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Responsibility in Oil Host
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Building Social Capital through Rural Women's Groups: The Role of Corporate Social Responsibility in Oil Host Communities

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Abstract

Purpose - The purpose of this paper is to critically examine the corporate social responsibility (CSR) initiatives implemented by multinational oil companies (MOCs) in Nigeria. Its special focus is to investigate the impact of the global memorandum of understanding (GMoU) on closing the social capital, through enterprising rural women's groups in the Niger Delta region of Nigeria.

Design/methodology/approach - This paper adopted a survey research technique, aimed at gathering information from a representative sample of the population. It was essentially cross-sectional, describing and interpreting the current situation. A total of 800 women respondents were sampled across the rural areas of the Niger Delta region.

Findings - The results from the logistic regression model indicate that CSR of the MOCs using the GMoU model has recorded little but significant success in improving women's participation in the socio-economic activities of the region. The results also demonstrate that women's groups and other forms of collective actions can be effective in building social capital and addressing gender gaps in other areas as well, through reducing transactions cost, pooling risks, developing skills, and building confidence.

Practical implications - The result suggests that building women's social capital can be an effective way to improve information exchange and resource allocation, pool risks, and ensure that women's voices are heard in decision-making at all levels. Additionally, it proposes that community-based organizations including cluster development boards (CDBs) and women's groups can be useful for generating social capital.

Social implications - The result implies that women's groups that serve as production cooperatives, savings associations, and marketing groups can boost production and help women in maintaining control over the additional income they earn. It also indicates that achieving scale through pooling resources can help women in overcoming some of the constraints experienced by individual farmers.

Originality/value - This research contributes to the gender discourse in social capital from a CSR perspective in developing countries and the rationale for host communities' desires for social projects. It concludes that businesses must assist in solving public-interest challenges.

Keywords Gender, social capital, corporate social responsibility, multinational oil companies, sub-Saharan Africa.

Paper type Research paper

1. Introduction

Social capital is the web of relationships among people who reside and work in a specific society, empowering that society to function well (Adkins, 2005). It refers to a positive product of a human collaboration that might be tangible or intangible and might include valuable information, novel ideas, and future opportunities (Quisumbing and Kumar, 2011). Social capital leads to the effective running of social groups via interpersonal connections, a mutual sense of identity, shared values, norms, and understanding, cooperation, mutual benefit, and trust (Pretty, 2003). It enables a group of people to work effectively together to accomplish a common purpose or goal. Stated simply, social capital benefits society as a whole via social relationships. International organizations, governments, and non-governmental organizations (NGOs) have eagerly embraced social capital as an alternative to government-based or market-based approaches to development, with the World Bank hailing it as the missing link in progress (Woolcock and Sweetser, 2007).

Operating through groups or networks lessens the cost of supplying services to a large number of individuals and makes program execution more cost-effective. For example, the perception that social capital is relatively easier for the underprivileged to gain than other assets like land is a major driver of concern among development practitioners. Even though it is not explicitly accepted, the underprivileged may encounter barriers to joining groups because participation in groups is not so cheap. Networking takes time, especially when formal group meetings are required. Besides, several groups charge membership fees. These could present barriers to acquiring social capital along with social inequality and ethnic dissimilarities (Westermann *et al*, 2005). Nonetheless, even with the growing significance of groups, their gender structures and the effect of membership on gender relations have been inadequately explored in the social capital literature or the collective action literature regarding the activities (performance) of groups and associations (Pandolfelli *et al*, 2008).

In Africa, women in impoverished households face serious time constraints, owing to their numerous life commitments and childcare responsibilities. Poor women who want to participate are discouraged by membership fees because they have limited access to financial resources (Katungi *et al*, 2008). In Nigeria, cultural norms that prevent women from speaking up in public or from socializing with men may be a greater blow to them than it is to men, even though both men and women with limited education feel embarrassed about participating in groups and worry

about being perceived as ignorant or as having nothing to contribute. As a result, women may think that it is not worth their time and effort to participate in group meetings since they will not be heard (Ajala, 2017). Therefore, is it true that women have less social capital than men, or do they invest in diverse forms of social capital?

