

## WOMEN, ENVIRONMENT DEGRADATION AND FOOD SECURITY: THE CASE OF OLOIBIRI COMMUNITY OF BAYELSA STATE, NIGERIA

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### ABSTRACT

Environmental degradation as a consequence of natural resources exploitation in oil rich communities has been well documented in the literature. This study makes a significant contribution to this body of knowledge by investigating how environmental degradation impacts on the ability of women to confront the challenge of food security in an oil producing community in Nigeria. With the use of extensive field survey in Oloibiri, an oil producing community of Niger delta region in Nigeria, this paper uses three basic criteria, availability, accessibility and utilization to quantitatively investigate how women cope with challenges of food security. This study finds that environmental degradation impacts negatively on food availability and utilization. However, there is no established effect on food accessibility. On the other hand, education of women has no relationship with food security in Oloibiri, whereas income does, while employment and social status of women affect food availability than its utilization. Government should therefore empower the women such that their level of income can be enhanced in order to attain food security in Oloibiri community.

**Keynotes:** Women, Environment Degradation, Food Security.

### INTRODUCTION

Women play an important role when it comes to food security in the household. They are involved in all forms and levels of agricultural production such as crop production, planting, weeding, harvesting, food processing, food storage and marketing. In livestock farming, they are involved in extraction, processing of dairy products and marketing. Women are known to be involved in *ex situ* and *in situ* conservation of genetic and species diversity in agro forestry (Sahai 2004). Thus, women engage in between 40 percent and 45 percent of agricultural activities in African states including Nigeria. Apart from direct agricultural production, women also collect firewood for processing agricultural products such as fish and meat. Most rural women in Nigeria virtually live on land which they inherited or acquired and their survival is anchored on access to biodiversity in natural forests (Osemeobo 2001a). Women in African communities are the key to food security for their households (Quisumbing, Haddad & Peña, 1995).

The Niger Delta holds the largest oil and gas reserves in Africa and one of the largest in the world. The Niger-Delta is the world's third largest wetlands and the largest mangrove swamps in Africa. The region is also rich in fresh water, fauna and forest and it has over a long period been a producer of major cash crops like rubber, oil palm and coconut, while also supporting Nigeria economically through oil rents (Shell, 2006). The coastal nature of the Niger-Delta means that the most popular traditional occupation in the region is fishing and this is followed by subsistence farming. These two activities are widely practised among the people of the Niger-Delta, one estimate showed that about two-third of households in the Niger-Delta obtain their income from these two activities (Amnesty, 2009). However, the

indiscriminate exploitation of oil and gas in the region by multi-national oil companies has greatly affected the abilities of the people to continue these life-sustaining activities.

There is the need therefore to examine the effect of oil exploitation on household food security in the Niger Delta. As Maxwell (1990) aptly contended “food security will be achieved when a country’s food system operates in such a way as to remove the fear that there will not be enough to eat and when the poor and vulnerable, especially women and children and those living in marginal areas, have secure access to the food they want”. The Niger-Delta paradoxically provides the global economy with oil and gas while its people live in deprivation and hunger because massive oil spills and gas flaring have severally degraded the environment (Obi, 2004:2010).

The negative impacts of oil exploitation on the environment can be deduced from the destructive influence on the farmlands, crops, economic trees and fishing. The damage to fisheries has been identified in the literature as one of the major negative externalities from the oil industry (Onosode, 2003). There have been concerns also about the potentially serious food safety problems in the Niger Delta that are related to oil pollution (Pegg and Zabbey, 2013).

