

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

A Monthly Double-Blind Peer Reviewed, Refereed, Open Access, International Journal - Included in
the International Serial Directories

Impact of Illegal Crude Oil Refining on Socio-Economic Development in Okrika Local Government Area of Rivers State, Nigeria

Eliot Igbikiminachin Kalio¹

Department of Adult Education and Community Development,
Faculty of Education,
Rivers State University, Nkpolu - Oroworukwo
Port Harcourt, Nigeria.
chiefkalio@gmail.com

Dr. Doreen Kobani, PhD²

Department of Adult Education and Community Development,
Faculty of Education,
Rivers State University, Nkpolu – Oroworukwo,
Port Harcourt, Nigeria.
betex2006jj@yahoo.com

DOI: <https://doi.org/10.61161/ijarcsms.v12i7.51>

Short DOI: <https://doi.org/m7w4>

Abstract: The study examined the impact of illegal crude oil refining on socio-economic development in Okrika Local Government Area of Rivers State. The study adopted a descriptive survey design. The population of the study is 2,098. This comprises 98 leaders and 2000 members of registered community based organizations in Okrika Local Government Area of Rivers State. The sample size of the study was 395 respondents comprising 90 leaders and 305 members of registered community based organizations in the study area. The instrument for data collection in the study was a self-designed questionnaire titled “Impact of Illegal Crude Oil Refining on Socio-Economic Development Questionnaire”. Reliability coefficients of 0.82 and 0.88 were obtained for the two clusters of the instrument. Mean and standard deviation were used to analyze the responses to the research questions. The findings of the study revealed amongst others that illegal crude oil refining impacts on economic development in Okrika Local Government Area of Rivers State by leading to loss of marine life, businesses, reduced investments and increased poverty level occasioned by increased cost of living. Based on the findings of the study, it was recommended amongst others that the Federal Government should establish modular refineries in the Niger Delta. This will increase economic development in the area, deal with the shortfalls in refining of crude oil in Nigeria and reduce poverty in the region.

Keywords: Crude Oil, Socio-Economic Development, Illegal Crude Oil Refining.

I. INTRODUCTION

The first crude oil in Nigeria was discovered in Niger Delta of Bayelsa State in Oloibiri community 1956 (Robinson 1996) which inhabitants are fishermen and farmers. And recently Nigeria was ranked as the largest oil producer in Africa and sixth in the world due to its massive oil deposit in the Niger-Delta (Gerner et al, 2004: NNPC, 2014). There is no doubt that Niger-Delta region plays a major role in the growth of Nigeria’s economy because it plays host to many multi-national companies especially the oil industry.

While operations of oil exploration were suspended in Ogoni land in the early 1990s due to disruptions from the local public unrest, oil operation remained dormant. This resulted in major oil pipelines across Ogoni land causing oil spills which

affected the region due to lack of maintenance and vandalism of oil infrastructure and facilities. The impact of environmental damage in the region cannot be quantified (Baghebo, Samuel & Nwagbara, 2012).

Baghebo et al (2012) reported that in 2002, waste disposal and pollution by Warri Refining and Petrochemicals Company (WRPC) destroyed fishing activities and reported that it caused a number of deaths among the Itsekiri indigenes through the consumption of contaminated seafood because a large section of the people living in the Niger Delta rely on fishing for their sustainable livelihood, as their major occupation, and source of income (Amnesty International, 2009). The environment of ogoni land are contaminated from oil spills and today partially remediated.

Similarly, in other communities in Rivers State especially Kiri-iyoye, Isaka and other communities in Okrika Local Government area of Rivers State, crude oil exploration activities have had some negative impacts on the people and communities at large. These communities are located where oil pipelines wellheads are buried underground and some on the surface of lands and this makes them directly impacted by waste effluents from crude oil activities. Large scale gas flaring and indiscriminate discharge of oil spills as a result of illegal refining of oil, bunkering and thick oil clumps are seen floating all over the surface of the creek especially around the mangrove and other prop rooted plants.

