Available online www.worldscientificnews.com

World Scientific News

An International Scientific Journal

WSN 207 (2025) 28-35 EISSN 2392-2192

Assessment of Social Effects of Artisanal Refining on Property Development Among Communities in South-South, Nigeria

Dr. Silver C. Nwanekezi[1], Umerah Amechi[2], Kenneth Agwu[3]

[1]Department of Estate Management and Valuation

Federal University of Technology, Owerri, Imo State

2Department of Estate Management and Valuation

Federal University of Technology, Owerri, Imo State

3Department of Estate Management,

Federal Polytechnic Nekede, Owerri, Imo State

e-mail: silver.nwanekezi@futo.edu.ng, silverchibuzo@gmail.edu.ng

ABSTRACT

The prevalence of artisanal refineries in the South-South geo-political zone is attested to by the sheer dramatic rise in the incidences of crime as well as the reduction in property development and other economic activities in the area. The study examines the social effect of artisanal refining activities on property development among the communities in South-South, Nigeria. The survey research method was adopted for the study through the use of a questionnaire; three (3) states (Rivers, Bayelsa, and Delta), six (6) LGAs, and eighteen (18) communities were selected, leading to 427 respondents selected for the study. Data was analysed using frequency counts, response percentages, mean values, and spearman rank correlation coefficient. The findings revealed that respondents agreed that artisanal refining activities have fostered insecurity and violence, leading to heightened social tension adversely affecting property development (Rivers-51.9%, Bayelsa-49.8%, Delta-58.2%).

(Received 11 July 2025; Accepted 12 August 2025; Date of Publication 6 September 2025)

Also, prevalence of social vices such as theft, violence, cult activities, and kidnapping has created considerable challenges for property development and affected the ease of development (Rivers-58.9%, Bayelsa-67.8%, Delta-70.1%). The findings showed a statistically significant relationship between property development and various social effects variables due to illegal Artisanal refining activities in the study area (where $p \leq 0.05$, $r \geq 0.5$). In conclusion, artisanal refining activities have caused social repercussions in the communities, such as insecurity and violence, adversely affecting property development and affected developers' willingness to invest in real estate.

Keywords: Property Development, Artisanal Refineries, Oil Theft, Real Estate, South-South

1. INTRODUCTION

Artisanal refining activities, as used in this study, refer to individuals or groups of persons engaging in siphoning crude oil from the oil pipes and refine it into other petroleum products such as diesel and kerosene for local markets to earn their living which is contrary to the Hydrocarbon Oil Refineries Act 1965 (Mezie-Okoye, 2022). This often leads to hazards and pollution of the environment. It is important to note that the refining process by these groups has proven to lack recommended international standards for petroleum products. Due to this factor, most of the end-users suffer undue hardship like fire explosion due to the poor mixture of kerosene, diesel, vehicular and plant damages (Ogele & Egobueze, 2020). Consequently, there is socioeconomic waste, like loss of lives and properties; the consumers spend more money on fixing their vehicles and machines. The refining involves the constant burning of firewood that is used in boiling the crude oil to get other products causing air pollution in the form of soot (Ogele & Egobueze, 2020). The operation of artisanal refineries brings direct losses on property development reflecting in the loss of farmland, waste of mineral resources on land, urban land degradation during and after their operations, inability to conserve landed properties with cultural or historical values, inaccessibility to urban land for meaningful socio-economic or property development schemes, among others (Addison, 2001; Abegunde, 2011). Significantly, artisanal refining operation in the South-South geopolitical zone is initiated by tussle over resource control on land, which results in further losses on land and its attachments. Land is seen as an impetus for development that can become an impediment to the built environment. In predominantly African communities, land could be disgusting where much value is attached to it by local people without government regulations (Ayo, 2002; Asiyanbola, 2008). The land is seen as the path to heaven for the departed relatives, the abode of ancestors, and a devouring god to the defaulters and abusers of it in Africa (Ayo, 2002).

