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Does corporate social responsibility (CSR) impact on development of women in small-scale fisheries of sub-Saharan Africa? Evidence from coastal communities of Niger Delta in Nigeria [1]

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Does corporate social responsibility (CSR) impact on development of women in small-scale fisheries of sub-Saharan Africa? Evidence from coastal communities of Niger Delta in Nigeria

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Abstract

While women are often key actors in fisheries, they are commonly excluded from making fisheries management decisions, often due to cultural norms. The objective of this investigation is to assess the impact of a new CSR model of multinational oil companies (MOCs) on development of women in small-scale fisheries in the Niger Delta region of Nigeria. A total of eight hundred artisanal fisherwomen were sampled across the coastal communities of Niger Delta. Results from the use of logit model indicate that artisanal fisherwomen have remained widely excluded from the General Memorandum of Understandings (GMoUs) interventions in small-scale fisheries due to cultural norms of the people. This implies that if the cultural norms of the Niger Delta communities continue to restrain direct participation of the artisanal fisherwomen from GMoUs' intervention, achieving gender equity and cultural change would be limited in the region. The findings suggest that since fisheries, which is the traditional source of livelihood of the people are no longer viable and have significantly declined due to environmental oil degradation, GMoUs' intervention structure could focus on women playing key roles in fisheries management and conservation decision in Niger Delta region of Nigeria.

Keywords–Inequality**;** Corporate social responsibility; Multinational oil companies; Logit model; Coastal communities; Artisanal fisherwomen; Nigeria.

1. Introduction

Women's participation in economic, political and social development is being held by unequal access to resources and opportunities, and unacceptable levels of interpersonal violence (African Development Report, 2015). This causes both direct harm to women and their children, and wider costs to African economies. Africa owes its women and girls a better deal, and need targeted interventions to raise women's economic status and to deter aggression (African Economic Outlook, 2017). In fishing communities in Africa, women may be as actively involved in fishing work as men, but because the nature of their activities usually differs from men's, they are often overlooked or not included in fisheries studies (Medard*et al,* 2002). According to FDF (2008), women make up nearly half (46%) of the fisheries workforce when fish processing activities are included, and this percentage is as high as 73% in Nigeria. However, while women are often key actors in fisheries, they are commonly excluded from making fisheries management decisions, often due to cultural norms (Uduji and Okolo-Obasi, 2018a). The prevailing characterization of gender roles in small-scale fisheries in Nigeria is that men catch the fish, while women predominantly process the fish and sell them at the local market (Jenyo-Oni, 2007). While largely true, this generalization does not capture many aspects of women's varied roles and responsibilities in riverine Nigeria (Akinwumi*et al,* 2011). Women also perform many other key activities that make their husband's fishing possible, such as carrying fishing gear and boats, transporting fish catch to shore, and repairing fishing gear (Adesina and Ayanda, 2005).

Nevertheless, the Nigerian economy is heavily reliant on the oil sector. The major multinational oil companies (MOCs) operating in the oil and gas sector of Nigeria include Shell, ExxonMobil, Chevron, Total, Eni, Addax among others (Uduji and Okolo-Obasi, 2017). The oil in Nigeria is mainly extracted in the Niger Delta region. 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 that these traditional sources of livelihood are either no longer viable or experienced significant decline (Gbigbi, 2013). Consequently, the region's unemployment rates are higher than the national average (UNDP, 2006). However, MOCs are involved in a plethora of corporate social responsibilities in the Niger Delta and other parts of Nigeria. Each year, they invest in social projects and programs in communities primarily in the Niger Delta region. In the early sixties, the initial investments were in agricultural development programs and have grown over the years to include health care, roads and civil infrastructure, water projects, small businesses and education, which

could benefit thousands of indigenes in the region (Ite, 2007). Over the years, MOCs have sought to improve on how to engage with local communities to deliver these projects (Chevron, 2014). In 2006, MOCs introduced a new way of working with local communities called the General Memorandum of Understanding (GMoU). The GMoUs represent an important shift in CSR approach in the region; placing emphasis on more transparent and accountable processes, regular communication with grassroots, sustainability and conflict prevention (Shell, 2013). By the end of 2012, MOCs have signed agreements with 33 GMoU clusters, covering 349 communities; which is about 35% of the local communities around their business operation in the Niger Delta region (Chevron, 2014).

Meanwhile, the extents to which the CSR initiatives of the MOCs have contributed to community development in the region remain contested. For example, scholars such Idemudia (2007), Edoho (2008), Akpan (2006), Ekhator (2014), and others have argued that CSR process in Nigeria is not far reaching or deeply entrenched. Arguably, despite the adoption of the GMoU model by the MOCs, the oil-producing communities have received a proportionately low amount of benefit compared to the high social environmental costs of extractive activities; and still suffer from various ills including gas flaring, oil spillage and violence among others (Uduji and Okolo-Obasi, 2018c). In contrast, Ite (2007) suggested that the CSR initiatives of MOCs have actually contributed to community development in the region given the extent of governmental failure. Lomp and Trani (2013) suggested that the CSR initiatives of MOCs have contributed to access to basic capabilities like water, electricity and shelter, but have also undermined human development. Renouard and Lado (2012) argued that the CSR activities of MOCs have somewhat contributed to the improvement of the material well-being of some of the people living close to oil production sites, but inequalities or relational capabilities have actually deteriorated in these communities.

However, the foregoing debate has not yet considered the issue of GMoUs role in giving women greater access to economic opportunities in small-scale fisheries; which is inherently valuable in it and is essential to secure inclusive growth in the region. Enhancing women's inclusion in artisanal fishing provides various benefits to reviving the extinguishing traditional livelihood of the people and development more generally. Higher participation of women in fisheries is associated with economic growth (FAO, 2007). Facilitating employment of individuals from a wider pool of talents could maximize the productive

capacities in the fish value chains (FAO, 2013). Furthermore, enabling female labour participation in the fisheries and aquaculture could decrease the fertility rate, which lowers dependency rates and increases saving and investments (FAO, 2014). It is therefore important that female participation and access to female talent pool is facilitated and encouraged by GMoUs of MOCs in Niger Delta region. Hence, this paper contributes to the gender debate in fisheries development from the CSR perspective by assessing the empirical evidence in two areas that have received much attention in the literature. The two areas of focus equally represent two main questions, notably:

i. What is the level of multinational oil companies CSR investment in fisheries development in the Niger Delta, Nigeria?
ii. Do multinational oil companies' GMoUs interventions impact on the development of coastal women in artisanal fisheries in the Niger Delta of Nigeria?

