



The Effects Of Oil Spillage in Opuama Kingdom in Southern Ijaw Local Government Area, Bayelsa State

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ABSTRACT

This research work focused on the effect of oil-spillage in Opuama Kingdom Southern-Ijaw Local Government area, Bayelsa State. It aims at finding out whether oil-spillage as the major environmental pollution in Bayelsa State, Specifically the study area in the purpose of the study four communities were purposely selected in Opuama Kingdom, with a population of 160 and the sampling size of the population is 140, structure questionnaire were used for data collection also interview method were also applied. And data collected were presented in simple tables and percentage, the researcher used chi square (4 for the statistics measure of the study. The researcher recommends that, there should be constant environmental monitoring agent also providing a relief to the bearing communities by assisting them in their social economic well-being lastly implement laws or policy against oil-spillage. The result of this study shows that oil-spillage immensely and tremendously affect the environment.

Keywords: Crude oil, Oil-spillage, Environment, Pollution, Government.

INTRODUCTION

Oil spillage as a concept has severally been criticized on its effect to human and the conglomerate society. In recent years, tremendous attention has been directed towards environmental deterioration by means activities which adversely affect the lives of plants and animals in land, water and air and even livelihood of people (OECD, 1976). One activity that has aroused considerable interest across the globe and especially in oil producing countries like Nigeria especially in the Niger Delta region is crude oil exploration. Oil spillage is the release of liquid petroleum, hydrocarbon into the environment especially mariners area, due to human activities (Wout, 2015). Crude oil exploration is one of such activity that can affect the environment negatively especially when accidents occur in operations resulting to spillage oil. As a result of the impacts of crude oil exploration across the globe to prevent the high risk of oil spillage and accompanying environment hazards (Ojakorotu and Gilbert, 2010).

However, the exposure to risk has not been helped by the players in the oil industries who justly for the "liquid gold" thereby putting pressure in the oil producing communities and the surrounding environment. According to Egwe, (2012) that one of the factor that cause discharge of oil to the environment is the unethical engineering operations practiced by the industries involved. The communities have remained grossly socio-economically under develop and pauperized amidst the immense oil wealth owing the systematic disequilibrium the producer. Exchange relationship between the state, the trans-multination company and the people. Enormous money had been derived from oil export but the area has been subjected to several land degradations, socio-economic disorganization, increasing poverty, misery

militancy occupations, and boldly violence. Oil extraction has impact most disastrously on the socio-physical environment of the Niger Delta region, oil bearing communities massively threatening the fragile subsistence peasant economy and biodiversity and hence their entire social livelihood and very survival (Moore, 1978).

The socio and environment cost of oil production have been extensive they include destruction of Wildlife and biodiversity, loss of fertile soil, pollution of air and drink water, degradation of farmland and damage to adequate ecosystem, all of which include cause serious health problem for the inhabitants of areas surrounding oil production. The occurrence of spillage oil in Nigeria is frequent. Oil spillage was reported in Bayelsa state in southern Ijaw Local Government in Opuama Kingdom, (2002) respectively. Which led to pollution of the water, thereby making it not navigable for fishers and carrying economic activities and killing fishes in the river. The oil spill of the Exxon Valdez oil spill which occurred in Prince William sound, Alaska, on March 24, 1989 with an estimated crude oil spill of 260,000 to 750,000 barrels. And the recent and renounced oil spillage in Ogoni land which enormously affected land, lives, and buildings (Egwe, 2012).

A result of the lessons learnt from these and other spill, the prevention, response and management of oil spill is being given top priority worldwide especially in oil producing countries such as Nigeria in order to circumvent the economic and environmental hazards in order oil spill. To this end, several initiatives is to make and enforce laws and control of oil spills. it is however curious that in most developing oil Producing nation including Nigeria, the management of oil discharge even after so many years of petroleum exploration and production in the number of spillage occurrence. This has caused the government to resolve to grossly inadequate measure of the monetary compensation top make the victims of oil spill rather than concerning itself with the more appropriate solution of prevention and management to safeguard the environment, society and economy from the menace that is an oil spill.