The Oloibiri community in Bayelsa state is one of the poorest and most threatened areas in the Niger-Delta region, though paradoxically it is also one of the richest communities in terms of natural resources. In fact, aside oil, the Oloibiri community can boast of other resources like rubber, palm produce and many more. However, the neglect of these other resources following the discovery of crude oil in commercial quantity in the community has resulted in the emergence of a mono-cultural economy anchored on the aggressive exploitation of oil. While the country as a whole has benefited immensely from petro-dollars as it continues to be the major source of government revenue, it has also created negative externalities on the environment. Consequently, the community inhabitants find themselves at the mercy of these giant oil companies and their activities which have eroded their means of livelihood as their lands, rivers and air continue to be under attack, it has generated ill feelings and anomie attitude among the people. Predictably, various violent means of expressing their anger have been employed. This in turn has led to instability which has further hampered economic growth and development. The disastrous situation in the Oloibiri community can be blamed on heinous environmental crimes and breach of good environmental management by multinational oil companies, yet women are still expected to provide and ensure food security for their families. This study focuses on the entire community of Oloibiri in Ogbia Local Government Area of Bayelsa state in the Niger-Delta region of Nigeria where crude oil was first discovered in commercial quantities in 1956. And this is done at household levels to know how oil exploration has incapacitated women in procuring food for their families. This study therefore takes a critical and systematic look at environmental degradation and its implication on food security. In other words, how does the exploitation of crude oil which degrades the environment impact on the women’s food security? Was food security achieved in this degraded environment? If yes, how was it achieved? And to what extent were these women incapacitated by their economic status in a bid to achieved food security in term of availability, accessibility, utilization and stability? Limited studies show that women’s ability and capacity for food security can be hampered by some factors; most especially the environment women find themselves in term of degradation, economic status and pollution. It focuses on Oloibiri community of Bayelsa state for a variety of reasons, among which is that crude oil was discovered in Oloibiri community in Ogbia Local Government Area of Bayelsa State in 1956 and it is Nigeria first commercial

oil discovery. Oloibiri women play a major role in the production, processing and marketing of food crops. Yet, Oloibiri women and households headed solely by women are often the most chronically poor members of the community.

The core objective of this study therefore is to investigate how environmental degradations caused by oil exploitations affect the ability of women to provide food security in Oloibiri community in Ogbia Local Government Area of Bayelsa State, Niger-Delta region of Nigeria. Additionally, it also investigate how the social and economic status of women affects their abilities to confront the challenges to food security and to investigate whether the effects of environmental degradations on food security is chronic or transitory.

The remaining aspects of this paper are structured as follows; section two of this paper discusses the literature review and theoretical framework. Section three describes the data and the methods. Section four analyses the data and discusses the results, while section five concludes and makes recommendations.

## LITERATURE REVIEW

The impacts of environmental damage through oil exploration on agricultural activities have been well discussed in the literature in different dimensions. This includes how it affects both human and aquatic life through water pollution and soil contamination, its effects on vegetation, livestock and agriculture in general (Savabi and Stockle, 2001). In agriculture, oil exploration spillages reduce the soil moisture and are capable of affecting crop yield through impacting nutrient availability in the soil (Bedell et al., 2003). Similarly, Ramanathan et al., (2001) showed how black dusty carbon particles flared into the atmosphere can lead to a weaker hydrological cycle that connects directly to availability and quality of fresh water.

In a study, Omoweh, (1998), described how multi-national oil companies involved in oil exploration and exploitation paid little attention to environmental degradations caused by their activities and how governments and regulatory agencies are also culpable in this regard. The study specifically used Oloibiri community as a case study and found that both the government and oil companies do not care about the consequences of oil exploitations on the environment and the people that depend on it. Opukri and Ibaba (2008) in their study titled "oil induced environmental degradation in the Niger Delta region" discovered that environmental degradation results to internal displacement of people from their communities. Also, Aluko (2004), in a survey of thirteen communities in Niger-Delta found that poverty and malnutrition in the Niger Delta region is due to environmental degradation brought about by oil exploration by multinational oil companies. This finding was also identical to that of Gabriel, (2007) who found that environment degradation negatively affects the ability of the people in oil producing communities to perform their economic activities productively.