Study Hypothesis

While women are often key actors in fisheries, they are commonly excluded from making fisheries management, often due to cultural norms. Thus, we hypothesize that CSR of MOCs has not significantly impacted on the small-scale fisheries development of the coastal women of the Niger Delta.

The rest of the paper is organized as follows. Section 2 considers the context of women in fisheries and aquaculture, while section 3 looked at the theoretical perspective of the study. Materials and methods are discussed in section 4. Section 5 presents the results; while section 6 discusses the findings. Section 7 concludes with implications and future research directions.

2. The context of women in fisheries and aquaculture

Small-scale fisheries refer to the level of technology being employed by the fishermen and women, but often also include economic and social overturns; and are often equated to artisanal fisheries (Sowman and Cardoso, 2010). It is often family-based, employing small or no boat and simple and/or traditional methods, which include traps, hook and line, throw nets, small gill nets, harpoons, bow and arrows, diving, and beach seines (Weerantunge *et al,* 2014). The catch can be either for the family's own consumption (subsistence) and/ or for sale. Often, a variety of species are being caught, and the family may have a variety of income. Within the artisanal level of fisheries, there are many sub-levels, from the subsistence fisherman or women with a bamboo stick to a commercial fishermen that has

substantial ice storage, a few boats, and employees (Baker-Medard, 2017). In 2008, nearly 45 million people world-wide were directly engaged, full-time or part-time, in the fishery primary sector (FAO, 2015). In addition, about 135 million people are estimated to be employed in the secondary sector, including post-harvest activities (Barnes-Mauthe *et al,* 2013). While comprehensive data are not available on a sex-disaggregated basis, case studies suggest that women may comprise up to 30 percent of the total employment in fisheries, including primary and secondary activities (Bennett, 2005; Cinner *et al,* 2009). According to FAO (2013), information provided to FAO from 86 countries indicates that in 2008, 5.4 million women worked as fishers and fish farmers in the primary sector; which represents 12 percent of the total (FAO, 2014). In two major producing countries, China and India, women represented a share of 21 percent and 24 percent, respectively, of all fishers and fish farmers (Harper *et al,* 2013). Studies of women in aquaculture, especially in Asia where aquaculture has a long tradition, indicate that the contribution of women in labour is often greater than men's; for example, 42 percent in Indonesia and 80 percent in Vietnam (Williams *et al,* 2015).

In Africa, women have rarely engaged in commercial offshore and long distance capture fisheries because of the vigorous work involved, but also because of women's domestic responsibilities and/ or social norms (Sunde, 2010; Matsue *et al,* 2014). Women are more commonly occupied in subsistence and commercial fishing from small boats and canoes in coastal or inland water (Nakato, 2004; Ngwenya *et al,* 2012). Women also contribute as entrepreneurs and provide labour before, during and after the catch in both artisanal and commercial fisheries (Wamukota and McClanahan, 2017). For example, in West Africa, the so called 'Fish Mamas' played a major role; they usually own capital and are directly and vigorously involved in the coordination of the fisheries chain, from production to sale of fish (Britwum, 2009; Nwabueze and Erie, 2013; Lawal *et al,* 2016; Uduji and Okolo-Obasi, 2018b; Anene and Oputa, 2014; Thorpe *et al,* 2014; Williams, 2000). In Nigeria, the most significant role play by women in both artisanal and industrial fisheries is at the processing and marketing stages, where they are very active in all geo-political regions (Ifejika *et al,* 2009;Akinwumi *et al,* 2011; Chilaka *et al,* 2014; Amiyi, 2014; Obamuyi, 2012;Omotoyi and Fregene, 2009; Uduji and Okolo-Obasi, 2018a; Shimang, 2005; Sotolu, 2011). In Niger Delta region, women have become important entrepreneurs in fish processing; and most fish processing is performed by women, either in their own household-level industries or as wage labourers in the large-scale processing industries (Cliffe and Akinrotimi, 2015; Adedokun *et*

al, 2006; Adesina and Ayanda, 2005; Adeparusi *et al,* 2003; Akankali and Jamabo, 2001; Anene *et al,* 2010). Thus, we set out to assess the impact of CSR on development of women in small-scale fisheries in the region.

3. Theoretical perspective

In Nigeria, philanthropic initiatives as CSR by companies are prevalent (Uduji and Okolo-Obasi, 2017). Amaeshi *et al* (2006), suggest that CSR in the context of Nigeria should be aimed towards addressing the peculiarities of the socio-economic development of the country. However, most of the research on CSR Pyramid of Carroll (1991) has been in a Western context which suggests that culture may have an important influence on perceived CSR priorities (Burton *et al,* 2000). Just like Crane and Matten (2004) address this point explicitly by discussing CSR in a European context using Carroll's CSR Pyramid, Visser (2006) used the four-part construct of Carroll to look at how CSR manifests itself in an African context. Visser's evidence of how CSR is practiced in an African context has been used to challenge the accuracy and relevance of Carroll's Pyramid. Most critically, Africa's CSR Pyramid suggest that the relative priorities of CSR in Africa are likely to be different from the classic, American ordering of the four kinds of social responsibilities: economic, legal, ethical and philanthropic. Visser makes it clear that social responsibility in the African context should be given priority to philanthropic after economic in the sequence. However, this finding remains speculative and provocative, and would therefore benefit from further empirical research. This study adopts quantitative methodology, but views the outcome from Visser's Africa's CSR analogy.

4. Materials and Methods

The study adopts a quantitative methodology, as a contribution given the paucity of quantitative works in the region (Uduji*et al,* 2018). The survey research technique was used with the aim of gathering cross-sectional information from a representative sample of the population. It is essentially cross-sectional that describes and interprets what exists at present in the region.

