

Women Perception of Effect of Oil Spillage on Farming Activities in South Eastern Nigeria: Implication for Household Food Security

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Abstract: This study investigated the perceived effect of oil spillage on the farming activities of women farmers in Ethiope West Local Government Area of Delta State, Nigeria. Data collection was made using structured interview schedule. A simple random sampling technique was used to select 120 respondents from 6 major villages where oil spillage persistently occurred in the study area. Frequency distribution, percentages, mean, standard deviation, Chi-square and Pearson correlation were employed in analyzing the data. The result revealed that more than half (55.0%) of the respondents were within the ages of 40 years and above, 70.8% of them were married, with 58.3% of the respondents having a large household size between 7 and 9 and majority (73.3%) had no formal education. Majority (73.4%) earns less than ₦10,000.00 and ₦50,000.00 per annum. The major coping strategies employed by the respondents against the menace of oil spillage include: depending on their husband for survival (80.8%), purchasing food crops from neighbouring communities (70.0%) and migration to towns (57.5%). The result of hypothesis tested revealed that significant relationships existed between age ($X^2 = 0.906$, $p < 0.05$), marital status ($X^2 = 7.945$, $p < 0.05$), education ($X^2 = 6.317$, $p < 0.05$), family size ($r = 0.355$, $p < 0.05$) and perceived effect of oil spillage, income ($r = -0.031$, $p < 0.05$) had negative and non-significant relationship. It was therefore recommended that the government should embark on capacity building for women in order to empower women financially against the menace of oil spillage.

Key words: Women, perception, oil spillage, farming activities, food security

INTRODUCTION

Nigeria is currently one of the world's producers of oil, with the capacity of 2.3 million barrels per day, which is approximately 3% of the world's production. Petroleum industries have therefore contributed immensely to the nation's economy as oil export has been the main source of the nation's foreign exchange earnings (Nick, 1998). Oil spill is the commonest problem of the oil exploration activities and it has been occurring frequently and known to impacting negatively on the environment, economic activities as well as the health of the host communities. According to Nigerian Environmental Study and Action Team (NEST) (1991) report explicitly stated that in communities where oil prospecting activities takes place, there is always environmental degradation, ecological destruction and deprivation of the oil producing communities of their traditional occupation as a result of oil exploration and exploitation activities. Consequently, there are agitations by residents of the oil producing

communities for the protection of the environment against scourge (Adeyemo, 1995).

Women generally are the end users of the environmental output who normally come in direct contact with the ecosystem in the oil bearing communities. They produce about 90% of food in the study area, they also collect and manage domestic fuels, farmland/product and water. They as well engaged in agro-processing and marketing of produce in order to earn income to meet the needs of their family. Thus, they are the most susceptible to the slightest threat to the ecosystem and bear its impact socially, economically and health wisely. This therefore, makes them vulnerable to poverty and food insecurity (Chinweze, 2004).

The concept household food security refers to the ability of a household to assure its members sustained access to sufficient quality and quantity of food in order to live active healthy lives such access is likely to be more threatened in terms of economic deterioration (Kabeer, 1990). Women are linked to household food security

especially in Delta State, because women appear to take much greater role in assuring the food requirements of their dependents in situations of economic deterioration. Women were among those identified by UNICEF as potentially vulnerable groups in this process. Whenever oil spillage occurs, the physical and non human components of the environment are of major concern. Even though if the human impact is assessed, women folks are not considered as issues. On the other hand, women are the home managers as well food producers, therefore they should be of a major interest because of their contributions to household food security and agricultural development.

It is imperative therefore, to examine the perceived effect of oil spillage on farming activities of women farmers that constitute an important segment of farming population in the study area. It is against this background that the study was intended to provide answers to the following research questions:

- What are the personal characteristics of women in the study area?
- What is the level of involvement of the respondents in agricultural activities in the study area?
- What are the coping strategies employed by women farmers against effect of oil spillage?
- What are the effects of oil spillage on farming activities of women in the study area?