From a gender analysis perspective, women literally feed the world and are the producers, processors, cooks and servers of food, but they are neither well compensated nor appreciated. In the face of poverty, war, violence and unrest, women's resilience and ingenuity enable families and nations to survive. Women are bread-winners of one-third of all households in the world (Howard, 2003). As families are displaced because of wars and natural disasters, the roles and burdens of women are increasing (Osemeobo, 2001b). Also, women produce 80% of the food in Africa, 40% of food in Latin America and 60% of food in Asia (Howard, 2003). They improve food security through gathering of non-timber forest products: medicinal plants, leaves, fruits, nuts, seeds, mushrooms, honey, snails, worms and spices (Osemeobo, 2005a).

Women use these resources to provide income to sustain household in hunger periods. From these analyses, it is clear that the challenges faced by the women in Oloibiri community through environmental problems are numerous (degradation, pollution, lack of health facilities and poor economy status) and there is the need to understand how these problems affect their ability to own, access and cultivable land.

Studies on environmental issues affecting the Niger Delta region are extensive, diverse and rich. Some of these studies focus on the nature and scope of the oil-induced negative externalities especially as it affects human security and social stability. Most of these studies have concentrated on how oil-related activities of the multinationals oil companies in complicity with the Nigerian government have undermined social and economic stability in oil producing areas (Obi, 2005; 2010; Mahler, 2012; Amnesty International, 2009; 2013). However, limited attempts have been made to draw attention to other aspects of human security challenges (Obi, 2004; 2005; 2010; Mahler, 2012; Pegg and Zabbey, 2013). An important component of human security which has to do with food security has received limited scholarly attention. This study examines the effect of oil exploitation on the ability of women to overcome the challenge to food security in an oil rich community in Niger-Delta region of Nigeria attempt to address the gaps in the existing studies on the human security challenge in the region.

## **METHODOLOGY**

### **Theoretical Framework**

The negative externalities of oil and gas exploitations on the economic activities of people of Oloibiri community and Bayelsa state as a whole can best be explained using the two theories that are closely related to externality, namely, the theory of social cost and the property right theory. The theory of social cost can be traced back to Pigou (1920). Social cost is the total cost to the society. This theory is based on the argument that economic agents do not bear the full costs of their actions. If there are externalities, factors of production will not be optimally allocated and the assumption is that market cannot cope with externality problem by itself (Wachter 1992). In the context of this work, this theory explains land degradation as a result of oil multinationals exploration activities which they do not bear the full cost, for example, cost of oil spillage and the downstream cost of water pollution or of externalities. Property right theory, in its perspective relies on the belief that externalities can lead to land degradation. However, it was argued that the absent and poorly defined property rights to environmental goods is the main problem and not in the sense of externalities (Wachter 1992). Central to the issue of food security is that, it is tied to environment, agricultural and related economic activities. In other words, there exists an intricate linkage between food security, the environment and women's efforts. The women in Oloibiri community witnessed how oil production poisoned their waters and destroy their vegetation and agricultural land through intermittent oil spills and other pollutants that occur in the course of the oil production process.

### **Data**

The nature of this study requires an extensive field work in the study area for data collection and this was supported with data from other published sources.

*Types and Sources of Data:* The study employed both primary and secondary data. The secondary data were sourced from the Niger Delta Environmental Survey (NDES), National Environmental Standards and Regulations Enforcement Agency (NESREA), Ministry of

Information and Ministry of Environment Bayelsa state. The sample size of this study was drawn from Oloibiri community in Ogbia Local Government Area of Bayelsa state. The study covers the whole community of Oloibiri in Ogbia Local Government.

*Method of Data Collection:* Primary data for the study was sourced through the use of personal interviews and structured research questionnaires. This was supported by Focus Group Discussion. The questionnaires were administered on five categories of people. The first was the women who are the primary target of the study. The second was the men who are the direct players in the conflagration. The third are the Non-Governmental Organizations.(N.G.O) who are working in the area, particularly those focusing on the welfare of the women. The fourth are the security personnel working in the area and the last are the scholars and opinion leaders. Secondary data was derived from published texts, journals, newspapers, magazines, declassified information and the Internet.