4.1. Sample size

Multi-stage sampling technique was used to select respondents based on the sample size determined using Taro Yamane (1964) formula for finite population as in shown in the formula below.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where n = the sample size

N = Estimated total or finite population of the study area

e = Level of significance (Limit of tolerable error)

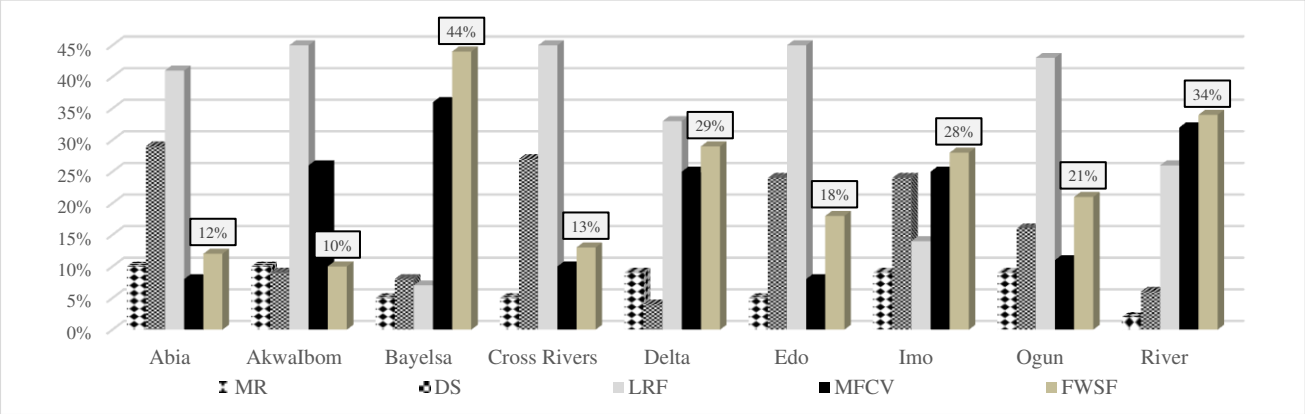
1 = Unity (Constant)

The estimated population of the study area is 31,313,901 (NPC, 2007); while the estimated population of the riverine communities in the area is about 32 percent of the total population, giving a total of 10,020,448 persons (UNDP, 2006). As this study focuses on the riverine artisanal fisherwomen, the estimated population of the riverine women in the region is about 52 percent of the estimated total population; hence the population of artisanal fisherwomen is approximately 5,210,633 persons. Hence, with confidence level of 95% and a standard deviation of 0.5, a sample size of 400 was determined. However, we purposefully multiplied the sample size by two to take the error to the lowest minimum, hence having a total sample size of 800 respondents.

4.2. Sampling procedure

The sampling involved both purposive and simple random samplings. In the first stage, five states: Bayelsa, Delta, Imo, Ondo and Rivers were purposefully selected based on proper representation of the various zones and the coverage of riverine communities in the states (Figure 1).

The figure shows that Imo state has the highest riverine coverage in the south-east geo-political zone, while Ondo state is the only south – west geo-political zone; and in the south-south geo-political zone: Bayelsa, Delta and Rivers have more riverine coverage than the other states.



Where: MFCV is Mangrove Forest and Coastal Vegetation. FWSF is Freshwater Swamp Forest. LRF is Lowland Rain Forest DS is Derived Savannah and MR is Montane Region

Figure 1. The area of ecological zones by states of the Niger Delta region

Source: UNDP, 2006/FDF, 2008/Authors' computation

In stage two, from each of the selected states, two Local Government Areas (LGAs) were purposefully selected based on the coverage of riverine communities in the LGAs, giving a total number of ten LGAs sampled for the study. In stage three, from each of the selected LGAs, four riverine fishing communities were randomly selected, giving a total of 40 riverine fishing communities. Finally, out of the selected riverine fishing communities, 20 artisanal fisherwomen were purposively selected with the help of community leaders to make up the 800 respondents used in the study.

4.3. Data Collection

This study was carried out in 2018, and the data were collected from primary sources, using participatory rural appraisal (PRA) technique of semi-structured interview (SSI) questionnaire. The use of participatory research technique in collecting CSR impact data especially as it concerns the artisanal fisherwomen is because it involves the people being studied, and their views on all the issues are paramount. The written SSI used for this study is divided into two sections. Section one of the instrument elicited information on the socio-economic characteristics of respondent, and the second section elicited information on the research objectives. The SSI questionnaire was the major tool the study used for the household survey. It was directly administered by the researchers with the help of research assistants. The use of local research assistants was because of the inability of the researchers to speak the different local languages and dialects of the many ethnic groups of Ijaws, Ogonis, Ikweres, Etches, Ekpeyes, Ogbas, Engennes, Obolos, Isokos, Nembes, Okirikas, Kalabaris, Urhobos, Iteskiris, Igbos, Ika-Igbos, Ndonis, Orons, Ibenos, Yorubas, Ibibios, Anangs, Efiks, Bekwarras, Binis, Eshans, Etsakos, Owans, Itigidis, Epies, Akokoedos, Yakkurs, etc, in the sampled rural communities.

4.4. Analytical Framework

Data collected from respondents in the field were subjected to series of treatment. Both descriptive and inferential statistics were used to analyze the data, so as to achieve the objective of the study which are:

i. To determine the level of CSR investment of multinational oil companies in fisheries development in Niger Delta, Nigeria?
ii. To assess the GMoUs impact on small-scale fisheries development of the coastal women in the Niger Delta of Nigeria?

Descriptive statistics of measure of central tendency, charts and tables was used to analyze the socio-economic characteristics and the level of MOCs investment in the host communities; while Inferential statistical tool-estimation of logit model of receipt and non-receipt of MOCs's Corporate Social Responsibility under the GMoU by artisanal fisherwomen as functions of selected socio-economic variables was used to test the research hypothesis. For binominal response variables, the logistic link is the natural logarithm of the odds ratios stated thus:

$$\log\left[\frac{p_i}{1-p_i}\right] = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik} \quad (2)$$

Hence, the impact of multinational oil company's CSR activities using GMOU on access to critical factors of fisheries development such as:

i. Access to fish harvesting equipment (net, hooks, canoe, spears, arrows and paddle etc).
ii. Access to fish processing and preservation mechanism (Cold room, Fish drier etc).
iii. Access to the enhanced fish marketing process among the riverine fisherwomen of the fishing communities in the host area was estimated using the equation below.

$$\text{Logit (CFF)} = \beta_0 + \beta_1 GCSR + \beta_2 Age + \beta_3 PriOcc + \beta_{54} HSize + \beta_5 Edu + \beta_6 OfFY + \beta_7 FExp + \beta_8 MS + \beta_9 YOHM \quad (3)$$

Where:

CFF = Critical factors of fishing

GCSR =Multinational oil companies (MOCs)'s corporate social responsibility using GMOU

Age = Age of the fisherwoman

PriOcc = Primary occupation of the fisherwoman (full-time fisher =1, otherwise 0)

HHSize = Household size of the fisherwoman

Edu = Highest level of education of the fisherwoman

OfFY = Off-fishing income of the fisherwoman

FExp = Fishing experience of the fisherwoman

MS = Marital status of the fisherwoman

YOHM = Income of other household members

*In this model, the main parameter of interest is β_1 in terms of sign and significance.

