

Perceived Effect of Oil Spillage on the Livelihood Activities of Women in Eastern Obolo Local Government Area of Akwa Ibom State

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ABSTRACT This study assessed the perceived effect of the livelihood activities of women in Eastern Obolo Local Government Area of Akwa Ibom state. Systematic random sampling method was used to select Two hundred respondents. Frequency distribution, percentage, chi-square and person product moment correlation (PPMC) were used in analyzing the data. The result revealed that most (74.5%) respondents were below that age of 51 years; Christians (94.5%), married (75%) and only 16.5% have educational level above primary. Majority (81.5%) earn below N10,001 and 75.5% spend below N5,001 monthly. The major livelihood activities of the respondents are fish processing (63%) and processing non-fish aquatic products (57.5%). Major constraints to livelihood activities are poor storage/processing equipment (63.5%) and water pollution (61%). The respondents perceived negative effect of oil spillage on fishing (98.5%), fish processing (77%), and gathering non-fish aquatic products (99%), processing non-fish aquatic products (75%), crop farming (89.5%), gathering other non-timber forest products (77.5%) and craft (52.5%). The result of the hypotheses testing indicating that respondents' age ($r = 0.154$, $p < 0.05$), marital status ($c^2 = 14.395$, $p < 0.05$), level of involvement in livelihood activities ($r = 0.149$, $p < 0.05$), inadequate capital/credit facilities ($c^2 = 4.971$, $p < 0.05$) and poor transportation network ($c^2 = 6.505$, $p < 0.05$) were significantly related with the perceived effect of oil spillage. Effort should be made to reduce the incidence of oil spillage, proper cleaning incase of any spillage, due compensation for the effect of the spillage, institution of appropriate development projects and financial empowerment of the women, should instituted and embarked upon.

INTRODUCTION

In the past, women's livelihood activities and their contributions to family upkeep were not acknowledged (Bullock, 1994). He expressed this when he noted that women have always worked and their labour plays key role in the survival of many families but the women's work were often neither publicly nor privately acknowledged. But Borje Hornlund, a Swedish Minister of Labour as quoted by Bullock (1994) maintained that half the world's stock of intelligence is female, half the world's human resources are embodied by women and that it will take the males' and females' thinking, experience and effort to make a better world.

Women contribute in no small measure to family well being, especially in rural areas (Yahaya & Olowu, 1998). They achieve this by engaging in many livelihood activities including monetized and non-monetised activities in agricultural and non-agricultural sectors. But insecure access to productive and natural resources, environmental degradation and economic instability have threatened the sustainability of many of these activities (Olawoye, 2002). Most livelihood activities engaged in by rural dwellers

are either directly or indirectly dependent upon natural resources. But in the oil producing communities, these free gifts of nature are highly polluted by oil exploration started in Nigeria when crude oil was discovered in 1956 in commercial quantity at Oloibiri, Rivers State. According to Nigerian Environmental Study/Action Team (NEST) (1991), the first shipment of oil from Nigeria took place in 1958. In these communities where oil-prospecting activities take place, there is environmental degradation, ecological destruction and deprivation of the oil producing communities of their traditional occupation (Adeyemo, 1995). NEST (1992) reported that between 1970 and 1982, Nigeria recorded 1,581 incidents of oil spills, which polluted land and bodies of water.

It is observed that livelihood in the Niger Delta Region is greatly influenced by environmental degradation as a result of oil exploration and exploitation activities. Consequent upon this, there are agitation by residents of the oil producing communities for the protection of the environment against this scourage. (Adeyemo, 1995). The ineffectiveness or lack of response to the agitation and plight of the people by the government and the oil companies operating in

this region has resulted in unpleasant relationship between the people and the oil companies.

Conflict situations have become common occurrence, demand for royalties and compensations from corporate oil mining organizations are now a major contention by inhabitants of the area. The environment is fast being depleted and there is a growing fear of the future of this area under this situation.

