

Illegal Refineries in Rivers State: Issues and Implications on the Environment

¹Jinyemiema, Tamuno K.; ²Badom, Felix Z.; ³Okoronkwo, Ngozi A.

¹Department of Mechanical Engineering Rivers State University, Port Harcourt

²Department of Electrical/Electronic Engineering Ken Saro Wiwa Polytechnic, Bori, Rivers State

³Department of Clinical Pharmacy and Pharmacy Administration Faculty of Pharmaceutical Sciences, Uturu, Abia State

Publication Date: 2025/02/06

Abstract: This paper examined the negative impacts of illegal oil refining and oil bunkering on the environment of Rivers State. The aim of this paper is to suggest possible measures in addressing these ugly human activities. The study used both quantitative and qualitative methods of research, using primary source for data collection. A total of 140 structured questionnaire was designed to elicit information from local residents in Gokana Local Government Area of Rivers State, Nigeria. Five riverine communities were purposively selected, 28 copies of questionnaire were administered to each community; the chief in council, the youth executives and the community development committee, out of it, 63 questionnaires were retrieved. The samples were conducted to ascertain the motives behind this persistence practice of illegal refinery and bunkering despite government position against it. The results show that Poverty, ignorance, greed, weak institutions to checkmate oil theft (also known as bunkering), lack of infrastructure and basic amenities that encourage small-scaled businesses in the region. It was discovered 48% some youth indulge in it due to frustration as there no employment opportunities, 21,8% are involved as a way life, 30% complain of natural livelihood being destroyed by oil activities in the ecosystem, the rest are involved due the peer influence. Less than 1% opined that illegal refinery is an emerging local technology. The paper suggests the government provide jobs and engage in youth empowerment programs in the region.

How to Cite: Jinyemiema, Tamuno K.; Badom, Felix Z.; Okoronkwo, Ngozi A. (2024). Illegal Refineries in Rivers State: Issues and Implications on the Environment. *International Journal of Innovative Science and Research Technology*, 9(12), 3117-3130. <https://doi.org/10.5281/zenodo.14810124>.

I. INTRODUCTION

The Niger Delta region of Nigeria is known for its vast oil and gas activities, as the multinationals continue their operation some local actors have also delved into oil theft and illegal bunkering. The word bunkering is used in the region to describe oil exploration and refining that is not officially approved by government. These operators act contrary to the existing laws of the land. According to local authorities; it is not limited to local actors, some persons within and outside the region are involved. Oil theft in Nigeria is facilitated by the pragmatic co-operation between security forces, militia organisations, the local population, and oil company employees who use a variety of methods to steal oil from the multinational oil corporations that are stationed within the country (Ibenegbu, George, 2018). Existing laws in the country most prohibits the locals from participating in crude oil trade, it is seen as exclusive preserve for government agencies, multinationals, privilege elites and powerful government officials, creating an apparent monopoly in the petroleum industry. This monopoly over the oil trade has prompted many local villagers to commit small-scale oil theft and to pursue the illegal refinery of stolen crude oil as means of entering into this unofficial economy (Emizet, Kisangani,

1998). Records show that 83% of total exports revenue come from the petroleum products revenue in Nigeria, the political and military elites have sought ways to consolidate their control of oil trade (OPEC, 2020). It is on this backdrop this tends to investigate the reason for the proliferation of illegal refineries in the Niger Delta using Gokana local government area of Rivers State as a case study. Gokana was chosen due to pollution rate as a result illegal refinery, youth involvement vis-à-vis the unemployment rate. It is also one the initial take off points of kpoo fire (as it is called locally) in the region. Illegal refining of crude oil has become a major occupation for some youngmen in the rural areas of the oil rich region. which depend on the land resources for their living. Rivers State is a critical state in the oil producing region due to its mineral benefits to the nation and it is situated in the Niger Delta which is the hub of oil activities in Nigeria with more networks of petroleum pipelines both in land surfaces and subsurface, which has adverse effects on the environment. Thus, creating social-economic problem of vandalism on the products pipelines for the purpose of stealing the products for survival reasons, Obenade and Amangabara, (2014). Decades of oil and gas activities in the state have gathered millions in dollars of revenue for Nigeria Government but, the majority of the people living in the state are unemployed and poor,

causing unrest in the region, this including degradation due to oil and gas exploration and exploitation activities.

Apart from human habitation, the environment consists of rainforests, fresh water swamp, brackish swamp forests and mangrove forest, that are also suffering from the illegal human activities that are causing damages to the environment. Despite the fact that Rivers State is rich in oil and gas deposits; it also has very rich fertile and diverse wetland vegetation, Yabrade, and Tanee, (2016).

However, in the Niger Delta, a large proportion of the wetland vegetation has been devastated by anthropogenic activities such as crude oil pollution over the years. It is estimated that crude oil theft (commonly called illegal bunkering) accounts between 200,000 to 300,000 barrels of crude oil daily lost in Nigeria; with a significant proportion of the stolen oil going into artisanal refining in make-shift facilities into low quality petroleum products, Anyanwu, et al, (2014). According to Attah, (2012) the inefficiency of the process is so high such that it is most likely that as much as 80% of the heavy end of the crude oil cannot be refined and are just discharged into the environment.

By implication, it is in the process of stealing the crude oil from pipelines and refining (artisanal refining) that great environmental and economic devastation is done to the environment. Artisanal refining activity is not new, but since the end of the militant crisis in Nigeria in 2009, the scale has grown beyond control, Attah 2014. The devastation results of this activity resulted in local communities losing their traditional means of livelihoods such as fishing and farming. The refining process may also pose serious health risks, Baruah, D. and Sarma, S. (1996). The UNEP reported several incidents of artisanal refining activity in Ogoni land. Fire accidents are also usually associated with this artisanal refining activity resulting in loss of human lives and further destruction of the ecosystem.

It is against this background, that this research into the illegal human activities and its implications on the environment in Rivers State in the Niger Delta region of Nigeria was undertaken, with a view to ascertain the remote drives for illegal oil refining in the state. In view of the above, the following questions were asked: what factors are responsible for oil theft in Rivers State? What are the cost implications of oil theft on Rivers State? What methods can aid reduction of crude oil theft in the state?

A. Oil Theft and Illegal Refining

Oil theft, also known as illegal bunkering/refining, is the act of hacking into pipelines to steal crude which is later refined or sold abroad (Ugwuanyi, 2013). It is an illicit trade that involves the theft of crude oil and its derivative products through a variety of mechanisms. Asuni (2009) refers to oil theft as oil taken from pipelines or flow stations, as well as extra crude oil added to legitimate cargo that is not accounted for. In support of the above positions, Obasi (2011) asserts that “illegal oil bunkering” as used in Nigeria is a generic term encompassing not only unauthorized loading of ships

but also all acts involving the theft, diversion and smuggling of crude oil for refining benefits.

The import of the foregoing is that crude oil theft is any activity relating to the theft or sabotage of crude oil, facilities or installations in form of illegal bunkering, pipeline vandalism, fuel scooping, illegal refining, etc. Illegal oil bunkering/refining is the most commonly known form of oil theft and it involves direct tapping of oil, Odalonu (2015). Though oil bunkering is a necessity for maritime shipping within the maritime sector, it becomes an illegal human activity when it is carried out without requisite statutory licenses or valid documents, or in violation of the Nigerian maritime law.

B. The Operational Component of Oil Theft in the Rivers State

Oil theft is carried out at different levels and quantities; hence there are various methods in which oil theft operations are carried out in the state. The most popular method for stealing the crude oil is to puncture the pipeline conveying the product from one point to the other and tap it at the point where it had been punctured (Adegbite, 2013).

According to Asuni (2009), Katsouris and Sayne (2013) there are three operational methods of illegal bunkering and refining of oil theft in the State. These are: (1) a minor and small-scale pilfering of condensate and petroleum product destined local market; (2) direct hacking into pipelines or tapping with a hose from wellhead through practical removal of the ‘Christmas tree’, and (3) excess lifting of crude oil beyond the licensed amount, using forged bills of lading in partner with other agents. While the first is less significant in that it is conducted by local people who hide under the cover of violence in the area, the second category brings more technical sophistication into the business with the stolen product placed in small barges and taken straight into the sea where it is loaded into larger barges (mother ships) in return for money and weapons used to fuel violence, while the last category speaks solely about a spoilt system facilitated by official corruption in that it involves the use of forged bills of lading, “issued by a carrier to a shipper, listing and acknowledging receipt of goods for transport and specifying terms of delivery”.

