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Community-Based Vigilante Violence in sub-Saharan Africa: the Role of Corporate Social Responsibility in Nigeria's Oil Producing Communities

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Abstract

Nigeria's oil-producing region is experiencing a surge in community-based vigilante violence, potentially escalating conflict dynamics and increasing fear of injury. The reason it matters is that neighborhood vigilante groups are more likely to participate in criminal, political, and ethnic plotting and are not always controllable. This prompted us to look into whether GMoU cluster interventions by MOCs could lower the heat map of fatalities from vigilante violence in Nigeria's Niger Delta. The results of logit regression and propensity score matching demonstrate that the MOCs' limited CSR efforts to protect the area have been successful in creating, formalizing, equipping, and managing vigilante groups. The results also show that the CSR initiatives have reduced vigilante violence within and between host communities, as well as violence against their residents. This implies that raising awareness of CSR with the goal of strengthening vigilante control will strengthen the local security apparatus, discourage resurgence in the various rural areas, safeguard the workers and equipment of oil firms, and provide a favorable business environment in the area.

Keywords: Vigilante violence, environmental justice, corporate social responsibility, oil producing communities, sub-Saharan Africa

1. Introduction

Most African countries facing security threats ranging from large-scale insurgency, to political or ethnic violence, to low level banditry are confronted with a dilemma when nonmilitary citizens mobilize and take up arms to protect their local communities (ICG, 2017). This community policing can play a major role in fending off attacks and providing vigilantes with critical local knowledge, thereby strengthening the effectiveness of counter-insurgence crusade (Schouten *et al,* 2021). Yet, the vigilante groups can also countermine the central authority, widening conflict by targeting ethnic or political rivals or threaten longer-term stability by continuing as an autonomous armed force after the original conflict has abated (Schouten, 2022). For example, in Nigeria, the Bakassi Boys and O'oduwa People's Congress are two notable examples of vigilante groups that have taken on policing-type roles and committed serious abuses; the Kamajor vigilante, who fought in Sierra Leone's civil war (1991-2002); the Arrow Boys vigilante of Teso, who challenged the Lord's Resistance Army (LRA) in Eastern Uganda (2003-2007); the Zande Arrow vigilante boys, who fought the LRA and later rebelled against South Sudan's Dinka –led regime (2005); the Egbesu vigilante Boys, the Niger Delta volunteer vigilante, the Arogbo freedom fighter vigilante, the movement for survival of the Ijaw ethnic vigilante, the joint revolutionary council vigilante etc. of Nigeria's Niger Delta region, that assure communal defense and protection from criminals or predatory enemies, and sometimes engage in oil-related border disputes with neighbours in the absence of adequate official policing at the community level (ICG, 2017, Schouten *et al,* 2021; Schouten, 2020; Uduji *et al,* 2023). In several areas of Niger Delta, community-based vigilante groups have been around for a while. Security, religious, or social enforcement societies are utilized to provide community defense and protection against lawbreakers and predatory foes (Pratten, 2011). Community-based vigilante groups typically operate under the direction of local headmen and are supported by the volunteer labor or material donations of the community they target (Udo, 2020). Due to insufficient government police, particularly in rural and isolated areas, these local vigilante groups have become more and more well-known since the 1990s (Francis et al., 2011). Despite adopting community policing techniques in recent years, the Nigeria Police Force is a federal organization and so finds it difficult to adapt to local demands (PIND, 2023a). Road vigilante organizations that prioritize personal advantages over the interests of the collective community have formed as a result of the region's militarization and escalation of conflicts (PIND, 2023b). Some have grown into strong forces that

engage in extrajudicial executions, the seizure of private property, and other grave breaches of human rights (Uduji et al., 2020). The strategies employed by hostile, armed militias have been difficult to distinguish from those of vigilante groups in recent years, especially those involved in boundary disputes with neighbors (PIND, 2023c). However, in this study, we use the term vigilantes to refer to members of civilian self-defense groups, community defense forces and civil militias, which are formed to protect their communities from non-state or state actors or to combat insurgents. This term, widely used in the African context, is not meant to imply that their activities are illegal, even though they initially might have lacked state authorization.

Nevertheless, Nigeria's oil and gas industry is vital to its economy, accounting for 95% of export revenues, 80–85% of government income, and 32 percent of GDP (African Competitive Report, 2017; FGN, 2017; African Development Bank, 2011). According to the 2017 African Development Report, the country's estimated recoverable reserves were 36.2 billion barrels in January 2007. Nevertheless, poverty persists, with 50% of the population living on less than $1.25 per day. The Niger Delta, which is located in the southern portion of the nation, is home to large oil and gas deposits. The area experiences underdevelopment and deficiencies. There are few opportunities for employment because the oil extraction sector requires more capital than labor (Watts, 2004). The Niger Delta, Nigeria's oil-rich region, faces challenges in infrastructure and environmental degradation due to oil extraction activities (Francis et al., 2011). Despite these challenges, multinational oil companies (MOCs) are investing in community-based social projects, including agricultural development, roads, healthcare, education, and civil infrastructure, promoting corporate social responsibility (Chevron, 2014). In 2006, MOCs introduced the global memorandum of understanding (GMoU), enhancing collaboration with local communities and promoting transparency, accountability, sustainability, and conflict avoidance in their CSR paradigm (Chevron, 2017). A GMoU is a five-year paper agreement between MOCs and a cluster of communities, where MOCs distribute funds while communities determine their needs. This allows the communities to have consistent and unwavering support as they implement their community development plans (SPDC, 2013). The Cluster Developing Boards (CDB) replace MOCs in project execution and program development, promoting transparency and accountability and encouraging donor organizations to fund development projects directly (SPDC, 2018). For instance, PIND, PACT Nigeria, and USAID jointly provided $90,000 in counterpart funding to the Nembe City Development Foundation in Bayelsa State (Chevron, 2014), aiming to aid

government development strategies and equip them with peaceful participation and security skills (SPDC, 2013). Sixty-one individuals from the GMoU Clusters—youths, women leaders, community vigilantes, and traditional rulers—successfully completed the ATVB training on advocacy and budget tracking (Chevron, 2017). Many communities still adhere to the previous system, despite some integrating GMoUs through CDBs, with CDB-affiliated communities being treated and previous system-adhering communities being controlled.

The GMoU model is often seen as a tactic by MOCs to avoid public criticism and governmental oversight (Eweje, 2016; Idemudia, 2014). The GMoU faces criticism for demanding new roles from established institutions and potentially reinforcing outdated dynamics in business-community partnerships. The CSR-GMoU model debate is influenced by differing clarifications, with supporters maintaining the current business-community relationship and opponents advocating for alignment with evolving community values (Egbon et al., 2018; Ekhator, 2014; Ekhator and Iyiola-Omisore, 2021; Ite, 2007; Lompo and Trani, 2013; Mamudu et al., 2021; Marchant, 2014; Renouard and Lado, 2012; Slack, 2012; Tamuno, 2020; Amodu, 2017; Asgil, 2012). This article contributes to the public-private partnership discussion on community-based vigilante violence as a societal challenge, focusing on four areas of MOCs' CSR:

- What is the level of spread of community-based vigilante violence along (urban or rural) locations in oil-producing communities of the Niger Delta in Nigeria?
- What role have GMoU interventions by MOCs played in controlling community-based vigilante groups in oil-producing communities in Nigeria's Niger Delta region?
- Is GMoU intervention by MOCs really worthwhile in cutting down community-based vigilante violence in Nigeria's oil-producing communities?
- What impact has bringing down community-based vigilante violence in sub-Saharan Africa?