### **Method of Analysis**

The primary data so collected was subjected to both qualitative and quantitative analyses. Specifically, the study dwelt more on statistical analysis, both descriptive and inferential. The descriptive aspect of this statistics involved the use of tables, ages, graphs and charts to arrange, categorize, manipulate and summarize data collected in order to achieve the fore-stated objectives. The inferential statistics used was Pearson correlation coefficient with 5 percent level of significance to ascertain (i) the extent at which environmental degradation has affected women in attaining food security (ii) to ascertain if there is any significant relationship between the socio-economic status of Niger Delta women and food security attainment at household level. Historical, descriptive and comparative methods of analysis were employed to analyze the secondary data.

### **RESULTS AND DISCUSSION**

Here, we provide and discuss the results of the field work on how environmental degradation affects the ability of women to provide food security for their household. It also involves how the socio-economic and demographic characteristics of these women affect their abilities to overcome challenges to food security induced by environmental degradation in Oloibiri community.

#### **Socio-Economic and Demographic Characteristics of the Respondents**

This entails the description of the socio-economic and demographic characteristics of respondents, like sex, age, marital status, and educational attainment, level of income, religion, employment status and social status e.t.c.

Table 4.1 below shows the socio-economic and demographic characteristics of 100 respondents. 68 percent of the respondents are female, which actually constitutes the majority of the targeted population for this study.

A cursory glance of the table shows that a larger of the respondents 62 percent are married, thus probably having higher responsibility of food security with additional 10 percent who are divorced.

**Table 1: Socio-Economic and Demographic Characteristics of the Respondents**

|                               | Freq. | Age (%) |
|-------------------------------|-------|---------|
| <b>Sex</b>                    |       |         |
| Female                        | 68    | 68      |
| Male                          | 32    | 32      |
| total                         | 100   | 100     |
| <b>Age</b>                    |       |         |
| 21 yrs - 30 yrs               | 18    | 18      |
| 31 yrs - 40 yrs               | 20    | 20      |
| 41 yrs - 50 yrs               | 20    | 20      |
| 51 yrs - 60 yrs               | 25    | 25      |
| 61 yrs and above              | 17    | 17      |
| Total                         | 100   | 100     |
| <b>Marital Status</b>         |       |         |
| Single                        | 28    | 28      |
| Married                       | 62    | 62      |
| Divorced                      | 10    | 10      |
| Total                         | 100   | 100     |
| <b>No of children</b>         |       |         |
| 2 and below                   | 30    | 30      |
| 3-4                           | 34    | 34      |
| 5 and above                   | 22    | 22      |
| Nil                           | 14    | 14      |
| Total                         | 100   | 100     |
| <b>Educational Attainment</b> |       |         |
| Nil                           | 13    | 13      |
| Primary Cert                  | 40    | 40      |
| Secondary Cert                | 23    | 23      |
| OND/NCE Cert                  | 10    | 10      |
| HND/BSc Cert                  | 10    | 10      |
| MSc/PhD Cert                  | 4     | 4       |
| Total                         | 100   | 100     |
| <b>Religion</b>               |       |         |
| Christianity                  | 87    | 87      |
| Islam                         | 5     | 5       |
| Traditional                   | 8     | 8       |
| Total                         | 100   | 100     |
| <b>Employment Status</b>      |       |         |
| Private Sector                | 14    | 14      |
| Public Sector                 | 10    | 10      |
| Agricultural                  | 49    | 49      |
| Trading                       | 8     | 8       |
| Retired                       | 19    | 19      |
| Total                         | 100   | 100     |
| <b>Social Status</b>          |       |         |

|                       |     |     |
|-----------------------|-----|-----|
| Chief                 | 17  | 17  |
| Ward Representative   | 17  | 17  |
| Politician            | 17  | 17  |
| Nil                   | 49  | 49  |
| Total                 | 100 | 100 |
| <b>Monthly Income</b> |     |     |
| N20,000 and Below     | 8   | 8   |
| N21,000 - N40,000     | 48  | 48  |
| N41,000 - N60,000     | 20  | 20  |
| N61,000 - N100,000    | 10  | 10  |
| N100,000 and above    | 14  | 14  |
| Total                 | 100 | 100 |