C. Causes of Illegal Oil Refining in the State

There are various factors engendering the persistent thriving oil theft activities in Rivers State. According to Adegbite (2013) and Adisihi, E. al et (2017) there are many perceived reasons for engaging in crude oil theft. The reasons vary from the mundane to the absurd. They include (a) poverty; (b) ignorance; (c) greed; (d) lack of respect for national economic survival; (e) get rich Syndrome; (f) lack of gainful employment; (g) exploiting the loopholes in the criminal justice system to circumvent the law; (h) evolving culture of impunity from the wrong perception that some people are above the law; (i) weak institutional structure to checkmate criminals; (j) malice; and (k) bad governance (corruption, incompetency), just to mention a few.

Igbuku (2014) also identified some of the underlying causes of this scourge to include poverty, community-industry expectation mismatch, corruption, unemployment, ineffective law enforcement and poor governance. He adds that high unemployment, for instance has created a huge population of idle young people who are easily lured to oil related crimes.

These crimes in turn are reinforced in the absence of clear deterrent measures, arising from the non-prosecution of alleged perpetrator. In the same vein, Mernyi (2014) stated that: due to high levels of youth unemployment, armed ethnic militia, ineffective and corrupt law enforcement agencies and other state actors who are often part of an international syndicate. They argued that oil theft and pipeline vandalism continued to thrive in Nigeria in spite of government's efforts because of some vested interest of powerful persons involved in the business and the lack of political will to deal with it. They believed that the Nigerian leaders especially the political class is benefiting from illegal oil refining hence lack political will to confront it. They further argued that if the leaders are not benefiting directly or indirectly, they must have come up with measures or legislation to stop this illegal act''

As noted by Brock (2012), due to years of neglect, marginalization and underdevelopment of the State by the Federal Government and the Multinational Oil Companies (MNCs) operating in the state, rings of organized criminal groups, called "oil bunkers/illegal refiners" in our local parlance, has evolved in the creeks and along our territorial waters, who specializes in stealing, illegal refining and transporting of Nigeria's crude oil to the international black market. Similarly, Vidal (2013) stated that some communities in the state freely admit their role in the theft of oil but blame continuing poverty and pollution for their actions. "The government and oil companies are collecting our oil and we don't have jobs or money so we have to collect the oil and refine our own", says a man in the village of Bolo near where an illegal refinery was set up. Apparently, due to joblessness and poverty, the State youths see illegal oil refining as a legitimate business.

II. THE SOCIO-ECONOMIC AND ENVIRONMENTAL IMPACTS OF ILLEGAL OIL ACTIVITY

Oil theft and illegal refining activities leads to loss of revenues to the Nigerian Government and the oil firms that own the assets from which oil is stolen, pipeline vandalism, river and land pollution, environmental degradation, increased criminality and insecurity in the Niger Delta region. Consequently, hereunder is a discussion on the major impacts of oil theft refining using the following sub-heads.

- **Socio-Economic Losses to the Nigerian State:** Illegal refining of oil theft has been identified as the biggest threat to Nigeria's economy excluding corruption. Its socio-economic impacts include environmental degradation, loss of economic activities for the communities, loss of revenues to the government

resulting in inadequate funding for development initiatives, increased criminality in the state, lack of security due to illegal activities and infiltration of international collaborator and bad image for the country (Duru, 2013; Okere, 2013).

Also, due to the loss of oil revenue to these illegal refining activities, Nigeria is no longer selling enough crude oil to meet budgetary provisions. The government is failing to meet some of its obligation and domestic debt is rising rapidly. Ogbeifun (2014) noted that the negative impacts of vandalism and crude oil theft activities include the destruction of aquatic and farmlands, economic sabotage which explains the shortfall of Nigeria's 2014 budget from \$29.3 billion in 2013 to \$23.3 billion in 2014 and divestments by some International Oil Companies, IOCs, with attendant job losses thereby compounding the unemployment situation in the state. The colossal loss of revenue to illegal oil refining was succinctly captured by Gaskia (2013). Despite the different estimates quoted by different authorities, what we can draw is that the volume of stolen oil in Rivers State and Niger Delta region of Nigeria is enormous and these have significant adverse impact on socio-economic development of Nigeria.

Environmental Pollution and Degradation in the Rivers State: The process of breaking and tapping oil from oil installations may lead to the damage of oil pipelines; it causes many leaks that cause immense environmental degradation. An illegal crude oil theft activity involves breaking of pipelines and siphoning of crude oil products. This act invariably leads to oil facilities damages and oil spillage. Oil spillage causes degradation of the environment; it destroys farms lands and forests thereby reducing arable land for farming. Spills into water ways destroy marine and aquatic life, flora, fauna, resort centers and result in the pollution of potable water (Badejo and Nwilo 2007).

Oil theft activities and pipeline vandalism in the state compounds oil spillages from other sources and exacerbates the problem of environmental degradation and pollution of water-ways (Ogbuefin, 2007). Illegal crude oil theft activities are responsible for a large percentage of oil spills. Oil spills result in ground water poisoning, destruction of agricultural land, fishery and livestock and fast disappearing mangrove forests. Worse, the illegal oil refineries that dot the oil rich state see oil spilled everywhere soaking the ground with a mix of mud and crude that swallows the leg up to the knees. Many people in the Niger Delta region have complained that water from freshly sunk boreholes show evidence of oil contamination. This makes the water undrinkable even after some treatment. Also, some natives have been known to use or drink polluted water out of frustration and the negative effects cannot be over emphasized (Ufford, 2013; Alawode & Ogunleye, 2013).

In fact, farmland, fish ponds, rivers, etc., have been destroyed and rendered unviable for agriculture, fisheries and aquaculture. Thus, thousands of households and families of the State have been impoverished, or have become securely locked into poverty as a result of this scale of environmental

devastation (Gaskia, 2013). This devastation has left many communities further impoverished since their means of livelihood, fishing and farming, have been ruined by constant spills and leakages. Economic losses to the International Oil Companies: Attacks on oil production facilities have led to several shutdowns and declaration of force majeure by the International Oil Companies (IOCs), ultimately resulting in loss of revenue to the oil companies as well as the government (Alohan, 2013). The illegal activities of oil thieves in the State has led to several shut-ins and shut-downs of pipelines and crude oil production respectively by international oil companies and thus resulted in decline in production capacity as well as losses of revenues to the companies.

III. SCOPE AND METHODOLOGY

This paper essentially focuses on the activities of oil theft, illegal refinery and their effects on the environment in Rivers State. The study has both qualitative and quantitative approach. The qualitative method obtained responses from

local people on the basis of the impact of the pollution using the Likert five-point scale on the basis of very high, high, medium, low, and very low with respect to activities in the locality. On the quantitative approach, data were collected from primary and secondary sources. The secondary source is through review of relevant literature on the subject matter, while the primary data were obtained through structured questionnaire, designed to elicit information from respondents to address the salient objectives of the study. Gokana local government area was purposively sampled with specific attention to the five riverine communities because, the pollution rate in the selected area was quite high compared to others. 28 copies of questionnaire were administered to each riverine communities, 12 copies to the chiefs in council, 8 copies the youth the executives, and 8 copies to the Community Development Committee (CDC). Out of the 140 questionnaires, 63 were only successful retrieved.