1.1 Study hypothesis

Community-based vigilante groups in Nigeria's Niger Delta region are expanding to protect communities, combat crime, and protect frontiers, oil pipelines, and ethnic or religious communities (Pratten, 2011). Local vigilante organizations address security gaps but often violate human rights due to inadequate training and oversight, exposing them to abuse by politicians and

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elites (Udo, 2020). PIND (2023c) states that the rise of vigilante organizations in the Niger Delta, coupled with increasing violence and deaths, could exacerbate conflict dynamics, exacerbate instability, and potentially lead to a culture of mass violence, threatening human security. A new generation of community-based vigilante groups has emerged amid recent violence in the Niger Delta, causing concern for states, ethnic groups, and communities (PIND, 2023d, 2023e, and 2023f). The Isongofaro (Nembe Ogbolomabiri), the Bush Boys (Okrika), the Bakassi Boys (Aba), and other groups are examples of these new generation groups (UNDP, 2006). PIND (2023b) reports that around 350 deaths in the area occurred as a result of vigilante violence between January 2021 and March 2023. As an illustration, in March 2023, a 27-year-old man was allegedly killed by a vigilante in Umuahia, the capital of Abia State, over the matter of a missing phone; the 47-year-old taxi driver was allegedly killed by a vigilante at "2nd junction" in Oredo local government area (LGA) in Edo State; furthermore, in April of the same year 2023, a 36-year-old commercial motorcycle rider was allegedly murdered by a vigilante in Akure, the capital of Ondo State, near Alagbaka; and most recently, on May 3, 2023, in the Eku community of Delta State's Ethiopia-East LGA, a man, age 23, is said to have been slain in a fight between members of two opposing vigilante groups (PIND, 2023d, 2023e, 2023f, Okolo-Obasi and Uduji, 2022, 2021, 2023). Nevertheless, given that a number of the vigilante organizations are largely ad hoc and responsive to allegations of mass murders and violations of human rights, which have sparked sizable protests against the expansion of community-based vigilante violence throughout the region, we hypothesize that:

- MOCs' GMoU CSR intervention has not effectively reduced violence committed by community-based vigilantes in Nigeria's Niger Delta oil-producing communities.
- The use of GMoU in CSR by MOCs in Nigeria's Niger Delta has not effectively halted the rise in vigilante violence within the community.

This study aims to assess the extent of corporate social responsibility (CSR) engagement by municipal officials (MOCs) in reducing vigilante violence in host communities and enhancing public-private partnerships. The study uses survey research and quantitative methods to reveal that MOCs' minimal CSR efforts significantly impact local security, including the formation, formalization, equipping, and training of vigilantes. This paper provides an overview of the

background, literature, theoretical foundations, method, materials, empirical results, and discussion, along with closing thoughts, cautions, and future research directions.

2. Background, literature and theoretical underpinnings

2.1 The people, environmental damage, and loss of traditional livelihoods

There are roughly 40 distinct ethnic groups living in the Niger Delta who speak 250 different languages and dialects. Ibibios, Bekwarras, Anang, Binis, and other ethnic groups are among them (UNDP, 2006). Togbas, Engennes, Obolos, Isokos, Nembes, Okrikans, Kalabaris, Etches, Ekpeyes, Ijaw, Ogonis, Igbos, Ika-Igbos, Ndoni, Oron, Ibeno, Yorubas, Ibibios, Urhobos, Itsekiris Annangs, and Efiks are some of these ethnic groupings. Farmers and fishermen have traditionally been the region's residents. However, these conventional means of subsistence are either drastically diminishing or are no longer dependable due to decades of gas and oil flaring and spills combined with the fast population expansion (NDDC, 2001). Consequently, the local unemployment rate exceeds the federal rate (Watts, 2004). Francis et al. (2011) highlight the environmental degradation caused by oil exploration, leading to conflicts between communities and the federal government and causing significant discontent in the underprivileged region. The main environmental issues that the host towns deal with are oil spills, shoreline flooding, erosion, and other things (UNDP, 2006). Kalama and Asanebi (2019) assert that safeguarding the economic interests of the Niger Delta's residents is intimately tied to protecting the region's natural ecology.

The devastation of the ecosystem caused by gas flaring and oil spills has had immediate detrimental repercussions, such as undermining traditional ways of existence, and has rendered the most vulnerable populations more vulnerable to risk. Udo (2020) highlights the impact of gas flaring and oil spills on the Niger Delta region, highlighting how various factions exploit these circumstances for violent and illegal activities. Between 1990 and 2009, Nigeria's security deteriorated due to oil production disruptions, theft, kidnappings, gun smuggling, drug trafficking, petty crime, vigilante violence, and piracy (NDDC, 2004).

2.2 Literature

The act of obstructing, investigating, and punishing crimes and offenses that are observed without the use of legal authority is known as vigilantism (Moncada, 2017; Sharp, 2014; Adzimah-Alade et al., 2020; Smith, 2019). Any person who engages in vigilantism or enforces disciplinary justice and public safety without a commission is considered a vigilante (Tankebe, 2011; Favarel-Garrigues, 2020; Tweneboah and Clottey, 2022; Haas et al., 2013). Three elements make up the definition of vigilantism, according to Bateson (2021), and they are as follows: Extra-legal (beyond the law, yet not fundamentally against it); offense (vigilantism in response to an alleged crime or breach of an authority norm); prevention, investigation, or punishment (vigilantism requiring concrete actions, not just a display of attitude or views). Collective vigilantism is described by Long and Vukovich (2023) as acts of violence committed by a group as a form of retaliation for perceived wrongdoings in the community. Cohen et al. (2023) argue that while vigilante groups, consisting of volunteers and state-sponsored individuals, aid law enforcement in combating crime and insurgencies, they also exacerbate issues. According to Bateson (2021), vigilantism has grown so important for security that certain nations are currently forced to rely on it, yet following this path is always risky. Buur and Jensen (2010) claim that because they were not properly educated or protected, some people gravely violated human rights.