Eastern Obolo Local Government Area (LGA), one of the oil producing communities is not an exemption. The area, which is traversed by Imo and Que Iboe River estuaries, has fishing as its major occupation. In the last three decades, incidences of oil spills have been reported in the area, which impacted adversely on the environment. Indigenes of the area are not happy as the environment is polluted and the source of their livelihood affected. Women are highly affected because majority of them depend directly on the environment for their livelihood. For any intervention programme to be successful, proper understanding of the situation is necessary. More information on this situation is thus required. To achieve this, the study is therefore designed to answer the following questions

- i. What are the personal characteristics of women in the study area?
- ii. What are the livelihood activities of women in the study area?
- iii. To what level are the women involved in their livelihood activities?
- iv. What are the constraints to livelihood activities of women in the study area?
- v. What are the effects of oil spillage on the livelihood activities of women in the study area?

METHODOLOGY

The Study Area: The study area is Eastern Obolo LGA of Akwa Ibom State. It is located East of Imo River and occupies the Eastern Nigeria Delta fringe between Imo River and Qua Iboe River Estuaries. It lies in latitude 4° 30' North and longitude 7° 35' and 7° 50' East. It shares borders with Ikot Abasi, Ibeno, Mkpato Enin and Onna Local Government Area of Akwa Ibom State. The population of Eastern Obolo Local Government Area is 109,052 (National Population Commission, 1991)

The area lies within the tropical rainforest

zone and has two major seasons' a rainy season (May to October) a dry season (November to April). Annual rainfall ranges between 2,000mm and 2,400mm.

Eastern Obolo LGA is predominantly occupied by Andoni people. Although three distinctive languages namely Andoni, Iko and Ubani exist, over 95% of the people can communicate in Ibibio, the major language of Akwa Ibom State. About 90% of the area is waterlogged and the major occupations of the people are fishing and fish processing. The Local Government Area plays host to Shell, one of the multi-national oil companies and has witnessed a number of major and minor oil spills within the past three decades.

Sampling Procedure and Sampling Size:

Simple random sampling method was used to select five villages (Okoroete, Iko, Amadaka, Atabrikang and Elile) from the twenty-seven villages making up the Local Government Area.

In Okoroete, 151 households were identified, 149 in Iko, 133 in Amadaka, 126 in Atabrikang and 77 in Elile. Also, systematic random sampling method was used to select 50 respondents in Okoroete, 50 in Iko, 44 in Amadaka, 41 in Atabrikang and 15 in Elile. The differences in the number of respondents selected per village are due to the differences in the number of households in these villages. In all, a total of 200 respondents was selected for the study.

RESULTS AND DISCUSSION

Personal Characteristics of Respondents:

The result of the analysis as presented in table 1 shows that 12% of the respondents are 28 years or below. Majority of the respondents (62.5%) falls within the age range of 29 years to 50 years. Eighteen and a half percent (18.5%) are between 51 and 61 years of age and only 7% of the respondents are above 61 years of age. The result implies that majority of the respondents (74.5%) are in their active age (18 – 50 years) and can contribute effectively to household sustenance. On religion of the respondents, 94.5% are Christians and 5.5% practice tradition religion.

Majority of the respondents (75%) are married, 9.5% are single while 10% are widowed, 5.5% were divorce. Forty six percent (46%) had no formal education, 8.5% have adult

Table 1: Distribution of respondents according to their personal characteristics

Variables	Frequency	Percentage
1. <i>Age</i>		
18 – 28 years	25	12.0
29 – 39 years	55	27.5
40 – 50 years	70	35.0
51 – 61 years	37	18.5
62 years and above	14	7.0
Total	200	100.0
2. <i>Religion</i>		
Christianity		
Traditional Religion	189	94.5
Muslim	11	5.5
Others	-	-
Total	200	100.0
3. <i>Marital Status</i>		
Single	19	75
Married	150	10
Divorced	11	9.5
Widowed	20	5.5
Total	200	100.0
4. <i>Educational Level</i>		
Informal	92	46.0
Adult Literacy	17	29.0
Primary Education	58	14.0
Tertiary Education	28	8.5
	5	2.5
Total	200	100.0
5. <i>Household Size</i>		
1 – 3	34	17.0
4 – 6	111	55.5
7 – 9	49	25.5
10 and above	6	3.0
Total	200	100.0
6. <i>Primary Occupation</i>		
Fishing	33	34.5
Fish processing	69	22.0
Farming	12	16.5
Trading	25	12.5
Civil Service	6	6.0
Gathering non-fish aquatic product	44	4.5
Hairdressing	1	0.5
Hired labouring	1	0.5
Others	9	3.0
Total	200	100.0
7. <i>Monthly Income</i>		
₦5,000 and below	81	40.5
₦5,001 – ₦10,000	82	41.0
₦10,001 – ₦15,000	18	9.0
₦15,001 – ₦20,000	14	7.0
₦20,001 and above	5	2.5
Total	200	100.0
8. <i>Monthly Expenditure</i>		
₦5,000 and below	151	75.5
₦5,001 – ₦10,000	41	20.5
₦10,001 – ₦15,000	6	3.0
₦15,001 and above	2	1.0
Total	200	100.0

