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## **Multinational Oil Firms' CSR Initiatives in Nigeria: the Need of Rural Farmers in Host Communities**

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**Abstract**

We examine the impact of multinational oil firms' CSR on agricultural production using binary logit model equation. The result indicates a significant relationship between CSR and agricultural production in oil host communities in Nigeria. This implies that CSR of a multinational oil firm is a critical factor for increasing participation of rural dwellers in agricultural production. The findings suggest for improved CSR investment of multinational oil firms on subsidized fertilizer, certified seed, crop protection products, farm power and rural transportation infrastructures.

*Keywords:* Multinational Oil Firms, Corporate Social Responsibility, Rural Farmers, Agricultural Production, Host Communities, Logit equation, Niger Delta

*JEL Classification:* J43; O40; O55; Q10

**1 Introduction**

The Nigeria economy is heavily reliant on the oil sector. The international monetary fund estimates that the oil and gas sector in Nigeria accounts for over 95% of the foreign export earnings and about 65% of the Nigerian government revenue (IMF, 2003). The Niger Delta where oil Multinational Corporations (MNCs) maintain a significant presence has become a theatre of incessant violent conflicts. The federal government is in joint-venture agreements with the oil MNCs operating in the oil and gas sector in Nigeria. The federal government controls and owns the land including its natural resources in the subsoil. This is a major source of conflict in the Niger Delta. Lands can be acquired by the government for over-riding public purposes by virtue of the land use Act 1978.

The negative impacts of the activities of the multinational companies in the oil and gas industry in Nigeria include gas flaring, oil spills, environmental pollution, negative social impacts, conflict and violence amongst others. However, in Corporate Social Responsibility (CSR) literature generally, many MNCs are now seen not only as obstacles to development but also as source of solutions to some of the pressing problems facing the people in

developing countries (Muthuri, *et al*, 2012). Multinational corporations are becoming involved in a plethora of CSR activities in the Niger Delta and other parts of Nigeria. The multinational oil firms' CSR initiatives in Nigeria may include the building of hospitals, schools, markets and provision of pipe borne water amongst others (Amaeshi *et al*, 2006).

In Nigeria, academics such as Ekhaton (2004), Edoho (2008), Frynas (2009), Akpan (2006), Tudolo (2007, 2009), Eweje (2006a), Idemudia and Ite (2006) and others have argued that CSR process in Nigeria is not far reaching or deeply entrenched. Thus, it has been contended that some of these CSR initiatives are not carried out on a coherent basis and not always sustained (Amaeshi *et al*, 2006). Arguably, despite the adoption of various CSR mechanisms by oil companies in Nigeria, the oil-producing communities have received a proportionately low amount of benefit compared to the high social and environmental costs of extractive activities (Lisk *et al*, 2013). Notwithstanding the minimal contributions of CSR to oil producing communities in the Niger Delta, many communities still suffer from various ills including gas flaring, oil spillage and violence amongst others.

Today, debates on CSR in Nigeria are no longer whether the multinational oil firms have social responsibility. The debates now appears to be over what social responsibilities mean in practice, how they can be justified, and how these responsibilities are to be implemented (Idemudia, 2014). For instance, Muthuri *et al* (2012) point out that in today's competitive economic climate, a business, especially transnational corporations (TNCs) must embrace and develop further strategies for dealing with market and non-market environments if they are intent on securing both their social license to operate and achieving their bottom line. Such CSR initiatives could be aimed towards addressing the peculiarity of the socio-economic development challenges of the country, and could also be informed by the socio-cultural influences. They might not necessarily reflect the Western style of CSR. Thus, this study argue that since agriculture is the economic mainstay of the majority of households in Nigeria, which is a significant sector in the overall macro-economy, and a major source of employment for the rural people, adequate CSR investment of multinational oil firms on that direction will significantly enhance the best co-operation from the host communities, impact food security in the Niger Delta, and improve the country's overall GDP.

In this process, we attempt to determine the CSR investments of multinational oil firms in the various sectors of the country's economy, in order to analyze the impact of investment on agricultural production of rural farmers in the host communities. This study differs from extant literature by explicitly nothing the relationship that exists between CSR and agricultural production of rural farmers in oil host communities in Nigeria. To the best of our knowledge, this is the first study that explores from the role of oil in agricultural decline Niger Delta region from the CSR perspective.

The rest of the study is structured as follows. Section 2 provides a brief review of literature. Section 3 describes the methodology. Section 4 presents the empirical results. Section 5 provides the main findings and discussions. Finally, section 6 presents conclusion and policy implications.

## **2 Literature Review**

### **2.1 Oil and Agricultural in the Niger Delta**

Nigeria's diverse range of agro-ecological zones makes possible the production of a wide variety of agricultural products (IFAD, 1994). Yet despite its rich endowment of agricultural

resources, the sector has been growing at a very low rate. Less than 50 percent of the country's arable land is under cultivation, mostly by smallholders and traditional farmers using rudimentary production techniques that are associated with low yield (World Bank, 2014). The advent of oil boom in the early 1970s has made the country highly dependent on oil revenue (Idumah and Okunmadewa, 2013). Instead of complementing the agriculture sector, oil has marginalized a large number of farmers and increased rates of rural unemployment, particularly among women and young people (Ekanem and Nwachukwu, 2015). Food insecurity has increased as a result, and agriculture's contribution to growth in the larger economy has remained modest (Ubom *et al*, 2010).