Additionally, there is a risk of tension within communities due to the rise of ethnically exclusive groups. Asif and Weenink (2022) highlight that vigilante violence goes beyond conventional notions, particularly when political support and emotions motivate it, as police performance is perceived as below expectations and punitive acts are valued. Asif (2023) believes that vigilantism is evident in the West, despite being more common in several Asian and African nations. According to Gross (2016), vigilante violence may start off as simple as slapping and striking but escalate into more severe extrajudicial punishment for the perpetrator. Asif et al. (2023) argue that lynching rituals, despite their physical aspects and political value, can strengthen the clientelistic interdependency networks of religious-political leaders. The rise in vigilante violence in the Niger Delta poses a risk of disrupting conflict dynamics due to the loose nature of many vigilante organizations, which can be used for criminal, ethnic, or political purposes (PIND, 2023d, 2023e, 2023f). Community-based policing primarily supports vigilante organizations to safeguard and advance the interests of local residents in terms of internal and external security (Moncada, 2017; Tweneboah and Clottey, 2022; Asongu *et al,* 2019a, 2019c, 2020). The Niger Delta has

experienced intercommunity conflict since the 1990s due to unstable oil politics and disputes over land ownership (Okolo-Obasi et al., 2021). Ethnic communities have acquired weapons to defend themselves, and ethnic militia groups have fought for self-determination in managing oil resources. This conflict has defined the region and continues to affect local communities (Uduji et al., 2021). This type of ethnic group contestation and tension is demonstrated by the protracted struggle between the Okrika and Eleme communities over ownership of the land where the Port Harcourt Oil Refinery Company is located (Udo, 2020). In addition to disputes between communities, there have also been intra community confrontations that highlight the unique dynamics of the struggle for control of the oil-governed territory in the area. The chieftaincy institutional space in Nigeria's oil-producing towns is a significant battle, Watt (2004), with holders gaining access to government contracts, oil company contracts, employment opportunities, scholarships, and political party patronage, in the views of Uduji et al. (2023). This has led to discussions on violence and community-based vigilante policing, focusing on their validity, legality, and use in protecting the oil-host community. This study disassociates itself from the arguments regarding validity and efficacy by shedding light on community-based vigilante violence and the function of MOC's CSR-GMoU initiatives in Nigeria's Niger Delta.

2.3 Theoretical underpinnings

The Niger Delta oil extraction process in Nigeria has led to conflicts, blame, and mistrust among affected communities (Uduji et al., 2023). The region's oil exploration has negatively impacted the environment and the lives of the Niger Delta people. Kalama and Asanebi (2019). This study examines the environmental impact of oil spills and gas flaring, combining theories of frustration, aggression, and deprivation with an African perspective on corporate social responsibility. It highlights the detrimental effects of environmental pollution from MOC operations on land and people (Breuer and Elson, 2017). When it isn't feasible to address the source of the annoyance, this kind of aggression may be directed at other people. As previously said, the Niger Delta people long for oil deposits, but oil firms' activities have caused environmental destruction, gas flaring, and contamination, making the region dangerous to operate due to Nigeria's state and oil companies' negligence. There have been documented reports of vigilante violence and intra- and inter-ethnic conflicts between the communities that produce the oil and the Nigerian security forces (NDDC, 2001, 2004; Watts, 2004; UNDP, 2006).

Secondly, relative deprivation is the dissatisfaction experienced when individuals compare their circumstances to those of more privileged groups, resulting from a conscious perception of a negative discrepancy between reasonable expectations and current reality, as explained by Walker and Pettigrew (1984). Further elaboration on the idea of relative deprivation and its serious implications for conduct and attitudes, stress levels, political behavior, and collective action participation was provided by Walker and Pettigrew (1984). This study explores the role of unchecked activities and unchecked behavior of MOCs in the Niger Delta in the growth of vigilante organizations, increasing violence, and potentially negative impacts on conflict dynamics and insecurity.

Thirdly, Carroll's (1991) CSR pyramid, a widely used model, outlines the importance of ethical, legal, philanthropic, and economic aspects. However, research on CSR in Africa challenges the model's accuracy and applicability. Visser (2006) suggests that CSR priorities in Africa may differ from the classic American model, and Carroll's CSR pyramid may not be the best model (Amaechi et al., 2006), as Nigerian CSR must consider socioeconomic advancement and sociocultural impacts. Multinational corporations play an increasingly important role in CSR initiatives in developing nations where governments fail to fulfill their obligation to provide amenities, as noted by Frynas (2009). Muthuri (2012) highlights African CSR issues, including economic development, health, environment, human rights, corruption, governance, poverty alleviation, education, community development, and sports, addressing vigilante violence in Nigeria.

3. Method and materials

The research on corporate social responsibility in Nigeria's Niger Delta region is limited, relying on case studies and descriptive accounts, lacking benchmarking data, and focusing on high-profile situations and branded enterprises (Asongu et al., 2019). Thus, more study on theoretical frameworks and CSR at the sectoral and regional levels is desperately needed. Okolo-Obasi et al. (2021) state that, in comparison to other sub-Saharan African regions, there is a dearth of quantitative studies examining the type and scope of CSR in the area. The lack of quantitative data and comparative research on CSR between CDB (treatment) and control groups is a significant issue. The research aims to guide the development of suitable CSR models, or formations, for developing nations. This study highlights the growing interest in CSR in Nigerian oil-producing regions, highlighting the potential for improved understanding of CSR and multidisciplinary

studies due to the vast and fascinating field of study. In keeping with the previously stated rationale, this study employs a quasi-experimental research methodology and uses primary data obtained from a cross-section of respondents located throughout Nigeria's Niger Delta. These respondents were selected from cluster development board member communities that had implemented CSR for MOCs (treatment group) and other communities (control) using the GMoU paradigm. Figure 1 shows the component administrative states of the area.

Figure 1: Constituent administrative states of the Niger Delta, Nigeria
Source: NDDC, 2004 /Authors' modification

3.1 Sample Size

In the study, we used a formula propagated by Taro Yamane (1967) to compute the sample size to be measured. The formula is mathematically presented thus:

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

Where n = the sample size;

n = the total or finite population of the study area;

e = the degree of significance;

1 = unity (constant);

The estimated population of the Niger Delta is 42,637,086, according to the NPC. Our sample size was therefore calculated as follows:

$$n = \frac{42{,}637{,}086}{1 + 42{,}637{,}086(0.05)^2} \quad = \quad n = \frac{42{,}637{,}086}{106{,}593.72} \quad n = 400$$

The determined sample size is 400, but to reduce the possible errors in the sample chosen, we multiplied the 400 by three, considering that the region comprises three geopolitical zones: south-south, south-east, and south-west. The sample size utilized in the work is, hence, 1200 respondents.

Table 1. Table for determining sample size

States	Total Population	% of total population	State Sample	Community sample	Treatment	Control
Abia	3,727,347	9	108	14	7	7
Akwa ibom	5,482,177	13	156	20	10	10
Bayelsa	2,277,961	5	60	8	4	4
Cross River	3,866,269	9	108	14	7	7
Delta	5,663,362	13	156	20	10	10
Edo	4,235,595	10	120	15	8	8
Imo	5,408,756	13	156	20	10	10
Ondo	4,671,695	11	132	17	8	8
Rivers	7,303,924	17	204	26	13	13
	42,637,086		**1200**	**150**	**75**	**75**

Source: NPC, 2017/ Authors' calculation

3.2 Sampling procedure

To select research participants, we employed a multi-staged selection technique. The initial step involved compiling a list of all nine states within the region. From each state, two local government areas (LGAs) were selected. Two Local Government Areas (LGAs) were selected for the second phase. Due to their larger MOC facilities, these LGAs were given more weight in decision-making processes. We selected two communities for each LGA in the third stage based on their willingness

to permit the presence of MOC facilities. LGAs must be members of a cluster development board, with "CDB communities" located within a CDB and "non-CDB communities" not. In response, we have a balance of 18 CDB and 18 non-CDB communities. In the final stage, 600 respondents were randomly selected from CDB villages and 600 from non-CDB areas, with the help of neighborhood gate guards. The "control group" consisted of other villages, while the "treatment group" consisted of CDB towns.