The incredible well-endowed ecosystem contains one of the highest concentration of biodiversity on the planet in addition to supporting abundant flora and fauna, arable terrain that can sustain a wide varieties of crops lumbers or agriculture in West Africa. Oil spill area common event in Nigeria. Half of oil occur due to pipeline and tanker accidents (50%). Other causes include sabotage (20%) with 1% spill been accounted for by inadequate or non-functional production equipment and oil production operation (21%). Corrosion of pipeline and tankers is the rupturing or leaking of old production infrastructures that often do not receive inspection and maintenance. Sabotage and theft through the siphoning has become a major issue in the Niger Delta as well contributing to further environmental degradation. Damage lines may go un-notice for the days and repair of the damage pipes takes even longer. Oil siphoning has become a big business, with the stolen oil quickly its ways onto the black market while the popularity of selling stolen oil increase, the number of death are increasing, late December, 2006 more than 200 people were killed in the Lagos region of Nigeria in an oil line exploration. Nigeria regulations of the oil industries are weak and really enforced allowing, in essence, the industry to self-regulate. Oil spillage has a major impact in the ecosystem into which it is release and may constitute ecocide (Egwe, 2012). Immense tracts of the mangrove forests which especially susceptible to oil mainly because it is stored in the soil and released annually during remediation have been destroyed. As estimation of 5 to 10% of Nigeria mangrove ecosystem have been wiped out either by settlement. There are a lot of environmental problem in Nigeria such as desert encroachment wild life depletion, pollution, flooding, land and water and air pollution among others. The exploitation of oil in the Niger Delta region has brought to bear oil spillage and to its numerous effects. Hence, this study tries find out the cause and effect of oil spillage and environment remediation measure of oil companies in the area.

The aims of the study is to investigate the cause and effect of oil spill in Opuama Kingdom in Southern Ijaw Local Government Area of Bayelsa State and to identify the suitable management and remediation systems for control of oil spillage so as to reduce oil spill in the region of Nigeria.

The following are the objectives of the study:

1. To assess the various cause of oil spill in Opuama Kingdom in Southern Ijaw local government area of Bayelsa state.

2. To examine the effect of oil spill on the environment.
3. Identifying the main factors affecting the effectiveness of management systems to reduce oil spill in the region.
4. To ascertain the management system used in controlling oil spill in the region.
5. Proffering suitable management systems and providing recommendation to improve the management of oil spillage in the region.

Research Hypothesis

Ho: Oil spillage is not the major environmental pollution in Bayelsa state
Hi: Oil spillage is the major environmental pollution in Bayelsa state.

Study Area

Southern Ijaw is a local government area of Bayelsa State, Southern part of Nigeria. It's headquarters' is in the town of Oporoma in the northern part of the L.G.A. it is located on latitude $4^{\circ} 40' 36''$ to $4^{\circ} 67' 68''$ north and longitude $5^{\circ} 56' 50''$ to $5^{\circ} 94' 16''$ east of the Greenwich meridian longitude 0° . (see figure 1). Southern Ijaw has a land area of 268 km^2 approximated and a population of 319,413 persons (NPC Census, 2006) (National Pollution Census, 2015). Southern Ijaw L.G.A has a riverine and estuarine setting. A lot of her communities are often completely surrounded by water, hence making these communities inaccessible by road. The study area lies in the heaviest rainfall area in Nigeria with heavy rainfall almost all years round and a short dry season. The area's climate supports the cultivation of oil palm, cocoa rice, banana, yam, cocoyam, coconut, cassava, sugarcane etc. the amount of rainfall is adequate for a year round crop production. The vegetation of Southern Ijaw is composed of ecological zones which include coastal barrier island forest, mangrove forest, and fresh water swamp. The difference with various soil units in the area and they constituted part of the eco-systems. The socio-economic activities of the people in Southern Ijaw may be considered under three main headings namely, primary occupation, secondary occupations and tertiary occupations. The major traditional primary occupations include fishing, commerce and water transportation. However, crude oil exportation by multinational companies and the local crude oil refining, have since become the major sources of socio-economic activities in the area. The area also has higher educational institutions like the Niger Delta University (NDU) in Amassoma and Federal Polytechnic Ekowe, amongst others.