In Nigeria, oil is mainly extracted in the Niger Delta region. The major oil MNCs operating in the oil and gas sector of Nigeria includes Shell, ExxonMobil, Chevron, Total, Eni, Addax among others (Ekhator, 2014). These MNCs are either in joint-venture or production sharing arrangements with the Nigeria National Petroleum Corporation (NNPC). Shell operates through its local 'affiliates' Shell Petroleum Development Company of Nigeria (SPDC) and the Shell Nigeria Exploration and Production Company Limited (SNEPco). SPDC is the largest company operating in the oil and gas sector in Nigeria and it is a joint-venture arrangement between NNPC (55 percent), Shell (30 percent), Elf Petroleum Nigeria Limited – a subsidiary of Total – (10 percent) and Agip (5 percent) (Ite *et al*, 2013). Thus, the Western oil MNCs that are operating in the oil and gas sector control a considerable share of it. However, Chinese Companies are also investing tremendously in the oil and gas sector in Nigeria. For example, China Petroleum and Chemical Group (Sinopec) which is a state – owned Chinese oil MNC and the largest in Asia, and third largest in the world, recently acquired Addax Petroleum (a Canadian Oil MNC) operating in the oil and gas sector in Nigeria (Edoho, 2008). Another major non-Western oil MNC in the oil and gas sector in Nigeria, is Petrobras, a Brazilian state – owned company which began operations in the Niger Delta area in 1998. Presently, many Western oil MNCs are reducing their investments in the oil and gas sector of Nigeria (Egbe, 2012). Also due to the security concerns in the Niger Delta, only the Chinese state – owned companies are recent investors in the oil and gas industry in Nigeria (Ekanem and Nwachukwu, 2015).

Traditionally, the people of the Niger Delta have been farmers and fishermen. But decades of oil spillage and gas flaring, as well as a rapidly growing population, has meant these traditional sources of livelihood are either no longer viable or have experienced significant decline (Idemudia, 2007). Consequently, the region's unemployment rates are higher than the national average (Ite, 2007). Oil spills are a common event in Niger Delta. Half of all spills occur due to pipeline and tanker accidents (50 percent); other causes include sabotage (28 percent) and oil production operation (21 percent), with 1 percent of the spills being accounted for by inadequate or non-functional production equipment (Ahmadu and Egbodion, 2013). Oil exploration in the Niger Delta region has left no one in doubt that its effect has posed a lot of environmental challenges on the lives of the people, plants and animals in the region (Ayuba, 2012). The impact of oil exploration on agriculture portrays a bleak future of food insecurity (Idumah and Okunmadewa, 2013). The MNCs desire for oil profit has been at the cost of the localities, indigenes and agricultural production in the Niger Delta Region (Ekanem and Nwachukwu, 2015). In addition to oil spills in Niger Delta, Ite and Ibok (2013) show a direct relationship between gas flaring and productivity decline in agriculture production in the region. Several other studies that have shown that relationship exists between oil exploration, environmental pollution, crisis and agriculture production in the Niger Delta region include Eweje (2006b); Ndu and Agbonifoh (2014); Nweke *et al* (1997); Ogotade and Mafimisebi (2011); Alibi and Ntukepo (2012) etc. However, this study attempts to demonstrate its contribution to extant literature from a CSR perspective.

## **2.2 CSR and Development in Nigeria**

Corporate Social Responsibility (CSR) is the idea or theory that companies have a duty towards the society beyond its primary obligations to its shareholders or owners and it is to be voluntary (Amao, 2014). CSR has become an increasingly important part of international business environment. Globalization of world trade and the rise of powerful companies are mainly responsible for the rise of CSR practices (Tench and Yeomans, 2006). Thus, CSR is a business approach for addressing the social and environmental impact of companies' activities (Frynas, 2009). CSR from a stakeholder perspective may bring an organization closer to its stakeholders and more importantly improve a two-way flow of information and subsequently understanding the needs of the local environment. Once stakeholders are identified, an organization would need to define the responsibilities it has toward them and then define and develop strategies to manage these relationships. Carrol (1999) argues that there are four kinds of social responsibility needs: economic, legal, ethical and philanthropic, which he demonstrated through CSR pyramid. To aid managers in the evaluation of an organization's social responsibilities and to help them plan how to fulfill the economic, legal, ethical and philanthropic obligations, Carrol designed a stakeholder responsibility matrix. Carrol makes the clear distinction that social responsibility does not begin with good intention, but with stakeholder actions. Carrol's matrix is proposed as an analytical tool or framework to help company managers make sense of their ideals about what the firm should be doing, economically, legally, ethical and philanthropically, with respect to its define stakeholder groups.

According to Lompo and Trani (2013), individual members and groups in community in which an organization operates are increasingly being recognized as important stakeholders in the long-term security and success of large and small enterprises. Building relationships with these community groups is, therefore, an important issue in a business corporate and communications strategy. In order to understand how this can be achieved, it is essential to understand in more detail the complexities of the relationships between a business and its communities (Tench and Yeomans, 2006). This well-used business and management term, corporate social responsibility (CSR), is often associated with the phrase 'enlightened self-interest' relationships with key stakeholders. CSR is an organization's defined responsibility to its societies and stakeholders. Although organizations are not a state, country or region, they are part of the infrastructure of society and as such they must consider their impact on it (Idemudia, 2014).