Source: Field Survey, 2004

literacy and 14% had primary and secondary education respectively. The remaining 25.5% had tertiary education.

Analysis of the household size of the respondents shows that 55.5% of the respondents have a household size of 4 – 6 people. Seventeen percent have 1 – 3 people in their households. The major occupations of the respondents are fish processing (34.5%) and gathering non-fish aquatic products (22%). Others livelihood activities include trading (12.5%), farming (6%) and civil service (3%).

40.5% of the respondents earn a monthly income of ₦5,000.00 or less with those earning above ₦15,000.00 monthly constituting only 9.5% of the entire respondents. Result of the monthly expenditure of the respondents showed that majority of the respondents (75.5%) spend not more than five thousand Naira (₦5,000.00) monthly.

Respondents' Livelihood Activities: The result shows that 63% of the respondents indicated fish processing as their livelihood activity (Table 2). Many respondents also engage in gathering non-fish aquatic products (46.5%), fishing (53.5%) and firewood collection (57%). Also, the respondents engage in other minor activities such as gathering other non-timber forest products (12.5%), craft (12.5%), livestock rearing (9%) and civil service (4.5%). Others

Table 2: Distribution of respondents according to their livelihood activities.

Livelihood activities of respondents	Not involved		Involved	
	Freq.	%	Freq.	%
Fishing	93	46.5	107	53.5
Fish processing	74	37.0	126	63.0
Gathering non-fish aquatic products	107	53.5	93	46.5
Processing non-fish aquatic products	85	42.5	115	57.5
Crop farming	144	72.0	56	28.0
Livestock rearing	182	91.0	18	9.0
Trading	155	77.5	45	22.5
Hired labouring	192	96.0	8	4.0
Civil Service	191	95.5	9	4.5
Selling food/snacks	194	97.0	6	3.0
Hairdressing	194	97.0	6	3.0
Firewood collection	86	43.0	114	57.0
Fathering other non-timber forest products	175	87.5	25	12.5
Crafts	175	87.5	25	12.5

Source: Field Survey, 2004

are hired laboring (4%), selling food/snacks (3%) and hairdressing (3%) as shown in Table 2.

Level of Involvement of Respondents in Livelihood Activities: The level of involvement of Respondents in Livelihood activities was grouped as rarely involved, often involved, and very often involved as shown in table 3.

The result shows that the respondents involve very often in fish processing (47.5%), processing non-fish aquatic products (32.5%), fishing (13%), firewood collection (12.5%) and gathering non-fish aquatic products (19%). The respondents also participate very often in trading (12.5%), crop farming (3.5%), livestock rearing (2.5%), civil service (4.5%) and selling food/

snacks (2.5%). Others are craft (3.5%), hairdressing (0.5%), hired laboring (0.5%) and gathering other non-timber forest products (0.5%). However, 30% of the respondents participate rarely in fishing (30%), gathering non-fish aquatic products (15%), processing non-fish aquatic products (12%), crop farming (14.5%) and firewood collection (29.5%).

Constraints to Livelihood Activities of the Respondents: Finding on constraints to livelihood activities of the respondents are presented in table 4.

The result shows that the major constraints to livelihood activities of the respondents are poor storage/processing equipment (63.5%),

Table 3: Distribution of respondents according to level of involvement in livelihood activities.