The prevalence of artisanal refineries in the South-South geo-political zone is attested to by the sheer dramatic rise in the incidences of crime, as well as the reduction in property development and other economic activities in the area. Unfortunately, artisanal refining activities in these communities have affected property development, including commercial, residential, agricultural, institutional, industrial, and recreational (Amakiri & Nkpite, 2022). These artisanal refining activities have resulted in the wanton destruction of lives and properties accompanied by palpable tension and animosity among landowners and property developers (Nwakwoala et al., 2017). The emergence of youth overlords, cultism, arms proliferation, increase in school dropouts, and loss of moral values, among others, is termed as the social implication, while the economic implication includes oil sabotage and facilitating of oil theft, which sometimes might lead to an oil spill, loss of revenue from the federal government, among others (Ogele & Egobueze, 2020). All these aforementioned scenarios affect property development due to artisanal refining activities effects thereby discouraging property development within the area. These issues prompted the investigation to ascertain the social effect of artisanal refining activities on property development within the study area.

2. MATERIALS AND METHODS

Study Area

The South-South Region of Nigeria is located on $4^0$21′ 43.2′′N, 7^0 40′ 52.8′′ N and longitude 5^0 8′ 42′′E, 9^0 30′7.2′′ E (Figure 1) protruding towards the Gulf of Guinea on the Atlantic coast of West Africa (Shittu, 2014). The region is a densely populated area in Nigeria. Its population is about 31 million (National Population Commission, 2006). The land mass extends about 70,000 km2, making up 7.5 percent of Nigeria's landmass.

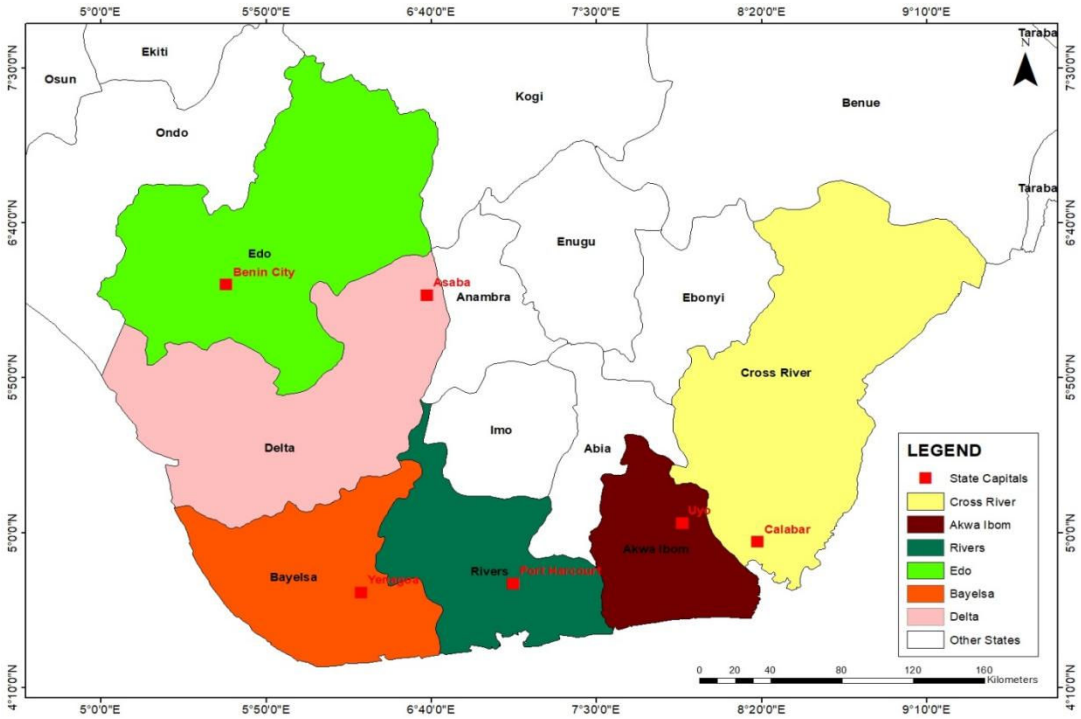

Figure 1. Overview of the Study Area.

