys vast population of crops and animals and renders the soil infertile and unsuitable for cultivation. It also affects animals (both wild and farm animals) either through their food chain and/or by directly inflicting suffering and death on them (Velando *et al.*, 2005). Studies on the Exxon Valdez oil spill (in Alaska) have shown that numerous animal species, including the pigeon guillemots also suffered negative impacts of oil pollution (Golet *et al.*, 2002; Votier *et al.*, 2005).

This paper evaluates people's perceptions of the impacts of the O&G industry in the Niger delta region of Nigeria, with respect to agriculture and food production in the country.

2. MATERIALS AND METHOD

2.1 Methods of Data collection

This study was carried out in the Niger delta region, Southern Nigeria, where the bulk of Nigeria's crude oil and gas are drilled. The region situates along the coast of the Atlantic Ocean, and is made up of nine oil producing states home to massive forest reserves and various water resources including rivers, creeks and ponds. Three major oil-producing States in the region including Akwa Ibom, Bayelsa and Rivers were selected for the study.

Data for this study were collected through survey questionnaires. A total of 450 questionnaires were administered to respondents selected from 15 oil producing communities, including: Edo, Iko, Mkpanak, Unyenge, Ukpenekang in Akwa Ibom State, Odi, Imiringi, Etiama, Okotiam-Gbarain, Ogboibiri in Bayelsa State, and Chokota community, Igbo-Etche, Alesa-Elleme, Obigbo, Biara in Rivers State. The population of the study comprised among others, farmers and fishermen. An average of 30 respondents was

selected from each of the communities, and questionnaires were distributed through the door to door procedure, after a random starting point in each of the communities.

3. RESULTS

3.1 Perceptions based on debriefing statements

Respondents' perceptions of the impacts (significance) of the O&G industry were also assessed using a combination of statements and debriefing questions. The respondents were asked to rate their responses based on the respective statements, under a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'; the results are presented in Table 1. The respondents were also asked to rate their agreement with the following statement "The O&G industry has brought improvement in people's wellbeing". The results as presented in Table 1 above, indicate that about 10.6% of the respondents agreed with the statement, while the majority, 77.8% disagreed.

3.2 Distribution of the Respondents based on Income groups

To further evaluate the impacts of the industry, a descriptive analysis was carried out involving income and occupational profiles of the respondents. The result of the cross tabulation analysis of income groups and occupation categories is presented in Table 2. The results shows that majority (63.1%) of the respondents are under the lowest income group (Less than 21000 Naira). The results for each occupation group (figures in parenthesis) indicate that unemployed people, students, farmers, fishermen and self employed people respectively constitute the majority of respondents within the lowest income category. Apart from students and unemployed respondents who, to a large extent, are mostly dependants, farmers, fishermen and self-employed people respectively constitute the majority of the respondents within the lowest income category. In particular, the results indicate that of the total number of farmers and fishermen interviewed, 87.9% and 87.1% of them respectively (representing 13.1% and 2.7% respectively of the total sample size) were within the lowest income category, some of whom are considered below the poverty line.

4. DISCUSSION

The response of the majority of the respondents was in agreement with the statement “activities of the O&G industry affect agriculture in my community”. This means that they perceived the activities of the Oil and Gas industry in the negative light concerning influence on agriculture which is the main stay of the economy of the area. As an agrarian society, most people in the Niger Delta are almost solely dependent on agriculture, and are engaged in different areas of traditional farming as a means of livelihood (Ekpebu & Ukpong, 2013). Based on this background, it is indicative that people’s livelihood in the region has been affected as a result of the industry’s impacts on agriculture. Thus besides food safety issues, the result suggests that the industry could be responsible for food insecurity, and poverty in the region’s rural areas.

The high percentage of respondents disagreeing with the statement “The O&G industry has brought improvement in people’s wellbeing” suggests a feeling of resource curse paradox of the O&G industry among majority of people in the region.

The whole process of O&G production, ranging from exploration and actual drilling to post-drilling activities, poses a great constraint to people’s livelihood, which engenders the wide perception of O&G as evil and a resource curse, instead of a resource of economic wealth or a blessing to the people (Chokor, 2004; Azaiki, 2009; Horsfield, 2011; Unger, 2014). However, the oil industry is meant to create wealth and helps to improve the social and economic wellbeing of the people, in terms of employment, income generation and provision of certain basic infrastructure. Based on these extreme views, it was necessary to assess people’s perceptions of the impacts of the industry on people’s wellbeing.