Promotion of business ethics and social dimensions can be traced to the pre-Western Christian thinkers as many of the existing denominations condemned bad business practices in the early times (Frynas, 2005, 2009, 2012). However, the modern version of CSR is perceived as a Western influenced or imposed concept. CSR is more prominent or pronounced in the developed world (Visser *et al*, 2010; Muthuri, 2012, 2013). Thus, the mainstream CSR agenda has largely been driven by Northern actors and therefore reflected the priorities and concerns of Western societies without sufficient room for other concerns (Idemudia, 2011). Arguably, the mainstream CSR disclosure neglects the local concerns of developing countries especially sub-Saharan African societies. To cure the inherent defects in the mainstream CSR discourse, a Southern perspective to that will help highlight where and how corporate responsibility can best contribute to sustainable development and poverty

eradication in developing countries (Idemudia, 2011; Fox *et al*, 2002) has been advocated by scholars.

Philips (2006) argued that Nigeria's strong communal kingship, collective approach to dispute settlement and philosophy presuppose that Nigerians are inherently socially responsible race of people. He further argue that in Nigeria, the motivation of CSR comes from the institutional failure of the government, unlike in developed countries where government pressure on MNCs has gone a long way in shaping CSR initiatives. Amaeshi *et al*, (2006) have argued that the Nigerian concept of CSR is remarkably different from the Western version. Frynas (2009) argued that in developing countries, the absence of government action in providing amenities for its citizens accentuates the roles of multinationals in CSR and philanthropy which otherwise is not regarded as CSR in developed countries. Muthuri (2012), relying on the extant literature on CSR in Africa, posited that CSR issues prevalent in Africa include poverty reduction, community development, education and training, economic and enterprise development, health and HIV/AIDS, environment, sports, human rights, corruption and governance and accountability.

CSR in Nigeria is culture specific and affected by the local content. Thus CSR in Nigeria is a product of historical and cultural influences (Idemudia and Ite, 2006). Quite a number of other studies have also analysed the CSR concept and initiatives of MNCs, long-term effect and beneficiaries in the oil producing communities. They include: Lompo and Trani (2013); Renourd and Lado (2012), Idemudia (2014a); Eweje (2007); Ite (2007a); Idemudia (2007); Eweje (2006a); Aaron and Patrick (2013); Aaron (2012); Kuhn *et al* (2015); Alabi and Ntukepo (2012); Ndu and Agbonifoh (2014); Ogutade and Mafimisebi (2011); Ite (2005); Ite (2007b); Idemudia (2014a); Idemudia (2014b); Ite (2004); Idemudia *et al* (2010); Idemudia (2010), etc. However, the extant literature lacks an approach of agricultural development in Nigeria's Niger Delta from the CSR perspective. This study further differs from extant literature by explicitly nothing the relationship that exists between CSR of multinational oil firms and agricultural developments in rural areas of host communities in Nigeria.

### **3 Methodology**

The study adopts quantitative methodology, as a contribution given the paucity of quantitative works in the region (Lompo and Trani, 2013).

#### **3.1 Study Area**



**Figure 1:** Constituent States of the Niger Delta, Nigeria.  
**Source:** Idemudia (2014a).

The survey research technique was adopted for this study with the aims of gathering information from a representative sample of the population. It is essentially cross-sectional that describes and interprets what exists at present. The South-South region of Nigeria comprises six states and is strategically located at the point where the Y tail of the river Niger joins the Atlantic Ocean through the Gulf of Guinea. Though a relatively small stretch of land, the South-South of the country provides the economic mainstay of the economy which is oil. In addition to oil and gas, the region equally contributes other key resources, with potential huge investment opportunities in tourism and agriculture. The component states of the South-south include Akwa-Ibom, Bayelsa, Cross River, Delta and Edo, as shown in figure 1.

**Table 1: Population of South - South States, Nigeria**

States	Males	Females	Total
AkwaIbom	1,983,202	1,918,849	3,902,051
Bayelsa	874,083	830,432	1,704,515
Cross River	1,471,967	1,421,021	2,892,988
Delta	2,069,309	2,043,136	4,112,445
Edo	1,633,946	1,599,420	3,233,366
Rivers	2,673,026	2,525,690	5,198,716
	10,705,533	10,338,548	21,044,081

source: Population Commission, 2007

\*With an average household of 7 persons, the household population is 3,006,297 households in the study area

The study was conducted in a purposively selected three states in the South–South region namely: Akwa Ibom located in the coastal part of the country, with an area of 7,081km and a population of 3,902,051 as shown in table 1. The main languages in the state are Ibibio, Annang, Eket, and Oron. Akwa-Ibom State is the third largest producer of crude oil in Nigeria and is endowed with various resources such as natural gas, salt, silver nitrate, limestone, clay, coal, and glass sand.