*Source: Author's 2016 (Field Work)*

This study also indicates that a larger per cent of Oloibiri people are Christians while half of the respondents depend on agriculture, 14 percent and 10 percent of the respondents are in private sector and public sector respectively either as cleaners, shopkeeper or clerical staff. About 13 percent of the respondents do not possess any degree, 63 percent are secondary school certificate holders, while the rest are OND/NCE degree (10 percent) and B.Sc degree holders (10 percent). The respondents in Oloibiri has the highest of 48 percent having a monthly income of about N21,000 - N40,000, while few (24 percent) earn between N61,000 and above.

### Analysis of Research Hypothesis

The research hypothesis was analyzed using chi square test which compared the expected frequencies of responses with the observed frequencies and decisions are made at 5 percent level of significance.

#### Hypothesis One

Ho - There is no significant relationship between environment degradation caused by crude oil exploration and Oloibiri's women attainment of food security

Table 4.2 shows the relationship between environment degradation and the attainment of food security by Oloibiri women. The result from the test of relationship (chi-square) revealed that there are strong relationship or association between environment degradation (as a result of oil exploration and exploitation) and food availability ( $X^2 = 0.028$ ) and utilization ( $X^2 = 0.002$ ) by Oloibiri women. Thereby, rejecting the null hypothesis, indicates that the aftermath effect of oil exploration and exploitation, evidenced in oil spillage leading to loss of farmlands and aquatic animals, water pollution has an effect on the quantity of food available for consumption. This can also be affirmed by the incidents of acidic rain, pollutions (air and water), and spillages in the area, which has a way of reducing the nutrient content of crop yields that can be of help to the body.

**Table 2: Environment degradation and Food Security**

| S/N |                         | Food Availability                                 | Food Accessibility                              | Food Utilization                                  |
|-----|-------------------------|---|---|---|
| 1.  | Environment degradation | 22.913<br>(0.028)*<br><b>Reject H<sub>0</sub></b> | 9.472<br>(0.304)<br><b>Accept H<sub>0</sub></b> | 16.874<br>(0.002)*<br><b>Reject H<sub>0</sub></b> |

*Source: Author's (p-values in parenthesis; \* significant @5%, \*\* significant @10%)*

The effect of environmental change on food availability and accessibility was collaborated by Eden & Gyimah-Brempong (2015) in their study of the determinants of change and household responses to food insecurity in Nigeria. It was discovered that food availability and accessibility in Nigeria is subject to climatic change factors, loss of farmland during farming period and livelihood diversification.

Contrarily, there is no established evidence of relationship between environment degradation and food accessibility; this is because it is not significant at both 5 percent and 10 percent level of significance. This may be valid on the ground that food can be accessed through barter (exchange of goods for goods), trade (exchange of money for goods) and it can also be accessed as a gift from friends and families or through theft. Moreover, food accessibility is determined by market factors, one's purchasing power, which is related to level of income and livelihood opportunities at one's disposal (FAO 2008).

There exists a significant relationship between environment degradation in Oloibiri area and food utilization. According to World Bank (2009), women are responsible for selecting food purchased to complement staple food and to balance the household diet. The environment may destroy the nutritious value of crop's content by flushing away the required nutrient for body growth. The ability of women to use and process many food and related products that support the livelihood of the household, hence by adding value may be curtailed by the quality of crops available for use (United Nations Development Programme, 2012).