It is unfortunate that this all important natural endowment which should have been a blessing to the people has in fact become a curse to human life and the environment. The people of Niger Delta who produce the bulk of the nation's wealth have continuously faced gross underdevelopment by governments at all levels. Worst still, is the devastating impact of crude oil activities on the environment, economic and social life of the people in the area. In recent years, there has been increasing rate of crude oil theft and refining by residents in host communities in Rivers State and Niger Delta region as a whole. One of such areas is Okrika Local Government Area of Rivers State. The prevalence of artisanal or illegal refining of crude oil has affected the area in no small measure.

Putting this impact in the right perspective, Anifowose, Lawler, Van der Horst and Chapman (2014) reported that the widespread artisanal oil refinery contributes to the growing decline of biodiversity such as wild flora and fauna in the Niger Delta. Flora and fauna in the region are severely impacted as these refineries pollute the air, water, soil, and the entire ecosystem. Faunas absorb heavy metals from polluted ecosystems which harm them. For animals such as birds that rely on beautiful plumage colouration for courtship, gaseous pollution (soot) from artisanal refineries may also indirectly affect their reproduction.

The refining processes often lead to two drums of crude oil amounting to one drum of the product once refined, leading to a significant quantity of waste being released into the aquatic environment (Albert, Amaratunga and Haigh, 2018). Artisanal refineries like most industrial activities produce environmental hazards that are slow poisons (Asimiea & Omokhua, 2013). Aquatic ecosystems oil spills pollution is the single most significant threat to freshwater, coastal, and marine ecosystems of the Niger Delta region and such impacts the drinking water quality, testudines, fisheries, and other aquatic organisms (IUCN Niger Delta Panel, 2018).

The abundance of crude oil in Okrika LGA should lead to obvious socio-economic development in the area. Socio-economic development refers to the position of an individual, group or community which is determined by a combination of social and economic factors, which include income, quality of education, occupation and place of residence. It is a scale that determines one's status. Socio-economic status always shows the inequalities in access to resources. The multinational oil companies, federal government and those in authority play politics with the demands and the life of the common man. Petroleum products like kerosene, petrol and diesel are no longer affordable by the average persons in communities.

According to Weichold & Bonnie (2009) social development means transformations in the behaviour and structure of a society that occur over a period of time. The youths knowing that their expectations are not forthcoming, out of frustration and lack of benefits from oil production, may decide to engage in crude oil theft and illegal oil refining locally called 'kpo-fire'.

They form heavily armed and well-organized groups to attack oil and gas facilities in the area, shut down operations, kidnap staff and sabotage pipelines. This has led to increase of militia group, cult related activities and sea piracy.

According to Gideon (2022) illegal oil refining is essentially siphoning off crude oil from pipelines and redirecting it into tanks in bushes and forest, where the crude oil is boiled at high temperatures to turn it into different petroleum products. It is an unauthorized means or stealing crude oil from oil pipelines into any container and boiled with a high level of fire to turn it into different petroleum products. It is against this background that this study examined the impact of illegal crude oil refining on the socio-economic development of Okrika Local Government Area of Rivers State, Nigeria.

II. STATEMENT OF THE PROBLEM

Okrika Local Government Area is one of the LGAs in Rivers State, Niger Delta region of Nigeria blessed with abundance of crude oil. One would think that with this, the LGA would enjoy improved standard of living and increased development in all areas; especially because crude oil is the mainstay of Nigeria's economy.

Unfortunately, the reverse is the case in Okrika LGA like other oil bearing communities and LGAs in Nigeria. In spite of the large scale environmental pollution that goes on in this area due to crude oil exploration activities by multinational companies, communities do not enjoy commensurate level of development. This, as expected has resulted in agitations by host companies and has also led to increased cases of crude oil theft and artisanal refining of petroleum products.

This illegal or artisanal refining which in recent times has been prevalent in Okrika LGA of Rivers State comes with some attendant negative impacts on the social, economic and environmental lives of residents and communities. It has led to loss of traditional means of livelihood which is fishing and farming as marine life is going extinct and this has increased the level of poverty. It is imperative, therefore, to ascertain the level of impact these activities have had on communities and this informed the need for this study on the impact of illegal refining of crude oil on socio-economic development of Okrika LGA of Rivers State.

III. PURPOSE OF THE STUDY

The purpose of this study was to examine the impact of illegal crude oil refining on the socio-economic development of Okrika Local Government Area of Rivers State. Specifically, the study sought to achieve the following objectives:

- i. Find out the impact of illegal crude oil refining on economic development in Okrika Local Government Area of Rivers State.
- ii. Ascertain the impact of illegal crude oil refining on social development in Okrika Local Government Area of Rivers State.