Nigeria's economy is heavily reliant on the oil and gas sector, which contributes 95% of export revenue, 80% - 85% of government revenue, and 32% of gross domestic product (GDP). Nigeria is the largest oil producer in Africa and among the top ten in the world. Its recoverable reserves were estimated at 36.2 billion barrels in January 2007. Regardless of the country's relative oil wealth, GDP per capita was \$2,400, and poverty was prevalent with more than half of the population living on less than \$1.25 per day (Francis *et al*, 2011; African Economic Outlook, 2017). The Niger Delta region of the country's south is home to significant oil and gas reserves. This region is characterized by deprivation and lack of development. Oil extraction, as a capital-intensive rather than labor-intensive business, provides little employment. The region is further harmed by its challenging geographical terrain, which raises infrastructure costs, and by the effect of environmental degradation on traditional industries such as fishing and agriculture, which is made more expensive by the consequences of oil extraction, gas flaring, oil spillage and so on (African Competitiveness Report, 2017). Nevertheless, the multinational oil companies (MOCs) operating in the region invest in a plethora of corporate social responsibility (CSR) projects and programs in local communities, mostly in the Niger Delta. Over the years, MOCs have upgraded their methods, collaborating with local communities to carry out these projects. In 2006, they established a new method of interacting with communities called the global memorandum of understanding (GMOU). The GMOU represents an important step forward in MOCs' CSR tactic, emphasizing clearer and more responsible processes, consistent communication with the people (grassroots), sustainability, and conflict prevention (SPDC, 2013). Under the terms of GMOUs, the communities agree on the development they want, and MOCs are responsible for securing funding for five years, ensuring that the communities have stable and dependable financing while carrying out the implementation of their community development plan (Chevron, 2014). By the end of 2012, MOCs had signed agreements with 33 GMOU clusters, covering 349 communities, accounting for nearly 35% of the local communities near MOCs' business operations in the Niger Delta (Chevron, 2014; SPDC, 2013). Nevertheless, the degree to which MOC CSR programs have supported community development in the region remains debatable. Scholars such as Ekhatior (2014), Eweje (2006), Idemudia (2014), Asongu *et al* (2019), Okolo-Obasei *et al* (2021), Mamudu *et al*, (2021), Acey (2016), Ekhatior (2019), Uduji

et al (2019), Barikor-Wiwa (1997), Keys (2021), Mai-Bornu (2019) and others disputed that Nigeria's CSR process is not comprehensive or deeply embedded. As a consequence, some argued that several of these CSR initiatives are not executed rationally and continuously (Amaeshi, 2006). Undoubtedly, despite the adoption of GMoUs by MOCs in Nigeria, the oil-producing communities have received relatively low returns given the enormous social and environmental costs of extractive activities (Frynas, 2009). In contrast, Renouard and Lado (2012), Ite (2007), Lompo and Trani (2013), and others claimed that the CSR initiative of MOCs has in reality contributed to community development in the region when the extent of governmental failure is considered.

Following the previous contrary viewpoints on CSR initiatives in the Niger Delta, this paper contributes to the gender debate in social capital for agricultural development and inclusive growth literature from a CSR standpoint, by analyzing empirical facts in four areas that have attracted much attention in the literature. The purpose of this paper is to determine the level of CSR investment made by MOC in the area of possible mechanisms that group-based programs can employ to increase women's contribution, as well as to determine the level of benefit from this investment that accrues to the rural women and its impact on their trade. These four areas of emphasis, taken together, represent four main research questions notably:

- How are women represented on the GMoU cluster development boards (CDBs) in the host communities?
- What is the strength of MOCs' CSR investment in women's groups aimed at boosting earnings from investments in enterprises controlled by women in the Niger Delta, Nigeria?
- Do MOCs' GMoU interventions elicit positive impacts on women's groups operating as production cooperatives, savings associations, and marketing groups in the Niger Delta, Nigeria?
- Do MOCs' GMoU interventions in policy dialogue and advocacy for women break down the structural blockades - membership fees, ownership of land, and meeting timing and length - that typically prevent impoverished women from joining groups that address women's problems in the Niger Delta?