3.3 Data collection

For the investigation, data from both primary and secondary sources were employed; primary data were collected using participatory appraisal procedures and secondary data from scientific publications, MOC publications, and community archives. Researchers used local research assistants to administer structured questionnaires to respondents, valuing their opinions and addressing the diverse languages spoken in the study area.

3.4 Analytical framework

The study evaluated how corporate social responsibility affected the Niger Delta's vigilante management using descriptive statistics, the logit model, and PSM, with inferential statistical methods for selectivity and endogeneity. Based on identifiable variables for both treatment and control groups, Uduji et al. (2020) employed propensity score matching to evaluate the average treatment effect of CSR on vigilante management. PSM assigns treatment groups to control groups based on observable features and predicted treatment chances (Uduji and Okolo-Obasi, 2022, 2023). The effect of CSR on vigilance management was examined in this study in two groups: the treatment group (Ri = 1) and the control group (Ri = 0). The propensity score was used to match the treatment and control groups.

 Thus:

$$P(X_1) = \text{Prob} (R_2 = 1/X_2) \ (0 < P(X_2) < 1) \tag{1}$$

X1 represents the pre-CSR control variables, which are unaffected by CSR or results. To accurately assess CSR initiatives' influence on vigilante management, the propensity score of Vector X is calculated, avoiding bias in selection:

$$P(X) = Pr\ (Z = 1/X), \tag{2}$$

The treatment indication, Z, indicates whether a responder has experienced CSR and 0 or not. A balancing score called the propensity score distributes observables X in a comparable way for "treatment" and "control," with differences depending on treatment attributes. We used Uduji et al.(2021)'s four approaches to assess objective effect assessments, including GMoU, which uses a binary response model to predict CSR likelihood. The following equation represents these variables, which are personal (individual), family (household), and community:

$$P(x) = Pr(Z = 1/X) = F(\alpha_1 x_1 \ldots \ldots + \ldots \alpha_n x_n) = F(x\alpha) = e^{x\alpha} \tag{3}$$

We used the logit model to assign a propensity score based on each respondent's response in order to calculate the probability of obtaining CSR. Now, the control groups that were outside of the range selected for treatment and had very low propensity scores were excluded. A respondent known as the "nearest neighbor" was identified for each respondent in the treatment based on their closest propensity score, which was determined by the absolute variance in their score. In order to obtain a more accurate estimate, we used the five neighbors who were closest to us. The difference between the mean and the actual value for treatment is considered to be an estimate of the benefit resulting from the CSR of the multinational oil corporations through the implementation of the GMoU. The five closest neighbors' mean indicator result values were assessed. The average treatment effect on the treated (ATT) is used to calculate the difference between the treatment and control groups. Based on PSM, the actual ATT is stated as follows:

$$ATTPSM = Ep(x)\ \{E(y1/Z = 1, P(x) - E(y0/Z = 0, P(X)\}, \tag{4}$$

Where EP(X) represents expectation in accordance with the propensity score dispersion of the population. The true ATT displays the average difference in reducing acts of vigilantism. In this instance, we achieve a suitable match between every respondent and their counterfactual, given that the respondents' observable characteristics do not change. Three distinct matching strategies were used in the study to match pairings. The bias and efficacy of these techniques vary. These include the previously stated radius matching (RM), kernel-based matching (KM), and closest neighbor matching (NNM). Comparing the standardized variances in the observable mean differences between the treatment and control groups was the final task, which assessed the quality of the matching estimators. Referring to the variation in % after matching with X for the covariate X, the difference in sample means for treatment is (1), and the matched control is (0). The subsamples' share of the square root of the average sample variance was determined using the method described by Uduji et al. (2022, 2023): $(\int_1^2 and \int_0^2.)$.

Thus:
$$|SD = 100 * \frac{(\acute{X}1 - \acute{X}0)}{\left(.05 \int_1^2 and \int_0^2.)1/2\right)} \tag{5}$$

The study found a residual bias of less than 5% after matching, indicating a balanced observable quality of matched groups. However, unobservable factors like family motivation and unique abilities could influence therapy decisions. The bounding method was applied to address the hidden bias problem in the quasi-experimental design of MOC's GMoU initiatives.

The propensity score in equation three was estimated using a vector U, augmented by unobservable variables and their impact on treatment chance, represented by γ.

$$P(x) = Pr(Z = 1/X) = F(X\alpha + U\gamma) = e^{X\alpha U\gamma} \tag{6}$$

To sum up, we ran a sensitivity analysis to ascertain the relevance of the γ finding for controlling the treatment's outcome by CSR on potential outcomes. To put it simply, each respondent's probability treatment is applied based on the bounds on the odds ratio, which are displayed as follows, as the unobservable variable is a binary variable that can only take two values:

$$\frac{1}{e\gamma} \leq \frac{P(Xm)(1 - P(Xn))}{P(Xn)(1 - P(Xm))} \leq e\gamma \tag{7}$$

According to the theory put forward by Uduji et al. (2021), both respondents have an equal chance of obtaining CSR, provided that they are identical in X and only if e = 1.

4. Results and Discussion

4.1 Descriptive analysis

Socio-Economic Features of Respondents

The Niger Delta treatment and control groups differ significantly in terms of socioeconomic status; only 25.5% of the treatment group and 47.25% of the control are female, while 74.5% of the treatment group and 52.75% of the control are male, according to Table 2. Furthermore, just 5% of the control group and 15% of the treatment group are employed. According to the argument proposed by Lompo and Trani (2013), small-scale farmers make up the majority of individuals surveyed in both the treatment and control groups. This implies that any CSR initiative aimed at protecting farmers, their farms, and agricultural products will have a range of effects on people's means of subsistence. Profitability-wise, the treatment group outperforms the control group. Clearly, 51% of respondents in the treatment group make more than 200,000 USD annually, whereas only 18% of respondents in the control group do the same. Both groups' average yearly incomes in the area are, however, negative overall: the treatment group makes about NGN 195, 000 (415 USD) annually, while the control group makes NGN 75, 000 (160 USD). This supports PIND's (2023a, 2023b) assertion that over 70% of the people in the Niger Delta live in poverty because of oil money, which instead of offering them possibilities for prosperity acts as a curse and causes them great suffering.

Table 2. Socio-economic features of the respondents

Variables	Treatment Group			Control Group		
	Freq	**%**	**Cum**	**Freq**	**%**	**Cum**
Sex of Household Head						
Male	348	74.5	74.5	372	52.75	52.75
Females	152	25.5	100	328	47.25	100
	500	**100**		**700**	**100**	
Primary Occupation						
Fishing	85	17	17	148	21	21
Trading	94	19	36	106	15	36
Farming	142	28	64	341	49	85
Paid Employment	74	15	79	32	5	90
Handicraft	60	12	91	42	6	96
Others	45	9	100	31	4	100
	500	100		**700**	100	
Age of Respondents						
Less than 20 years	15	3	3	24	3	3
21 to 25 years old	96	19	22	101	14	18
26 to 30 years old	129	26	48	203	29	47
Ages 31 to 35	79	16	64	121	17	64
Between 35 - 40 years	66	13	77	86	12	76
41 to 45 years old	50	10	87	71	10	87
45 to 50 years old	42	8	95	53	8	94
More than 50 years	23	5	100	41	6	100
	500	100		**700**	100	200
Level of Education						
None	52	10	10	72	10	10
FSLC	198	40	50	218	31	41
WAEC/WASSCE	147	29	79	357	51	92
Degree and above	103	21	100	53	8	100
	500	100		**700**	100	
Marital Status						
Single	117	23	23	175	25	25
Married	253	51	74	485	69	94
Widow	58	12	86	13	2	96
Divorced/Separated	72	14	100	27	4	100
	500	100		**700**	100	