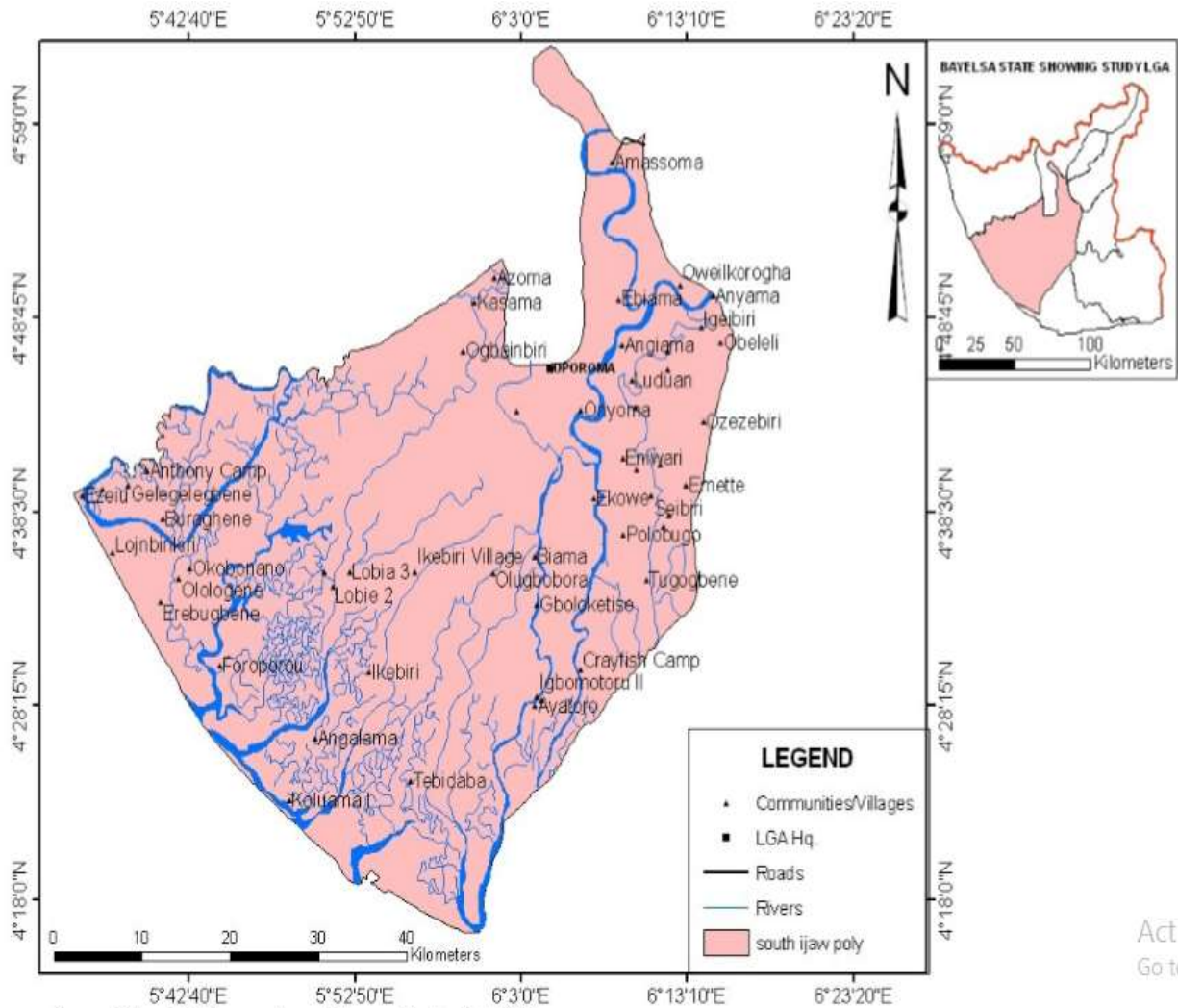


Figure 1: Map of Southern Ijaw Local Government Area

Source: Bayelsa State Ministry of Land and Housing

MATERIALS AND METHOD

The study adopted a survey research method purposive sampling technique was used for the selection of communities for the study. The reason for this is because, those communities near to these local refineries alone was chosen for the study. Opuama Kingdom is made of fourteen communities and four communities which include Akama-Ama, Oki-Ama, Kimen-Ama, and Ogile-Ama were selected for the study. A simple random sampling technique was used in the selection of the respondents. The instrument for the study is the questionnaire. The population of the study was one hundred and sixty. Forty questionnaire were distributed to each of the four communities in the area. The questionnaires were distributed to the respondents by the researcher with the assistance of the Communities Youth Presidents. They were retrieved for analysis and interpretation.

RESULTS AND DISCUSSIONS

This section is about the analysis and interpretation of data collected through the questionnaire administration to the respondents of the effect of oil-spillage in Opuama kingdom. The questionnaire were presented in two sections the demographic and basic question relevant for the study. Data collected

from the questionnaires are presented in table and percentage, analysis were done under each table the research used Chi-squared(X^2) statistical method in testing hypothesis a total of 140 questionnaires were administered.