1.1 Study hypotheses

Women in Africa may be able to overcome some of the constraints experienced by individual farmers, by achieving scale through pooling resources. Building women's social capital can be a proactive method to promote information exchange and resource sharing, pool risks, and ensure that women's voices are heard in decision-making at all levels. Nevertheless, as a result of the cultural norms, gender inequalities continue to hinder efforts to reduce poverty in Nigeria's Niger Delta region. Accordingly, when compared to their male counterparts in mixed-sex groups that have evolved into registered foundations that received third-party support (financial assistance), women in the region are far from benefiting from the opportunities and aid originating from self-help groups. Thus, we postulate the following:

- The CSR of MOCs utilizing GMoU failed to considerably influence the formation and development of women's groups.
- The CSR of MOCs utilizing GMoU did not significantly contribute to removing structural barriers impeding women's involvement in socio-economic groups.

In line with the aforementioned, the central interest of this research is to ascertain the level of CSR investment made by MOCs in closing the social capital gap through women's groups and how it affects the sources of revenue for rural women in host communities. From the CSR standpoint, the paper contributes to variation discussion in the literature on social capital for agricultural development and inclusive growth.

The rest of this paper can be organized as follows. Section 2 is related to background, literature, and theoretical underpinnings, while Section 3 describes the methods and materials. Section 4 presents and discusses the results and Section 5 concludes with policy implications, limitations, and future research directions.

2. Background, literature, and theoretical underpinnings

2.1 Women in the struggle for environmental justice in Niger Delta

Traditionally, the Niger Delta's residents have been farmers and fishermen. However, decades of oil spills and gas flaring, along with a rapidly growing population, have rendered these traditional sources of livelihood either nonexistent or significantly declining (Idemudia, 2014). Consequently, this region suffers from higher unemployment rates than the national average

(Uduji *et al*, 2021). According to Ekhaton (2020), in Nigeria, environmental injustice disproportionately affected women, and MOCs' oil extraction operations also impacted women's health in the region. Furthermore, women in this region suffered challenges and constraints that prevent them from improving their nutrition, healthcare, and food security (Olusegun and Oyelade, 2021; Okongwu, 2021). The impact of MOCs' extraction in the region had considerably weakened women's access to pollution-free farmlands and fishing waters. Even though women in Nigeria faced state-sanctioned discriminatory practices and economic and social barriers, they fought back by opposing MOCs' unfavorable activities, which eventually forced the MOCs to concede to some of the women's demands in the Niger Delta (Ugochukwu, 2020; Ekhaton, 2019). According to Barikor-Wiwa (1997), the Federation of Ogoni Women's Association (FOWA), the umbrella organization for all women's groups in Ogoni, Niger Delta of Nigeria, passed a resolution declaring that MOCs cannot continue oil extraction from their territory. These women were instrumental in organizing the massive protests against MOCs in the region, and in spearheading every struggle for environmental justice in the Niger Delta (Ekhaton, 2019, 2020; Barikor-Wiwa, 1997).

2.2 Theoretical underpinnings

While it is estimated that globally, nine out of ten start-ups shrivel up and cease to exist within three years, necessitating accelerator programs to avoid such prompt closures, many female entrepreneurs in Nigeria are not operating at their full peak, which could be attributed to discriminatory practices, low productivity, limited entrepreneurship and leadership skills, inadequate training, inadequate management experience, lack of information, inadequate infrastructural development, lack of strategies to develop financial literacy, limited access to external loans for business sustainability, and poor family support. As a result, female entrepreneurs in Nigeria experience business failures, early exits, stagnant growth, and low return on investment (African Development Report, 2015). In light of the aforementioned issues, neoliberal feminism may be the greatest alternative for women in a society like Nigeria, where a lack of financial opportunity has fostered an entrepreneurial mindset, and where mistrust of Western feminism is culturally entrenched (Akinbobola, 2019). Actually, according to Khonje (2020), neoliberalism feminism is more likely to be embraced in Africa in general and in Nigeria in particular than some other types of feminism that are currently in circulation. Akinbobola (2019) argued that Nigeria's high rates of poverty and unemployment, as well as the general lack of opportunities for access to financial empowerment opportunities, have fostered an individualized entrepreneurial mindset that is more in line with this type of feminism, however