4.5. Explanatory variables

In modeling the impact of multinational oil company's CSR activities using GMOU on access to critical factors of fisheries development, important variables were included in the model.

Representing the variable to be fitted into the model from X_1-------X_n is seen below:

X_1= Age of the fisherwoman

X_2 = Primary occupation of the fisherwoman (full-time fisher =1, otherwise 0)

X_3 = Household size of the fisherwoman

X_4= Highest level of education of the fisherwoman

X_5 = Off-fishing income of the fisherwoman

X_6= Fishing experience of the fisherwoman

X_7 = Marital status of the fisherwoman

X_8 = Multinational oil companies (MOCs)'s corporate social responsibility using GMOU

X_9 = Income of other household members

5. Results

The analysis of the fisherwomen in the GCSRs begins with a description of some of the social (gender, education), demographic (age, marital status, household size), and economic (occupation, household income) characteristics (Table 1). These characteristics are important in understanding the differences in the socio-economic status of the fisherwomen who are participating in the GCSR compared with their non-participating counterparts in coastal communities of Niger Delta.

Table 1. Socio – economic characteristics of the respondents

Variables	Freq	%	Cum
Primary Occupation			
Farming	49	6	6
Trading	32	4	10
Fishing	702	88	98
Paid Employment	17	2	100
	800	**100**	
Farming Status			
Part time	98	12	12
Full time	702	88	100
	800	**100**	
Years of Experience			
0- 10 Years	68	9	9
11 - 20 Years	139	17	26
21 - 30 Years	195	24	50
31 - 40 Years	243	30	81
Above 40 Years	155	19	100
	800	**100**	
Age of Respondents			
Less than 20 years	33	4	4
21-30 years	132	17	21
31- 40 Years	211	26	47
41 – 50 Years	205	26	73
51 – 60 Years	154	19	92
Above 60 Years	65	8	29
	800	**100**	
Annual receipt of critical factors of production			
None	258	32	32
1000 - 50,000	186	23	56
51,000 - 100,000	119	15	70
101,000 - 150,000	97	12	83
151,000 - 200,000	59	7	90
201,000 - 250,000	30	4	94
251,000 - 300,000	28	4	97
301,000 - 350,000	11	1	99
351,000 - 400,000	9	1	100
Above 400,000	3	0	100
	800	**100**	

Variables	Freq	%	Cum
Level of Education			
None	284	36	36
FSLC	324	41	76
WAEC/WASSCE	165	21	97
First Degree and above	27	3	100
	800	**100**	
Marital Status			
Single	79	10	10
Married	534	67	77
Widow	92	12	88
Divorced	39	5	93
Separated	56	7	100
	800	100	
Household Size			
1-4 Person	253	32	32
5-9 Person	389	49	80
10-14 Person	121	15	95
15 Person and above	37	5	100
	800	**100**	
Annual Off Fishing Income Level			
1000 - 50,000	422	53	53
51,000 - 100,000	196	25	77
101,000 - 150,000	89	11	88
151,000 - 200,000	52	7	95
201,000 - 250,000	25	3	98
251,000 - 300,000	11	1	99
Above 300,000	5	1	100
	800	**100**	
Annual Fishing Income Level			
1000 - 50,000	85	11	11
51,000 - 100,000	137	17	28
101,000 - 150,000	182	23	51
151,000 - 200,000	123	15	66
201,000 - 250,000	91	11	77
251,000 - 300,000	72	9	86
301,000 - 350,000	51	6	93
351,000 - 400,000	40	5	98
Above 400,000	19	2	100
	800	**100**	

Source: Computed from the field data by authors

Analysis (Table 1) shows that out of the 800 respondents interviewed, 88% were involved in fishing full-time; whereas the remaining 12% were part-time fishers who were either traders, farmers or engaged in other paid employment that is not fisheries related. About 36% of the respondents were not literate; whereas the remaining 64% can read or write, haven attained the basic primary education. Only 3% of the population has secondary school education. This finding suggests that the artisanal fisherwomen in Nigeria have basic education required to effectively communicate in the fisheries management; unlike in a study in Bangladesh, Apurba *et al* (2015) argue that lack of basic education necessary in fisheries management impaired women becoming important entrepreneurs in the business; as men generally fish from boats in main river channels and make important decisions, women usually collect fish, frogs, snails, insects and other aquatic animals form wetlands, rice fields, mangroves, or near shore areas. This finding suggests that because of the basic educational attainment of the Niger Delta women, they can also play major roles in becoming important entrepreneurs in fish processing, and selling at markets and could spend their time in fish related decision making activities, if they have the means.

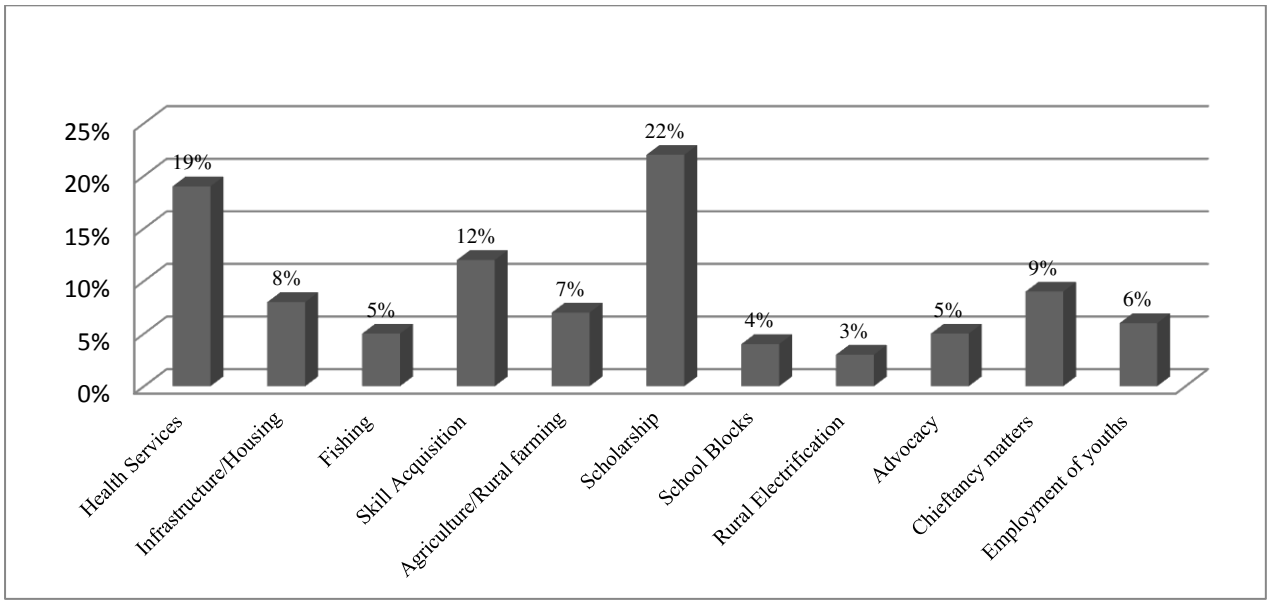


Figure 2. Percentage distribution of GCSRs investment by sectors in coastal communities of Niger Delta
Source: Computed from the field data by authors