IV. RESULTS

Table 1: Respondents to Questionnaire

Respondents					
		Frequency	Percent	Valid Percent	Cum Percent
Valid	Valid Response	63	45.0	45.0	45.0
	Invalid Response	77	55.0	55.0	100.0
	Total	140	100.0	100.0	

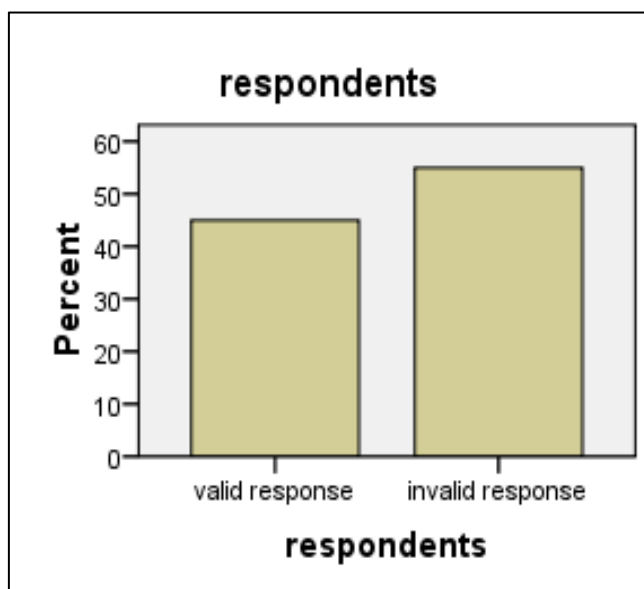


Fig 1: Responses to Questionnaires

A total of 140 questionnaires were targeted in this study. However, only 63 questionnaires were usable for this study

➤ Factors that is Responsible for Oil Theft in Rivers State:

The factors responsible for oil theft (otherwise known as bunkering) and illegal refineries were identified in the following order as presented below: poverty, greed, non-inclusion of youths in decisions making, unemployment, absence of youth empowerment schemes, ignorance, weak institutions, etc

• Poverty

Table 2: Showing Responses to Questions on Poverty-Oil Bunkering Relationship

		Freq	Percent	Valid Percent	Cum Percent
Valid	strongly disagreed	6	9.5	9.5	9.5
	disagree	8	12.7	12.7	22.2
	agreed	18	28.6	28.6	50.8
	strongly agreed	21	33.3	33.3	84.1
	neural	10	15.9	15.9	100.0
	Total	63	100.0	100.0	

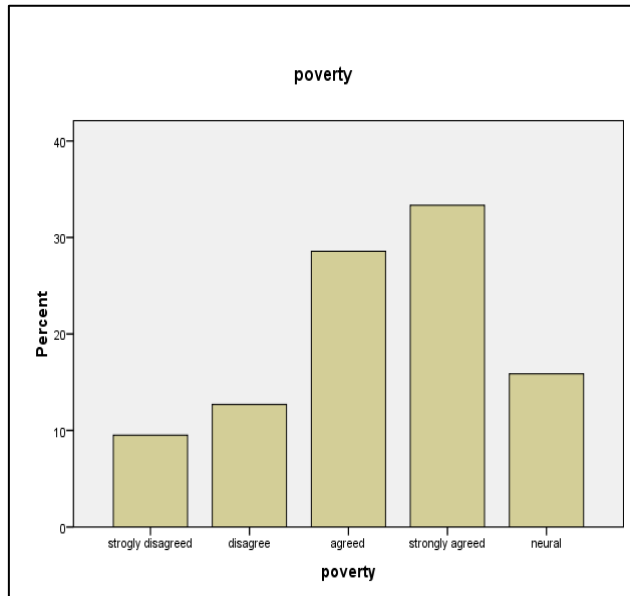


Fig 2: Influence of Poverty on Oil Bunkering

From the above analysis in the table above, majority of the respondents 33.3% strongly agreed that poverty is a factor responsible for oil theft in Rivers state 28.6% agreed, 15.9% rated neutral, 12.7% were disagreed and 9.5% were strongly disagreed.

Table 3: Relationship Between Ignorance and Illegal Refinery/Oil Bunkering

Ignorance				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	6	9.5	9.5	9.5
disagree	10	15.9	15.9	25.4
neural	18	28.6	28.6	54.0
agreed	20	31.7	31.7	85.7
strongly agreed	9	14.3	14.3	100.0
Total	63	100.0	100.0	

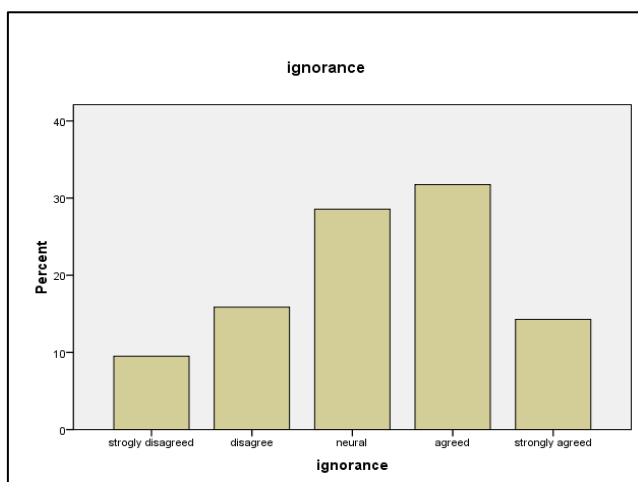


Fig 3: Relationship between Ignorance and Oil Bunkering

From the above analysis in the table above, majority of the respondents 31.7% agreed that ignorance is a factor responsible for oil theft in Rivers state 14.3% strongly agreed, 28.6% rated neutral, 15.9% were disagreed and 9.5% were strongly disagreed.

Table 4: Relationship Between Greed and Illegal Refinery/Oil Bunkering

Greed				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	7	11.1	11.1	11.1
disagree	9	14.3	14.3	25.4
neural	11	17.5	17.5	42.9
agreed	16	25.4	25.4	68.3
strongly agreed	20	31.7	31.7	100.0
Total	63	100.0	100.0	

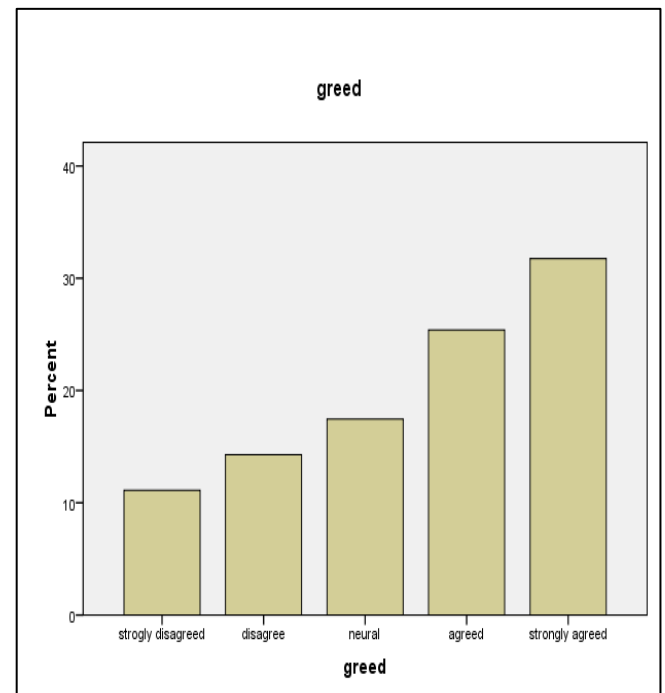


Fig 4: Relationship between Greed and Oil Bunkering

From the above analysis in the table above, majority of the respondents 31.7% strongly agreed that greed is a factor responsible for oil theft in Rivers state 25.4% agreed, 17.5% rated neutral, 14.3% were disagreed and 11.1% were strongly disagreed.