Specifically, this study was set out to achieve the following objectives which are to:

- Determine the personal characteristics of women farmers in the study area.
- Ascertain the level of involvement of women farmers in farming activities in the study area.
- Ascertain the coping strategies employed by women farmers in ensuring household food security.
- Determine the perceived effects of oil spillage on the farming activities of women farmers.

Hypothesis: Based on the objectives of the study it was hypothesized that there is no significant relationship between selected personal characteristics and the perceived effects of oil spillage.

MATERIALS AND METHODS

The study was carried out in Ethiopie West Local Government of Delta State. The study area was considered being one of the area where oil spill normally

occurred in the state. Six villages were purposively selected based on persistent occurrence of oil spill in the area. The villages selected include Irhodo, Ekroda, Adjekata, Igbomoja, Onybru and Edhikakitie. From each selected village twenty women farmers were randomly selected for interview this therefore, make a total of 120 respondents for the study. Data were collected through the administration of validated and pretested structured interview schedule. A total of 120 completed interview schedule were analysed using frequency counts, percentages, mean score, Pearson correlation and Chi-square were employed as statistical tools.

Perception of women farmers on effect of oil spillage was measured on 5 point Likert scale of Strongly Agreed (SA) = 5, Agreed (A) = 4, Undecided (U) = 3, Disagreed (DA) = 2 and Strongly Disagreed (SD) = 1. Ten attitudinal statements were stated in order to determine the effects of oil spillage on the farming activities. The maximum score for a respondent is 50 and the minimum score is 10. Grand mean score of respondents was calculated in order to categorize the perceived effect into favourable and unfavourable disposition to effect of oil spillage on farming activities.

Respondents were also asked to indicate their level of involvement in the agricultural activities carried out on the farm in terms of how often it's been carried out on 4 point scale of Never = 0, rarely = 1, often = 2 and very often = 3. The grand mean score per activities was calculated to determine which of the activity that the respondent often carried out on the farm. The cut off point for the level of involvement is calculated as 1.50

RESULTS AND DISCUSSION

Age: The age distribution of the respondents revealed that more than half (55.0%) of the sampled women have their age range between 40 years and above as shown in Table 1 while others (45.0%) of the respondents are of age category less than 40 years. The mean age was found to be 42.7 years. This implies that middle-aged women are involved in agricultural activities and are considered to be agile and energetic for maximum production. Solomon and Ogunfiditimi (2005) reported that people of this age category are most likely to adopt new ideas and innovation.

Marital status: The Table 1 also shows that majority (70.8%) of the respondents are married. While, 16.7% of them are widowed and only 12.5% of the sampled women are single. The implication of this finding is that married women dominated the farming enterprises in the study

Table 1: Frequency distribution of respondents according to their personal characteristics

Variables	Frequency	Percentage
Age (years)		
<20	15	12.5
20-29	09	7.5
30-39	30	25.0
40-49	18	15.0
50-50	28	23.3
60 and above	20	16.7
Marital status		
Single	15	12.5
Married	85	70.8
Widowed	20	16.7
Household size		
<4	2	1.7
4-6	34	28.3
7-9	70	58.3
10 and above	14	11.7
Income (N'000)		
<10	31	25.9
10-25	22	18.3
26-50	35	29.2
51-75	10	8.3
76-100	22	18.3
Numbers of hours spent on farming		
1-3	00	0.00
4-6	19	15.80
7-9	65	54.20
10-12	36	30.00
Education		
No formal education	88	73.40
Primary education	13	10.80
Secondary education	19	15.90

Source: Field survey, 2006

area. High percentage of married women is expected because of the importance attached to the marriage institution especially in the rural areas. Hence, targeting them for development intervention is most likely to be beneficial to the family/household as well as nation at large.