Furthermore, about 67% of the respondents were married; whereas the remaining 33% were widowed, divorced, separated, or still single. The result shows that the average experience of the artisanal fisher women in the region was more than 30 years, but below 40 years; and the average age of the fisherwomen is more than 40 years. The average household size in the study area was about 7 persons per household, showing the area has a large household size,

and many mouths to feed. This could accounts to why so many fish harvested were used for household consumption (subsistence); which suggests that access to GCSR intervention could make them have enough to sell some and make income for the family. Again the finding shows that average annual fishing income was ₦170,000 Nigeria's Naira (470 US Dollars) per annum; whereas the average annual off-fishing income was ₦80,000; about 32% of the respondent have never received resources from the MOC via of GMoUs; whereas 23% have received between ₦1000-50,000; none of the respondent have received more than ₦400, 000 worth of resources from the GCSR. This shows that the GMoUs have not targeted the gender, hence the participation has been low. This finding agree with Uduji *et al* (2018) in that due to prevalent of inequality in the region, women's fishing work which often involves helping their husbands in providing food and income for their families, are sometimes considered as domestic or household work instead of fishing; hence they are commonly and widely excluded from making fisheries management decisions, due to cultural norms.

Table 2. Percentage rating of some multinational oil firms' investment in fishing and fish related businesses in coastal communities of Niger Delta.

	Total E&P	Exxon Mobil	Chevron	Shell	Agip	Halliburton	Average %
Extension advisers to support fisher and corporative	18	16	18	15	20	22	18%
Supply/subsidy of fishing boats and gear	9	10	9	8	17	5	10%
Investment in fishing policy advocacy	3	6	3	2	3	1	3%
Soft input loans and grants	20	21	18	25	17	21	20%
Investment in fish marketing	18	16	22	19	14	20	18%
Transportation of fishing input and produce	17	19	20	20	16	23	19%
Processing and preservation of fish produce	15	12	10	11	13	8	12%
	100	100	100	100	100	100	100%

Source: Computed from the field data by authors

Analysis (Figure 2) on the CSR investment of the MOCs using the GMoUs indicates that, little attention has been paid to the issue of fishing and fishery related business, which is the traditional sources of livelihood and should be the focus of MOCs in the host community; fishing got only 5%; whereas chieftaincy matters got 9%; health services that mostly benefit the chiefs got 19%; and scholarship that often end up with the chiefs' children and their cronies got 22%; which suggests that the restiveness in the region may still linger as the

GCSR has not been designed to benefit the grassroots and restore the traditional livelihood (farming and fishing) of the people.

Table 3. Projected effects of multinational oil firms' CSR Investment using GMOU on access to fishing equipment (AFE) by the artisanal fisherwomen in coastal communities of Niger Delta.

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Step 1(a)	*Age*	-.017	.009	3.125	1	.073	.983	.966	1.002
	PriOcc	.091	.212	.033	1	.856	.962	.635	1.459
	HHSize	-.014	.021	.492	1	.483	.986	.947	1.026
	Edu	.017	.021	.652	1	.419	1.017	.977	1.059
	OfFY	.069	.114	.715	1	.398	.908	.727	1.135
	YOMH	015	.115	.171	1	.679	.954	.761	1.194
	FExp	-011	.124	2.895	1	.029	1.810	.635	1.033
	MS	073	.135	.291	1	.038	1.930	.713	1.212
	GCSR	.325	.061	7.137	1	.003	9.234	1.045	1.443
	Constant	.929	.667	1.940	1	.164	2.533		

a Variable(s) entered on step 1: *Age*, *HHSize*, *PriOcc*, *Edu*, *OfFY*, *YOMH*,*FExp*, *MS*, G*CSR*.
Source: Computed from the field data by authors

Analysis (Table 2) shows that out of the little input that MOCs have made in fishing and fish related business, soft loan and grant took 20%; whereas the investment in advocacy to better the lots of the fisher received only 3%. Supply and subsidy of the fishing boats and gear which FAO (2007) suggests as the most important for fisheries development received only 10%. This is a further indication that the GMoUs programmes may not have been properly targeted for the local communities and gender in particular. This finding concurs with Kleiber *et al* (2014) in that despite their active contributions in Central Philippines, women also are not typically given a voice in fisheries management decisions. The nuance introduced (Table 3) suggests that there have been some efforts to include women in the process of riverine community fisheries management. However, our findings suggest further that even if opportunities are created in GMoUs for women to play a more active role, prevailing social and cultural norms in the region often requires women to shoulder the majority of household responsibilities, which can constrain their ability to participate in decision making. This finding supports Hapke (2001) in that women also often take full responsibility for cooking, cleaning, and childcare in addition to fishing.

Table 4.Z value table of analysis of the impact of multinational oil companies' CSR using GMOU on coastal fisherwomen's access to fishing equipment in Niger Delta

Predictor Variable	Coefficient	Z - Value $z = \frac{\hat{B}}{SE}$
Age	-.017	3.205
	(.009)[a]	(.073)[b]
PriOcc	091	.033
	(.212)[a]	(.856)[b]
HHSize	-.014	.492
	(.021)[a]	(.483)[b]
Edu	.017	.652
	(.021)[a]	(.419)[b]
OfFY	.069	.715
	(.114)[a]	(.398)[b]
YOMH	015	.171
	(.115)[a]	(.679)[b]
FExp	-011	2.895
	(.124)[a]	(.029)[b]
MS	073	.291
	(.135)[a]	(.038)[b]
GCSR	.325*	9.137
	(.041)[a]	(.003)[b]
Constant	.929	1.940
	(.667)[a]	(.164)[b]

* significant at 5%; - a = This only refers to standard error (SE) b= Associated P Value of the Z value

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

Source: Computed from the field data by authors

Logit (AFE) = .929 + .325CSR + (.017) Age + (.014) HHSize + 091 PriOcc +.017Edu +.069 OfFY + 015*YOMH* + (011) FExp + 073 MS