#### Hypothesis Two

Ho - There is no significant relationship between economic status of women in Oloibiri community and food security

Table 4.3 shows the relationship between women socio-economic status and food security. It was obvious that there is no established evidence (tested @ 5 percent level of significance) of relationship or association between Oloibiri women's education and the attainment of food security. In the context of oloibiri's women, the educational level of women has no link with (i) how food is being produced and made available, (ii) how it is accessed (in term of proximity and purchasing power), (iii) or how is being utilized in term of quality for the use of body nourishment. There is a strong evidence of association between the employment status and food availability of women in Oloibiri ( $X^2 = 0.045$ ).

There are established evidences of relationship or association between Oloibiri women social status and (i) food availability (strong evidence, chi square tested @ 5 percent) and (ii) food accessibility (weak evidence, chi-square tested @ 10 percent).

**Table 3: Women' Socio-Economic Status and Food Security**

| S/N |               | Food Availability                                 | Food Accessibility                                 | Food Utilization                                  |
|-----|---------------|---|--|---|
| 1.  | Education     | 18.087<br>(0.258)<br><b>Accept H<sub>0</sub></b>  | 15.794<br>(0.106)<br><b>Accept H<sub>0</sub></b>   | 7.587<br>(1.181)<br><b>Accept H<sub>0</sub></b>   |
| 2.  | Employment    | 21.088<br>(0.045)*<br><b>Reject H<sub>0</sub></b> | 12.636<br>(0.125)<br><b>Accept H<sub>0</sub></b>   | 5.994<br>(0.200)<br><b>Accept H<sub>0</sub></b>   |
| 3.  | Social Status | 26.752<br>(0.002)*<br><b>Reject H<sub>0</sub></b> | 11.894<br>(0.064)**<br><b>Reject H<sub>0</sub></b> | 3.721<br>(0.293)<br><b>Accept H<sub>0</sub></b>   |
| 4.  | Income        | 22.378<br>(0.033)*<br><b>Reject H<sub>0</sub></b> | 17.533<br>(0.025)*<br><b>Reject H<sub>0</sub></b>  | 8.188<br>(0.085)**<br><b>Reject H<sub>0</sub></b> |

Source: Author's 2016 (p-values in parenthesis; \* significant @5%, \*\* significant @10%)



Women level of income has a very strong relationship with food availability and food accessibility, but weak relationship with food utilization. Implying that, women level of income has a way of determining the quantity of food available and its accessibility. World Bank (2009) opined that rural women tend to spend more of their income they make from food crops (compared to men) on food, children and family welfare, hence improving the entire household's food security.

As income strengthens individual purchasing power the ability to achieve food security also increases. Also the weak relationship between income and food utilization shows that the way the body makes use of food has little to do with income level.

### **Findings from Focus Group Discussion and Interviews**

Food security is a situation that exists when “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”<sup>1</sup>. There are four basic aspects of food security, namely; food availability (production), food accessibility (affordability/ distribution), food utilization (the use of the nutritional value content of food) and stability (the consistency of all the other three aspects of food security over time). On the supply side, food availability is most or intensely affected.<sup>2</sup> Contrary to the information gathered at the capital of the state (Yenogoa), the Oloibiri people are friendly, hospitable and accommodating

The negative impacts of oil exploration and exploitation activities on Oloibiri were apparent in virtually all areas of their life. This fact was self-evident from the physical conditions of the community as it lacks basic amenities like portable water, good road network and standard public health and facilities education. According to people interviewed during the Focus Group Discussion, the Oloibiri community has had their environment destroyed since oil exploration started there in the late 1950s. The situation became worse immediately after the civil war in the mid-1970s when Nigeria became oil dependent. The soil lost most of its nutrients became light due to oil spillage and crops could not stand on the soil. Some categories of crops and species of fishes went into extinction as a result of environmental degradation, for example, a species of cocoyam called “Amazi” in the local language which was mostly cultivated during raining season in large quantities before the coming of the “whitemen” has disappeared in the community. The “Amazi” plant which grows very well during raining season strangely dies the moment rain comes, and this is because of the acidic nature of the rain. Also, some species of fishes have also gone to extinction, fishes such as Eren, Agbara, Orobh-Obhi (popularly known as mud fish) as a result of oil spillage. There were airborne diseases due to gas burning and skin rashes which can be linked to unsuitable drinking water from polluted creeks.