Household size: More than half (58.3%) of the respondents claimed to have household size between 7, 9 and 28.3% of them have an household size between 4 and 6 while 11.7% of the women farmers are of 10 and above household size and only few of them (1.7%) had less than 4 persons in their house. The average household size in the state was found to be 7. This mean that generally there is large household size among the respondents, which invariably may affect the income of the family, hence there is tendency to find alternative means of coping with the family needs among the respondents. Conversely, this finding has implication on family labour as well.

Education: Another section in the table reveals that majority (73.4%) of the respondents had no formal education while others (26.7%) of them had one form or

Table 2: Mean score of agricultural activities performed by women farmers

Agricultural activities	Mean score
Land clearing	2.36*
Ridging	1.94*
Planting	3.00*
Weeding	3.00*
Fertilizer application	1.00
Spray of Chemical for pest and disease control	1.00
Harvesting	3.00*
Sorting	1.88*
Marketing	3.00*
Storing	1.97*

Field survey, 2006, Never = 0, rarely = 1 often = 2, very often = 3. *indicates activities that is often carried out

the other form of education ranging from primary education to secondary education. This implies that the literacy level is very low among the respondents and as a result could affect their level of understanding as well as level of adoption of innovation. This finding is in line with the assertion made by Quisumbing and Meizen-Dick (2001) that many farmers in subsaharan African have low level education.

Numbers of hours spent on the farm: The average hours spent on the farm was 8.4 h daily. The result of the analysis reveals that more than half (54.2%) of the respondents spent between 7 and 9 h daily on their farm while about one third (30%) of them do spend between 10 and 12 h daily on the farm and 15.8% of the women farmers spent between 4 and 6 h daily. This finding shows that about 1/3rd of a day is spent on the farm while the remaining 2/3rd is being spent on domestic chore and other personal engagements. This finding tallies with Dentons' (2005) assertion that women in rural areas are occupied with domestic chores hence taking valuable time from agriculture and other cash earning activities, hence perpetuating the cycle of poverty among rural women.

Income: The mean income of the respondents was ₦35,044.54 k per annum with majority (73.4%) earns between less than ₦10,000.00 and ₦50,000.00 per annum and others (26.6%) earns more than ₦50,000.00 per annum. This implies that the women farmers in the study area could be categorized as low income earners which inversely makes than to be vulnerable to poverty and household food insecurity.

Agricultural activities of women farmers: Table 2 shows the various agricultural activities performed by women. It was revealed that women farmers often carried out planting; weeding, Harvesting and marketing with weighted mean score 3.00 each, respectively. This indicates that majority of the respondents are actively involved in the light operations on the farm. This is

followed closely by land clearing (2.36), storing (1.97), Ridging (1.94) and sorting (1.88). The implication of this finding is that women farmers are actively involved in farming activities especially in light operations. This finding tallies with the findings in a study conducted across the states in Nigeria, women were found to be actively engaged in production and production related tasks on the farm especially light operations that are less tedious. It was also found out that women farmers were rarely involved in both fertilizer applications and spraying of chemicals for controlling pests and diseases. This may be due to the health hazards associated with the application of chemicals on the farm.

Perceived effect of oil spillage: Evidence from the data reported in Table 3 revealed that more than half (54.2%) of the respondents perceived the effects of oil spillage on their farming activities favourably while 45.8% of the respondents had unfavourable disposition to the effects of oil spillage on their farming activities. Ranking order of the effect of oil spillage revealed that it affects the production level of the respondents ranked first while increased income as a result of engaging in other non farm activities ranked second and its negative impact on the health of the respondents ranked third among others. This implies that the oil spillage has both negative and positive effects on the farming activities of the respondents in terms of negative production level and health status of the respondents as well as increased income.

Coping strategies employed by women farmers against the effect of oil spillage: It was revealed that majority (80.8%) of the respondents cope with the effect of oil spillage by depending on their husbands for survival, followed by acquiring new unaffected land for cultivation and purchasing food crops items from the unaffected neighbouring communities (70.0%), respectively (Table 4). Also more than half (57.5%) of them cope with the effect of oil spillage by migrating to other towns, while 40.0% of the women seek for aid from the Governments and others, 37.5% of the respondents engaged themselves in non-farming activities to ensure household food security and survival. The coping strategies employed by women farmers have implications on their living such as dependency on husbands for sustenance and migration to other towns.