Table 1: Distribution table

S/N	Name of community	No. of questionnaire distributed	No. of questionnaire retrieved	Percentage	No. unretrieved questionnaire	No of questionnaire & Analysis
1	Aka-Ama	35	30	23.1	5	
2	Oki-Ama	25	34	26.2	1	
3	Keme-Ama	35	32	24.6	3	
4	Ogile-Ama	35	34	26.2	1	
	TOTAL	140	130	100	10	130

from the above table it can be seen that the respondents were People of Opuama in the above selected communities number (No) of questionnaire distributed were 140, the percentage was 100% No. of questionnaire were not returned while 130 was presented and analyzed.

Analysis of demographic data question

Table 2: What is your sex?

Responses	Frequency	Percentage
Male	65	50
Female	65	50
Total	130	100

From the table above, it shows that out 130 respondents 65 respondents representing 50% were male while 65% respondents representing 50% were female.

Table 3: Age of respondents

Responses	Frequency	Percentage
19 –30	19	14.6
31 – 40	32	24.6
41 – 50	19	14.6
51 years & above	60	46.2
Total	130	100

From the table 4.2 represents the age of the respondents it was observed that out of 130 questionnaire collected 14.6% which comprise 19 respondents fall under the age bracket 19-30 and 24.6% or 32 respondents were between the age of 31-40 while 14.6% or 19 respondents were between the age 41 and 50 years, then- 46.2% or 60 respondents were from 51 years and above.

Table 4: Marital status of respondents.

Category	Frequency	Percentage
Married	65	50
Single	65	50
Total	130	100

From the table 4, it was observed that out of 130 collected 65 respondents are married while making up to 50% are single.

Table 5: Academic qualification

Responses	Distribution	Percentage
SSCE	60	40
FSLC	10	5
NCE/OND	35	20
HND/B.SC	40	25
OTHER	15	10
Total	130	100

The table 4.4 shows the distribution of education qualification base on 130 respondents. The table above has it that 40% obtained SSCE, 5% obtained F.S.L.C 20% obtained NCE/OND, 25% obtained HND/B.SC and other obtained 10%.

Table 6 Occupation of the respondents

Responses	Frequency	Percentage
Fisherman	30	23.1
Traders	10	7.7
Civil servant	20	15.4
Student	25	19.2
Farmers	40	30.8
Others	5	3.8
Total	130	100

From the table 6 it can be decided that out of 130 questionnaire collected 23.1% or 30 respondents are fisherman 7.7% or 10 respondents are traders 15.4% or 20 respondents are civil servant 19.2% respondents are students 30.8% respondents the farmers while 3.8% respondents represent the Colum for other 2.0%

Research Question One

Table 7: Poverty and Oil Spillage in Opuama Kingdom

Responses	Frequency	Percentage
Strongly agree	65	50
Agree	40	30.8
Disagree	20	15.4
Strongly disagree	5	3.8
Total	130	100

Table 7 it can be seen that 65 percentages out of 130 respondents they strongly agree that poverty is the main cause of oiiispillage in Opuama Kingdom 40 respondents or 30.8% Agree while 20 respondents or 15.4% disagree, that poverty is not the main cause of oil spillage 5 respondents or 3.8% strongly disagree,

Table 8: Illiteracy Rate and Cause of Oil Spillage

Responses	Frequency	Percentage
Strongly agree	50	38.5
Agree	65	50
Disagree	6	4.6
Strongly disagree	9	6.9
Total	130	100

From the table 8, 50 respondents or 38.5% said strongly agree 65 respondents or 50% said agree 6 respondents or 4.6% said strongly disagree 4.9% disagree.

Table 9 The negligence of oil company is the cause of oil spillage

Responses	Frequency	Percentage
Strongly agree	70	53.8
Agree	30	23.1
Disagree	24	18.4
Strongly disagree	6	4.6
Total	130	100

From table 9, it can be seen 70 persons out of 130 respondents strongly agree that the negligence of the oil companies is the major Cause of oil spillage, 23.1% said agree while 18.5% said strongly disagree and 6 respondents or 4.6% disagree. (See Plate 1).



Plate 1: Impact of oil spillage

Table 10: Boundary factor as a cause of oil spillage

Responses	Frequency	Percentage
Strongly agree	45	34.6
Agree	57	43.8
Disagree	8	6.2
Strongly disagree	20	15.4
Total	130	100

From the Table 10, Out of 130 respondents 45 respondents or 34.6% said strongly agree, 57 respondents or 43.8% said agree 8 respondents 6.2% are strongly disagree while 20 respondents or 15.4% disagree that boundary factors cannot lead to oil spillage.