Violent protests, conflicts and other forms of insecurity may have been caused by people’s perceived marginalization, exploitation and lack of benefit from the O&G industry, a view also shared by Idemudia, (2014a). Thus, a wider implementation of good community relations, peaceful coexistence, and increased implementation of corporate social responsibilities by the different firms within the O&G industry, coupled with equitable distribution of benefits of oil revenues by the government, might help to restore a sense of appreciation among the people and peaceful

coexistence between oil communities and the companies (Idemudia, 2014b; Mohammed *et al.*, 2014).

From the result, majority (63.1%) of the respondents are under the lowest income group (Less than 21000 Naira). The results for each occupation group (figures in parenthesis) indicate that unemployed people, students, farmers, fishermen and self employed people respectively constitute the majority of respondents within the lowest income category. Apart from students and unemployed respondents who, to a large extent, are mostly dependants, farmers, fishermen and self-employed people respectively constitute the majority of the respondents within the lowest income category. Also, of the total number of farmers and fishermen interviewed, 87.9% and 87.1% of them respectively (representing 13.1% and 2.7% respectively of the total sample size) were within the lowest income category, some of whom are considered below the poverty line, suggesting high poverty profiles and high income inequality in the region as earlier reported by Ukiwo (2007) and Oyefusi (2008).

As also indicated, none of the unemployed respondents appeared after the lowest income group, it is also indicated that farmers and fishermen do not appear after the second lowest income group. This suggests a wide income inequality among people of various occupation groups in the study area. Government and oil workers prominently dominate the highest income category. The predominance of fishermen and farmers might suggest low income profiles as a result of the negative effects of the O&G industry on agriculture and the marine environment, as reported by Abii and Nwosu (2009). The obvious wide gap of income inequality might also be attributed to high rate of unemployment and loss of livelihood as a result of the various impacts of O&G extraction in the region, since most people in the region depend largely on the natural environment for their economic survival (Ekpebu & Ukpong, 2013; Uyigwe & Agho, 2007). Income inequality has been identified among the major causes of social crimes including insurgency and conflicts in the Niger Delta (Ukiwo, 2007). To tackle insecurity in the region, O&G companies should support agricultural development and improve upon mitigation of drilling impacts on the marines environment as this will improve income, and better lives of the people.

With the high percentage of unemployed respondents under the lowest income group, there could be a proportion of educated respondents within the lowest income group, which might suggest that there could be a large number of unemployed graduates, or graduates with very low paid jobs in the region. Lack of employment and income inequality suggest high level poverty among the people which points to insurgency and other social crimes in the Niger Delta region (Ukiwo, 2007; Oyefusi, 2008).

Furthermore, the high percentage of respondents under the lowest income group are youths who may be either unemployed or living under low income or poverty. It is worthy of note that poverty within this age group may encourage involvement in high risk behaviours, such as social crimes, hence worsening the already critical security situation in the region, a similar view is shared by Bolland (2003) and Chaplin *et al.* (2014). Unemployment among the youths promotes anti-social behaviours, and has been identified as part of the reasons for increased crimes and insecurity in the Niger Delta (Alabi, 2014; Obi, 2014b; Afolabi & Ehinomen, 2015). It is important that the government and oil firms focus more on programmes aimed at reducing unemployment and helping young people to engage in activities that enhance their economic status as these would help in addressing issues of crime, poverty and insecurity which are major issues of concerns in the region.

In other words, as also reported by Arowosegbe (2009) and Oluwaniyi (2010), a sustainable solution to poverty and insecurity in the region might be feasible if debates, programmes and policies are targeted at practical issues of ensuring employment for young people who are the prime of most crimes and protests in the region.

5. CONCLUSION

The study evaluates people's perceptions of the impacts of the O&G industry in Nigeria with specific focus on the Niger delta region. The worrisome poor economic profile of people mainly farmers and fishermen in the region can be attributed to the negative impacts of the O&G industry. Thus, increased support for agricultural development would improve household income, ensure food security, and create employment in rural oil producing communities. Support for agriculture should include support for agricultural research,

improved extension services, training of farmers and fishermen, and provision of farm credits, and other inputs, especially improved (or pollution-resistant) crop varieties. To achieve this, O&G firms can collaborate with agricultural research institutes and other academic institutions, financial institutions (including banks and insurance firms), and farmers' cooperatives.

Since farmers, fishermen and the unemployed are the worst hit, the government and oil companies should design programmes to support rural farmers and fishermen in the region, while improving support for skills acquisition and job creation for the unemployed. Oil and gas companies in the country should undertake training of farmers and fishermen on ways to cope with, and manage the impacts of the oil and gas industry.