problematic that may be. Neoliberal feminism is criticized, nonetheless, for neglecting the most vulnerable women, by ignoring structural inequalities (Dabrowski, 2021). This study adopts a quantitative methodology and also considers CSR from an African viewpoint (Visser, 2006) and perspectives on gender and development (Baden and Goetz, 1997). Erika (2015) asserted that entrepreneurship is a vital source of employment and that women who engage in informal businesses are usually self-employed in small-scale retail. The gender gap in entrepreneurship development is the result of unequal access to resources (Loza, 2011). Persistent inequality, especially in access to resources, continues to limit women's involvement in providing household food baskets (Ali, 2018). This paper uses the liberal feminist theory in clarifying why female entrepreneurs should be encouraged to participate in entrepreneurship development. This theory contends that social reform is necessary if women are to be given the same prestige and opportunities as men (Fischer *et al*, 1993). The liberal theory's basic tenet is that men and women are equal and that reason, not sex, serves as the foundation for individual rights. It stresses the presence of discriminatory blockades and systematic biases that women must be freed from, such as their limited access to education, resources, and business know-how (Baden and Goetz, 1997).

As presented by Unger and Crawford (1992), the liberal feminist theory asserts that women would act similarly if they had equal access to the opportunities available to men such as education, working knowledge, and other resources. This theory lies in the context of women's entrepreneurship. Adding to this, the findings of this study are also examined utilizing Visser's (2006) organizational framework and the lens of CSR's nature in an African context. Carroll's (1991) CSR pyramid is the most accepted model of CSR, with its four tiers indicating the relative significance of economic, legal, ethical, and philanthropic duties. Thus, CSR is explored in Africa (Visser, 2006) to test the accuracy and applicability of Carroll's (1991) CSR Pyramid. It suggests that if Carroll's basic four-part model is putative, then, the relative priorities of CSR in Africa will differ from the classic American ordering; henceforth, it indicates that Carroll's CSR Pyramid is probably not the best model for understanding CSR in general, and in Africa in particular. Amaeshi *et al* (2006) uphold that CSR in Nigeria must be guided by socio-cultural stimuli and should be directed at tackling the nation's unique socio-economic development concerns. In other words, it may not reflect the popular Western standards or CSR expectations.

3. Methods and materials

This paper adopted a quantitative methodology, contributing to the body of knowledge given the scarcity of quantitative studies in the region (Lompo and Trani, 2013; Udujiet *al*, 2021). The

survey research technique was utilized to collect cross-sectional data from a representative sample of the population. This study was primarily cross-sectional, describing and interpreting current conditions in the region.

3.1 Sample size

To guarantee a sufficient number of women from the general population were included, we computed the sample size using Fisher's (1998) formula, which is mathematically presented as follows:

$$n = \frac{z^2 p(1-p)}{d^2} \quad (1)$$

Here, n represents the sample size; whereas

z = the standard normal deviation for a given confidence level, which is equal to 1.96 at 95% confidence level;

p = the proportion to be tested. In most cases, it is equal to 0.5 when the value of p is uncertain;

d = margin of error of 0.05 at 95% confidence interval;

Consequently, we calculated the sample size as follows:

$$n = \frac{1.96^2(0.5)(1-0.5)}{0.05^2} = n = \frac{0.9604}{0.0025} = 384 \text{ rounded up to } 400. \text{ The number of observations}$$

was thereafter doubled to reduce the possibility of sample selection errors. Therefore, 800 rural women responded to the survey.

3.2 Sampling technique

The study utilized a multi-staged sampling technique to choose the respondents for the cross-sectional survey. We purposefully selected two local government areas (LGAs) from each of the nine states in the region, based on MOCs' existence in the LGAs. Then, from the carefully chosen LGAs, we selected two communities based on the strength of MOCs' presence in those communities. Additionally, we intentionally chose one community that belongs to a cluster development board (CDBs) and one that does not. We carefully selected the CDB women from the first group and the non-CDB women from the second group. The CDB women were designated as the "treatment group", whereas the non-CDB women were designated as the "control group." Out of these selected communities, we arbitrarily picked 800 women as our final respondents, with the help of community gatekeepers.

3.3 Data collection

To collect data, we used the participatory rural appraisal (PRA) technique. To gather information from the selected respondents, a written semi-structured interview (SSI) questionnaire and key interview guide were employed. We used this technique because it is crucial to consider the perspectives of the people being examined on all relevant problems. The SSI questionnaire was directly administered by the researchers with the assistance of local research assistants, because of the inability of the researchers to speak the many local languages and dialects of the several ethnic groups in the sampled rural communities.