Research Question Two

Table 11: The effect of oil spillage on cassava plant

Responses	Frequency	Percentage
Strongly agree	90	69.2
Agree	40	30.8
Disagree	-0	-0
Strongly disagree	-0	-0
Total	130	100

From table 11, it shows that 90 respondents or 69.2% strongly agree that oil spillage can destroy plant 40 respondents or 30.8% agree 0 respondents or 0% strongly disagree while 0 disagree.

Table 12: Effect of oil spillage of plant nutrients

Responses	Frequency	Percentage
Strongly agree	80	61.5
Agree	43	33.1
Disagree	2	1.5
Strongly disagree	5	3.1
Total	130	100

From the table above it can be deduced that 80 respondents or 61.5% strongly agree that oil spillage can affect plant nutrient, 43 respondents or 33.1%, agree with this, 2 respondents or 1.5% strongly disagree, 5 respondents or 3.9% also disagree. (See Plate 2).



Plate 2: Effect of Oil Spillage on Plants

Table 13: Effect on the oil spillage plant germination

Responses	Frequency	Percentage
Strongly Agree	10	7.7
Agree	2	1.5
Disagree	88	67.7
Strongly Disagree	30	23.1
Total	130	100

From the 13 table it can be seen that 10 respondents or 7.7% strongly agree that oil spillage can lead to plant germination 2 or 1.5% agree, 88 respondents or 67.7% strongly disagree to this while 30 or 23.1% also disagree.

Table 14: Effect of oil spillage on plant leaves

Responses	Frequency	Percentage
Strongly Agree	60	46.1
Agree	52	40
Disagree	4	3.1
Strongly Disagree	14	10.8
Total	130	100

From the table 14, Out of 130 respondents 60 respondents or 46.1% strongly agree that oil spillage can destroy plant leave 52 respondents or 40% agree to this while 4 respondents or 3.1% strongly disagree and 14 respondents or 10.8% disagree.

Research Questions 3

Table 15: Effect of gaseous emission on atmosphere

Responses	Frequency	Percentage
Strongly Agree	39	30
Agree	56	43
Disagree	24	18.5
Strongly Disagree	11	8.5
Total	130	100

From the table 15, it shows that 39 respondents or 30% strongly agree that the burning of spill oil affect the atmosphere 56 respondents or 43.5% agree to it and 24 respondents or 18.5% strongly disagree also 11 respondents 48.5% disagree to this.

Table 16: Oil spillage and its effect on precipitation

Responses	Frequency	Percentage
Strongly Agree	50	40
Agree	44	33.8
Disagree	24	18.5
Strongly Disagree	10	7.7
Total	130	100

The table 16, shows that 50 respondents or 40% strongly agree. 44 respondents or 33.8% agree to this where s 24 respondents or 18.5% strongly disagree and 10 respondents or 7.7% cannot encourage precipitation on atmosphere.

Table 17: The effect of burning of spillage oil to the Ozone

Responses	Frequency	Percentage
Strongly Agree	72	55.3
Agree	46	35.5
Disagree	9	6.9
Strongly Disagree	3	2.3
Total	130	100

From the table 17, it can be deduced that 72 respondents or 55.3% strongly agree that the burning of spill oil that affect the ozone layer 46 respondents or 35.5% agree with this, 9 respondents or 6.9% strongly disagree 3 respondents or 2.3% also disagree.

Table 18: Oil spillage on its effect to cloud formation on atmosphere

Responses	Frequency	Percentage
Strongly Agree	36	27.7
Agree	42	32.3
Disagree	30	23.1
Strongly Disagree	22	16.9
Total	130	100

From the table 18, Out of 130 respondents 36 respondents or 27.7% strongly agree that the spill oil on atmosphere is the major cause of cloud formation, 42 respondents or 32.3% agree to this while 30 respondents or 23.1% strongly disagree and 22 respondents or 16.1% also disagree to this.

Research Question 4

Table 19: The effect of spillage on aquatic animals

Responses	Frequency	Percentage
Strongly Agree	63	48.5
Agree	51	39.2
Disagree	12	9.2
Strongly Disagree	4	3.1
Total	130	100

From the table 19, it shows that 63 respondents or 48.5% strongly agree that oil spillage can affect the existence of animal's, 51 respondents or 39.2% agree to this whereas 12 respondents or 9.2% strongly disagree and 4 respondents or 3.1% disagree to this also.