It is also obvious that a consistent good community relations, human empowerment, and implementation of sustainable corporate social responsibilities by all firms within the O&G industry, might help to promote economic recovery, and restore people's confidence in the O&G industry as a development partner. These would also promote security and a peaceful coexistence between communities and the industry.

REFERENCES

- Abii, T. A., and Nwosu, P. C. (2009). The Effect of Oil-Spillage on the Soil of Eleme in Rivers State of the Niger-Delta Area of Nigeria. *Research Journal of environmental sciences*, 3(3), 316-320.
- Afolabi, B., and Ehinomen, C. (2015). Rising Youth Unemployment and its Social Economic Implications for the Growth and Development of the Nigerian Economy. Available at SSRN. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2549284.
- Alabi, T. (2014). Youths' unemployment and Crime Control: An Analysis of Nigerian Experience. *European Scientific Journal*, 10(2).
- Arowosegbe, J. O. (2009). Violence and national development in Nigeria: The political economy of youth restiveness in the Niger Delta. *Review of African Political Economy*, 36(122), 575-594.
- Azaiki, S. (2009). The Evil of Oil. Ibadan, Nigeria: Y-Books (A Division of Associated Book Makers Nigeria Limited).
- Birdsall, N., and Subramanian, A. (2004). Saving Iraq from its oil. *FOREIGN AFFAIRS-*

- NEW YORK, 83, 77-89.
- Bolland, J. M. (2003). Hopelessness and risk behaviour among adolescents living in high-poverty inner-city neighbourhoods. *Journal of adolescence*, 26(2), 145-158.
- Chaplin, L. N., Hill, R. P., and John, D. R. (2014). Poverty and materialism: a look at impoverished versus affluent children. *Journal of Public Policy & Marketing*, 33(1), 78-92.
- Chokor, B. A. (2004). Perception and response to the challenge of poverty and environmental resource degradation in rural Nigeria: Case study from the Niger Delta. *Journal of Environmental Psychology*, 24(3), 305-318.
- Dogliotti, S., Garcia, M. C., Peluffo, S., Dieste, J. P., Pedemonte, A. J., Bacigalupe, G. F., ... and Rossing, W. A. H. (2014). Co-innovation of family farm systems: A systems approach to sustainable agriculture. *Agricultural Systems*, 126, 76-86.
- Ekpebu, I. D., and Ukpong, I. G. (2013). Rethinking Agricultural Development in Nigeria: Paradox of Oil Wealth. Bloomington, USA: Authorhouse.
- Ensign, P. C., Giles, A., and Oncescu, J. (2014). Natural resource exploration and extraction in Northern Canada: Intersections with community cohesion and social welfare. *Journal of Rural and Community Development*, 9(1), 112-133.
- Eregha, P., and Irughe, I. (2009). Oil induced environmental degradation in the Nigeria's Niger Delta: the Multiplier effects. *Journal of Sustainable Development in Africa*, 11(4), 160-175.
- Etekpe, A. (2007). The Politics and Conflicts over Oil and Gas in the Niger Delta. Port Harcourt, Nigeria: Tower Gate Resources.
- Golet, G. H., Seiser, P. E., McGuire, A. D., Roby, D. D., Fischer, J. B., Kuletz, K. J., ... and Newman, S. H. (2002). Long-term direct and indirect effects of the 'Exxon Valdez' oil spill on pigeon guillemots in Prince William Sound, Alaska. *Marine Ecology Progress Series*, 241, 287-304.
- Horsfield, N. (2011). Debating the 'Curse' of Resources-The Case of Nigeria. *POLIS Journal*, 5, 1-38.
- Hughes, S. R., Moser, B. R., and Gibbons, W. R. (2014). Moving toward energy security and sustainability in 2050 by reconfiguring biofuel production. In *Convergence of Food Security, Energy Security and Sustainable Agriculture* (pp. 15-29). Springer Berlin Heidelberg.
- Idemudia, U. (2014a). Oil companies and sustainable community development in the Niger Delta, Nigeria: the issue of reciprocal responsibility and its implications for corporate citizenship theory and practice. *Sustainable Development*, 22(3), 177-187.
- Idemudia, U. (2014b). Corporate-community engagement strategies in the Niger Delta: Some critical reflections'. *The Extractive Industries and Society*, 1(2), 154-162.
- Inoni, O. E., Omotor, D. G., and Adun, F. N. (2006). The Effect of Oil Spillage on Crop Yield and Farm Income in Delta State, Nigeria. *Journal of Central European Agriculture*, 7(1), 41-48.
- Mohammed, S. B., Robinson, J. O., and Aliyu, I. H. (2014). From Conflict to Peace building and Post Conflict Reconstruction: A Critical Reflection on the Nigeria Niger Delta Amnesty. *International Letters of Social and Humanistic Sciences*, (19), 81-95.
- Obi, C. (2014a). Oil and conflict in Nigeria's Niger Delta region: Between the barrel and the trigger. *The Extractive Industries and Society*, 1(2), 147-153.
- Obi, C. (2014b). Oil and the Post-Amnesty Programme (PAP): what prospects for sustainable development and peace in the Niger Delta?. *Review of African Political Economy*, 41(140), 249-263.
- Ogri, O. R. (2001). A review of the Nigerian petroleum industry and the associated environmental problems. *Environmentalist*, 21(1), 11-21.
- Oluwaniyi, O. O. (2010). Oil and youth militancy in Nigeria's Niger Delta region. *Journal of Asian and African Studies*, 45(3), 309-325.
- Oyefusi, A. (2008). Oil and the probability of rebel participation among youths in the Niger Delta of Nigeria. *Journal of Peace Research*, 45(4), 539-555.
- Ukiwo, U. (2007). From "pirates" to "militants": A historical perspective on anti-state and anti-oil company mobilization among the Ijaw of Warri, Western Niger Delta. *African Affairs*, 106(425), 587-610.
- Unger, J. D. (2014). Regulating the Arctic Gold Rush: Recommended Regulatory Reforms to Protect Alaska's Arctic Environment from Offshore Oil Drilling Pollution. *Alaska Land Review*, 31, 263.
- Uyigüe, E., and Agho, M. (2007). Coping with climate change and environmental degradation in the Niger Delta of southern Nigeria. *Community Research and Development Centre Nigeria (CREDC)*.
- Velando, A., Munilla, I., and Leyenda, P. M. (2005). Short-term indirect effects of