Population of the Study

The research population refers to the aggregate of all possible respondents from which the sample is selected. The population of the study comprises all six states in the South-South region of Nigeria (that is, Rivers, Bayelsa, Delta, Edo, Akwa-Ibom and Cross-Rivers); however, for the study based on the eligibility criteria, the population of the study will be limited to three states and their artisanal refineries activities. The selected LGAs for the study are found within the states from the region, involved in artisanal refinery activities and a possible history of fire incidents due to artisanal refinery activities (Odubo and Onyige 2019; Ikezam et al., 2021; Onwuna et al., 2022b). The selected study communities are found within the states and LGAs involved in artisanal refinery activities.

Sample Size and Data Collection

With the aid of the Taro Yamane formula for sample size determination based on the target population of 2312454, four hundred and twenty-seven (427) respondents from three (3) states and six (6) local government areas were selected for the study (Table 1). The study adopted primary data sources through the use of a questionnaire.

The study's data collection was carried out using a questionnaire. The questionnaire adopted for the study used a Likert 5-point scale and was closed-ended. The Likert 5-point scale was expressed as follows: 1: Undecided (U), 2: Strongly Disagreed (SD), 3: Disagreed (D), 4: Agreed (A), and 5: Strongly Agreed (SA). The respondent's decision was represented by a 0 – 3 Mean point, "Disagreed", while 3.1 Mean points and above, "Agreed."

Table 1. Sample Size, Questionnaire Distribution, and Retrieved Number.

States	LGAs	Projected Population (2023)	Percentage in Projected Population	Distribution of the Questionnaire	Number Retrieved
Rivers	Ikwere	306,067	13.2	63	60
	Ahoada	378,594	16.4	79	69
Bayelsa	Southern Ijaw	517,449	22.4	108	95
	Ekeremor	437,816	18.9	91	76
Delta	Ndokwa East	167,137	7.2	34	30
	Warri South	505,391	21.9	105	97
Total		**2,312,454**	**100**	**480**	**427**

Data Analysis

The retrieved copies of the questionnaire were coded and subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS). For proper analysis, descriptive statistics tools such as frequency counts, percentages of response, and mean values were adopted for the presentation and analysis. The research hypotheses of the study were tested through inferential statistics (Spearman Rank correlation) at a 95% significance level.

3. RESULTS AND DISCUSSION

The socio-demographic details of the respondents indicated that 62.8% of the respondents were male, mostly between 30 – 40 years old (45.0%) and married (38.9%). Most respondents possess secondary school (34.0%) and tertiary level (13.1%) while 23.9% are salary workers and 26.2% are farmers.

Social Effects of Artisanal Refining Activities

The social effects of artisanal refining activities across the study area was examined, and the feedback was presented in Table 2.

Table 2. Social Effect of Artisanal Refining Activities.