Table 20: The effect of oil spillage on water lead to the multiplication of fishes

Responses	Frequency	Percentage
Strongly Agree	8	6.1
Agree	17	13.1
Disagree	72	55.4
Strongly Disagree	33	25.4
Total	130	100

From the table 20, it can be seen that 8 respondents or 6.1% strongly agree that oil spillage on water can lead to multiplication of fishes, 17 respondents or 13.1% also or 55.4% strongly disagree, 55 or 25.4% also disagree on this.

Table 21: Effect of oil spillage on aquatic animals lead to their extinction

Responses	Frequency	Percentage
Yes	98	75.4
No	32	24.6
Total	130	100

From the table 21, it can be deduced that out of 130 questionnaire, 98 respondents or 75.4% said yes, that spill oil can lead to their extinction while 32 respondents or 24.6% said no to this.

Table 22: The effect of spillage exposes aquatic animal to health issue and diseases

Responses	Frequency	Percentage
Yes	100	76.9
No	30	23.1
Total	130	100

From table 22, it clearly shows that out of 130 respondents 100 respondent or 76.9% said yes, while 23.1% said no to it.

Research Question 5

Table 23: Oil spillage and its physical remediation

Responses	Frequency	Percentage
Strongly Agree	37	28.5
Agree	50	38.5
Disagree	24	18.5
Strongly Disagree	19	14.5
Total	130	100

The table 23: show clear that out of 130 questionnaires 37 respondents or 28.5% strongly agree that physical remediation will give the lasting solution in Opuama kingdom 50 respondents or 38.5% agree to the while 24 respondents or 18.5% strongly disagree also 19 respondents or 14.5%

Table 24: The oil spillage and its burning give remediation

Responses	Frequency	Percentage
Strongly Agree	59	45.4
Agree	45	34.6
Disagree	20	15.4
Strongly Disagree	6	4.6
Total	130	100

From the table 24, it can be seen that 59 respondents or 45.4% strongly agree that the burning of oil give remediation 42 respondents 37.6% agree this whereas 20 respondents or 15.4% strongly disagree and 6 respondents or 4.6% disagree on this.

Table 25: Remediation and management require professionalism

Responses	Frequency	Percentage
Strongly Agree	70	53.8
Agree	48	36.9
Disagree	1	0.8
Strongly Disagree	11	8.5
Total	130	100

Out of 130 respondents 70 respondents or 53.8% strongly agree that the remediation and management required professionalism, 48 respondents or 36.9% agree. 0.5% respondents strongly disagree 11 respondents or 8.5% disagree.

Table 26: Oil spillage its remediation and management require money

Responses	Frequency	Percentage
Strongly Agree	67	51.5
Agree	40	30.8
Disagree	16	12.3
Strongly Disagree	7	5.4
Total	130	100

From the table it shows that 67 respondents or 51.5% strongly agree 40 respondents or 30.8% agree to this and 16 respondents or 12.3% strongly disagree, 7 or 5.4% disagree on this.

Test of Hypothesis

Chi-square test statistics (X^2) was used: this is to determine if there is existing significant different between the frequencies and research variables, Chi-square (X^2) is therefore, a measure of discrepancy expected frequencies between the observed and expected frequencies.

H_0 : Oil spillage is not the major environmental pollution in Bayelsa state

H_1 : Oil spillage is the major environmental pollution in Bayelsa state

Type of Respondents	Strongly Agree	Agree	Strongly Disagree	Disagree	Row Total
Oil spillage is the major environmental pollution in Bayelsa state	50	20	4	2	76
Oil spillage is not the major environmental pollution in Bayelsa	22	24	6	2	52
TOTAL	72	44	10	4	130

$$\text{Chi – Square}(X)^2 = \frac{(O - E)^2}{E}$$

calculated (X^2) -11.0522

Degree of freedom = (R-1) (C-1)
=3

Level of significance of 0.05 at a degree of freedom of 3 = 7.815

Decision

Since the calculated X^2 (11.0522) is greater than the tabulated X^2 (7.815) we then accept the (H_1) that Oil spillage it the major environmental pollution in Bayelsa state and reject the (H_0) that Oil spillage is not the major environmental pollution in Bayelsa state.

DISCUSSION OF THE FINDINGS

The discussions on the findings are presented in relation to the outcome of the study and the corresponding research questions. However, a total of 140 questionnaires were formed and 130 were finally received. Retrieved and analyzed. From the study it was agreed that environmental pollution is a great problem in Bayelsa state. From the research question 1 what are the causes of crude oil the Spillage in the study area.