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<sup>1</sup>FAO (2002). The state of food insecurity. United nations food and agriculture organization.

<sup>2</sup>FAO(2008). Food security concepts and framework. EC-FAO food security information for action programme.

Distance learning to support capacity building and training for national and local food security information systems and networks

Presently, food attainment and sustainability has become an uphill task for the Oloibiri inhabitants compared to when Oloibiri used to be a food producing community before the discovery of oil. Oil pipelines and spillage have caused an irreparable damage to land once used for agricultural purpose reducing the quantities and thereby increases the prices of available crops. Environment degradation has affected the abilities of Oloibiri women to attain food security in all ramification. In term of the quantities of food (availability), proximity to the source of food and ability of obtaining the food (accessibility) and utilization as they were curtailed in exercising and performing their responsibilities as food producers and care giver.

The activities of the Multinationals Oil Companies (NOC) had actually depleted the ozone layers, bringing about acidic rain, killing crops as soon as it is raining period. This is evident in the loss of the aforementioned Amazi crop<sup>3</sup> and untimely destruction of roofing sheets. The acidic rain also has effects on water and water reservoirs, sign posts/bill board and plants.

Oloibiri women are less educated while few of these women were secondary school holders. A larger proportion of these women are farmers. Due to low education status of these women, it was impossible for them to fit into a global environment or obtain a formal employment, thus they are rather cleaners and clerical officers in surrounding organizations. In addition, according a prominent woman in the community, a former queen, (of King J.C Egba,), when the White-men were talking about oil, the Oloibiri people thought it was palm oil they were actually talking about and by the time they knew it was crude oil, they had no idea about how its exploitation and exploration will change their life forever .

## CONCLUSION

This study investigates how negative environmental externalities arising from crude oil exploitation and exploration affect the ability of women in oil producing community of Oloibiri to attain food security. Women are the heart beat of food security in every society. They are involved in all forms and levels in agricultural production such as crop production, planting, weeding, harvesting, food processing, food storage and marketing. The study tests two hypotheses. The first deals with whether there is any significant relationship between environmental degradation caused by crude oil exploration and Oloibiri's women attainment of food security. The study finds that poor environmental conditions caused by oil exploration impact negatively on food availability and utilization but not on food accessibility. The second deals with how economic status of women in Oloibiri might affect the attainment of food security in Oloibiri community. The study finds the education and employment status has no significant relationship with attainment of food security but income level does. The findings from the first hypothesis shows that environmental degradation has far more impact on the ability of women to produce food than on how to access the limited quantities produced. Also the results of the second hypothesis show that income level as a direct measure of social status is better that employment and educational level in understanding how women cope with food insecurity.

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<sup>3</sup> Amazi is a specie of cocoyam.

## POLICY RECOMMENDATION

From the output of this study, it is no-gaining saying that to improve the food security and the welfare of women in Oloibiri community of Bayelsa State, the study therefore makes the following recommendations

- It is important that women should be empowered such that their level of income could be enhanced.
- Government should enact poverty-reducing environmental policies as a major component of poverty programme, with adequate representation of environment ministries as part of the coordinating bodies. This has the incentive of reaching the hidden area of every community, and especially the female gender.
- Adequate reparation of devastated environment and the compensation of women who happened to bear the aftermath effect of this ordeal. Moreover, studies have emphasized that the empowerment of women in every communities has the incentive of moving families from the threshold of poverty and its spill-over effect on the society cannot be overemphasized (Ernst & Young, 2011). This has to be accompanied with adequate social infrastructures such as clean drinking water, electricity, schools, hospitals, good network of roads etc in order to enhance the quality of life of the people in Oloibiri community.

In conclusion, it is important that the International Oil Companies operating in oil producing communities in Nigeria should be more involved in improving the conditions of the people their operations have affected negatively.

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