the Prestige' oil spill on European shags: changes in availability of prey. *Marine Ecology Progress Series*, 302, 263-274.

Verrastro, F., and Ladislav, S. (2007). Providing energy security in an interdependent world. *Washington Quarterly*, 30(4), 95-104.

Votier, S. C., Hatchwell, B. J., Beckerman, A., McCleery, R. H., Hunter, F. M., Pellatt, J., ... and Birkhead, T. R. (2005). Oil pollution and climate have wide-scale impacts on seabird demographics. *Ecology Letters*, 8(11), 1157-1164.

Table 1 Distribution of respondents based on agreement to debriefing statements

Case	Statement	Levels of agreement in percentage				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Activities of the O&G industry affect agriculture in my community	1.1	1.3	4	22.9	70.6
2	The O&G industry has brought improvement in people's wellbeing	59	17.7	11.4	6.7	5.2

Note: Each statement is considered a case in the model for ease of analysis as applied in Table 1.

Table 2 Percentage distribution of the respondents based on income groups and occupation (N = 450)

Occupation	Income groups (in Nigerian Naira)						Total
	Less than 21000	21000-40000	41000-60000	61000-80000	81000-100000	Above 100000	
Farming	13.1(87.9)	1.8(12.1)	0	0	0	0	14.9
Government worker	3.0(17.9)	2.4(14.4)	2.0(12)	1.8(10.8)	3.0(17.9)	1.1(6.6)	16.7
Oil company worker	1.5(21.1)	3.0(42.3)	0.7(10)	0.2(2.8)	1.1(15.5)	0.7(10)	7.1
Other company worker	1.0(16.7)	3.4(56.7)	1.1(18.3)	0.6(10)	0	0	6
Self-employed	16.6(63.8)	8.3(31.9)	1.0(3.8)	0.2(0.7)	0	0	26
Unemployed	11.2(100)	0	0	0	0	0	11.2
Student	14.0(94.0)	0	0.7(4.7)	0.2(1.3)	0	0	14.9
Fishing	2.7(87.1)	0.4(13)	0	0	0	0	3.1
Total	63.1	19.2	7.2	4.8	4.0	1.8	100

Note: Figures are in percentages. \$1 = 165 Naira (₦) as at time of survey. Figures in parenthesis represent occupation group by group percentages of the respondents under the respective income groups. For instance (87.9 percent) is the percentage of total respondent farmers within income group of less than 21000 Naira, while 13.3 percent is the respondents who were farmers and were within income group of less 21000 Naira in the total sample population under survey (Sample size, N = 450 people).

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