The aim of this research question was to know the causes of oil Spillage at Opuama Kingdom in Southern Ijaw local government area, Bayelsa state. The data contained on table 7,8,9,10 answered this research question.

Table 8 indicate that 65 persons out of 130 respondents strongly agree, that poverty is the main cause of oil spillage of the study area, 40 or 31% respondents agree while 20 respondents of 11% disagree and 5 respondents or 3% strongly disagree.

Table 8, Indicate that 50 respondents or 40% out of 130 questionnaire collected said strongly agree, that high rate of illiteracy is the major cause of oil spillage in the study area. 65 respondents or 55% agree, while 6 respondents or 1% strongly disagree and 9 respondents or 4% disagree on this answer. Table 9, 70 respondents out of 130 questionnaires strongly agree that the negligence of the oil companies is the major cause of oil spillage, 30 or 20% said agree while 24 or 10.4% said strongly disagree and 6 respondents or 4.60% disagree.

Table 10, 45 or 37% respondents said strongly agree 57 respondents or said agree, 8 respondents or 4% strongly disagree and 20 disagree.

Research question 2: What are the effects of oil spillage on plant?

The aim of this research question was to know it the oil spillage cause a serious effect on plant in Opuama Kingdom. The data contained on the table 11,12,13,14 answer this research question.

Table 11, shows that 90 respondents or 70% strongly agree that oil spillage can destroy plant, 40 respondents or 30% agree, 0 respondent or 0% strongly disagree while 0 also disagree.

Table 12, from the table it shows 80 respondents or 57% said strongly agree that oil spillage can affect plant nutrient 43 respondents or 39% agree with this while respondents or 1% strongly disagree, 5 respondents or 3% also disagree. Table 13, it shows that 10 respondents or 5% strongly agree that oil spillage can lead to plant germination 2 or 1% agree while 88 respondents or 73% strongly disagree to this and 30 respondents or 21% also disagree.

Table 14, out of 130 respondents, 60 respondents or 47% said strongly agree that oil spillage can destroy plant leaves 52 respondents or 40% agree to this while 4 respondents or 2% strongly disagree and 14 respondent or 10% disagree.

Research Question 3: What are the effects of oil spillage on atmosphere?

The aim of this research question was to determine the effect of oil spillage on atmosphere. The data on table 15, 16, 17, 18 answer to this question. 39 respondents or 32% said strongly agree that the burning of spill oil affect the atmosphere, 56 respondents or 44.5% agree to it. And 24 respondents or 19% strongly disagree also 11 respondents 4.5% disagree on this.

Table 16, 50 respondents 43% strongly agree, 44 respondents or 40% agree to this whereas 24 respondents or 12% strongly disagree and 10 respondents or 5% said it cannot encourage precipitation on atmosphere.

Table 17, it can be deduced that 72 respondents or 59% strongly agree that the burning of the spill oil that affect the Ozone layer, 46 respondents or 31% agree with this, 9 respondents or 6% strongly disagree 3 respondent or 2% also disagree.

Table 18, 36 respondents or 28% strongly agree that the spill oil on atmosphere is the major cause of cloud formation, 42 respondents or 34.5% agree to this while 30 respondents or 20% strongly disagree and 22 respondents or 15.5% also disagree to this.

Research Question 4: What are the effects of oil spillage on aquatic animals?

The aim of this research question was to know if the oil spillage affects aquatic animals. The data on the table 19, 20, 21, 22 from the table 19 it shows that 63 respondents or 52% strongly agree that oil spillage can affect the existence of animals, 51 respondents or 40% agree to this whereas 12 respondents or 6% strongly disagree and 4 respondents or 2% disagree to this also.

Table 20, 8 respondents or 4% strongly agree, 17 respondents or 11% agree, while 72 respondents or 59.5% strongly disagree while 53 respondents or 25. 5% disagree that oil spillage on water can lead to multiplication of fishes.

Table 21, shows that 98 or 80 said Yes that oil spillage can lead to extinction of fishes and 32 or 20% said No to this. Table 22, Does the oil spillage exposes aquatic animals to health issues and diseases? From the table above it clearly shows that out of 130 respondents, 98 respondents or 80% said Yes while 32 respondents 20% said No to this.

Research Question 5: What are the environmental remediation and management techniques been place by the oil companies in the area?