Household Size						
1-4 Person	203	41	41	337	48	48
5-9 Person	163	33	73	304	43	92
10-14 Person	97	19	93	47	7	98
15 Person and above	37	7	100	12	2	100
	500	100	200	**700**	100	
Annual Income						
1000 - 50,000	21	4	4	176	25	25
51,000 - 100,000	48	10	14	185	26	52
101,000 - 150,000	93	19	32	134	19	71
151,000 - 200,000	89	18	50	81	12	82
201,000 - 250,000	113	23	73	63	9	91
251,000 - 300,000	88	18	90	46	7	98
Above 300,000	48	10	100	15	2	100
	500	**100**		**700**	**100**	

Source: Computed from the field data by authors.

Only around 4% of the respondents in the treatment group received between NGN 1000 and NGN 50,000 (about 2.2 USD to 107 USD), according to the breakdown in Figure 2. 10%, on the other hand, have been given between NGN 51,000 and NGN 100,000 (USD 2.2 to 214 USD). Furthermore, while about 74% enjoyed a provision of between NGN 101,000 and NGN 300,000 (about 215 USD to 640 USD), only about 8% had the privilege of getting above NGN 300,000 (640 USD+).
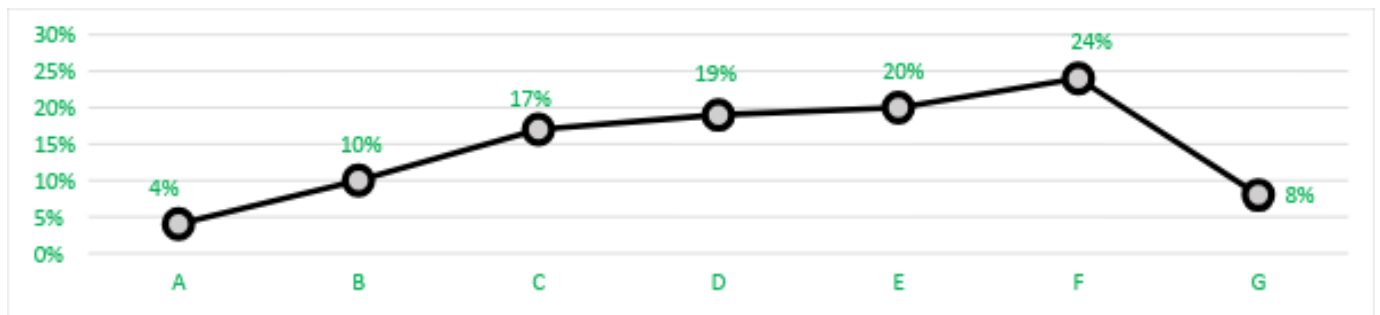

Figure 2. Average value of receipts from the GMoUs by respondents[1]
Source: Computed from the field data by authors.

[1] A = 1,000 – 50,000; B = 51,000 – 100,000; C = 101,000- 150,000; D = 151, 000 – 200,000; E = 201,000 – 250, 0000; F = 251,000 -300,000, and G = above 300,000

Distribution of MOCs' CSR Intervention by Sectors and Entities

A closer look at Figure 3 reveals that environmental control projects targeted at clearing and saving more cultivable land accounted for around 9% of the CSR initiatives of the MOCS using GMoUs in the Niger Delta. With almost 17%, healthcare services, however, came in first place. Roughly 15% went for education improvement. It was 7% for the water project. Additional factors include: direct youth employment at 6%; transportation, housing, and civil infrastructure at 8%; farming and fishing at 12%; skill development and entrepreneurship at 10%; and chieftaincy matters at 11%. While this study confirms that local security issues have received a great deal of attention, it also regrets the misguided neglect of other issues that push young people into crime and insurrection and, consequently, add to the undesirable obstacles facing local security. The outcome is consistent with Renouard and Lado (2012), who found that multinational oil firms waste money on chieftaincy issues by settling with traditional leaders, who are mostly to blame for the issue since they use adolescents to sponsor the crisis.
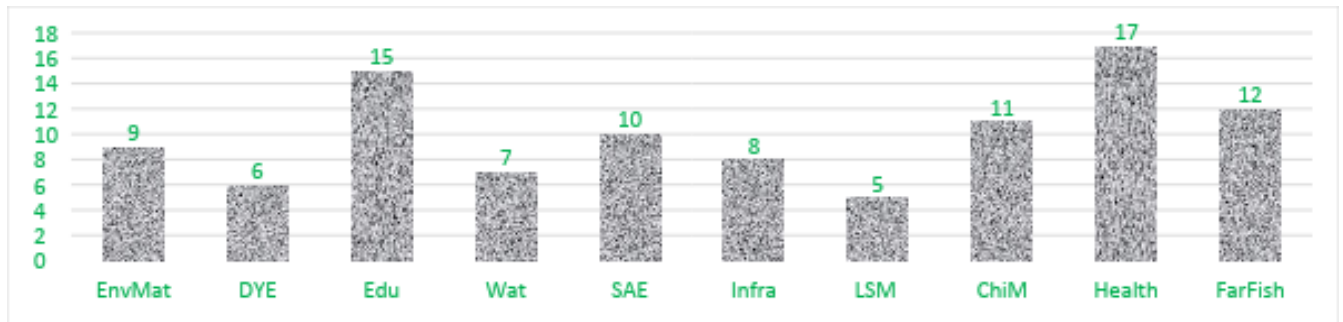

Figure 3. Distribution of MOCs' CSR intervention as a percentage across Niger Delta sectors[2].

Source: Generated by the authors using field data.

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[2] EnvMat = Environmental Matters, DYE = Direct Youth Employment, Edu = Educational Development, Wat = Water Project, SAE = Skill Acquisition and Entrepreneurship, Infra = Road, Housing and Civil Infrastructure, LSM = Local Security Matters, ChiM = Chieftaincy Matter, Health = Health care development, FarFish = Farming/fishing