Table 5: Relationship Between Weak Institutions and Oil Theft

weak institutions to checkmate oil theft				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	10	15.9	15.9	15.9
Disagree	7	11.1	11.1	27.0
Neural	12	19.0	19.0	46.0
Agreed	27	42.9	42.9	88.9
strongly agreed	7	11.1	11.1	100.0
Total	63	100.0	100.0	

Table 6: Responses on Lack of Social Amenities and Oil Theft

Neglect by government to provide basic amenities to the region (electricity, good roads, good drinking water)				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	6	9.5	9.5	9.5
disagree	8	12.7	12.7	22.2
neural	19	30.2	30.2	52.4
agreed	24	38.1	38.1	90.5
strongly agreed	6	9.5	9.5	100.0
Total	63	100.0	100.0	

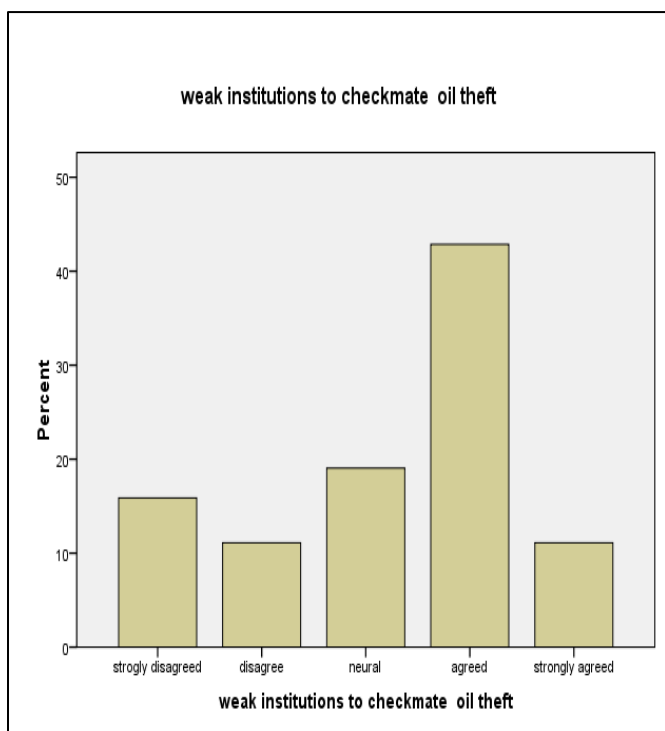


Fig 5: Relationship between Weak Institution and Oil Theft

From the above analysis in the table above, majority of the respondents 42.9% agreed that weak institutions to checkmate oil theft is a factor responsible for oil theft in Rivers state 11.1% strongly agreed, 19.0% rated neutral, 11.1% were disagreed and 15.9% were strongly disagreed.

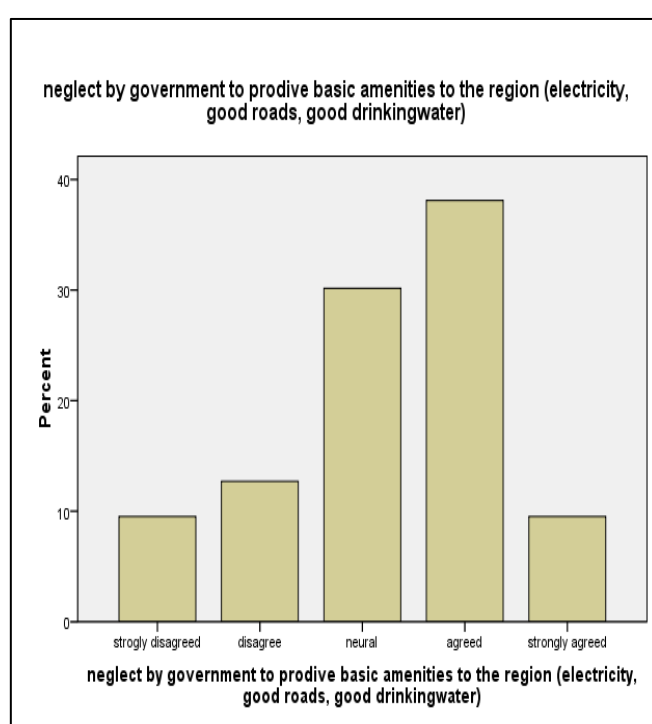


Fig 6: Influence of Lack of Social Amenities on Oil Bunkering

From the above analysis in the table above, majority of the respondents 38.1% agreed that neglect by government to provide basic amenities to the region is a factor responsible for oil theft in Rivers state 9.5% strongly agreed, 30.2% rated neutral, 12.7% were disagreed and 9.5% were strongly disagreed.

Table 7: Relationship Between the Need for Economical Survival and Oil Theft/Illegal Refinery

Lack of respect for national economic survival				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid disagree	8	12.7	12.7	12.7
Neural	16	25.4	25.4	38.1
Agreed	33	52.4	52.4	90.5
strongly agreed	6	9.5	9.5	100.0
Total	63	100.0	100.0	

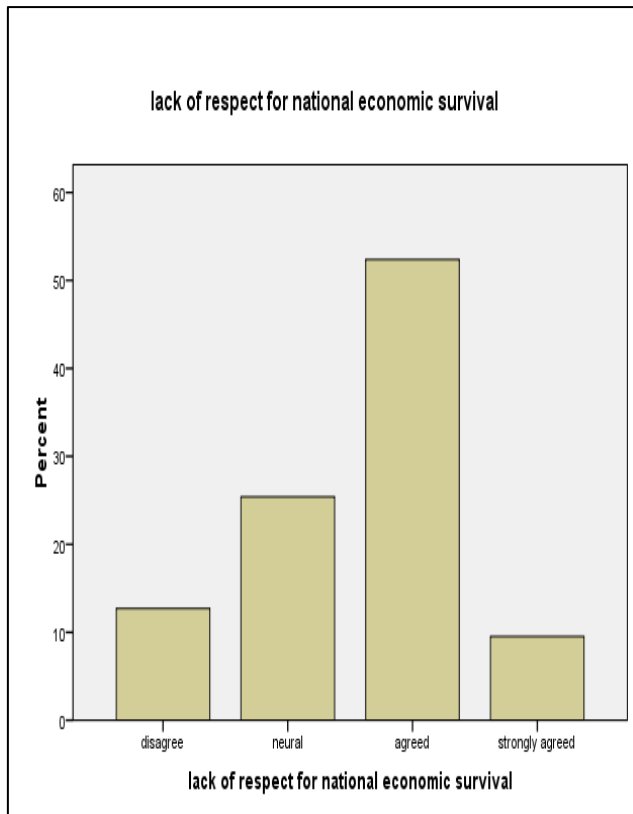


Fig 7: Need for Economic Survival and Oil Theft/Bunkering

From the above analysis in the table above, majority of the respondents 52.4% agreed lack of respect for national economic survival is a factor responsible for oil theft in Rivers state 9.5% strongly agreed, 25.4% rated neural, 12.7% were disagreed.

Table 8: Relationship Between Lack of Youths Empowerment and Oil Bunkering/Illegal Refinery

Lack of youth's employment				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	8	12.7	12.7	12.7
disagree	8	12.7	12.7	25.4
neural	12	19.0	19.0	44.4
agreed	34	54.0	54.0	98.4
strongly agreed	1	1.6	1.6	100.0
Total	63	100.0	100.0	

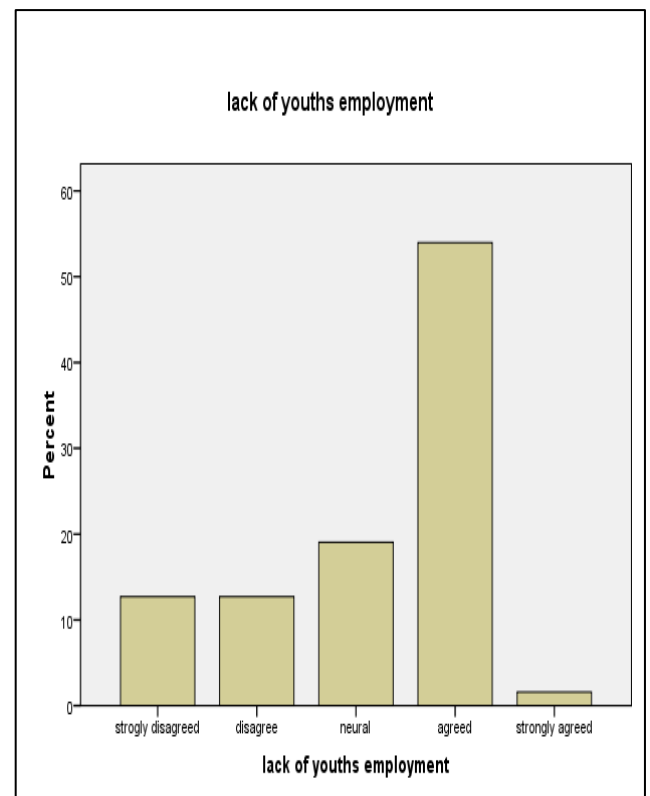


Fig 8: Lack of Youth Empowerment and Oil Theft/Bunkering

From the above analysis in the table above, majority of the respondents 54.0% agreed that lack of youths employment is a factor responsible for oil theft in Rivers state 9.5% strongly agreed, 30.2% rated neural, 12.7% were disagreed and 9.5% were strongly disagreed.