Delta State has Asaba as its capital and is made up of 25 local government areas with a population of 4,112,445 as shown in table 1. There are various solid mineral deposits in the state which include crude oil, industrial clay, silica, lignite, kaolin, tar sand, decorative rocks and limestone, with many serving as raw materials for industries.

Rivers State has its capital at Port Harcourt, a cosmopolitan city which makes it the second largest commercial centre in Nigeria. Rivers State has a population of about 5,198,716 as shown in table 1 and occupies an area of 11,077km. The major languages are Ijaw and Ikwerre, although 23 languages are spoken altogether. Rivers State accounts for over 40% of Nigeria's crude oil production and food production hence, it is called the 'treasure base of the nation'. In addition, there are two major refineries and seaports in Rivers state, with various industries spread across it.

### 3.2 Sampling Procedure

**Table 2: Core Oil Producing States**

Major oil producing states	Ethnicity	Population in 1998	Size of state sq. km	Level of violence	Percentage of oil production	Oil production location	Dominant oil TNC	Major youth/ethnic movement/groups
Akwa Ibom	Heterogeneous	2.930	8412	LOW	20%	Offshore	Exxon Mobil	Afig Iwaad Ekid
Bayelsa	Homogeneous	2.6195	21.110	High	24%	Off/on shore	Shell	Ebgesu boys/Ijaw youth Council, MEND
Delta	Heterogeneous	3.149	16.842	HIGH	27%	Off/on shore	Shell/Chevron	IYC, Itsekiri Youth council, Urhobo Economic foundation, MEND
Rivers	Heterogeneous	2.6195	26.899	High	24%	Off/on shore	Shell	MOSOP and MEND
Ondo	Heterogeneous	2.301	16.842	Medium	5%	Off/on shore	Chevron	OPC

Population\*: Rivers+Ondo+Ekiti

Percentage of oil production\*: Delta+Rivers+Bayelsa=75%

**Source:** Idemudia (2014a).

To make for good responses in the study, multi stage sampling technique was used to select the respondents' sample. This sample was determined using the z-score sampling technique propagated by (Smith, 2013). It was used to obtain a sample size of 750 respondents as shown below:

$$\text{Sample size} = (z)^2 \times \text{std} (1-\text{std}) / (\text{mr})^2$$

Where z = z-score = confidence level

Std = standard deviation

mr = margin of error = confidence interval

1 = constant

We therefore chose a confidence level of 99%, margin of error of 5% and a standard deviation of 0.5.



**Table 3: Core Oil Producing Ethnic Groups**

State	2006 Population	Size of the State in KM <sup>2</sup>	Major Ethnic Groups	Violence Level	% Oil Production	Location of Oil	MOCs	Movement Groups
Akwa Ibom	3,902,051	8,412	Ibibio, Anang and oron	Moderate	45	Off shore	Exxon Mobile, Shell, Agip	MEND, IWAAD, Afigh, Ekid
Delta	4,112,445	16,842	Urhobo, Ijaw, Isoko, Itsekeri, and Anioma	Significant	38	Off shore/ On Shore	Shell Chevron, Total	IYC, Itsekiri Youth Council, Urhobo Economic foundation, MEND
Rivers	5,198,716	11,077	Ndoni, Ijaw & Ikwere	High	40	Off shore/ On Shore	Shell Chevron, Total, Halliburton	MOSOP and MEND

\* Table with the current trend in oil producing communities in Niger Delta, Nigeria as at 2016

The selection of the sample involved both cluster and simple random samplings which were used in selecting the respondent households.

In the first stage, to ensure that the population is adequately represented, a purposive sampling was used to select three states from the listed six states of the study area. The selected states are Akwa Ibom, Delta and Rivers. The states were selected because they are the major oil producing states in the region as shown in table 2 and 3. In stage two, all the local government areas (LGAs) in each of the selected states were listed and using simple random sampling also, five LGAs were selected from each state, giving a total of fifteen LGAs for the study. In the third stage, to ensure proper representation, all the main communities in the selected LGAs were listed and three communities were randomly selected from each local government area. In the last stage, out of the fifteen communities selected, with the help of community leaders, seven hundred and fifty (750) households were randomly selected by assigning 50 respondents household to each of the communities.

### 3.3 Data Collection

Data for this study were collected from both primary and secondary sources. However, primary source was the main source of data. Participatory rural appraisal (PRA) technique, namely semi-structured interview (SSI), questionnaire was employed in the primary data collection. The use of participatory research technique in collecting CSR impact data especially as it concerns rural farmers is based on the fact that it involves the people being studied, and their views on all the issues are paramount. Along with a review of secondary data source, SSI is an important tool which can be used in this PRA. The written SSI used for this study is named *Multinational Oil companies' CSR Impact on Rural Farmers and Farm Productivity (MOCIRFFP)* was divided into four sections. Section one of the instrument elicited information on the socio-economic characteristics of respondent, and the other three sections elicited information based on the two research questions. This semi structure interview questionnaire was the major tool the study used for the household survey. It was directly administered by the researchers with the help of local research assistants. The use of local research assistants was due to the inability of the researcher to speak the different local languages and dialects of host communities. Secondary data were generated from the review of previous studies, review of documentation of Agricultural Development Programmes

(ADPs), Ministry of Agriculture and Rural Development (MARD), the local governments and the multinational oil companies (MOCs).