The aim for this research question is ascertained the level of environmental remediation and management techniques been place by the oil companies in the area. The data contained on the table 23, 24, 25, answer this research question.

Table 23, 37 respondents or 29% said strongly agree that give the lasting solution in Opuama Kingdom and 50 respondents or 48% agree to this. While 24 respondents 15 strongly disagree also 19 respondent or 8%.

Table 24, 59 respondents or 48 strongly disagree that the burning of oil give remediation, 42 respondents 37% agree on this. Whereas 20 respondents or 1 1% strongly disagree and 6 respondents or 2% disagree on this.

Table 25, out of 130 respondents to respondents or 58% strongly agree that the remediation and management required professional, 48 respondents or 36% agree.

Table 26, it shows that 67 respondents or 54.5% strongly agree 40 respondents or 32.5% agree to this and 16 respondent or 9% strongly disagree on this and 7 or 4% disagree

Crude oil production is the largest and most profitable business in the world. From its development phases, to production phase, many disasters have occurred in oil industries. Oil spill is the most environment disaster which usually occurs. It has impact on human as well as on plants and wildlife, including birds, fish and mammals. The report of this study agrees with earlier studies by other researchers (Agbogidi et al. 2009) who reported the damage caused by crude oil to plants. Drilling human activities are the main cause of oil spill. The oil spill are hazardous to environment and also affect human health. The adverse effects been seen on soil, ground water, plants and atmosphere. Immediate actions are required the spill problem. Oil spill at any point may result into explosion and fire hazard. Effect were attempts have been made for the remediation of the soil. And cleaning, the water resources on onshore and offshore. In this review, some of the known and new method of remediation techniques has been disused to the oil spill problem economically. Remediation techniques for marines as well as onshore environment are available but still move advance research are required. New techniques like soil vapour extraction, degradation, bioremediation are major methods of soil remediation. Physical, chemical, the soil remediation is used for cleaning oil spill in marine environment. May government guideline and policies have also been discussed in this review which is made for national and international level to control and prevent of oil spill problems.

CONCLUSION

This research was undertaken to examine the effects of oil spillage in Opuama kingdom Southern Ijaw local government. From the study it is seen that oil spillage and gas flaring and indeed environmental degradation has gave effects in the environment especially in the area of study which ranges from its effect on land, water air to its effect in the entire outdoor environment. Apart from affecting the chemicals properties of the soil it also resulted to poor fertility or nutrient leading to poor crop productivity in the area as well as polluting of rivers and streams where fishing activities were carried out for subsistence us keep of the family.

RECOMMENDATIONS

1. The federal, government policy on zero flare by July 2008 should be put to place and not a mere policy statement. This could be done by the utilization of the gas being flared through re-injection process during oil production, and construction of gas plants for electricity generation and harness the flared gas for both private and commercial use.
2. There should be appropriate compensation by the multinational oil companies to the bearing communities also to see their socio-economic well-being. All the equipment used by oil companies should be u to date and modernized to international standards. Thus, a technology that

will enable complete confusion of the gases is important. This will reduce the production and decomposition of some nitrogen oxide, carbon, sulphur, and soot oxides.

3. There should be a constant environmental monitoring assessment and evaluation to determine the level of damage that is done by gas flaring and other oil pollutions on the environment as a whole.
4. The government and oil companies should provide relief assistance to the bearing communities as regards to the provision of basic input such as fertilizers to true various farmers as to enable the in to produce enough food crops as their only maintaining of livelihood and compensation should be paid host communities. The federal government should ensure that all decisions relating to environmental quality integrate the need for sustainable development for future generation.
5. The federal government through the federal ministry of environmental protection agency (FEPA). Niger Delta affairs ministry NOSDR all policy stakeholders in environmental and oil and gas sector should revisit and review existing environmental and oil driving laws in Nigeria with a view for updating them to international and environmental friendly standards. Strict implementation of oil drilling relation law by the government and appropriate bodies with elimination of corruption and bureaucratic bottleneck is recommended. There should also be as modification in the current regulatory framework of gas flaring and holistic approach to the environment of Planning development and management for land resources.
6. Government and oil companies should in place of Amnesty develop the region as people who are taking out of their environment to acquired skills elsewhere would one day return home to apply what is learnt.
7. There is a need for a better understanding of the coastal ecology so as to evaluate the significance of the impact generated by oil spill incidents.
8. Educational programmers on income generating activities that lead to small and medium scale entrepreneurship should be ensured to minimized unemployment.

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