3.4 Analytical framework

The data collected were thoughtfully cleaned and edited and scrupulously analyzed, using descriptive and inferential statistics to test the hypotheses and answer the research questions. The descriptive statistics included the frequency, mean, average, and other scores with the findings being presented in figures, charts, and tables. It was mainly used to achieve objectives 1 and 2. On the other hand, to achieve objectives 3 and 4, an inferential statistic based on a logit model of receipt and non-receipt of MOCs' CSR via GMoUs was analyzed as a function of carefully chosen socio-economic variables. In evaluating the model, we adapted Uduji and Okolo-Obasi's (2020) modification. For this, we made it obvious that the logistic model for binomial response variables is the natural logarithm of the odds ratios, which is generally denoted as:

$$\text{Log} \left(\frac{P_i}{1-P_i} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n \quad (2)$$

With this, we assessed the impact of MOCs' CSR investments using GMoU on gender parity in biodiversity conservation, migration patterns, and health and climate change in the Niger Delta region:

$$\text{Logit (SCF)} = \beta_0 + \beta_1 \text{GMoU} + \beta_2 C_{1\dots n} + \beta_3 M + \mu \quad (3)$$

Where:

SCF stands for the dependent variable which is social capital formation, among other things.

GMoU represents the MOCs' CSR using GMoU

C stands for additional socio-economic variables (annual income, primary occupation, level of education, household size, marital status, and age of respondents)

M denotes other moderating variables (business experience and income of other household members)

μ refers to the stochastic error term.

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

4. Results and discussions

4.1 CSR receipts from the GMoUs

The analysis (Figure 1) reveals the level of CSR received by women in the treatment group. The result indicates that only about 3.10% of women received more than ₦500,000 (\$1,000), while 16.40% of men received the same amount. On the other hand, around 40.20% of the women received CSR worth between ₦1000 to ₦100,000 (\$2 to \$200), while only 8.70% of the men received the same amount. Furthermore, although around 22.70% of women received an amount ranging from ₦ 101,000 to ₦ 200,000 (\$201 to \$400), only 12.2% of the men received the same amount.

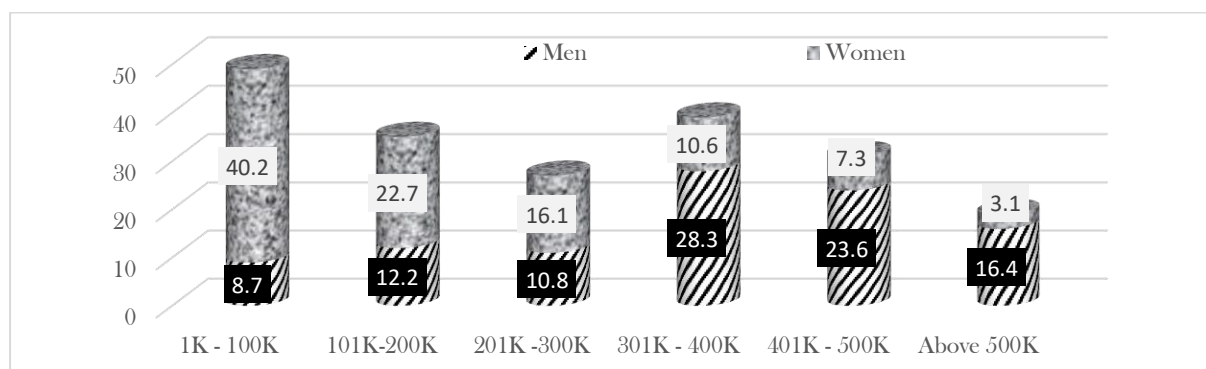


Figure 1: Average value of CSR receipts from the GMoUs by respondents

Source: Authors' computation based on field survey.

4.2. CSR interventions of MOCs using GMoUs

An analysis of the distribution of CSR interventions of MOCs using GMoUs by the nature of empowerment received by the households in the Niger Delta reveals the nature of enablement (empowerment) received by both men and women in the treatment group. It is only in advocacy and policy dialogue that women had an advantage: women received 3.82% of the CSR intervention out of 5.85% that went into advocacy, while men got only 2.03%.