Table 9: Responses on Non-Inclusion of Youths in Decision Making

None inclusion of youths in decision making process				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	7	11.1	11.1	11.1
disagree	9	14.3	14.3	25.4
agreed	25	39.7	39.7	65.1
strongly agreed	22	34.9	34.9	100.0
Total	63	100.0	100.0	

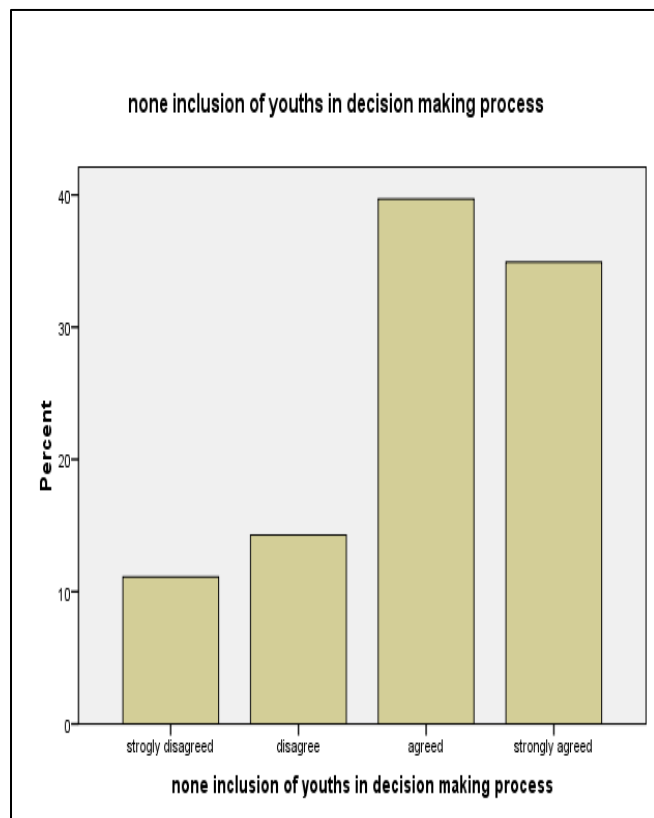


Fig 9: Non-Inclusion of Youths and Oil Theft/Bunkering

From the above analysis in the table above, majority of the respondents 39.7% agreed that none inclusion of youths in decision making process is a factor responsible for oil theft in Rivers state 34.9% strongly agreed, 14.3% were disagreed and 11.1% were strongly disagreed.

V. RESEARCH QUESTION TWO

➤ What are the Implications of Oil Theft in Rivers State?

Table 10: Responses on Effect of Illegal Refinery/Oil Bunkering on Aquatic Life

Extinction of aquatic life				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	5	7.9	7.9	7.9
disagree	10	15.9	15.9	23.8
agreed	18	28.6	28.6	52.4
strongly agreed	19	30.2	30.2	82.5
neural	11	17.5	17.5	100.0
Total	63	100.0	100.0	

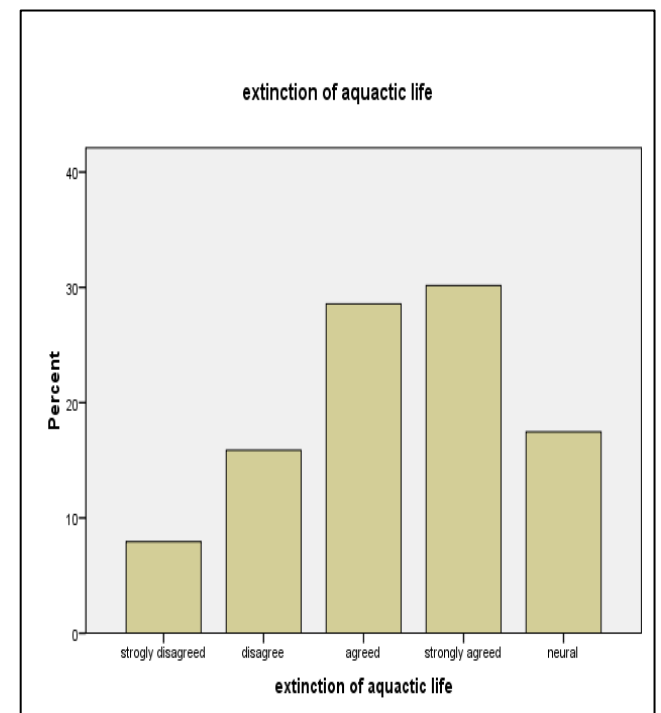


Fig 10: Effect of Oil Theft/Bunkering on Aquatic Life

From the above analysis in the table above, majority of the respondents 30.2% strongly agreed that extinction of aquatic life is an implication of oil theft in Rivers state 28.6% agreed, 17.5% rated neural, 15.9% were disagreed and 7.9% were strongly disagreed.

Table 11: Health Implications on the Activities of Illegal Refineries/Oil Bunkering

Air pollution leading to health challenges				
	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagreed	6	9.5	9.5	9.5
disagree	11	17.5	17.5	27.0
neural	21	33.3	33.3	60.3
agreed	14	22.2	22.2	82.5
strongly agreed	11	17.5	17.5	100.0
Total	63	100.0	100.0	

Table 12: Impact of Oil Bunkering/Illegal Refinery on Plants

Soil infertility leading to poor crop yield				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	5	7.9	7.9	7.9
disagree	10	15.9	15.9	23.8
neural	14	22.2	22.2	46.0
agreed	14	22.2	22.2	68.3
strongly agreed	20	31.7	31.7	100.0
Total	63	100.0	100.0	

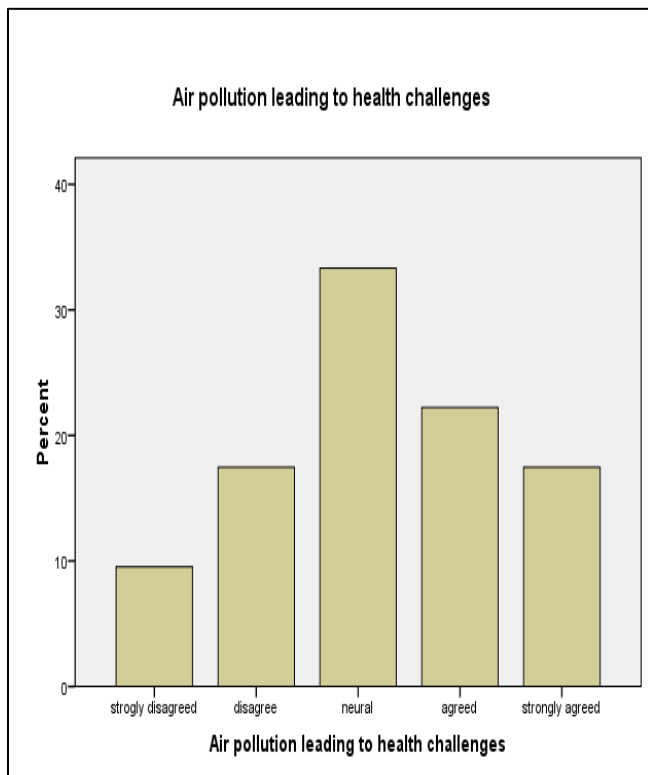


Fig 11: Health Implication of Oil Theft/Bunkering

From the above analysis in the table above, majority of the respondents 33.3% tick neutral to air pollution leading to health challenges as implication of oil theft in Rivers state 28.6% agreed, 15.9% rated neutral, 12.7% were disagreed and 9.5% were strongly disagreed.