IV. RESEARCH QUESTIONS

The study was guided by the following research questions:

- i. What is the impact of illegal crude oil refining on economic development in Okrika Local Government Area of Rivers State?
- ii. What is the impact of illegal crude oil refining on social development in Okrika Local Government Area of Rivers State?

V. METHODOLOGY

The study adopted a descriptive survey design. The population of the study is 2,098. This comprises 98 leaders and 2000 members of registered community based organizations in Okrika Local Government Area of Rivers State. The sample of the study was 395 respondents comprising 90 leaders and 305 members of registered community based organizations in the study area. The instrument for data collection in the study was a self-designed questionnaire titled "Impact of Illegal Crude Oil

Refining on Socio-Economic Development Questionnaire". Reliability coefficients of 0.82 and 0.88 were obtained for the two clusters of the instrument. Mean and standard deviation were used to analyze the responses to the research questions.

VI. RESULTS

- ✚ **Research Question 1:** What is the impact of illegal crude oil refining on economic development in Okrika Local Government Area of Rivers State?

Table 1: Mean and Standard Deviation on the Impact of Illegal Crude Oil Refining on Economic Development

S/N	Items	Leaders (N= 85)		Remarks	Members (N = 295)		Remarks
		\bar{X}_1	SD_1		\bar{X}_2	SD_2	
1.	Illegal refining has led to loss of marine life which has greatly affected the productivity of fisher-folks in Okrika LGA.	3.46	0.79	Agree	3.28	0.77	Agree
2.	Illegal refining of crude oil has affected the business of small scale farmers in Okrika LGA.	3.21	0.79	Agree	3.27	0.64	Agree
3.	Petty traders engaged in seafood trade have lost their businesses in Okrika LGA due to illegal crude oil refining	3.32	0.69	Agree	3.19	0.84	Agree
4.	Companies that should invest in the area run away for fear of the accompanying insecurity which accompanies oil refining activities which reduces internally generated revenue in the LGA.	3.41	0.86	Agree	3.21	0.77	Agree
5.	The pollution caused by illegal crude oil refining makes business owners in the area leave for other cities and this affects the development of the area.	2.70	1.09	Agree	2.63	1.06	Agree
6.	Illegal crude oil refining has led to increase in the cost of living in the LGA which has increased poverty level in the area.	3.19	0.77	Agree	3.29	0.64	Agree
Grand Mean		3.22		Agree	3.15		Agree

The analysed data on Table 1 showed that all items in the table have mean scores that are above the criterion mean of 2.50 which indicates that majority of the respondents (Leaders and members of CBOs) agreed with the items. With grand mean scores of 3.22 and 3.15 for leaders and members of CBOs respectively, the answer to research question one is that illegal crude oil refining impacts on economic development in Okrika Local Government Area of Rivers State by leading to loss of marine life, businesses, reduced investments and increased poverty level occasioned by increased cost of living.

- ✚ **Research Question 2:** What is the impact of illegal crude oil refining on social development in Okrika Local Government Area of Rivers State?

Table 2: Mean and Standard Deviation on the Impact of Illegal Crude Oil Refining on Social Development in Okrika Local Government Area of Rivers State

S/N	Items	Leaders (N= 85)		Remark	Leaders (N = 295)		Remark
		\bar{X}_1	SD_1		\bar{X}_2	SD_2	
7.	Illegal crude oil refining has led to increased tension in communities which slows down development.	3.34	0.60	Agree	2.92	0.90	Agree
8.	Most young people who should be in school drop out to engage in illegal refining of crude oil which affects their ability to contribute meaningfully to the society.	3.43	0.55	Agree	2.94	0.88	Agree
9.	Youths who engage in illegal crude refining possess arms for protection and sometimes use this for crimes which impacts on security of lives in your area.	2.86	0.82	Agree	3.04	1.20	Agree
10.	Young people no longer see the need to come together to develop their communities as they pursue quick money through illegal refining of crude.	3.26	0.71	Agree	3.47	0.54	Agree
11.	The illegal refining of crude oil pollutes the air in your	3.49	0.54	Agree	3.33	0.70	Agree