### 3.4 Analytical framework

Data collected from respondents in the field were subjected to series of treatment. Both descriptive and inferential statistics were used to analyses the data so as to achieve the objectives of the study. Objective one (*Determine the type and scope of CSR embarked upon by the MOCs*) was achieved using descriptive statistics and the outcomes were presented for simplicity, using appropriate tables, and texts. Objective two (*Analyse the Impact of MOCs's CSR on the rural communities in the host area vis-a-vis impact on agricultural productivity*) was realized using inferential statistical tool - estimation of logit model of receipt and non-receipt of shell's social programs as functions of selected socio-economic variables. For binominal response variables, the logistic link is the natural logarithm of the odds ratios according to Trexler and Travis (1993). A general logit equation is put thus:

$$\log \left[ \frac{P_i}{1 - P_i} \right] = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_k x_{ik} \quad \text{Equation 1}$$

Hence, the impact of multinational oil company's CSR activities on agricultural productivity of the rural communities in the host area was estimated using the equation below.

$$\text{Logit (AP)} = \beta_0 + \beta_1 \text{CSR} + \beta_2 \text{Age} + \beta_3 \text{Gen} + \beta_4 \text{HHSize} + \beta_5 \text{Farmsz} + \beta_6 \text{Edu} + \beta_7 \text{OffY} + \beta_8 \text{ToI} + \beta_9 \text{FExp} + \beta_{10} \text{AAlands} \quad \text{Equation 2}$$

Where:

AP = Agricultural Productivity Indicator

CSR = Multinational Oil Companies (MOCs) Corporate Social Responsibility (received by household valued in naira, input production considered here are fertilizer and other chemicals, seeds/seedlings, farm machineries or tools, crop protection products provision of extensions services).

Age = Age of the Respondent Household Head

Gen = Sex of the Household Head

HHSize = Household Size of the Respondent Household Head

Farmsz = Farm Size of the Respondent Household

Edu = Highest Educational Qualification of the Respondent Household Head

OffY = Off Farm Income of the Respondent Household

*TOI* = Cost of Transportation of Input to the Household Farm

*FExp* = Farming Experience of the Household Head

*AAlands* = Availability and Access to Lands

\*In this model, the main parameter of interest will be  $\beta_1$  in terms of sign and significance.

## 4 The Empirical Results

**Table 4: Socio – Economic Characteristics of the Respondents**

Variables	Frequency	Percentage	Cumulative
<b>Gender</b>			
Males	305	41	41
Females	445	59	100
	750	100	
<b>Primary Occupation</b>			
Farming	395	53	53
Trading	75	10	63
Fishing	176	23	86
Government/Private Paid Employment	32	4	90
Hunting	26	3	94
Unemployed	46	6	100
	750	100	
<b>Farming Status</b>			
Part time	155	21	21
Full time	395	72	100
	550	100	
<b>Years of Experience in Farming</b>			
0- 5 Years	38	6	6
6 - 10 Years	63	11	17
11 - 15 Years	92	17	34
16 - 20 Years	106	20	54
21 - 25 Years	126	23	77
26- 30 Years	70	13	90
Above 30 Years	55	10	100
	550	100	
<b>Age of Respondents</b>			
Less than 20years	65	9	9
21-30 years	97	13	22
31-40 years	198	26	48
41-50 years	275	37	85
51years and above	115	15	100
	750	100	
<b>Level of Education</b>			

None	171	23	23
FSLC	267	36	58
WAEC/WASSCE	195	26	84
B.Sc and Equivalent	65	9	93
Post graduate degrees	22	3	96
Others	30	4	100
	750	100	

#### **Marital Status**

Single	96	13	13
Married	327	44	56
Widow	172	23	79
Divorced	71	9	89
Separated	84	11	100
	750	100	

#### **Household Size**

1-4 Person	221	29	29
5-9 Person	397	53	82
10-14 Person	103	14	96
15 Person -and above	29	4	100
	750	100	

#### **Farm Size**

Less than 1 Hectare	305	41	41
Between 1-2 Hectares	189	34	75
Between 3-4 Hectares	32	6	81
Between 4-5 Hectares	18	3	84
5 and above Hectares	6	1	100
	550	100	

#### **Annual Off Farm Income Level**

1000 - 50,000	32	4	4
51,000 - 100,000	55	7	12
101,000 - 150,000	176	23	35
151,000 - 200,000	142	19	54
201,000 - 250,000	103	14	68
251,000 - 300,000	86	11	79
301,000 - 350,000	72	10	89
351,000 - 400,000	49	7	95
Above 400,000	35	5	100
	750	100	

#### **Annual Farm Income Level**

1000 - 50,000	72	10	10
51,000 - 100,000	88	17	27
101,000 - 150,000	185	35	62
151,000 - 200,000	102	19	80

201,000 - 250,000	45	9	89
251,000 - 300,000	24	4	94
301,000 - 350,000	18	3	97
351,000 - 400,000	11	2	99
Above 400,000	5	1	100
	550	100	

Source: Authors' Computation

**Table 5: Percentage Rating of Multinational Oil firms CSR in Host Communities in South-South, Nigeria by the Respondents**