Result of chi-square test of relationship between respondents personal characteristics and perceived effect of oil spillage: The result of Chi Square analysis shows

that significant relationships exists between marital status ($X^2 = 7.945$), Education ($X^2 = 6.317$) and perceived effects of oil spillage on farming activities while Age ($X^2 = 0.906$) shows no significant relationship with perceived effect of oil spillage. This implies that Marital Status and education influences their perception of effect oil spillage on the farming activities. The strength of their relationship was also determined by contingency coefficient. The result shows that marital status have the highest strength of relationship ($cc = 0.249$) followed by education ($cc = 0.224$) (Table 5).

The result of correlation shows that income ($r = -0.039$) had negative non-significant relationship with effect of oil spillage. Meanwhile family size ($r = 0.252$) had positive and significant relationship with perceived effect of oil spillage (Table 6).

Table 3: Distribution of respondents according to perceived effect of oil spillage on farming activities

Perception of women farmers of oil spillage on farming activities	Mean score	Rank order
Oil spillage affect my production level because of many farm land in different areas	4.00	1
Oil spillage increases my income as a result of non-farm diversification	3.61	2
Oil spillage causes soil degradation on the farm	3.54	3
Oil spillage affect my health negatively	3.54	3
Oil spillage encourage migration to other town	2.82	6
Oil spillage leads to household food insecurity	2.85	5
Oil spillage makes me to remain small scale producers	2.74	9
Oil spillage has negative impact on water quality in my area	2.81	7
There is degradation of sea foods e.g. Fish and crabs	3.29	4
Oil spillage is discouraging me from agricultural practices due to irritating odour emission on the farm	2.75	8

Source: Field survey, 2006, Grand mean = 3.17

Table 4: Distribution of respondents according to coping strategies of women farmers

Coping strategies	Frequency	Percentage
Acquisition of a new unaffected land for cultivation	84*	70.0
Migration to other town	69	57.5
Seeking aids from the government	48	40.0
Buying food crops from unaffected neighbouring towns	84	70.0
Engaging in non-farming activities	45	37.5
Depending on Husband for survival	97	80.8

Source: Field source, 2006, *Multiple responses

Table 5: Result of Chi-square analysis showing relationship between selected variable and perceived effect of oil spillage on farming activities

Variable	X ² cal	X ² tab	df	cc	sig.	Remark
Age	0.906	5.991	2	0.087	0.636	NS
Marital status	7.946	5.991	2	0.249	0.019	S
Education	6.317	5.991	2	0.224	0.042	S

Source: Field source, 2006, X²cal- Chi square calculated, df -degree of freedom, X²tab- Chi square tabulated, cc -contingency coefficient

Table 6: Result of Pearson correlation between selected variables and perceived effect of oil spillage on farming

Variable	r	Remark
Family size	0.252	S
Income	-0.039	NS

CONCLUSION AND RECOMMENDATIONS

The study investigated the perceived effects of oil spillage on farming activities of women in Delta State, Nigeria. The result shows that women farmers in the study area are middle aged and majority of them being illiterate. It was also revealed that significant relationships exists between respondents' family size, marital status, education and perceived effect of oil spillage. The study concludes that women farmers in the study area were subjected to high level of dependency on their husband and also become migrants to other unaffected neighbouring communities. Since these women farmers are vulnerable to poverty and household food insecurity as a result of the effect of oil spillage, the study therefore recommends that, Government should organize adult literacy programme for the women in the study area. Government as well as the oil companies should ensure adequate maintenance of pipelines vessels to avoid oil spillage. Enlightenment programmes should be made on the media by the government on the dangers of oil spillage on the environment as well as its negative effects on the environment users. Women should be organized into groups or training on non-farm income generating activities that they may be empowered financially so as to serve as a cushion effect against the menace of oil spillage.

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