	communities so most residents who are supposed to stay back and develop the communities leave for cities to avoid illnesses.						
12.	The constant invasion of security forces to communities to fight illegal refining creates insecurity that makes people leave for safer environments.	3.45	0.56	Agree	3.29	0.66	Agree
13.	Illegal crude oil refining exposes community members to health issues that make it difficult for them to maximize their potentials.	2.83	0.95	Agree	3.45	0.53	Agree
14.	Illegal crude oil refining creates disharmony among those who carry out the act and those who suffer the consequences in communities which makes it difficult for the people to come together for development purposes.	3.19	0.77	Agree	3.29	0.64	Agree
	Grand Mean	3.23			3.22		

The analyzed data on Table 2 revealed that majority of the respondents i.e. both leaders and members of community based organizations agreed with all the items on the table. This is evident in the mean scores of the items which are above the criterion mean of 2.50. With grand mean scores of 3.22 and 3.15 for leaders and members of CBOs respectively, the answer to research question two is that illegal crude oil refining impact on social development in Okrika Local Government Area of Rivers State by increasing tension and insecurity in the area, increasing rate of school dropouts, migration of people from communities and creating disharmony among community members.

VII. DISCUSSIONS AND FINDINGS

The result of the findings for research question one revealed that illegal crude oil refining impacts on economic development in Okrika Local Government Area of Rivers State by leading to loss of marine life, businesses, reduced investments and increased poverty level occasioned by increased cost of living. The corresponding hypothesis one revealed that there is no significant difference between the mean ratings of leaders and members of community based organizations on the impact of illegal crude oil refining on economic development in Okrika Local Government Area of Rivers State. This finding agrees with the findings of Baghebo et al (2012) which reported that in 2002, waste disposal and pollution by Warri Refining and Petrochemicals Company (WRPC) destroyed the fishing activities and reported that it caused a number of deaths among the Itsekiri indigenes through the consumption of contaminated seafood because a large section of the people living in the Niger Delta rely on fishing for their sustainable livelihood, as their major occupation, food and source of income. Similarly, Davies and Ekperusi (2021) reported that the fishery sector is suffering due to the destruction of fish habitat in the mangroves and highly persistent contamination of many of the creeks due to heavy metals transported during artisanal refining, making them unsuitable for fishing.

The result of the findings for research question two revealed that illegal crude oil refining impacts on social development in Okrika Local Government Area of Rivers State by increasing tension and insecurity in the area, increasing rate of school dropouts, migration of people from communities and creating disharmony among community members. The corresponding hypothesis two revealed that there is no significant difference between the mean ratings of leaders and members of community based organizations on the impact of illegal crude oil refining on social development in Okrika Local Government Area of Rivers State. This finding agrees with the findings of Albert, Amaratunga and Haigh (2018) which revealed that the impact of artisanal oil refining in the Niger Delta is tremendous and widespread covering biological, social (militancy, migration, and the rise of environmental refugees), and economic (nutritional deficiency and food shortages, destruction of traditional means of livelihood) aspects of both humans and the entire ecosystem. Environmental effects of artisanal refineries include pollution of air, water, soil, contamination of plants, fish, and animals with attendant health consequences following human consumption. To Gimah and Kobani (2024) Community education programmes have been utilised to foster human capital development and promote citizenship, especially in rural communities with concern socioeconomic issues such as oil refining.

VIII. CONCLUSION

Based on the findings of the study, it was concluded that illegal crude oil refining is a practice that is prevalent in Okrika LGA of Rivers State and it has impacted in no small measure to socio-economic development in the area. Economically, illegal crude oil refining has led to loss of marine life, businesses, and reduced investments and increased poverty level occasioned by increased cost of living. It has also impacted on social development in the area by increasing tension and insecurity in the area, increasing rate of school dropout, migration of people from communities and creating disharmony among community members.

IX. RECOMMENDATION

Based on the findings of the study, the following recommendations were made:

1. The Federal Government should establish modular refineries in the Niger Delta as promised by the previous administration. This will increase economic development in the area, deal with the shortfalls in refining of crude oil in Nigeria and reduce poverty in the region.
2. Traditional leaders, State and Local Governments should collaborate to reach individuals who carry out illegal crude oil refining and provide alternative source of income and human capacity development for them to reduce this practice and its impact on social development in the area.