Multinational oil firms	Total E&P	Exxon Mobil	Chevron	Shell	Agip	Halliburton	Average Percentage
<b>Education:</b> Programme of scholarship to University and secondary schools building of classroom blocks and adult education	20	25	22	20	14	13	19%
<b>Health:</b> Community hospitals and health care/supportive for HIV/AIDS patients, orphans and creating awareness	16	10	21	15	12	9	14%
<b>Skill acquisition:</b> Basic skills in welding, plumbing, masonry, carpentry, auto engineering and electrical engineering.	18	21	19	20	26	28	22%
<b>Water and sanitation:</b> Community water project	9	7	6	5	10	7	7%
<b>Agriculture:</b> Agricultural extension services, farm power and rural transportation infrastructures, certified seeds, fertilizers, crop protection products and financial services to rural farmers	8	6	8	12	13	4	9%
<b>Loan and grant:</b> Micro-credit and business development income generating projects (e.g. water, land, transport and fishing)	15	19	16	10	10	18	15%
<b>Infrastructures:</b> road, rural electrification project, land reclamation for community expansion	14 100	12 100	8 100	18 100	15 100	21 100	15% 100

Source: Authors' Computation

**Table 6: Percentage Rating of Multinational Oil Firms' Investment in Agriculture in Host Communities in South-South, Nigeria by the Respondents**

	Total E&P	Exxon Mobil	Chevron	Shell	Agip	Halliburton	Average percentage
Agricultural extension advisers to support farmers and corporative	18	20	16	18	20	19	19%
Supply/Subsidy of Farm machineries and tools	10	8	11	7	6	9	9%
Processing of farm produce	3	2	0	2	3	1	2%
Soft Agricultural loans and grants	25	28	22	30	21	26	25%
Supply/Subsidy of Fertilizer and other chemicals	20	19	24	19	24	20	21%
Supply/Subsidy of Seed and seedlings	24	23	27	24	26	25	25%
Construction of irrigated farms	0	0	0	0	0	0	0
	100	100	100	100	100	100	100%

Source: Authors' Computation

**Table 7: Projected Effects of Multinational Oil Firms CSR Investment on Agricultural Production in Host Communities in South-South, Nigeria**

	B	S.E.	Wald	df	Sig.	Exp (B)	95.0% C.I. for EXP(B)	
							Lower	Upper
Step 1(a)								
AGE	-.012	.010	6.269	1	.012	.976	.957	.995
GENDER(1)	.056	.225	.012	1	.914	1.025	.659	1.592
HHSIZE	-.123	.022	2.161	1	.142	.969	.929	1.011
FARMSZ	-.004	.010	.154	1	.695	.996	.976	1.017
EDU	.234	.022	1.224	1	.268	1.025	.981	1.070
OFFY	-.541	.119	4.093	1	.043	1.786	.622	.993
TOI	-.061	.125	.303	1	.042	1.006	.787	1.286
CSR	1.173	.044	11.209	1	.009	5.189	1.090	1.297
FEXP	-.215	.012	.456	1	.021	1.345	.695	.996
AALANDS	.187	.114	2.14	1	.231	2.452	.268	1.025
Constant	1.456	.706	6.448	1	.011	6.010		

a Variable(s) entered on step 1: AGE, GENDER, HHSIZE, FARMSZ, EDU, OFFY, TOI, CSR, FEXP, AALANDS

Source: Authors' Computation

**Table 8: Z Value Table of Analysis of the Impact of Multinational Oil Companies' CSR on Agricultural Productivity in South- South Nigeria**

Predictor Variable	Coefficient	Z - Value
		$z = \frac{\hat{B}}{SE}$
AGE	-.012*	6.269
	(.010) <sup>a</sup>	(.012) <sup>b</sup>
GENDER(1)	.056	.012
	(.225) <sup>a</sup>	(.914) <sup>b</sup>
HHSIZE	-.123	2.161
	(.022) <sup>a</sup>	(.142) <sup>b</sup>
FARMSZ	-.004	.154
	(.010) <sup>a</sup>	(.695) <sup>b</sup>
EDU	.0234	1.224
	(.022) <sup>a</sup>	(.268) <sup>b</sup>
OFFY	-.541*	4.093
	(.119) <sup>a</sup>	(.043) <sup>b</sup>
TOI	.061*	.003
	(.125) <sup>a</sup>	(.042) <sup>b</sup>
CSR	1.173 *	11.209
	(.044) <sup>a</sup>	(.009) <sup>b</sup>
FEXP	- 215	.456
	(.012) <sup>a</sup>	(.021) <sup>b</sup>
AALANDS	.187	2.14
	(.114) <sup>a</sup>	(.231) <sup>b</sup>
Constant	1.793*	6.448
	(.706) <sup>a</sup>	(.011) <sup>b</sup>

\* Significant at 5%; - a = This only refers to standard error (SE)

b= Associated P Value of the Z value

**Source:** Authors' Computation

\* A logistic regression analysis was conducted to predict the impact of CSR on agricultural productivity using the variables in equation 2 as predictors.