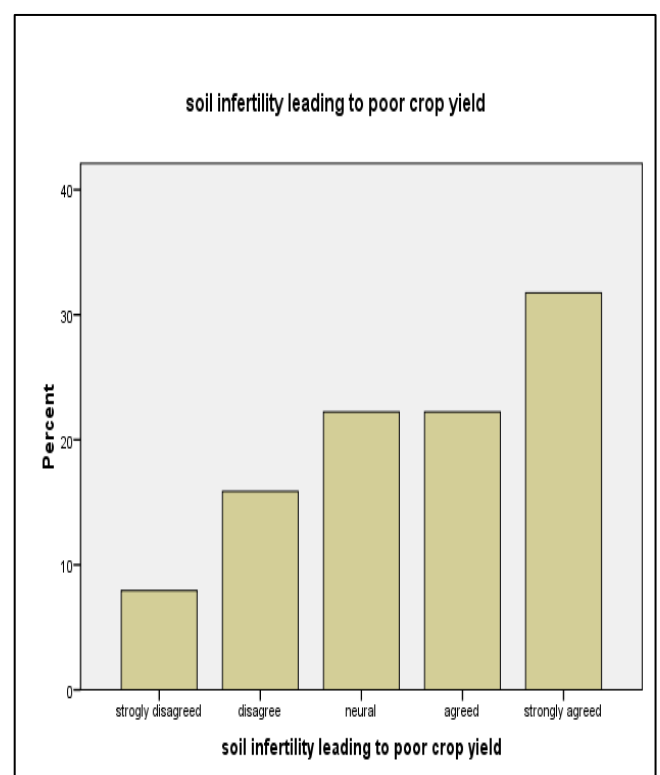


Fig 12: Effect of Oil Theft/Bunkering on Plants

From the above analysis in the table above, majority of the respondents 31.7% strongly agreed that soil infertility leading to poor crop yield as implication of oil theft in Rivers state 22.2% agreed, 22.2% rated neutral, 15.9% were disagreed and 7.9% were strongly disagreed.

Table 13: Effect of Oil Bunkering/Illegal Refinery on Ecosystem

Dilapidation of the ecosystem through the dysfunctioning of the food chain				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	9	14.3	14.3	14.3
disagree	3	4.8	4.8	19.0
neural	11	17.5	17.5	36.5
agreed	29	46.0	46.0	82.5
strongly agreed	11	17.5	17.5	100.0
Total	63	100.0	100.0	

Table 14: Effect of Oil Theft on OICs Profit

Decrease in profit of Nigeria, rivers state and oil multi-nationals through crude oil export				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	4	6.3	6.3	6.3
disagree	11	17.5	17.5	23.8
neural	21	33.3	33.3	57.1
agreed	20	31.7	31.7	88.9
strongly agreed	7	11.1	11.1	100.0
Total	63	100.0	100.0	

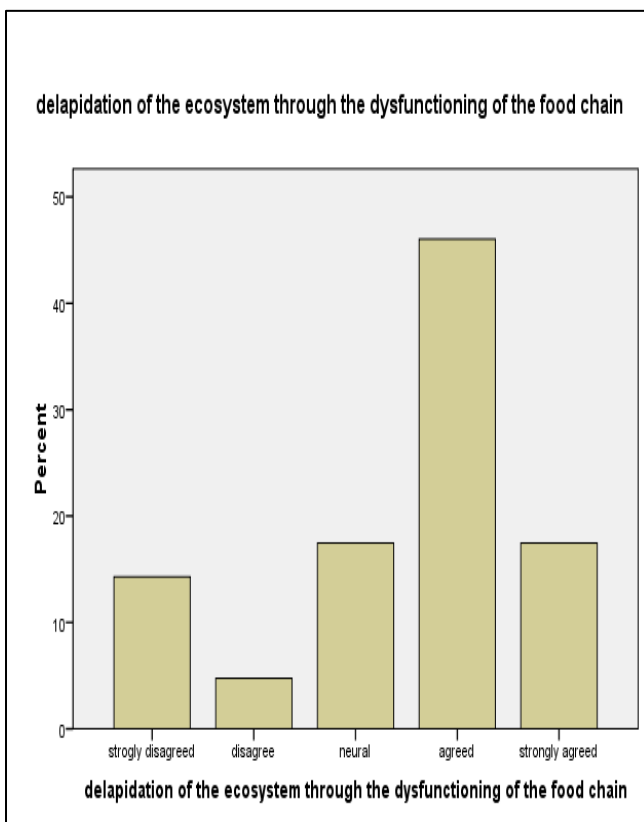


Fig 13: Effect of Oil Bunkering/Illegal Refinery on Ecosystem

From the above analysis in the table above, majority of the respondents 46.0% agreed that dilapidation of the ecosystem through the dysfunctioning through of the food chain as implication of oil theft in Rivers state 17.5% strongly agreed, 17.5% rated neural, 4.8% were disagreed and 14.3% were strongly disagreed.

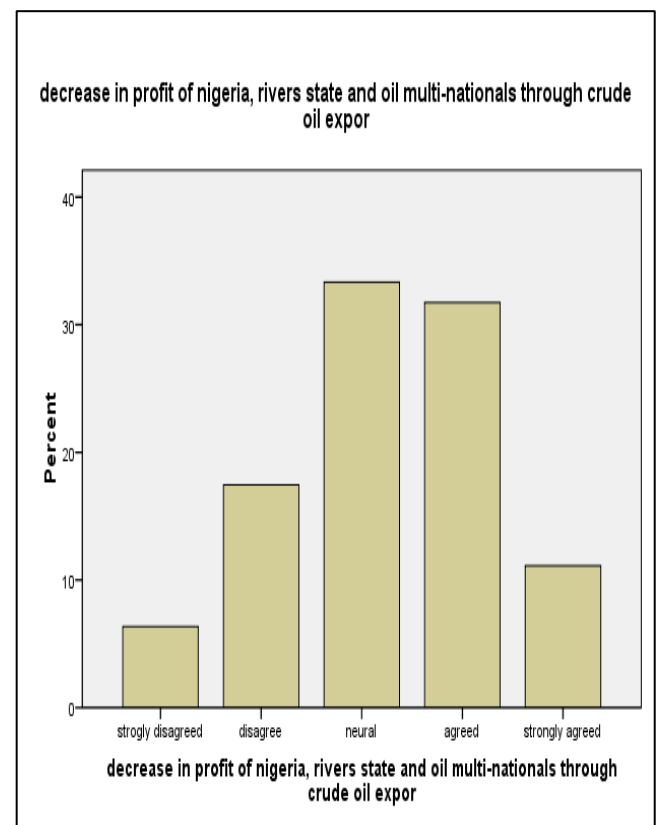


Fig 14: Effect of Oil Theft on OICs Profit

From the above analysis in the table above, majority of the respondents 33.3% tick neural that decrease in profit of Nigeria, River state and oil multi-nationals through crude oil export as implication of oil theft in Rivers state 11.1% strongly agreed, 31.7% agreed, 17.5% were disagreed and 6.3% were strongly disagreed.

VI. RESEARCH QUESTION THREE

➤ What Methods can Aid the Reduction of Crude Oil Theft in Rivers State?

Table 15: Respondents Views on Participation in Oil Refining

Establishing mini refineries to allow host communities participate in refining activities				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	4	6.3	6.3	6.3
disagree	13	20.6	20.6	27.0
agreed	10	15.9	15.9	42.9
strongly agreed	32	50.8	50.8	93.7
neural	4	6.3	6.3	100.0
Total	63	100.0	100.0	

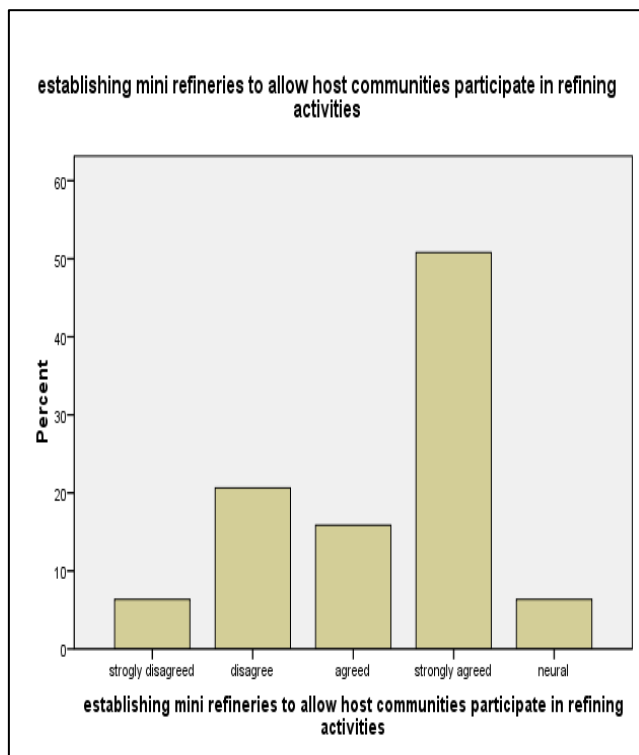


Fig 15: Respondents Views on Participating in Oil Refining

From the above analysis in the table above, majority of the respondents 50.8% strongly agreed that establishing mini refineries to allow host communities participate in refining activities as methods of reduction of oil theft in Rivers state 15.9% agreed, 6.3% rated neural, 20.6% were disagreed and 6.3% were strongly disagreed.