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 = 45.210, p <.000 with df = 8). Nagelkerke's R^2 of .814 indicated a strong relationship between prediction and grouping. Prediction success overall was 90 percent (94 percent for yes and 86 percent for the no). The Z-value for CSR is 9.137, with an associated p-value of .073. Based on the set 5 percent significant level, the study concluded that corporate social responsibility of the MOCs using the GMoU models have not made significant impact on access to fishing equipment(improved net, hooks, canoe, spears, arrows and paddle etc) by the riverine fisherwomen in Niger Delta region. On the other hand, the EXP (B) value of the Predictor – GCSR is 9.133, which implies that if the MOCs raise their

CSR program targeted to procuring and subsiding fishing equipment by one unit, that is, equivalent of 1USD, the odds ratio is 9.1 times as large and therefore riverine fisherwomen are 9.1 more times likely to invest more of their time, energy and other resources in fisheries development (Table 4).

Table 5. Projected effects of multinational oil firms CSR investment using GMoU on coastal fisherwomen in fish processing and preservation mechanism (AFPPM), (cold room, fish drier etc) in Niger Delta.

		B	S.E.	Wald	df	Sig.	Exp (B)	95.0% C.I.for EXP(B)	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Step 1(a)	Age Bracket	-.023	.014	4.234	1	.018	.967	.975	1.195
	HHSize	-.243	.022	2.213	1	.153	.992	.929	1.133
	PriOcc	-.103	.020	.183	1	.751	.967	.976	1.206
	Edu	.426	.082	1.331	1	.291	1.031	.918	1.130
	OfFY	.128	.122	4.612	1	.065	1. 876	.622	.939
	YOMH	.213	.416	1.065	1	049	2.311	1.542	2.101
	GCSR	3.135	4.044	13.119	1	.017	12.342	1.009	1.279
	Fexp	- 121	.042	.516	1	.012	1.212	. 965	1.993
	MS	.125	.175	2.231	1	.341	2.881	.268	1.1222
	Constant	1.321	1.706	6.185	1	.021	7.113		

a Variable(s) entered on step 1: Age Bracket, HHSize, PriOcc, Edu, OfFY, *YOMH*, GCSR, Fexp, MS
Source: Computed from the field data by authors

Table 6: Z Value table of analysis of the impact of multinational oil companies' CSR using GMOU on coastal artisanal fisherwomen's access to fish processing and preservation mechanism in Niger Delta.

Predictor Variable	Coefficient	Z - Value
Age Bracket	-.023*	4.234
	(.0121)[a]	(.021)[b]
HHSize	-.243	2.213
	(.026)[a]	(.164)[b]
PriOcc	-.103	.183
	(.012)[a]	(.745)[b]
Edu	.426	1.331
	(.031)[a]	(.418)[b]
OfFY	-.128*	4.612
	(.121)[a]	(.112)[b]
YOHM	.213*	1.065
	(.914)	(.312)
GCSR	3.135 *	3.119
	(.132)[a]	(.019)[b]
Fexp	- 121	.516
	(.018)[a]	(.032) [b]
MS	.125	2.231
	(.128)[a]	(.285) [b]
Constant	1.793*	6.185

(.812)[a] (.013)[b]

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

b= Associated P Value of the Z value

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

Source: Computed from the field data by authors

Logit (AFPPM) = 1.321+ 3.135 CSR + (.023) Age + (.243) HHSize + (.103) PriOcc + .426Edu + .128 OfFY +.213YOHM + (121) FExp + .125 MS

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 GCSR (chi square = 45.210, p <.000 with df = 8). Nagelkerke's R^2 of .853 indicated a strong relationship between prediction and grouping. Prediction success overall was 91 percent. (94 percent for yes and 88 percent for the no).The Z-value for CSR is 3.119, with an associated p-value of .089. Based on the set 5 percent significant level, the study concludes that GCSRs of the MOCs have not made a significant impact on access to fish processing and preservation mechanism (cold room, fish drier etc) by the artisanal fisherwomen in Niger Delta region. The EXP (B) value of the Predictor – GCSR is 12.342, which implies that if the MOCs raise their CSR program targeted to fish processing and preservation by one unit, that is equivalent of 1USD, the odds ratio is 12.3 times as large and therefore riverine artisanal fisherwomen are 12.3 more times likely to invest in fishing and produce more fishes, boosting productivity and employment in the communities (Table 5 & Table 6).

Table 7. Projected effects of multinational oil firms' CSR investment using GMOU on coastal artisanal fisherwomen access to favourable fish marketsin Niger Delta.

		B	S.E.	Wald	df	Sig.	Exp (B)	95.0% C. I. for EXP(B)	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Step 1(a)	Age Bracket	-.023	.014	4.234	1	.018	.967	.975	1.195
	HHSize	-.243	.022	2.213	1	.153	.992	.929	1.133
	Edu	.426	.082	1.331	1	.291	1.031	.918	1.130
	OfFY	.128	.122	4.612	1	.065	1. 876	.622	.939
	YOMH	.073	.125	.432	1	.032	1.203	. 877	1.425
	GCSR	1.114	.132	12.201	1	.017	13.553	1.009	1.279
	Fexp	- 121	.042	.516	1	.012	1.212	. 965	1.993
	PriOcc	.086	.345	.018	1	.826	1.125	. 569	1.622
	MS	.125	.175	2.231	1	.341	2.881	.268	1.1222
	Constant	1.321	1.706	6.185	1	.021	7.113		

a Variable(s) entered on step 1: Age Bracket, HHSize, , Edu, OfFY, *YOMH*, CSR, Fexp, Ms, PriOcc,

Source: Computed from the field data by authors

Table 8. Z value table of analysis of the impact of multinational oil companies' CSR using GMOU on coastal artisanal fisherwomen's access to favourable fish markets in Niger Delta.

Predictor Variable	Coefficient	Z - Value
Age Bracket	-.023*	4.234
	(.014)[a]	(.021)[b]
HHSize	-.243	2.213
	(.026)[a]	(.164)[b]
Edu	.426	1.331
	(.031)[a]	(.418)[b]
OfFY	-.128*	4.612
	(.121)[a]	(.112)[b]
YOMH	.073*	.432
	(.254)[a]	(.412)[b]
GCSR	1.114 *	12.201
	(.132)[a]	(.017)[b]
Fexp	- 121	.516
	(.018)[a]	(.032) [b]
PriOcc	.086	.018
	(.212)[a]	(.921)[b]
MS	.125	2.231
	(.128)[a]	(.285) [b]
Constant	1.793*	6.185
	(.812)[a]	(.013)[b]

* Significant at 5%; - a = this only refers to standard error (SE)
b= Associated P Value of the Z value
Source: Computed from the field data by authors

A logistic regression analysis was conducted to predict the impact of GCSR on riverine artisanal fisherwomen's access to fish processing and preservation mechanism (cold room, fish drier etc) using the variables in equation above as predictors.