4.3 Level of gender participation in MOCs CSR interventions

We calculated the rating of rural host community women's engagement in CDBs using the Shell Community Transformation and Development Index (SCOTDI) structure in Figure 2. Women rated CSR interventions of MOCs in the Niger Delta region as substantial, but it was more for males than for females.

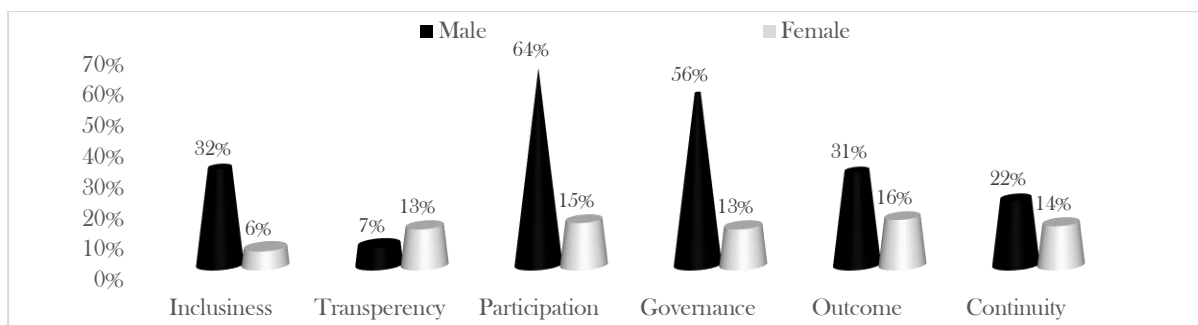


Figure 2. Gender involvement in CSR interventions in the Niger Delta Region

Source: Authors' compilation based on field survey.

4.4 Econometric analysis

Table 1 estimates the average mean variances in the basic propensity scores and independent observable qualities (characteristics) between CDB women and non-CDB women. Overall, the variance in means reveals that the scores on the treatment and the control groups were significantly different at the 5% significant level.

Table 1. Comparison of the mean score and observable characteristics between treatment and control (N = 800)

Score in Percentage of the maximum score	Recipients	Non-Recipients	Difference
Score on economic capability of respondents	24.62	19.87	4.75**
Scores on deterring structural barriers to membership of cooperatives	34.57	19.34	15.23**
Scores on forming and maintaining functional savings cooperatives	41.32	29.28	11.04**
Scores on forming and maintaining functional production cooperatives	35.65	27.82	7.83**
Scores on forming and maintaining functional marketing cooperatives	34.13	24.82	9.31**
Scores on increasing land ownership among women	37.25	31.48	5.77**
Scores on reducing cooperative membership fee	31.31	23.43	7.88**
Score on access to farm input	36.72	23.31	13.41**
Scores on access to fishing and seafood harvesting input	31.37	16.18	15.19**
Observation	350	350	

Source: Authors' compilation based on field survey

The differences in scores between the treatment and control groups were 4.75 for 'economic capability of respondents' and 15.28 for 'deterring structural barriers to membership of cooperatives.' Other difference scores included 11.04 for 'forming and maintaining functional

savings cooperatives’, 7.83 for ‘forming and maintaining functional production cooperatives’, and 9.81 for ‘forming and maintaining functional marketing cooperatives’. For the remaining items, scores were 5.77 on ‘increasing land ownership among women’, 7.88 on ‘reducing cooperative membership fee’, 18.41 on ‘access to farm input’, and 15.19 on ‘access to fishing and seafood harvesting input’. This suggests that the CSR of the MOCs might have an impact on the CDB communities as all the success indicators have been statistically different.

4.5 Effects of MOCs’ CSR intervention using GMOU on the formation and development of women groups in the Niger Delta region

According to Table 2, MOCs’ CSR investment had a significant impact on the formation and development of the women groups. The result reveals that the MOCs made wise investments in backing up the formation and preservation of various women groups in the Niger Delta region, such as women marketing cooperatives, production cooperatives, and even credit associations. Using the factors in the equation below as predictors, we performed a logistic regression analysis to predict the effect of the CSR of MOCs using GMOU on the establishment and improvement of women groups.