Logit (AP) = 1.456 + 1.173CSR + (.012) Age + 0.56Gen + (-.123) HHSIZE + (- 0.004)Farmsz + 0.234Edu+.541 OffY + (-.061)ToI+ (-215) FExp+ 0.187AALands

A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between the “yes” and “no” impact of CSR (chi square = 44.390, p <.000 with df= 8). Nagelkerke's R<sup>2</sup> of .817 indicated a strong relationship between prediction and grouping. Prediction success overall was 90%. (92.9% for yes and 87.5% for the no).The Z- value for SSP is 11.209, with an associated p-value of .009. Based on the set 5% significant level, we rejected the null hypothesis because the p-value is less than 0.05 hence we concluded that CSR have a significant impact on Agricultural productivity. The EXP (B) value of the Predictor – CSR is 5.189, this implies that when CSR Program is raised by one unit (N200) equivalent of 1USD, the odds ratio is 5.2 times as large and therefore rural community farmers are 5.2 more times likely to invest in agriculture and produce more food and also ensuring employment for self and others.

## 5 Main Findings and Discussions

Summary statistics of table 5 show that multinational oil firms are becoming more socially responsible to the host communities in south – south Nigeria. There is no doubt that oil has been of great benefit to the Nigeria state in general and the south – south communities in particular. However, the oil pollution caused by spillages and gas flaring of the oil industry is causing the massive destruction to farmlands, sources of drinking water, mangrove forest, fishing grounds and declination of fish, crabs, molluscs, periwinkles and other agricultural production. Although this is not the debate we are into in this study. The debate is how the social responsibilities of the multinational oil firms should be implemented to achieve a maximum benefit to the host communities, whose traditional source of livelihood are no longer viable and equally experiencing significant decline.

Extant literature on multinational oil firms' CSR initiatives in host communities argue from the perspectives of education, health, skill acquisition, water and sanitation, infrastructure, etc. Also significant amount of work has been explored on the role of agricultural decline in the region. Hence, this study identified a niche for contribution to the literature from a CSR perspective. Therefore, if the debate on CSR of multinational firms in Niger Delta is on the issues of strategy and process, then the potentiality of the region should be considered first. The rich alluvial soil of the host communities coupled with the copious web of fish and salt water bodies provide the necessary incentives for the people who are predominantly farmers and fishermen. The people depends on the natural, living and non-living resources of the environment for livelihood, and the coastal swamps of the host communities are grossly underutilized for agricultural purposes both in terms of the fraction of available land under cultivation and effectiveness of cropping and sustenance management. The fresh water swamps characterized by periodic flooding supported the growth of raphia palms in the region. Some food crops easily cultivated in the region include maize, yam, rice, cassava, sugar cane, pineapples and plantain. The natural pool of water in some parts of the swamp all year round provides for integrated fish farming and bee keeping. The soil chemical properties show soil acidic that is suitable for crop production (Nweke *et al*, 1997). The fragile soil of the region rainfall, flooding cycle and prevailing temperatures that exposed the soil organic matter is an advantage to farming in this region. Also, the poor drainage and aeration make the soil amenable and responsive to appropriate farm inputs. This finding indicates that the region has the potential for agricultural production that can effectively utilize adequate CSR of multinational oil firms channeled through the smallholder farmers.

Agriculture has been a major part of the culture and sustaining force of livelihood of the rural people in oil producing areas of Niger Delta. However, table 6 of analysis suggests that percentage rating of MNCs investment in agriculture in the host communities is below 15 percent. This information does not make any sense of MNCs CSR investment in communities that are 70 percent rural dwellers and traditionally farmers and fishermen, therefore unfit in CSR pyramid (Carrol, 1991). This may explain why significant numbers of men are migrating from rural homes for off-farm employment and part-time work off their farmlands. The recent exodus remains a paradox at the time the federal, state and local governments in Nigeria are under pressure to relieve food insecurity and poverty, and increase the production of raw materials for agro-based industries through domestic production and to stern the current high food import bills that continue to grow at an unsustainable average rate of 11 percent per annum (World Bank, 2014). While this finding agree with extant literature on adequate CSR investment in education, infrastructures and other sectors of the economy as shown in table 5 of analysis, it argues that agriculture should be a priority when it comes to CSR for host communities in Niger Delta. This could be in line with Amaeshi *et al* (2006) that CSR in Nigeria should not necessarily reflect the popular Western CSR approach, but



should be aimed at addressing the peculiarity of the socio-economic development challenges of the host communities, such as poverty alleviation and others alike. Idemudia (2007) also supporting this assertion that the mainstream CSR agenda should not fail to adequately reflect the diversities in the region to avoid the recurring tension between expectations and local challenges, and opportunities.