Table 16: Opinions on Provision of Basic Amenities

Provision of good roads, water and electricity				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	6	9.5	9.5	9.5
agreed	10	15.9	15.9	25.4
strongly agreed	40	63.5	63.5	88.9
neural	7	11.1	11.1	100.0
Total	63	100.0	100.0	

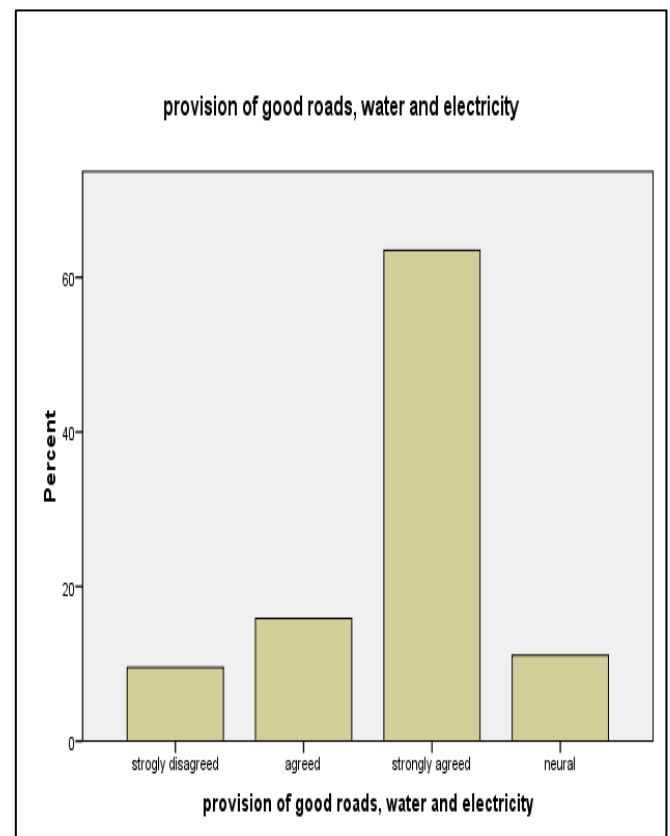


Fig 16: Opinions on Provision of Basic Amenities

From the above analysis in the table above, majority of the respondents 63.5% strongly agreed that provision of good roads, water and electricity as methods of reduction of oil theft in Rivers state 15.9% agreed, 11.6% rated neural, 19.0% were disagreed and 6.3% were strongly disagreed.

Table 17: Involvement of Community Personnel on Facility Monitoring and Protection

Involvement of host communities in monitoring oil facilities				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagreed	1	1.6	1.6	1.6
disagree	2	3.2	3.2	4.8
agreed	21	33.3	33.3	38.1
strongly agreed	32	50.8	50.8	88.9
neural	7	11.1	11.1	100.0
Total	63	100.0	100.0	

Table 18: Effect of Education on Reducing Illegal Refining and Pollution

Embarking on massive education on the negative effects of crude oil theft				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagreed	4	6.3	6.3	6.3
disagree	12	19.0	19.0	25.4
agreed	13	20.6	20.6	46.0
strongly agreed	33	52.4	52.4	98.4
neural	1	1.6	1.6	100.0
Total	63	100.0	100.0	

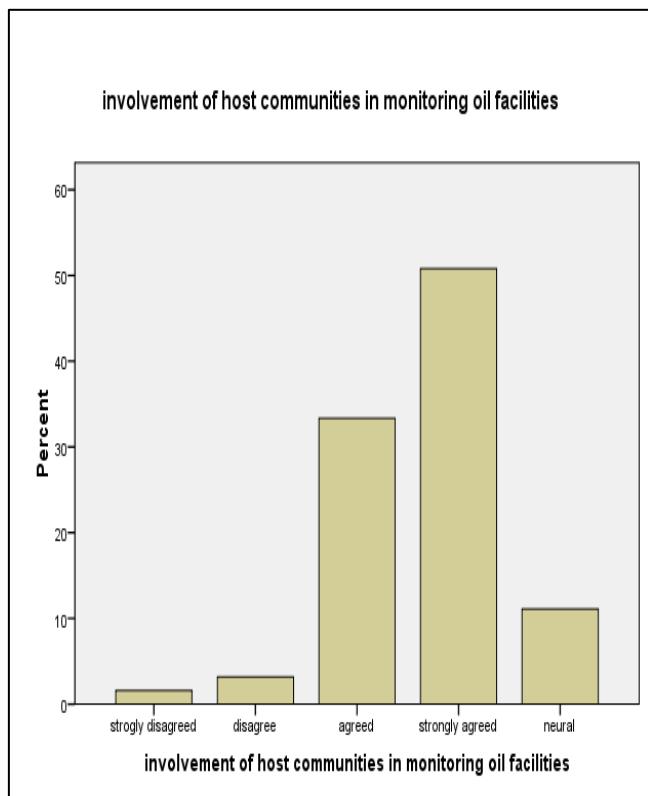


Fig 17: Involvement of Community Personnel on Facility Protection

From the above analysis in the table above, majority of the respondents 50.8% strongly agreed that involvement of host communities in monitoring oil facilities as methods of reduction of oil theft in Rivers state 20.6% agreed, 1.6% rated neutral, 19.0% were disagreed and 6.3% were strongly disagreed.

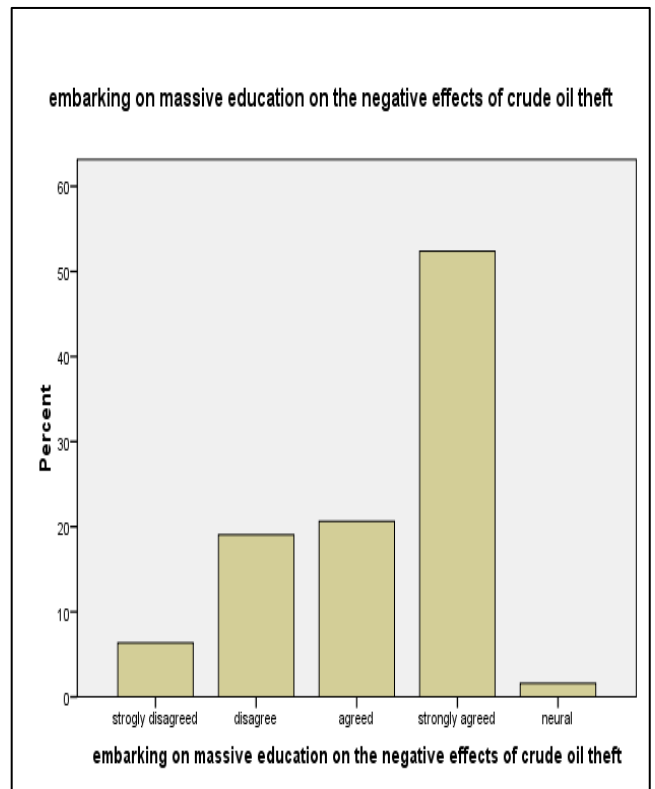


Fig 18: Effect of Education on Reducing Illegal Refining and Pollution

From the above analysis in the table above, majority of the respondents 52.4% strongly agreed that embarking on massive education on the negative effects of crude as methods of reduction of oil theft in Rivers state 20.6% agreed, 1.6% rated neutral, 19.0% were disagreed and 6.3% were strongly disagreed.