Variables	Rivers State					Bayelsa State					Delta State						
	U	D	A	Mean	Total	U	D	A	Mean	Total	U	D	A	Mean	Total	Overall Mean	Grand Total
SE1	42 (32.6)	20 (15.5)	67 (51.9)	3.82	**129 (100)**	5 (2.9)	48 (28.1)	118 (69.0)	3.90	**171 (100)**	3 (2.4)	34 (26.8)	90 (70.9)	3.64	**127 (100)**	3.53	**427 (100)**
SE2	11 (8.5)	38 (29.5)	80 (62.0)	3.27	**129 (100)**	16 (9.3)	44 (25.7)	118 (69.0)	3.75	**171 (100)**	3 (2.4)	31 (24.4)	93 (73.2)	3.81	**127 (100)**	3.67	**427 (100)**
SE3	16 (12.4)	39 (30.2)	74 (54.4)	3.01	**129 (100)**	10 (5.8)	60 (35.1)	101 (59.1)	3.71	**171 (100)**	2 (1.6)	38 (29.9)	87 (68.5)	3.64	**127 (100)**	3.62	**427 (100)**
SE4	18 (14.0)	68 (52.8)	43 (33.3)	2.96	**129 (100)**	27 (15.8)	76 (44.5)	68 (39.7)	2.91	**171 (100)**	17 (13.4)	35 (27.5)	75 (59.1)	3.40	**127 (100)**	3.13	**427 (100)**
SE5	14 (10.9)	39 (30.2)	76 (58.9)	3.00	**129 (100)**	9 (5.3)	46 (26.9)	116 (67.8)	3.79	**171 (100)**	5 (3.9)	33 (26.0)	89 (70.1)	3.76	**127 (100)**	3.68	**427 (100)**
SE6	24 (18.6)	73 (56.6)	32 (24.8)	2.68	**129 (100)**	22 (12.9)	44 (25.7)	105 (61.4)	3.45	**171 (100)**	2 (1.6)	46 (36.2)	79 (62.2)	3.72	**127 (100)**	3.31	**427 (100)**
SE7	15 (11.6)	43 (33.4)	71 (55.0)	3.27	**129 (100)**	13 (7.6)	56 (32.7)	102 (59.6)	3.51	**171 (100)**	13 (10.2)	28 (22.0)	86 (67.7)	3.74	**127 (100)**	3.53	**427 (100)**
SE8	14 (10.9)	41 (31.8)	74 (57.3)	3.43	**129 (100)**	5 (2.9)	47 (27.5)	119 (69.6)	3.84	**171 (100)**	8 (6.3)	43 (33.8)	76 (59.9)	3.56	**127 (100)**	3.60	**427 (100)**
SE9	12 (9.3)	45 (34.9)	72 (55.8)	3.72	**129 (100)**	6 (3.5)	47 (27.5)	118 (69.0)	3.90	**171 (100)**	2 (1.6)	43 (33.8)	82 (64.6)	3.77	**127 (100)**	3.74	**427 (100)**
SE10	18 (14.0)	36 (27.9)	75 (58.1)	3.65	**129 (100)**	17 (9.9)	46 (26.9)	108 (63.2)	3.57	**171 (100)**	9 (7.1)	37 (29.2)	81 (63.8)	3.66	**127 (100)**	3.53	**427 (100)**

Source: Researcher's fieldwork, 2024

NB: A-Agreed (Strongly Agreed + Agreed), U-Undecided, D-Disagreed (Strongly Disagreed + Disagreed)

KEY: Mean/Overall Mean Interpretation: 0.1 – 1.9 (Neutral), 2.0 – 2.9 (Disagreed) and 3.0 – 3.9 (Agreed)

SS1: Insecurity due to artisanal refining activities have led to reduction in the rate of property development in the community, SS2: Artisanal refining has created social tensions, affecting the willingness of developers to commit to property development, SS3: Community restiveness arising from artisanal refining activities increase cost of property and reduced investment attractiveness, SS4: Social disintegration and destruction of family values due to artisanal refining activities has led to a reduction in land value, S5: Social vices like stealing, fighting, and kidnapping in the community are affecting ease of property development, SS6: Struggle for land ownership arising from artisanal refining in the community has made it difficult to secure loans using property as collateral, SS7: Artisanal refining activities have destroyed occupational structure in the community thereby reducing local investment property development, SS8: Land value in the community is not appreciating due to widespread poverty occasioned by artisanal refining, SS9: Low investment in social services like health and education negatively affect the perceptions of the people on property development.