Logit (ACS) = 1.321+ 1.114 CSR + (.023) Age + .086PriOcc + (.243) HHSize + .426Edu + .128 OfFY +.073*YOMH* + (121) FExp + .125 Ms

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 = 45.210, p <.000 with df = 8). Nagelkerke's R^2 of .853 indicated a strong relationship between prediction and grouping. Prediction success overall was 91 percent (94 percent for yes and 88 percent for the no).The Z- value for CSR is 12.201, with an associated p-value of .069. Based on the set 5 percent significant level, the study concluded that CSRs of the MOCs under GMOU have not made a significant impact on riverine artisanal fisherwomen's access to favorable fish market. However, the EXP (B) value of the Predictor

– CSR is 13.553, which implies that if the MOCs raise their CSR program targeted to making available fish processing and preservation mechanism at subsidized rate or free to the riverine artisanal fisherwomen by one unit, equivalent of 1USD, the odds ratio is 13.6 times as large and therefore the riverine artisanal fisherwomen will be almost 14 times more likely to invest in both primary and secondary fisheries activity because the wastage of harvested fishes due to lack of favourable market and lack of value addition will be eliminated to a great extent. This will in turn boost the productivity of artisanal fisherwomen in the riverine communities (Table 7 & Table 8).

Generally, haven tested the hypothesis of the study on the three major indictors of empowerment of the artisanal fisherwomen, and having seen that the associated p-value of the Z Value in all are more than .05, we therefore accept the null hypotheses on the basis of the rule which says that if the associated p-value of the Z Value, that is significance of the Wald criterion is less than 0.05, the null hypothesis will be rejected. Hence we concluded that: "the level of investment using the GMoUs of multinational oil companies has not made any significant impact on the livelihood of artisanal fisher women in the host communities". However promises are bound that any significant increase in the investment will bring a major turnaround for fishery and fishing related businesses in the region.

Table 9. Average rating of GMoUsperformance by artisanal fisherwomen in coastal communities.

Criteria	Variables	None	Low	Moderate	Significant	High	Overall
Governance:							
	Election or selection of CDB member democratic			26			
	Tenure limit well defined			31			
	Succession processes well outlined and adhered to		15				
	Rule of law upholds		7				
	Freedom of aspiring to represent		13				18.4
Inclusiveness:							
	Sensitive to gender			38			
	Sensitive to sectors (especially Fishery)		7				
	Sensitive to residence location (coastal area)		3				
	Sensitive to Age (young rural women)			29			
	Sensitive to culture and social norms		4				16.2
Transparency							

	Openness of the commerce process	18		
	Openness of financial management process	16		
	Openness of the decision making process	20		
	Fight against corruption	14		
	Free flow of information (even to the coastal women)	7		15.4
Participation				
	Equality in the distribution of benefits	9		
	Extent of participation in GMoU process	10		
	Sense of ownership of project	12		9.4
	Freedom to generate or suggest projects	5		
	Level of bottom top approach in project designing	11		
Continuity				
	Self-sustainability of the project	18		
	Capacity building ability of project		38	16
	Future centeredness of the project	15		
	Alignment between GMoU projects and community priority	4		
	Diversity of sources of funding	5		
Outcome				
	Grievance management	14		
	Coastal women gainfully employed	5		12
	Community and MOCs relationship harmonized	10		
	Business environment enhanced	14		
	Enhanced environmental advocacy by GMoU	18		

Source: Computed by the field data by authors.

However, with 5 percent on fisheries development in the distribution impact of GCSRs investment by sectors in coastal communities is contra to Visser (2006) analogy for an ideal African CSR model. However, the impact of the GMoUs on the artisanal coastal women can only be properly ascertained by seeking the stakeholders' response on the rating of the GCSRs. To get the actual feelings of the coastal artisanal women on the GMoUs, their

opining was sought for in six major criteria that could determine the suitability and performance of the GMoUs or otherwise. The assessment was done to find out issues on the governance, inclusiveness, transparency, participation, continuity and outcome of the GMoUs in the Niger Delta region from the perspective of the coastal artisanal women. Analysis (Table9) shows the criteria and the variables of rating the women perception of GMoUs either none, low, moderate, significant or high.

6. Discussion

The illustration (Figure 3) summarized the average perception rating of GMoUs by artisanal fisherwomen in riverine communities of Niger Delta.

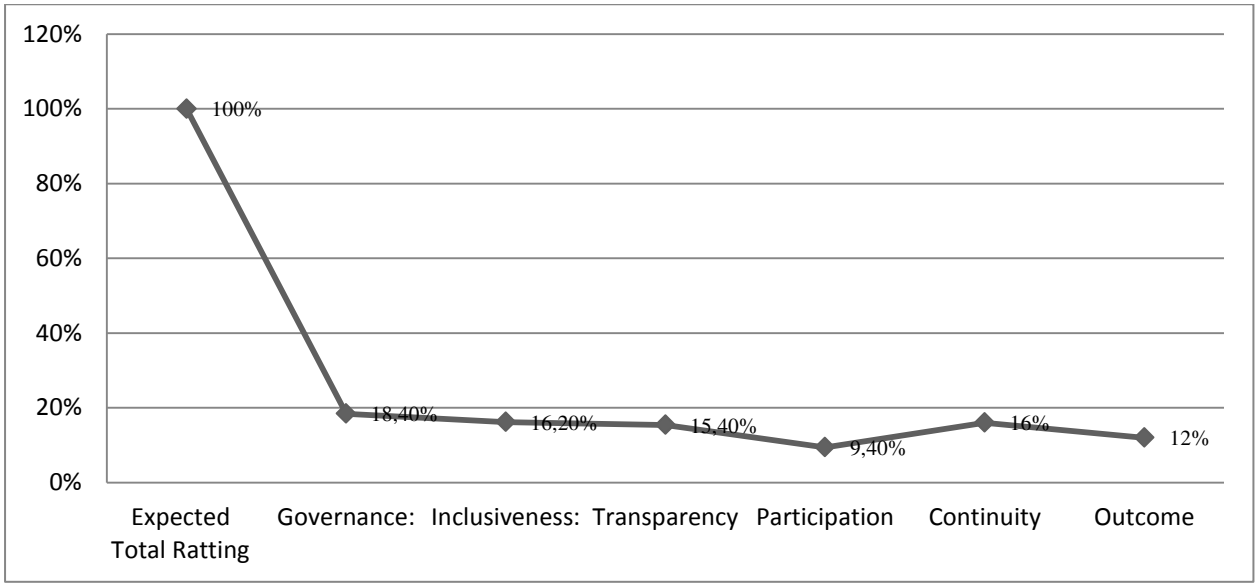


Figure 3. Average rating of the MOCs GMoUs By coastal artisanal women.