Table 7 of analysis shows the projected effects of MNCs CSR investment on agricultural production in host communities, which would be able to attract young and educated youths into farming in rural areas. Presently the vibrant youths in this region have been lured into employment with oil firms where they work mostly as casual workers. At present, the rate of certified seed use in Niger Delta is very low. Over all, only about 5 to 10 percent of cultivated land in the region was planted with certified seeds, and about 10 percent of farmers use certified seed. About 7.2 percent of maize, 4.8 percent of rice, 2 percent of cowpea, 1.8 percent of wheat, and 1.7 percent of sorghum in Niger Delta was cultivated using certified seed varieties in 2011 and 2012 crop seasons (World Bank, 2014). Niger Delta farmers would require an estimated 1 million metric tons of improved seeds to cover each of these cereals and pulses, whereas the formal commercial seed industry currently supplies just 20,000 to 50,000 tons of seed annually covering all crops. This represents only 2-5 percent of farmers' actual seed needs and indicates a significant shortage in the supply of certified seeds in the region. The government dominates the production of foundation seeds, and its seed policy is currently tied towards the government-owned APDs in the production and marketing of seed in the region. This would tend to crowd out private sector participation and would largely be attributable for the shortages in certified seed in the Niger Delta region. In addition to insufficient domestic production of certified seed in this region, the lack of effective national seed laws and regulations among the ECOWAS member countries, and the lack of consistency between these laws in the different countries serve to limit trade in certified seed in sub-Saharan Africa (Keyser *et al*, 2015). For this reason, shortages cannot be addressed through imports and further exacerbating shortages and resulting high seed prices deter farmers from using improved seed in the region. This is where the CSR of MNCs will play a significant role in helping the rural farmers in the host communities access this farm input.

Table 8 of analysis shows the z value of the impact of MNCs CSR on agriculture productivity in host communities of Niger Delta region. Although Nigeria has great potential for fertilizer production given its abundant phosphate deposits and natural gas reserves, almost all the fertilizer currently used in the country is imported. The two fertilizer manufacturing companies – the Federal Super Phosphate Fertilizer Company (FSFC) set up in 1976 and the National Fertilizer Company of Nigeria (NAFCON) specially set up in Niger Delta region in 1988, both went on to fail as the result of poor management on the part of the public sector. As a result, fertilizer consumption in the oil host region is low, estimated at about 600,000-700,000 tons annually compared to the potentially market size of 10-12 million tons (Gregory and Bumb, 2006). Historically, the fertilizer industry has been characterized by heavy government interventions in the form of subsidies (Ebumwan, 1991). These subsidies have been in effect since the 1970's, and have come to define the fertilizer sub-sector, affecting its ability to deliver fertilizer at affordable prices and in a timely manner to smallholder farmers in the Niger Delta region. If the oil producing host communities are traditionally farmers, then available CSR of MNCs in fertilizer investments means restoration of people's traditional source of livelihood in the region, and will significantly enhance the best co-operation from the people.

The presence of subsidies in the fertilizer industry further explains why the federal, state and local government have been involved in the procurement, distribution and price determination of fertilizer at various times, yet only 11-30 percent of subsidized fertilizer

reaches smallholder farmers at the subsidized price (Takeshima *et al*, 2015). The parallel sales of “subsidized” and “market” fertilizer in the region tend to create an avenue for the lower priced subsidized fertilizer to be diverted for sale at lower prices. This situation tended to crowd out the private sector and create opportunities for rent seeking individuals. It is therefore not surprising that average fertilizer application rates in Niger Delta region are low and are estimated at 13 kgs per ha, or just about 6 kgs per ha in terms of nutrient content - much lower than in most other regions (Ebo *et al*, 2006). Over all, the Value Cost Ratios (VCRs) for the main staples were calculated (at unsubsidized prices) to be 2.5 for maize, 2.5 for sorghum, 3.5 for cowpea/beans, and 3.4 for rice respectively in the region (Liverpool-Tasie, 2013). These ratios indicate that the use of fertilizer is profitable for crops, provided they are delivered to farmers in a timely manner.

On the whole, this study agrees with Lompo and Trani (2013), and Renourd and Lado (2012) that CSR of MCNs have primarily enhanced basic capabilities and subjective well-being of sectors of the the country’s economy. But in addition, it shows that the traditional sources of livelihood of the 70 percent (Idemudia, 2014), Niger Deltas’ residents who live in rural areas and works mainly in farming can be resorted through CSR of MNCs investment in agriculture. Consequently, the region’s unemployment rates that have been higher than the natural average can be reduced. This finding introduced the role of oil from the perspective of CSR in a region that have been experiencing significant decline in agricultural production, and consequent rise of unemployment rate. This is an input to Carrol (1991) economic responsibilities. It will give further insight in the application of the stakeholder responsibility matrix to the MNCs. The information will guide decision makers in defining corporate strategies for long-term and short-term decisions that accommodate multiple stakeholder interests in developing countries. It will also help policy makers make better sense of CSR priorities in the context of MNCs value system, as well as accommodating the smallholder farmers who live in rural areas of host communities and work mainly in farming.

## **6 Conclusion and Policy Implications**

The study set out to investigate the relationship that exists between multinational oil firms’ CSR and agricultural production of rural farmers in host communities using binary logit model equation. The result indicates a significant relationship between CSR and agricultural production in oil host communities. This implies that CSR of multinational oil firms is a critical factor for increasing rural dwellers participation in agricultural production, enhance the best co-operation from host communities, impact food security and improve the country’s overall GDP.

The findings call for multinational oil firms to improve CSR investments in agricultural sector in Nigeria, especially for domestic production of certified seed, procurement and distribution of subsidized fertilizer, crop protection products, farm power and rural infrastructure in host communities.

It is worth mentioning that while this study contributes to extant literature on the role of oil from the perspective of CSR in agricultural declining Niger Delta region; it also provides essential policy directions on the relationship. However, completing this study with comparative studies in other developing countries will be important for the purpose of internationally policy making.

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