Table 2: Projected effects of MOCs’ CSR intervention using GMOU on the formation and development of women groups in the Niger Delta region

Nagelkerke R Square = .786 Overall Percentage = 90.2 chi square = 42.231, p <.000 with df= 8										
Variable		B		Wald	df	Sig.	Exp(B)		95.0% C.I. for EXP(B)	
		Lower	Upper				Lower	Upper	Lower	Upper
Step 1(a)	<i>MS</i>	.053	.114	.291	1	.038	1.930	.713	1.212	
	<i>Edu</i>	.041	.021	.652	1	.419	1.017	.977	1.059	
	<i>HHcom</i>	.321	.312	.033	1	.456	.562	.435	1.459	
	<i>PriOcc</i>	.134	.212	.033	1	.856	.962	.635	1.459	
	<i>AY</i>	.036	.135	.715	1	.398	.908	.727	1.135	
	<i>BuEXP</i>	.127	.115	.171	1	.679	.954	.761	1.194	
	<i>Age</i>	.136	.009	3.205	1	.073	.983	.966	1.002	
	<i>HHSsize</i>	.311	.021	.492	1	.483	.986	.947	1.026	
	<i>CSR</i>	.521	.061	5.723	1	.003	8.724	2.152+	1.443	
	Constant	5.136	.567	1.140	1	.064	3.331			

a Variable(s) entered on step 1: *PriOcc, MS, Age, Edu, AY, HHCom, CSR, HHSsize, BuEXP*²

Source: Computed from the field data by authors.

$$\text{Logit (SCF)} = 5.136 + 0.053MS + .521CSR + .136 \text{ Age} + .134 \text{ PriOcc} + .311 \text{ HHSsize} + .041 \text{ Edu} + .036 \text{ AY} + .027 \text{ BuExp}$$

²PriOcc - Primary Occupation, MS - Marital Status, Age - Age of Respondent, Edu - Educational level of Respondents, AY - Annual income of respondents, HHCom - Per capita income of other household members, CSR - Corporate Social Responsibility of the multinational oil companies using global memorandum of understanding, HHSsize, - Household size of the respondents, BuEXP - Business experience of respondents.

First, the full model was tested against a constant-only model, yielding statistically significant results, showing that the predictors reliably distinguished between the “Yes” and “No” impacts of CSR (chi-square = 42.231, $p < .000$ with $df = 8$). Nagelkerke’s R^2 of .786 showed a strong relationship between prediction and grouping. The overall prediction success was 90% (91% for Yes and 89% for No). The Z-value for CSR was 5.723, with an associated p-value of .003. Based on the 5% significant level, this study determined that CSRs of the MOCs under GMOU had a substantial impact on the formation and development of women groups in the Niger Delta. Also, the EXP (B) value of CSR was 8.724, which means that the odd ratios would grow by almost nine times if the MOCs increased their CSR program aimed at endowing women in the Niger Delta with the power to build social capital by one unit, or the equivalent of 1 USD. Hence, rural women are nine times more likely to have social capital formation and control.

4.6 Effects of MOCs’ CSR investment using GMOU on deterring structural barriers hindering women’s participation in socio-economic groups

Table 3 investigated the effects of MOCs’ CSR interventions using GMOU on reducing structural barriers deterring women from joining socio-economic groups in the Niger Delta region. The finding endorsed that, through various advocacies and policy dialogues, MOCs’ CSR initiatives employing GMOUs had significantly improved women’s involvement in socio-economic groups in host communities. The logistic regression using the variables in the equation below as predictors were used in order to determine the effect of CSR of MOCs intervention using GMOU on removing structural barriers impeding women’s involvement in socio-economic groups in the rural communities in Niger Delta as follows:

$$\text{Logit (DSB)} = 1.816 + 3.421\text{CSR} + .073\text{Age} + .209\text{PriOcc} + .313\text{HHSize} + .057\text{Edu} + .262\text{AY} + .139\text{HHcom} + .421\text{BuExp} + .033\text{MS}$$

Table 3: Projected effects of MOCs' CSR investment using GMOU on deterring structural barriers hindering women's participation in socio-economic groups in the Niger Delta region

Nagelkerke R Square = .843; Overall Percentage = 92.3; chi square = 38.314, p <.000 with df= 8