Source: Computed from the field data by authors.

From the analysis, the coastal artisanal fisherwomen rated the cluster development boards that manage the GMOUs low (Table 9 & Figure 3).In governance the response shows the women rating the CDB 18.4% while also arguing that transparence in governance and programme selection is 15.4%. Also inclusiveness and participation of the women were rated 16% and 9.4% respectively. This meaning that the CDB is not yet gender sensitive and will not always project the feminine agendas. This is why the artisanal women opinion could suggest that the outcome of the GMOUs can only be 12%; whereas the continuity of the programme will only end at 16%.

Following the results of this analysis, it is therefore argued in this paper that embracing women's participation in the GMoUs not only plays a significant role in fisheries development, but also enhances the relationship between the host communities in the Niger Delta and the MOCs. The gender insensitivity of MOCs in the exclusion of artisanal fisherwomen from the GMoUs intervention due to cultural norms of the people has created negative perception and doubt from feminine perspective (Table 9). Hence, any CSR initiative, no matter how laudable it is, does not always receive positive reaction from women in coastal communities of the Niger Delta (Figure 3). It is no surprise, therefore, that the coastal communities have remained a center of youth militants and incessant violent conflicts in the region (Uduji and Okolo-Obasi, 2018c). While Carroll (1991) is not consistent in his explanation of why CSR is depicted as a hierarchy, Visser (2005) explored the importance of cultural context in the determination of appropriate CSR priorities and programmes. This paper further traversed the need for flexibility in approaches to CSR policy and practice by multinational oil companies operating in the region of Niger Delta in Nigeria. Therefore, CSR in coastal communities should be focused towards the eccentricity of the socio-economic development challenges of the people's traditional source of livelihood and basically informed by the socio-cultural influences in the region.

On the whole, our findings demonstrated the important but often hidden contribution of women in supporting and sustaining fisheries in riverine communities of Niger Delta region of Nigeria. Most critically, it is suggested in this study that the relative priorities of CSR of MOCs in Nigeria's oil host communities should be different from the classic, American ordering as suggested by Caroll (1991); but our findings sided with Visser (2006), Amaeshi *et al*(2006) and Uduji *et al* (2018), in adhering to the socio-cultural context of African, and Nigerian in particular. However, in extension and contribution, it is argued in this paper that if MOCs are to work towards an ideal CSR for coastal communities in Niger Delta, GMoUs should be designed to be more gender sensitive for women in small-scale fisheries in the oil host communities. It is the contention of this paper that MOCs are in better position to restore the traditional livelihood of the people of Niger Delta region; by facilitating higher participation of female in artisanal fisheries. Therefore, identifying the role women play and the fishing activities they perform is a key first step that CDBs could take to develop approaches for female participation in fisheries resource management. This is mostly needed because climate change and other environmental costs of extractive activities to fisheries in

the region can affect women disproportionately compared to men; as declines in men's fish catches continued due to the consistent environmental oil degradation in the region puts increased pressure on women to replace this food source in their wetland fishing. Hence, if women can play key roles in sustaining small-scale fisheries, they can also become important stakeholders whose view and participation in the GMoUs ought to be considered by the CDBs in fisheries management and conservation decisions. Consequently, embracing women's higher participation in Nigeria's small-scale fisheries should form the foundation of CSR practice in Niger Delta, which in turn would provide the enabling environment for more widespread responsible business in the coastal oil host communities of Nigeria. What is clear from this finding, therefore, is that CSR in sub-Saharan Africa is rich and fascinating area of enquiry, which is becoming ever more important in CSR theory and practice. And since it is profoundly under-researched, it also represents a tremendous opportunity for improving our knowledge and understanding about CSR in sub-Saharan African context.

7. Conclusion and Policy Implications

While women are often key actors in fisheries, they are commonly excluded from making fisheries management decisions, often due to cultural norms. The objective of the investigation is to assess the impact of a new CSR model of multinational oil companies (MOCs) on development of coastal women in small-scale fisheries in the Niger Delta region of Nigeria. This research adds to the literature on multinational enterprises (MNEs') corporate social responsibility (CSR) initiatives in sub-Saharan Africa and rationale for demand for social projects by host communities.

A total of eight hundred artisanal fisherwomen were sampled across the coastal communities of Niger Delta. Results from the use of logit model indicate that artisanal fisherwomen have remained widely excluded from the General Memorandum of Understanding (GMoUs) intervention in small-scale fisheries due to cultural norms of the people. This implies that if the cultural norms of the Niger Delta communities continue to restrain direct participation of the artisanal fisherwomen from the GMoUs small-scale fisheries interventions, achieving gender equity and cultural change would be limited in the region. The findings suggest that since fisheries, which is the traditional source of livelihood of the people are no longer viable, and have been experienced significant decline due to environment oil degradation, GMoUs could play a role in helping to create appropriate intervention structure that would be targeted towards higher female participation in the small-scale fisheries. This could be achieved if the

Cluster Development Boards (CDBs) would focus on women playing key roles in sustaining small-scale fisheries, and also participating as important stakeholders in GMoUs whose view ought to be included in fisheries management and conservation decision in Niger Delta region of Nigeria. This paper concludes that business has an obligation to help in solving problems of public concern in sub-Saharan Africa.

Specifically, it is worth mentioning that while this study contributes to extant literature on the role of oil from the perspective of CSR in small-scale fisheries development of women in the Niger Delta region, it also provides essential policy directions on the relationship. However, the main caveat of the study is that it is limited to the scope of coastal communities in Nigeria. Hence, the findings may not be generalized to other regions of the world with the same policy challenges. In the light of this shortcoming, replicating the analysis to other developing countries is worthwhile in order to examine whether the established nexus withstands empirical scrutiny in different coastal oil-host communities of developing economies.

Disclosure statement

No potential conflict of interest was reported by the authors.

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