The findings indicate that artisanal refining activities have significant social repercussions in the communities. These activities have fostered insecurity and violence, leading to heightened social tension adversely affecting property development (Rivers-51.9%, Bayelsa -49.8%, Delta -58.2%). Consequently, this has affected developers' willingness to invest in real estate (Rivers-62.0%, Bayelsa -69.0%, Delta73.2%). Furthermore, community restiveness linked to artisanal refining has increased property development costs and reduced the attractiveness of investments in the area (Rivers-54.4%, Bayelsa59.1%, Delta -68.5%). The prevalence of social vices such as theft, violence, cult activities, and kidnapping has created considerable challenges for property development and affected the ease of development (Rivers-58.9%, Bayelsa -67.8%, Delta-70.1%). Additionally, the struggles over land ownership related to these refining activities have made it difficult for individuals to secure loans using landed property as collateral (Bayelsa-61.4%, Delta-62.2%).

Artisanal refining has destroyed occupational structure in the communities, thereby reducing local investment in real properties (Rivers-55.0%, Bayelsa-59.6%, Delta-67.7%), land value is not also appreciating due to widespread poverty occasioned by artisanal refining (Rivers-55.8%, Bayelsa-69.0%, Delta-64.6%). Overall, the study highlights how the social disintegration caused by artisanal refining has led to a decline in land value. Reduced investments in social services have also negatively affected the perceptions of people on property development. These findings align with the observations made by Ogele and Egobueze (2020) regarding the rise of various anti-social behaviours, including cultism and arms proliferation, which contribute to increasing insecurity in affected communities. Similarly, the current findings resonate with those of Ikezam et al. (2021), who pointed out that such refining activities have resulted in the widespread destruction of infrastructure, including oil facilities while corroborating the insights of Naanen and Tolani (2014), who noted the loss of community and oil company social infrastructures due to these activities. This study asserts that the various social effects identified have a significant and strong relationship with property development decisions in these communities. These insights are consistent with the findings of Rowland and Ihuah (2021), who discussed how factors like community disturbances, high lending rates, and challenges with planning permits and approvals hinder property development. Moreover, this research supports the conclusions drawn by the Partnership Initiatives in the Niger Delta (PIND) (2022), which stated that artisanal oil refining has exacerbated organized crime and led to the implementation of harsh security measures in communities engaged in such activities.

From Table 3, the hypothesis of the study was tested using the spearman rank correlation coefficient analysis. The hypothesis was tested based on the following statement:

H_0: There is no significant relationship between the environmental effects of artisanal refining activities and property development within the study area.

H_1: There is a significant relationship between the environmental effects of artisanal refining activities and property development within the study area.

In explaining the outcome from the multivariate tests of significance, the Spearman rank correlation (rho) was used in ascertaining the extent of the relationship between the environmental effects of artisanal refining activities and property development, while the p-value was adopted for the level of significance in the relationship (where $p \leq 0.05$ reject the null hypothesis). From the outcome of the analysis, it was revealed that there was a relationship between property development and various social effect variables due to artisanal refining activities in the study area, and the relationship/correlations were significant among the variables (where $p \leq 0.05$, $r \geq 0.5$).

4. CONCLUSION

With rampant occurrence of artisanal refining activities in South-South region of Nigeria, the study examines the social effect of artisanal refining activities on property development among the communities in the region. From the study findings, the social effects of artisanal refineries have negative effects on property development. These activities have caused social repercussions in the communities, such as insecurity and violence, adversely affecting property development and affected developers' willingness to invest in real estate. These challenges have led to a reduced rate of property development. This would have important implications for developing interventions for security challenges and social justice. Land remediation and restoration management practices should be encouraged in the communities to improve the land's suitability for property development.

Table 3. Tests of Significance Relationship for Property Development and Social Effect of Artisanal Refining Activities.