Vigilante Violence along Location
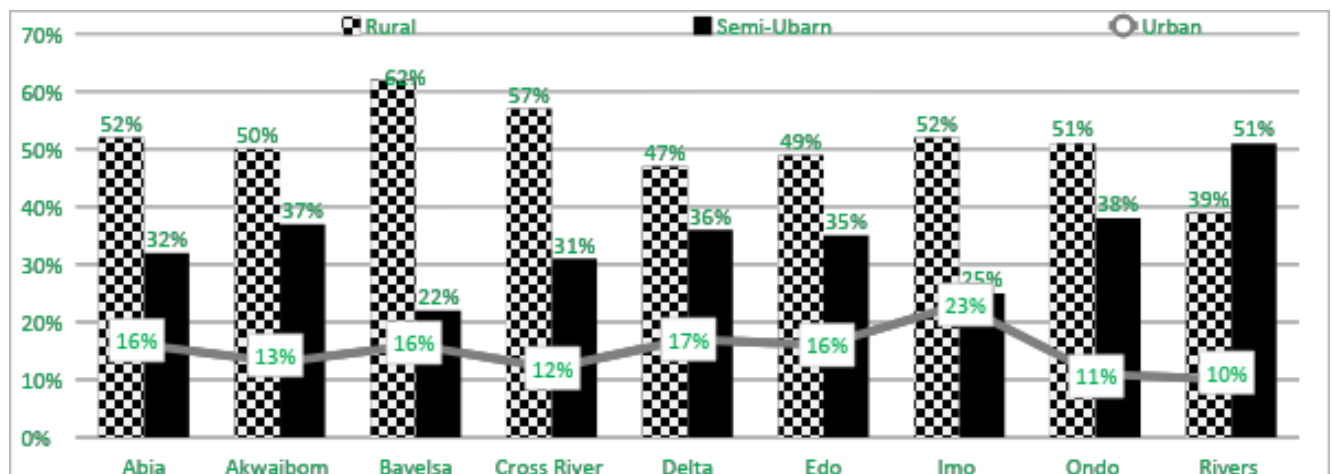
Figure 4. Percentage distribution of vigilante violence along location in Niger Delta.
Source: Generated by the authors using field data.

To achieve the study's first objective, we plotted the distribution of vigilante violence by place (rural, semi-urban, and urban). The analysis in Figure 4 reveals that rural areas account for 51% of vigilante group-related violence, while semi-urban and urban areas account for up to 34% and 15%, respectively. The fact that vigilante groups operate better in rural and semi-urban areas—where traditional security agencies like the police, military, and civil defense groups focus a lot of attention—further clarifies this. As a result, intra- and inter-vigilante crises are more common in these areas. The research examined the application of MOCs' CSR interventions in various oil-producing communities in the Niger Delta region, analyzing ratings based on respondents' opinions and MOCs' publications. The percentage rating of the MOCs' CSR investment in the field of vigilante to create effective host community security in the Niger Delta can be shown by looking at Table 3.

The respondents' evaluation shows that MOCs have contributed 14% of their CSR efforts to local security issues, with 16% of their interventions in the same area. They received up to 13% of their training in community policing and peaceful mediation, a 2% difference. Other items include: providing street lights and other lighting equipment so that vigilante groups can operate properly at night (rated by the MOCs at 12%, but by the respondents at 11%); building, repairing, and

maintaining rural access roads (rated at 11% by the MOCs, but at 9% by the respondents); and finally, providing the required security communication devices, which were rated at 19% by the respondents and 17% by the MOCs.

Table 3. Percentage rating of the MOCs' CSR investment in the area of vigilante for safeguarding communities in the Niger Delta.

Activities	EM[3]	Ag	Che	TEP	She	Oth	Ave	MOCs	Diff
Formation and monitoring and formalization of vigilante group	15	11	18	13	13	14	14	16	-2
Training on peaceful negotiation and community policing	8	16	7	9	12	16	11	13	-2
Provision of street light and other lighting equipment	12	9	11	14	10	7	11	12	-1
Construction, repair and maintenance of rural access roads	10	11	9	9	8	9	9	11	-2
Provision of security communication gadgets	19	16	20	1ed 8	21	20	19	17	2
Provision of security staff stipend	14	17	16	12	15	13	15	13	2
Provision of vigilante uniforms and vehicles	5	7	4	7	5	11	7	8	-2
Construction of vigilante offices	8	6	6	6	8	5	7	7	-1
Increasing access to medical health care of members.	9	7	9	12	8	5	8	8	0
	100	100	100	100	100	100	100	100	100

Source: Generated by the authors using field data.

The respondents were also able to establish that MOCs invest about 15% in assisting in the provision of stipends for vigilante security members, but for MOCs, it is about 13%. The MOCs also recorded 8% in the activity of making vigilante uniforms and vehicles available, while the respondents placed it at 6%. Others are: construction of vigilante offices taking up about 7% for

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[3] EM = Exon mobile, Ag = Agip, che = Chevron, She = Shell, TEP = Total E&P, Oth = Other, Ave = Average
MOCs= Publication of the multinational oil companies difference between the primary and secondary data.

the MOCs but 6% for the respondents; improving access to medical health care for members got 8% for both. This result gives in to PIND (2023c, 2023d) in that the MOCs have made little investment in the area of local security (vigilante), yet it has a significant effect on the control of vigilantes in the region.

4.2 Econometric analysis

The study compared treatment and control groups' responses to assess the effectiveness of MOCs' CSR interventions in modernizing and reforming vigilante organizations, analyzing the average variances of independent observable traits and basic scores. The difference in score means is revealed by the average treatment impact of using the GMoU via the CDBs. The statistics demonstrate a decline in vigilante violence and a rise in vigilante control between treatment and management. The study shows a rise in vigilante activity management, reduced human rights violations, reduced deaths and life forfeitures, reduced criminal activity and cult violence, improved funding sources, and the overall effectiveness of vigilante groups, particularly in communities with CDBs compared to those without CDBs. This revealed result is consistent with the perspective of Asif et al. (2023), which holds that agitators are crucial ritual builders who draw large crowds by verbalizing accusations and spreading rumors. This leads people to express a common mood through rhythmic chanting, slogan repetition, and drawing attention to the planning of public events. The agitators feed the political and religious factions' deep-seated desire to rule the local populations.

Table 4. Comparing the observable features and mean score of participants and non-participants (N = 1200)

Score expressed as a percentage of the highest possible score	Treatment	Control	Difference
Score on increase in regulation of vigilante activities	45.87	31.56	14.31**
Score on reduction inhuman right abuses by vigilante	49.09	36.28	12.81**
Score on reduction in fatalities and killings by vigilante	32.45	26.42	6.03**
Score on reduction in criminality and cult violence	33.44	24.56	8.88**
Score on overall efficiency of vigilante groups.	42.34	28.43	13.91**
Score on enhanced means of livelihoods	52.34	39.67	12.67**
Socio-Economic Characteristics			
Age	18.35	23.21	4.86
Sex	31.45	30.24	1.21
Education	34.21	25.89	8.32
Marital Status	30.43	34.24	-4.81**
Household Size	11.76	18.21	-6.45
Primary Occupation	20.56	17.43	3.13*
Annual Income	62.54	44.33	18.21
Income of Other Household Members	13.18	15.11	-1.93
Household Characteristics			
Access to Shelter	18.71	12.15	6.56**
Access to potable water	23.43	11.12	12.31**
Access to medical care	25.19	15.85	9.34*
Freedom of participation in socio-economic activities	24.19	19.54	4.65**
Observation	**600**	**600**	

Source: Computed from the field data by authors.