Variables		B		S.E.		Wald		df		Sig.		Exp(B)		95.0% C.I. for EXP(B)	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper		
Step 1(a)	<i>AY</i>	.262	.114	.715	1	.398	.908	.727	1.135						
	<i>HHcom</i>	139	.312	.033	1	.456	.562	.435	1.459						
	<i>MS</i>	033	.135	.291	1	.038	1.930	.713	1.212						
	<i>Edu</i>	057	.021	.652	1	.419	1.017	.977	1.059						
	<i>HHSize</i>	.313	.021	.492	1	.483	.986	.947	1.026						
	<i>BuExp</i>	.432	.124	1.895	1	.029	1.810	.635	1.033						
	<i>Age</i>	.073	.009	0.205	1	.073	.983	.966	1.002						
	<i>PriOcc</i>	.209	.212	.033	1	.856	.962	.635	1.459						
	<i>CSR</i>	3.421	.061	7.714	1	.003	11.831	1.045	1.443						
	Constant	1.816	.667	2.410	1	.164	4.314								

a Variable(s) entered on step 1: *PriOcc, MS, Age, Edu, AY, HHCom, CSR, HHSize, BuEXP.*

Source: Computed from the field data by authors.

The assessment of the full model against a constant-only model was statistically significant, showing that the predictors consistently distinguished between the “Yes” and “No” effects of CSR (chi-square = 38.314, p <.000 with df= 8). Nagelkerke's R² of .843 showed a robust relationship between prediction and grouping. The overall prediction achievement was 91% (92% for Yes and 90% for No). CSR's p-value was 7.714, with a corresponding p-value of .025. Based on a 5% significant level, the study concluded that CSRs of the MOCs under the GMOU had a noteworthy impact on the provision of healthcare to rural women in the Niger Delta. Moreover, the EXP (B) value of the GMOU was 11.831, suggesting that if the MOCs increased their CSR program targeted towards removing structural barriers that prevent women from participating in socio-economic groups by one unit, the odds ratio was nearly 12 times as large. Consequently, rural women are 12 times more likely to participate in socio-economic groups and be trusted with power through the creation of more industrious women improving social capital.

Overall, our findings imply that, by lowering transaction costs, pooling risks, building confidence, and improving skills, women's groups and other forms of collective actions can be an active means of building social capital and addressing gender gaps in other areas. The findings also demonstrate that women's groups can be a stepping stone for closing the gender gap in participating in other civil society organizations and government bodies in the Niger Delta. The results are consistent with the liberal feminist theorists (Fisher *et al*, 1993; Unger and Crawford, 1992), in that, women would behave similarly to men if they had equal access to opportunities

available to men such as social capital, education, and other resources. The findings of this study also suggest that the relative priorities of MOCs' CSR interventions in the Niger Delta should vary from the classic American ordering proposed by Carroll (1991). According to Visser (2006), the cultural context was considered while determining the suitable CSR priorities and programs, which is essential in the context of the rural Niger Delta. Additionally, MOCs' CSR can be an active player in advancing gender equality when venture in building women's social capital is designed via women's groups, which can be an active way to increase information exchange and resource circulation, pool risk, and certify that women's voices are heard in the making of decision at all levels in the Niger Delta region of Nigeria. This is important so CSR interventions can improve gender equality by closing the social capital gap in the Niger Delta. We contend that the private sector, more generally through the GMoU CBDs, is well positioned to address some of the logistical and cultural problems faced by women groups in the region.

5. Conclusion and policy implications

This study investigates the impact of the global memorandum of understanding (GMoU) on addressing the social capital gap through enterprising rural women's groups in the Niger Delta region of Nigeria. This paper is cross-sectional and adopts a survey research technique, to collect information from a representative sample of the population, describing and interpreting the current situation. 800 women were sampled from the Niger Delta region's rural areas. The results of the logistic regression model revealed that the CSR of the MOCs using the GMoU model had limited but significant success in enhancing women's involvement in the socio-economic activities of the region. This suggests that women's groups and other forms of collective action can be effective for building social capital and addressing gender problems (gaps) in other areas as well, via lessening transaction costs, pooling risks, building confidence, and developing skills. Building women's social capital is proposed as an active strategy to enhance information exchange and resource circulation, as well as ensure that women's voices are heard in community development board decisions.

Disclosure statement

No potential conflict of interest was reported by the authors.

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