S/N	Social Effect of Artisanal Refining Activities	Correlation Coefficient	Sig. (2-tailed)	N	Remark
1	Property Development	1		427	
2	Insecurity due to artisanal refining activities has led to a reduction in the rate of property development in the community	0.948	0.010	427	H_1 Accepted
3	Artisanal refining has created social tensions, affecting the willingness of developers to commit to property development	0.948	0.003	427	H_1 Accepted
4	Community restiveness arising from artisanal refining activities increases the cost of property and reduces investment attractiveness.	0.573	0.014	427	H_1 Accepted
5	Social disintegration and destruction of family values due to artisanal refining activities have led to a reduction in land value	0.831	0.000	427	H_1 Accepted
6	Social vices like stealing, fighting, and kidnapping in the community are affecting the ease of property development	0.703	0.006	427	H_1 Accepted
7	Struggle for land ownership arising from artisanal refining in the community has made it difficult to secure loans using property as collateral	0.808	0.040	427	H_1 Accepted
8	Artisanal refining activities have destroyed the occupational structure in the community thereby reducing local investment property development	0.721	0.000	427	H_1 Accepted
9	Return on investment in the community has reduced due to insecurity attributed to activities of artisanal refining	0.769	0.001	427	H_1 Accepted
10	Land value in the community is not appreciating due to widespread poverty occasioned by artisanal refining	0.996	0.000	427	H_1 Accepted

References

[1] Abegunde, A. A. (2011). Land as the main cause of inter-communal conflicts in Africa. Key Natural Resource against Community Development of Third World Nations? *Journal of Economics and Sustainable Development,* 2(4), 285-297.

[2] Addison, T. (2001). Reconstruction from War in Africa: Communities, Entrepreneurs, and States. WIDER Discussion Paper 18, Helsinki. UNU/WIDER.

[3] Asiyanbola, A. (2008). Assessment of Family Care, Housing, Gender, Daily Activities and Physical Well-Being of the Elderly in Ibadan, Nigeria. *Economic*

[4] Ayo, S. B. (2002). Public Administration and the Conduct of Community Affairs Among the Yoruba's in Nigeria. Institute of Contemporary Studies, Oakland, California.

[5] Ikezam, P., Elenwo, E. I., & Oyegun, C. U. (2021). Effects of Artisanal Refinery on the Environment, Public Health and Socio-Economic Development of Communities in the Niger Delta Region. *Environmental Management and Sustainable Development*, *10*(3), 97. https://doi.org/10.5296/emsd.v10i3.18921

[6] Mezie-Okoye, C. C. (2022). The political economy of artisanal refining in the Niger Delta. *Sapientia Global Journal of Arts, Humanities and Development Studies*, 5(2), 7–18

[7] Nwankwoala, H.O., Harry, M.T., Amangabara, G.T. and Warmate, T. (2017). Impacts of Artisanal Refining Activities on Soil and Water Quality in Parts of Okrika and Ogu-Bolo Areas of Rivers State, Nigeria. *J. Environ. Anal & Toxicol.* 7(5) 503-508

[8] Odubo, T. R., & Onyige, C. D. (2019). Environmental Degradation and Livelihood Vulnerabilities in the Niger Delta: Examining the Role of Artisanal Crude Oil Refining. *International Journal of Innovative Social Sciences & Humanities Research*, *7*(4), 45– 52.

[9] Ogele, E. P. & Egobueze, A (2020) The Artisanal Refining and Socioeconomic Development in Rivers State, Nigeria: 2007 – 2017. *International Journal of Research and Innovation in Social Science,* 4(4) 16 -25.

[10] Onwuna, D. B., Stanley, H. O., Abu, G. O., & Immanuel, O. M. (2022b). Air Quality at Artisanal Crude Oil Refinery Sites in Igia-Ama, Tombia Kingdom, Rivers State, Nigeria. *Asian Journal of Advanced Research and Reports*, *16*(12), 74–83. https://doi.org/10.9734/ajarr/2022/v16i12450

[11] Partnership Initiatives in the Niger Delta [PIND] (2022). *Illegal artisanal oil refining in the Niger Delta: responding to environmental crime and insecurity.* Conflict Briefing: May 2022