The variations include: 14.31% for an increase in control over vigilante endeavors; 12.81% for a decrease in the violations of human rights by vigilante groups; 6.03% for a decrease in the number of deaths and lives wasted by vigilante groups; 8.88% for a decrease in criminality and cult violence; 12.67% for improving sources of survival; and 13.91% for the effective operation of vigilante groups overall. The outcome is consistent with Udo's (2020) observations, in that GMoUs have helped the host communities manage vigilante groups and reduce violence in the area—to a notable extent. Nonetheless, the results indicate that there are positive and statistically significant differences between the treatment and control groups in the following areas: primary employment

(3.45%), sex (1.21%), age (4.86%), learning (8.32%), annual earnings (18.21%), access to good quality water (12.31), health care (9.34), and freedom of involvement in socio-economic undertakings (4.65). It is evident that there are negative variances in the proceeds of other family (household) members (-1.93), marriage status (-0.81%), and family/household size (-6.13). According to the results, since the treatment group has improved in every area evaluated, focusing more GMoU initiatives on variables will undoubtedly reduce vigilante violence while enhancing the ability of the vigilante groups to put down small-scale uprisings throughout the region.

Table 5. Logit model to predict the probability of receiving CSR conditional on selected observables

Variables[4]	Coefficient	Odd Ratio	Marginal Effect	Std. Error
Sex	.042	.531	.001*	.042
Age	.-013	.133	.0011	.031
MgtCDB	.001	.238	.101	.0016
Edu	.178	.432	.051**	.019
AY	.-014	.721	.018	.012
PriOcc	.521	.532	.0210*	.214
MS	.043	1.231	.0103	.213
Hhcom	-.221	.412	.022	.042
BenPart	.891	1.541	.0112**	.021
Perception of GMoU	1.231	8.318	.112*	.021
Constant	4.343	2.281	.00417	.726
Observation	1200			
Likelihood Ratio - LR test (ρ=0)		X^2 (1) =1252.523*		
Pseudo R^2	0.29			

*= significant at 1% level; and ** = significant at 5% level

Source: Computed from the field data by authors.

In order to visualize the possibilities of gaining CSR using the GMoU, we identified the characteristics that capture the visible differences between the treatment and control, following the methodology mentioned above. Equation 3's Logit model helped us achieve this. The analysis reveals that various factors, such as the respondent's sex, primary engagement, educational level,

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[4] Age = age of respondent, Sex = sex of respondent (Male =1 female 0), PriOcc = primary occupation of respondent, Edu = Highest level of education of respondent, AY = Income of the respondent, MgtCDB = management system of the CDB leaders, MS = Marital status of respondent, BenPart = evidence of benefit of participants and HHcom = income of other household members

perception of the GMoU, CDB leaders' management system, and participant proof of gains, positively influence their decision to pursue or receive direct CSR through the GMoU. Additionally, the age of the respondents, their yearly income, and the money earned by other members of their household all have a detrimental impact on their decision to pursue and/or benefit directly from CSR through the usage of GMoU.

Using the average treatment test (ATT), the study verified the effect of CSR initiatives utilizing GMoU vigilante groups in lowering vigilante violence in the region. There may be a CSR forecast in the model because the findings did not reveal any appreciable anomalies in the propensity score distribution. NMM, or nearest neighbor matching, has the strongest and most significant The study confirmed the impact of CSR programs employing GMoU vigilante groups on reducing vigilante violence in the area using the average treatment test (ATT). There may be a CSR forecast in the model because the findings did not reveal any appreciable anomalies in the propensity score distribution. In six result categories, including increased regulation of vigilante activities, decreased human rights violations, fewer deaths and wasted lives, decreased criminality and cult violence, enhanced income generation, and overall improved vigilante group operations, nearest neighbor matching (NNM) has the highest and most substantial treatment effect estimate.

Table 6. Projected effects of CSR undertakings using the MOCs' GMoU on respondents via different matching algorithms

	Access and Knowledge Score in Percentage of Maximum Score		Average Treatment effect on the treated
	Treatment	Control	
Nearest neighbor matching	Using single nearest or closest neighbor		
Score on increase in regulation of vigilante activities	45.87	31.56	14.31**
Score on reduction inhuman right abuses by vigilante	49.09	36.28	12.81**
Score on reduction in fatalities and killings by vigilante	32.45	26.42	6.03**
Score on reduction in criminality and cult violence	33.44	24.56	8.88**
Score on overall efficiency of vigilante groups.	42.34	28.43	13.91**
Score on enhanced means of livelihoods	52.34	39.67	12.67**
Observations			
	600	**600**	
Radius matching	Using all neighbors within a caliper of 0.01		
Score on increase in regulation of vigilante activities	45.23	33.87	11.36**
Score on reduction inhuman right abuses by vigilante	44.01	30.18	13.83**
Score on reduction in fatalities and killings by vigilante	46.43	36.76	9.67**
Score on reduction in criminality and cult violence	29.89	25.56	4.33**
Score on enhanced means of livelihoods	47.62	38.64	8.98**
Score on overall efficiency of vigilante groups.	35.44	24.56	10.88**
Observations	**600**	**600**	
Kernel-based matching	Using a bi-weight kernel function and a smoothing parameter of 0.06		
Score on increase in regulation of vigilante activities	26.31	18.41	11.9**
Score on reduction inhuman right abuses by vigilante	42.65	31.87	10.78**
Score on reduction in fatalities and killings by vigilante	43.24	35.23	8.01**
Score on reduction in criminality and cult violence	16.51	13.45	3.06**
Score on enhanced means of livelihoods	44.32	34.56	9.76**
Score on overall efficiency of vigilante groups.	36.56	43.14	6.58**
	600	600	

** = significant at 5% level

Source: Computed from the field data by authors.

The study shows that vigilante groups' overall efficiency improves by 14% when they obtain CSR through GMOU. Using radius and kernel-based matching, the average treatment effect is 7%, while the vigilante groups' radius matching approach achieves 10% proficiency. The findings emphasize the crucial role of MOCs' CSR in controlling vigilante violence.

Table 7. Results of the observable covariates' imbalance test using a standardized difference in percent for three distinct matching algorithms.

Covariates X	Standardized differences in % after		
	Nearest neighbour matching	**Kernel-based matching**	**Radius matching**
Age	3.9	14.2	18.2
Perception of GMoU	5.1	15.6	65.7
Sex	3.7	26.6	17.4
Edu	4.2	13.3	16.4
AY	2.1	13.1	12.1
PriOcc	8.8	19.4	22.6
MS	3.6	9.4	32.1
HHcom	3.8	14.8	18.6
BenPart	2.7	12.6	37.8
MgtCDB	3.1	14.5	16.5
Constant	5.6	24.7	48.4
The standard deviation of the mean absolute	4.2	16.2	27.8
The absolute standardized difference of the median	3.1	14.5	16.5

Source: Authors' computations based on field data.

Examining the imbalance of individual observable aspects, the study found that NNM is significantly higher in matching than KM and RM. Table 7 demonstrates superior nearest neighbor matching between CDB and non-CDB communities, with radius and kernel-based matching having significantly higher mean and median absolute standardized variance than the 0.05 criteria, but nearest neighbor matching below the 0.05 threshold.