Livelihood activities of respondents	Level of involvement					
	Rarely		Often		V. Often	
	Freq.	%	Freq.	%	Freq.	%
Fishing	60	30	21	10.5	26	13
Fishing processing	16	8	15	7.5	95	47.5
Gathering non-fish aquatic products	30	15	25	12.5	38	19
Processing non-fish aquatic products	24	12	29	14.5	65	32.5
Crop farming	29	14.5	21	10.5	7	3.5
Livestock rearing	9	4.5	4	2	5	2.5
Trading	10	5	11	5.5	25	12.5
Hired Labouring	6	3.0	1	0.5	1	0.5
Civil Service	-	-	-	-	9	4.5
Selling food/snacks	-	-	1	0.5	5	2.5
Hairdressing	5	2.5	-	-	1	0.5
Firewood collection	59	29.5	28	14	25	12.5
Gathering other non-timber forest products	9	4.5	15	7.5	1	0.5
Crafts	19	9.5	5	2.5	7	3.5

Source: Field Survey, 2004.

Table 4: Distribution of Respondents according to Constraints to their livelihood activities.

Constraints	Not a constraint		Severe constraint	
	Freq.	%	Freq.	%
High cost of fishing equipment	158	79	42	21
Low processing capability	166	83	34	17
Poor storage/processing equipment	73	36.5	127	63.5
Poor marketing outlet	114	57	86	43
High cost of storage/processing equipment	110	55	90	45
Water pollution	78	39	122	61
Deforestation	166	83	34	17
Inadequate land	198	99	2	1
Inadequate farm input	192	96	8	4
Low soil fertility	144	72	56	28
Inadequate capital/credit facilities	85	42.5	115	57.5
Inadequate extension services	188	94	12	6
Poor transportation network	120	60	80	40

Source: Field Survey, 2004.

water pollution (61%), and insufficient capital/credit facilities (57.5%). Less severe constraints are poor marketing outlets (43%). Minor constraints to the livelihood activities of the respondents are high cost of fishing equipment (21%), low processing capability (17%), deforestation (17%) and low soil fertility (28%). From the result, 99%, 96% and 94% of the respondents never had inadequate land, inadequate farm input and inadequate extension services respectively as constraints to their livelihood activities.

Perceived Effect of Oil Spillage on Livelihood Activities of the Respondents: The perceived effect of oil spillage on livelihood activities of the respondents were presented in Table 5.

Result of the perceived effect of oil spillage on the livelihood activities of the respondents shows that oil spillage has negative effect on fish (98.5%), fish processing (77%), gathering non-fish aquatic products (99%), processing non-fishing aquatic products (75%), crop farming (89.5%), gathering other non-timber forest product (77.5%) and craft (52.5%).

The result further shows that oil spillage has no effect on livestock rearing (81.5%), trading (50%), hired labouring (57%), civil service (96%), selling food/snacks (58.5%) and hairdressing (94.5%). The respondents were indecisive on the effect of oil spillage on firewood collection. Though 38% of the respondents

perceived that there is no effect of oil spillage on the activity, 31% perceived a positive effect. Thirty-one percent (31%) of the respondents also perceived a negative effect on the activity.

HYPOTHESES TESTING

Hypothesis 1 H_0 : There is no significant relationship between the personal characteristics of the respondents and the perceived of oil spillage on the livelihood activities of women in the study area.

The H_0 indicate a significant relationship between the respondents' marital status and the effect of oil spillage on their livelihood activities ($\chi^2 = 1.169$, $p > 0.05$). However, religion ($\chi^2 = 0.145$, $p > 0.05$), educational level ($\chi^2 = 1.169$, $p > 0.05$), and primary occupation ($\chi^2 = 15.347$, $p > 0.05$), (Table 6) show no significant relationship with effect of oil spillage on the livelihood activities of the respondents.

Hypothesis 2: There is no significant relationship between personal characteristics (age, household size, monthly income, monthly expenditure, level of involvement in livelihood activities) and the perceived effect of oil spillage on their livelihood activities.

Although household size ($r = 0.019$, $p > 0.05$), estimated monthly income ($r = 0.041$, $p > 0.05$) and estimated monthly expenditure ($r = 0.055$, $p > 0.05$) show no significant relationship

Table 5: Distribution of respondents according to perceived effect of oil spillage on the livelihood activities.