References

- Albert, O. N., Amaratunga, D., and Haigh, R. P. (2018). Evaluation of the impacts of oil spill disaster on communities and its influence on restiveness in Niger Delta, Nigeria. Retrieved from 212, 1054-1061. <https://doi.org/10.1016/j.proeng.2018.01.136>.
- Amangabara, A., Obenade, O., Moses, N. & Gordon T. (2014). Socio-economic implication of oil theft and artisanal refining in the Niger Delta Region. *International Journal of Science*. 2 (1) 23-36.
- Amirize, B. (2008). *Understanding Human Environment*. Port Harcourt: Rokin Ent.
- Amirize, B. & Kobani, D. (2020). *Adult Educator as Disaster Manager*. Owerri: Beauty Concepts.
- Amnesty International. (2009). Nigeria petroleum pollution and poverty in the Niger Delta 143pp.
- Anifowose, B., Lawler, D., Van der Horst, D., and Chapman, L. (2014). Evaluating interdiction of oil pipelines at river crossings using Environmental Impact Assessments: evaluating interdiction of oil pipelines at river crossings. *Area*, 46, 4-17. <https://doi.org/10.1111/area.12065>.
- Baghebo, M., Samuel, U.P. & Nwagbara, E. N. (2012). Environmental damage caused by the activities of multinational oil giants in the Niger Delta region of Nigeria. *Journal of Humanities and Social Science*. .5 (1)09-13.
- Braskad O. G., Lofihus, S., Ribic ic, D., & Netzer R. (2017), Biodegradation of petroleum oil in cold marine environment, *Psychrophiles from Biodiversity to Biotechnology*, Springer, cham pp. 613-https://doi.org/10.1007/978-3-319-57057-0_27
- Chen J.,Zhang c., Wang Y., & Xu W. (2020), A longitudinal study of e impacting on aggression among, college students: The media role of cognitive reappraisal and expression suppression per.in div, *Differ*, 157,109839 <https://doi.org/10.1016/j.paid.2020.109839>.
- Davies, I. C., and Ekperusi, A. O. (2021). Evaluation of Heavy Metal Concentrations in Water, Sediment, and Fishes of New Calabar River in Southern Nigeria. *Journal of Limnology and Freshwater Fisheries Research* 7(3): 207-218. <https://doi.org/10.17216/LimnoFish.816030>.
- Dia, T. H. & Kobani, D. (2024). Role of Agricultural Extension Programmes in promoting food security in Akuku-Toru Local Government Area of Rivers State, *International Journal of Research Publications and Reviews*, 5(4): 286 - 296.
- Gideon Fako (2022), Nigeria's illegal oil refineries: what to know about how they are harming people & planet globalcitigen.org.

- Gimah, L.A. & Kobani, D. (2024). Community Education Programmes for discouraging crude oil theft in oil producing communities in Rivers State. *International Journal of Contemporary Academic Research*, 5(1): 53-68.
- Kobani, D. (2018). *Adult Education: Methods and Materials*. Port Harcourt: University of Port Harcourt Press.
- Kobani, D. & Alozie, K. (2019). *Essentials of Community Development in Nigeria*. Second Edition. Owerri: Beauty Concepts.
- Nigeria National Petroleum corporation (NNPC) (2014), <<http://www.nnpc.com/nnpcbusiness/upstreamventures/oilproduction.aspx>>
- Oyegun C. U., Ikezam P., Epharaim Ikechukwu Elenwo (2021) effects of artisanal refinery on the environment, public Health and Socio- Economic Development of communities in Niger Delta Region.
- Robinson D. (1996), Ogoni: the struggle continues Geneva world council of church
- Weidhold Karina & Bonnie L. Barber (2009), introduction to social and human development (number 1 Serial No. 55)

How to cite this article?

Kalio, E. I., & Kobani, D. (2024). Impact of Illegal Crude Oil Refining on Socio-Economic Development in Okrika Local Government Area of Rivers State, Nigeria. *INTERNATIONAL JOURNAL OF ADVANCE RESEARCH IN COMPUTER SCIENCE AND MANAGEMENT STUDIES*, 12(7), 151–157. <https://doi.org/10.61161/ijarcsms.v12i7.51>