VII. DISCUSSIONS

From table 2 above, majority of the respondents 61.9% agreed that poverty is a major factor responsible for oil theft and illegal refining of crude oil in Rivers state, 15.9% are neutral, 22.2% disagreed. Most enlighten respondents thinks less of poverty whereas most residents in the communities sees it as a major cause. Responses in Table 3 shows that 46.0% agreed that ignorance is a factor responsible for oil theft in Rivers state, while 28.6% remain neutral, but 25.4% disagreed. From the analysis in the Table 4, about 54.0% respondents agreed that weak institutions to checkmate oil theft is a factor responsible for oil theft whilst 19.0% are neutral, 27.0% disagreed. Another factor that was researched into is greed of the people, the analysis in Table 5, shows that respondents 57.1% agreed that greed is a factor responsible for oil theft in the State whilst, 17.5% remain neutral, 25.4% disagree with this viewpoint.

Some community members feel that neglect by government in providing basic amenities may have contributed to this act, when this was put forward, the responses as shown in Table 5, shows that, respondents 38.1% agreed that neglect by government to provide basic amenities to the region is a factor responsible for oil theft in Rivers state, 9.5% strongly agreed, 30.2% rated neutral, 12.7% were disagreed and 9.5% were strongly disagreed. Again, responses from the questionnaires shows that 52.4% agreed lack of respect for national economic survival is a factor responsible for oil theft in the state 9.5% strongly agreed, 25.4% rated neutral, 12.7% were disagreed (see details Table 6). The trend in Table 7 indicates that 54.0% respondents agreed that lack of youths' employment is also a factor responsible for oil theft in the state 9.5% strongly agreed, 30.2% rated neutral, 12.7% were disagreed and 9.5% were strongly disagreed. From the analysis in Table 8 above, majority of the respondents 39.7% agreed that none inclusion of youths in decision making process is a factor responsible for oil theft in Rivers state 34.9% strongly agreed, 14.3% were disagreed and 11.1% were strongly disagreed. More youths support this viewpoint whilst some elders consider as less of a problem

The section last of the questionnaire looks at possible remedies. From the analysis in Table 15, it was observed that majority of the respondents 50.8% strongly agreed that establishing mini refineries to allow host communities participate in refining activities will reduce oil theft in the Region; 15.9% agreed, 6.3% are neutral, 20.6% disagreed and 6.3% strongly disagreed with this viewpoint. From analysis in Table 10 above, 63.5% of respondents strongly agreed that provision of good roads, water and electricity may reduce oil theft in region, 15.9% agreed, 11.6% are neutral, while 19.0% and 6.3% disagreed and strongly disagreed respectively.

The analysis in Table 16, majority of the respondents 50.8% strongly agreed that involvement of host communities in monitoring oil facilities as methods to checkmate oil theft will yield positive results, 20.6% agreed, 1.6% remain neutral, whilst 19.0% disagreed and 6.3% strongly disagreed. Table 18 analysis show strong support for massive education

of youths in communities as a panacea for the menace, majority of the respondents 73.0% agreed that embarking on massive education on the negative effects of crude will reduce oil theft in the state, 1.6% are neutral, while 25.3% disagreed.

VIII. CONCLUSION

Illegal oil refineries and oil bunkering (oil theft) have eaten deep into our region based on some factors as identified in this research. Prominent factors encouraging these activities are poverty, ignorance on the effect of air pollution on human health, none inclusion of indigenous people in the oil business, lack of education of local people, neglect of communities in the distribution of amenities, absence of youth empowerment programs and non-inclusion of youths in decision making. It is so challenging to curb because, according to most respondents, the institutions saddled with the responsibility of handling this ugly trend are weak to enforce it. About 67% of respondents believe that involving in the oil business either as direct employees or contractors to major production company will reduce this act of bunkering. Education of the locals was massively support in this research, 73% of local agreed that it will help in checking illegal activities in the oil and gas sector in the region

Government in collaboration can provide some infrastructures that can engage the youths in other areas of endeavour. Most respondents (about 69% agreed) that providing such infrastructure can divert some youths' attention to other areas of life. According some youths, they are into the act due to frustration. The qualitative aspect of this research discovered a disparity between the respondents who are leaders from the common people in the communities, especially as it affects poverty, neglect and provision of basic amenities. The elite believe, it is not as serious as being presented by the rural population, but both the youths and the locals believe that they are major factors responsible for the continuous involvement of the locals in these two activities.

REFERENCES

- [1]. Adisihi, E, Hunga, O. (2017) Oil Theft, Illegal Bunkering and Pipeline Vandalism: it's Impacts on Nigeria Economy, 2015-2016, www.iiardpub.org, ISSN 2489-0065 Vol,3 No.2,2017.
- [2]. Alohan, J. (2013). Crude Oil Theft: Act of Terrorism or Lack of Political will? Leadership.
- [3]. <http://www.leadership.ng/news/10/1/13> [Retrieved October 9, 2018].
- [4]. Attah, T (2012). Oil theft and artisanal (illegal) refining in Nigeria – scale, impacts and the need for a multidimensional response Chatham House – Gulf of Guinea Security Conference, London. December 6, 2012.
- [5]. Asuni, B. J. (2009). Blood Oil in the Niger Delta Special Report. Washington; United States Institute of Peace. <http://www.usip.org> [Retrieved October 10, 2018]
- [6]. Brock, J. (2012). Rampant Oil Theft Ravages Nigeria's Delta. Chicago Tribune, June 4, p.67. [Retrieved August 30, 2018]

- [7]. Duru, A. E. (2013). Addressing oil theft, illegal bunkering in Niger Delta. Daily Independent. November 29. <http://www.dailindependent.com/2013/11> [Retrieved September 15, 2018]
- [8]. Gaskia, J. (2013). Crude Oil theft, Organized Crime, The Niger Delta Environment and The National Economy. Sahara Reporter. August 19 [Retrieved October 11, 2018]
- [9]. Igbuku, A. (2014) Crude Oil Theft and Illegal Refining in the Niger Delta. Delta State Oil and Gas Stakeholders'Conference, Tuesday, April 15, 2014. Retrieved October 8, 2018 from <http://www.reformeronline.com/crude-oil-theft-and-illegal-refining-in-the-niger-delta> [Retrieved October 8, 2018]
- [10]. Mernyi, D. (2014). Crude Oil Theft, Pipeline Vandalism Cross Over To 2014. The Sun, January 1. <http://www.sunnewsonline.com/new/specials/abuja-metro/crude-oil-theft-pipelinevandalism-cross-2014/> [Retrieved October 10, 2018]
- [11]. Obenade, M. & Amangabare, (2014) The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria; International Journal of Science and Research (IJSR) ISSN 2319-7064.
- [12]. Ogbeifun, B. (2014). Why Nigeria should not treat oil theft with kid gloves—Ogbeifun.
- [13]. Vanguard in Sweet Crude, January 7. July 15. <http://www.vanguardngr.com/2014/01/nigeria-treat-oil-theft-kid-gloves-ogbeifun/> [Retrieved October 9, 2018]
- [14]. Okere, R. (2013). Curtailing Oil Theft, Illegal Bunkering via Legislation. The Guardian August 21. [Retrieved August 15, 2018]
- [15]. Ufford, J. (2013). Niger Delta Environment Degradation: when oil theft, illegal bunkering take centre stage. Vanguard. September 3. [Retrieved October 9, 2018]
- [16]. Ugwuanyi, E. (2013). Oil theft: Endless Search, for Solution the Nation March 26, P.17. [Retrieved October 10, 2018].
- [17]. UNEP (2011). Environmental Assessment of Ogoniland, Nairobi, Kenya: United Nations Environment Programme.
- [18]. Shell International Limited [SPDC] (2012). Oil Theft and Artisanal Refining in Nigeria – scale, impacts and the need for a multi-dimensional response. Chatham House – Gulf of Guinea Security Conference, London.
- [19]. Shell Petroleum Development Company of Nigeria Limited [SPDC] (2010). Annual Report. TELL Magazine, Special Edition, February 18, 2008.
- [20]. Ibenegbu, George (2018). Top 10 list of oil and gas companies in Nigeria: *Legit.ng-Nigeria news, archived. Retrieved 2019/4/29*
- [21]. OPEC: Nigeria. www.opec.org. Archived from the original on 2020/12/14. Retrieved 2024/12/27
- [22]. Emizet, Kisangani (1998). Confronting Leaders at the apex of the state; The growth of the unofficial economy in Congo.
- [23]. African studies review 41(1):100