Livelihood activities of respondents	Effects									
	Positive				No effect		Negative			
	Served		Mild				Mild		Serve	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Fishing	3	1.5	-	-	-	-	31	15.5	166	83
Fish processing	-	-	-	-	46	23	101	50.5	53	26.5
Gathering non-fish aquatic products	-	-	-	-	1	0.5	36	18	163	81.5
Processing non-fish aquatic products	-	-	-	-	50	25	98	49	52	26
Crop farming	-	-	-	-	21	10.5	109	54.5	70	35
Livestock rearing	-	-	3	1.5	163	81.5	26	13	8	4
Trading	-	-	3	1.5	100	50	81	40.5	10	5
Hired labouring	-	-	-	-	114	57	83	41.5	3	1.4
Civil service	-	-	-	-	192	96	4	2	4	2
Selling food/snacks	-	-	-	-	117	58.5	79	39.5	4	2
Hairdressing	-	-	-	-	189	94.5	11	5.5	-	-
Firewood Collection	-	-	62	31	76	38	54	27	8	4
Gathering other non-timber forest products	2	1.0	-	-	43	21.5	76	38	79	39.5
Crafts	1	0.5	-	-	94	47	96	48	9	4.5

Source: Field survey, 2004

Table 6: Relationship between some personal characteristic (religion, marital status, educational level and primary occupation) of the respondents and the effects of oil spillage on their livelihood activities.

Variables	χ^2	Df	P	Cc	Decision
Religion	0.145	1	0.703	0.027	Not significant
Marital Status	14.395	3	0.002	0.259	Significant
Educational level	1.169	4	0.883	0.076	Not significant
Primary occupation	15.347	8	0.053	0.267	Not significant

Table 7: Relationship between other personal characteristics (age, household size, monthly income and monthly expenditure) of the respondents and the perceived effects of oil spillage on their livelihood activities.

Variables	r	p	Decision
Age	0.154	0.029	Significant
Household size	0.019	0.788	Not significant
Monthly income	0.041	0.568	Not significant
Monthly expenditure	0.055	0.440	Not significant
	r-value	p-value	Decision
No of livelihood activities per respondent	-0.001	0.993	NS
Variable	r-value	p-value	Decision
Level of involvement of women in livelihood activities	0.149	0.035	S

with the effect of oil spillage on the livelihood activities of the respondents, there is a significant relationship between age of the respondents and the perceived effect of oil spills on the livelihood activities of the respondents ($r = 0.154$, $p > 0.05$) (Table 7). Also, the result indicates that there is no significant relationship between the number of livelihood activities per respondent and the perceived effect of oil spillage on the livelihood activities of women in the study area ($r = -0.001$, $p > 0.05$).

The result further shows that there is a significant relationship between the level of involvement of the respondents in livelihood activities and the perceived effect of oil spillage on their livelihood activities ($r = 0.0149$, $p < 0.05$).

Hypothesis 3: There is no significant relationship between constraints to livelihood activities and perceived effect of oil spillage on their livelihood activities.

The result shows that significant relationship exist between some constraints to livelihood activities (inadequate capital/credit facilities: $\chi^2 = 4.971$, $p < 0.05$ and poor transportation

network: ($\chi^2 = 6.505$, $p < 0.05$) and the perceived effect of oil spillage on the livelihood activities of the respondents.

SUMMARY

The study assessed the effect of oil spillage on the livelihood activities of women in Eastern Obolo Local Government Area of Akwa Ibom State. Objectives were set and hypotheses tested. Systematic random sampling method was used to select 200 respondents for the study.

Personal characteristics of the respondents showed that, majority of the respondents (74.5%) were 50 years old or below and only 7% were above 60 years of age. Most respondents (94.5%) were Christians; most were married (75%) while divorce and widows made up 15.5% and 10% respectively. Respondents without formal education were 46% and those with tertiary education made up 2.5%. The most prevalent household size was 4 – 6 persons/household accounting for 55.5% of the respondents and only 3% of the respondents had household size of ten persons or above.