Table 8. Sensitivity analysis using probability values and Rosenbaum's bounds

	Upper bounds on the significance level for different values of e^y				
	$e^y= 1$	$e^y= 1.25$	$e^y= 1.5$	$e^y= 1.75$	$e^y= 2$
Nearest neighbor matching	Using single nearest or closest neighbor				
Score on increase in regulation of vigilante activities	0.0001	0.0051	0.0012	0.302	0.243
Score on reduction inhuman right abuses by vigilante	0.0001	0.0031	0.0231	0.321	0.241
Score on reduction in fatalities and killings by vigilante	0.0001	0.0031	0.0014	0.021	0.032
Score on reduction in criminality and cult violence	0.0001	0.0012	0.0013	0.0522	0.143
Score on enhanced means of livelihoods	0.0001	0.0020	0.0442	0.421	0.812
Score on overall efficiency of vigilante groups.	0.0001	0.00217	0.0021	0.015	0.0127
Radius matching	Using all neighbors within a caliper of 0.01				
Score on increase in regulation of vigilante activities	0.0001	0.0042	0.0019	0.081	0.0643
Score on reduction inhuman right abuses by vigilante	0.0002	0.0033	0.0020	0.142	0.061
Score on reduction in fatalities and killings by vigilante	0.0004	0.0241	0.1461	0.628	0.072
Score on reduction in criminality and cult violence	0.0001	0.0021	0.0041	0.012	0.0732
Score on enhanced means of livelihoods	0.0001	0.0021	0.0321	0.020	0.0322
Score on overall efficiency of vigilante groups.	0.0001	0.00217	0.0021	0.015	0.0135
Kernel-based matching	Using a bi-weight kernel function and a smoothing parameter of 0.06				
Score on increase in regulation of vigilante activities	0.0001	0.00145	0.0018	0.011	0.0124
Score on reduction inhuman right abuses by vigilante	0.0001	0.00217	0.0021	0.015	0.0327
Score on reduction in fatalities and killings by vigilante	0.0001	0.0132	0.126	0.582	0.034

Score on reduction in criminality and cult violence	0.0001	0.0171	0.0241	0.193	0.017
Score on enhanced means of livelihoods	0.0001	0.00172	0.0021	0.021	0.0271
Score on overall efficiency of vigilante groups.	0.0001	0.00217	0.0021	0.015	0.0217

Source: Authors' computations based on field data.

The study reveals that KM has a stronger treatment impact on concealed bias in vigilante endeavors compared to NNM and RM. Results show a decrease in human rights violations, reduced deaths and life wasted, reduced crime and cult violence, improved quality of life for vigilante groups, and overall effectiveness improvement. This study demonstrates the significant impact of Corporate Social Responsibility (CSR) on vigilante activities, human rights violations, deaths, and life wasted by vigilante groups using GMoUs. It also highlights the improvement of revenue streams, operational efficiency, and overall efficiency of vigilante groups.These effects are significant even at a 5% level (p-value = 0.0124, p-value = 0.0327, p-value = 0.017, p-value 0.034, and p-value 0.0271, respectively). Consistent with the radius matching approach, the same knowledge score categories are strong to hidden bias up to an effect of $e^y = 2$ at a significance level of 10%.

Overall, the results demonstrate that while MOCs' CSR initiatives through GMoU that concentrate on local security issues may be modest, they are relatively successful in controlling community-based vigilante activities, which reduces vigilante violence and violations of human rights in the area. The vigilante groups' exposure to information and additional similar exposure, as well as the management, protection, and provision of working equipment and staff stipend contributions, have all helped to reduce the violence that the group members are committing and have increased their commitment to putting down internal and external insurrections. The frustration-aggression theory suggests that when observing aggression, researchers should be cautious about the possibility of frustration and aware of aggressive behaviors like vigilante violence and killings, as they may indicate frustration. The Niger Delta's host communities are allegedly being hindered from seizing the oil boom, causing environmental concerns, vigilante violence, and killings. The Niger Delta vigilantes had hoped to benefit financially from the oil deposit in their farmlands, but sadly, the actions of oil firms result in pollution, gas flaring, and environmental disasters.

Additionally, it was found that the region became a complex working environment with armed organizations, cults, ritual killings, brigands, vigilante violence, intercommunal violence, and cult violence as a result of the frustration caused by the carelessness of oil extraction activities. This study emphasizes the importance of cultural context in determining appropriate CSR programs and priorities in Africa, aligning with Amaeshi et al.'s (2006) recommendation to focus on unique socio-economic issues like education, poverty reduction, healthcare, and infrastructure development. According to Visser (2006) and Amaeshi et al. (2006), it also emphasizes the necessity for multinational cooperatives operating in Africa and around the world to exercise flexibility in their CSR policy and practice. In order to prevent hostility and reduce vigilante violence and killings, Nigeria's oil-producing communities should focus MOCs' GMoU efforts on enhancing the economic standing of the local populace. MOCs can effectively use their GMOU programs to eliminate logistical and cultural barriers, enabling the local population to participate in capacity-building activities and address social issues such as vigilante violence and killings. The Niger Delta region's CSR policies should be based on the cultural context and flexibility of MOC strategies, ensuring that larger, more ethical companies can thrive in the region by establishing appropriate priorities and initiatives.

5. Concluding remarks, caveats, and future research directions

Community-based vigilante groups are a long standing institution in Nigeria's oil-producing region. They assure communal defense and protection from criminals or predatory enemies, and sometimes they engage in oil-related border disputes with neighbours. Since the 1990s, this local groups have assumed increasing importance in the absence of adequate official policing at the community level. Often, most of these vigilante groups become a law unto themselves and practice extra-judicial killings, seizure of personal property, and other serious human rights violations. Thus, this concern prompted us to look into whether GMoU's cluster interventions by MOCs could lower the heap map of fatalities from vigilante violence in Nigeria's Niger Delta region. The result of logit regression and propensity score matching demonstrate that the MOC's meager CSR interventions to protect the oil-producing region have been successful in creating, formalizing, equipping, and managing community-based vigilante groups in the Niger Delta. The results also show that the CSR initiatives have reduced vigilante violence within and between host communities, as well as violence against their residents. This suggest that raising CSR budget of

MOCs with the goal of strengthening the effectiveness of community-based vigilante groups will heighten the local security apparatus, discourage insurgence and violence, safeguard the workers and equipment of oil firms, and provide a favorable business environment in sub-Saharan Africa.

In terms of implication for practice, it is apparent from the findings that community-based vigilante effectiveness in Nigeria's oil-producing region can be enhanced using GMoU's cluster intervention programmes of MOCs. Hence, more community-based vigilante groups need to leverage on the CDB programme in other to benefit from the associated rewards, such as economic empowerment and capacity building supports from MOCs through GMoU programmes. The implications for policy largely surround the relevance of how GMoUs can be considered by policy makers to act as a security enhancement interface between the MOCs and cluster development boards in host communities. Such consolidation can be made by designing and implementing securities policies such that they improve among others, ATVB training to equip GMoU clusters with relevant skills required for peaceful engagement and de-escalating the rising vigilante violence and killings, cult and gang related violence, mop violence and extra-judicial killings, herder-farmer clashes and criminal violence, criminal insurgence and gun violence, and a resurgence of inter-communal violence in the oil-producing region. On the implications for research, although, this study shows that GMoUs of MOCs play an important role in mitigating community-based vigilante violence, it is imperative to extend this research with a study that determines whether community-based policing can be a *faute de mieux* solution for sub-Saharan countries facing a threat they cannot address alone. The main caveat of the study is that it is limited to the scope of oil-producing region in Nigeria. Hence, the findings cannot be generalized to other African countries with the same policy challenges. In the light of this shortcoming, replicating the analysis in other countries is worthwhile in order to examine whether the established nexuses withstand empirical scrutiny in different oil producing context of Africa.

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