The primary occupations of the respondents were fish processing (34.5%) gathering non-fish aquatic products (22%) and fishing (16.5). Forty and a half percent (40.5%) of the respondents earned N5,000 or below monthly and only 18.5% earned above N10,000. Also 75.5% of the respondents spent N5,000 or below while only 4% of the respondents spent above N10,000 monthly.

Among the major livelihood activities of the respondents were fish processing (63%), fishing (53.5%), processing non-fish aquatic products (57.5%) and firewood collection (57%). The most often engaged livelihood activities by the respondents were fish processing (47.5%) and processing non-fish aquatic products (32.5%). Among the most severe constraints to livelihood activities of the respondents were poor storage/processing equipment (63.5%) water pollution

(61%) and inadequate capital/credit facilities (57.5%).

The respondents perceived a negative effect of oil spillage on fishing (98.5%), fish processing (77%), gathering non-fish aquatic products (99%), crop farming (89.5%), gathering other non-timber forest product (77.5%), and craft (52.5%). Significant relationships exist between some personal characteristics (age: $r = 0.154$, $p < 0.05$; and marital status: $\chi^2 = 14.395$, $p < 0.05$) and perceived effect of oil spillage on the livelihood activities of the women. The result further revealed that, level of involvement of women in livelihood activities and perceived effect of oil spillage on the livelihood activities ($r = 0.149$, $p < 0.05$) showed a significant relationship (Table 8). There is also a significant relationship between some constraints (inadequate capital/credit facilities: $\chi^2 = 4.971$, $p < 0.05$ and poor transportation network: $\chi^2 = 6.505$, $p < 0.05$ and the perceived effects of oil spillage on the livelihood activities of the respondents.

CONCLUSION

Based on the findings of the study, it can be concluded that majority of the respondents are in their active and productive age, are Christians, married and have household size of 4–6 persons. Also, majority of the respondents have monthly income of less than N10,001 and spend less than N5,001 per month.

The major livelihood activities of the

respondents are fish processing and processing non-fish aquatic products. Most constraints to the livelihood activities of the respondents include poor storage/processing equipment, water pollution and inadequate capital/credit facilities. Oil spillage has a negative effect on fishing, fish processing, gathering non-fish aquatic product and processing non-fish aquatic products. Other livelihood activities affected are crop farming, gathering other non-timber forest products and crafts. The spillage has no effect on livestock rearing, trading, hired labouring, civil service, selling food/snacks and hairdressing. Respondents' age and marital status, level of involvement of the respondents in livelihood activities and some constraints (inadequate capital/credit facilities and poor transportation network) were significantly related to the perceived effect of oil spillage on the livelihood activities of the respondents.

RECOMMENDATIONS

The following recommendations are made:

- (i) That the impact assessment of oil exploration and exploitation be revisited and used.
- (ii) In case of any accidental spillage, competent cleaners should be contracted to clean up the spilled oil.
- (iii) More effort should be made to reduce the incidence of oil spills in the area.
- (iv) The women should be duly compensated.
- (v) Specific projects that are closely linked with

Table 8: Relationship between constraints to livelihood activities of the respondents and the perceived effect of oil spillage on their livelihood activities.

Variables	χ^2	df	p	cc	Decision
High cost of fishing equipment	0.003	1	0.956	0.017	NS
Low processing capability	0.000	1	1.000	0.001	NS
Poor storage/processing equipment					
Poor Marketing outlets	0.148	1	0.701	0.038	NS
High cost of storage/processing Equipment	0.605	1	0.437	0.066	NS
Water pollution	1.663	1	0.197	0.101	NS
Deforestation	0.328	1	0.567	0.051	NS
Inadequate land	3.344	1	0.067	0.142	NS
Inadequate farm input	0.052	1	0.820	0.070	NS
Low soil fertility	2.618	1	0.106	0.140	NS
Inadequate capital/credit facilities	1.754	1	0.185	0.109	S
Inadequate extension services	4.971	1	0.026	0.166	NS
Poor transportation network	6.505	1	0.011	0.188	S
	0.065	1	0.799	0.040	S

Source: Field survey, 2004

the livelihood activities of the women should be instituted by the oil companies in the area.

- (vi) The women should be empowered financially in the form of credit/loans.
- (vii) Good roads and portable water should be provided in the area.

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