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Livelihood Insecurity And Diversification Among Women In An Environmentally-Challenged Niger Delta Region, Nigeria

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Abstract:

Livelihoods in the Niger Delta fishing communities in Nigeria are complex and dynamic. Environmental pollution, seasonal cycles of resource use and changes in access create conditions that bring challenges resulting in livelihood insecurity for rural households. Nonetheless, the women, the main breadwinners in most of the households, continuously struggle against these stresses and shocks. This paper sets out to explore how women attempt to mitigate against these challenges. It assesses the environmental challenges militating against successful sustenance of livelihood activities in households in four fishing communities in Eastern Obolo, the Niger Delta. The analyses of livelihood activities, the stresses and shocks show that diversification is a commonly used adaptation strategy. Analysing responses at multiple levels, with emphasis on adaptation strategies at household and community levels, illuminates aspects of livelihoods diversification. Defining important factors influencing livelihood diversification enabled categorization to determine the most critical and important for policy. Fish processing (82.22%), and processing of non-fish aquatic products (73.87%) were the most important economic activities. Four major factors have serious impacts on the livelihood activities of the women. Dealing directly with these underlying factors would therefore ensure livelihood security for most households in the Niger Delta.

Key words: Niger Delta, Nigeria; Diversification; Women; Livelihood insecurity; Environmental challenges

1.Introduction

The Niger Delta (ND) Region comprises Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers States. The region is located in Southern Nigeria and covers about 112,100 square kilometers, making up 12% of the total surface area of the nation. It is on the Atlantic Coastline and bordered to the east by Cameroon. By 2006, its estimated population was over 28 million, with women constituting 49 percent of the population (NPC, 2007). The exploration and exploitation of oil in the Niger Delta has resulted in massive environmental degradation which has caused losses of livelihoods, displacement of communities resulting in untold hardship and poverty for the entire ND population, especially the women. Oil spills and gas flares have constituted major sources of disaster to the communities. While the spills occur every now and then the flares are permanent features. The Niger Delta produces all of Nigeria's oil and gas, both on land and offshore, and the petroleum industry is the "backbone" of the Nigerian economy. It accounts for over 90% of Nigeria's foreign exchange revenue and over 80% of total government revenue" (NDRDMP, 2006).

The effects on the ND communities of the incessant oil spills include pollution of the fishing grounds, water courses, ground water, farmlands, and air, food poisoning, loss of biodiversity, loss of health, and subsequently death, while the effects of gas flares include depletion of fish stocks, deforestation, acid rain, loss of biodiversity and emission of carbon dioxide and methane (Ashton-Jones 1998; Ogbuigwe 1999). Despite the massive wealth derived from the ND, through which destruction has been visited on the communities through spillages and gas flares, there has been no coordinated, holistic compensation package, safety net mechanism or rehabilitation strategy for members of the communities of the ND to date. With the losses, and lack of access to their resources, the oil wells, farmlands, fish, forests, potable water, etc., and with the absence of any tangible assets, there is a high level of livelihood insecurity, insecurity of lives and property, and therefore a high level of vulnerability, especially for the women, who are left behind in those communities to fend for themselves and their households. For many of the women, their husbands have fled, seeking greener pastures elsewhere, and in the process have married other wives, and this has culminated in untold hardship for the "abandoned" wives and their children. In order to survive, the women in the communities attempt to diversify their livelihood activities, deviating from their lucrative fish processing and trading businesses of former times, in order to cater for their livelihoods and those of their households.

Ellis (2000) defines livelihood as comprising the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated through institutions and social relations) that together determine the living gained by the individual or household (Ellis 2000:10). According to Redclift (1990:85) security is "ownership of, or access to, resources and income-

earning activities, including reserves and assets to offset risks, ease shocks and meet contingencies"; and sustainable means "the maintenance or enhancement of resource productivity on a long term basis".

In the absence of these assets and resources required for livelihood sustenance in the Niger Delta, and with the destruction of the environment, women in Eastern Obolo have been forced to diversify into numerous livelihood activities. Diversification is widely understood as a form of self insurance in which people exchange some foregone expected earnings for reduced income variability achieved by selecting a portfolio of assets and activities that have low or negative correlation of incomes (Alderman and Paxson 1992; Reardon 1997; Reardon et al. 1998). Multiple motives have been identified to prompt households and individuals to diversify assets, incomes, and activities (Barret et al. 2001). The motives for the women of Eastern Obolo to diversify their income-earning activities comprise mainly what are traditionally termed "push factors" such as risk reduction, response to diminishing fish supply from fishermen caused by the pollution of fishing grounds, reaction to crisis situations, and liquidity constraints (Barret et al., 2001). The women also diversify to cope ex post with shocks to income. When fish die as a result of oil spills, households must reallocate labor to other pursuits, whether formal employment (e.g. wage labor), or informal employment (e.g. petty trading). Diversification is also seen as a form of risk management (Barret et al. 2001). The implication of the "diversification as risk management" rationale is that the need for self-insurance is a function of the availability of substitute social insurance, provided supposedly through transfers by the government, by non-profit agencies, by community or family members. Since social insurance can at least partly substitute for self insurance, one would expect greater need for asset, activity, and income diversification where social insurance is relatively scarce. This may help account for the unusually high dependence of rural households on non-fish and non-farm incomes, and other sources such as governments, communities, and relief agencies which offer meager or frequently no safety nets. The social fabric of traditional safety nets also appears to be stretched or unraveling in many places.

Livelihood security for the women in Eastern Obolo would mean their ability to maintain their livelihoods through a bundle of livelihood portfolios (Niehof and Price 2000). These can only be maintained using assets and resources, including skills (inputs), to generate livelihood strategies, which would involve using all the resources or assets they have access to, such as natural resources (fish, water, land), physical resources (buildings, roads, equipment, infrastructure), financial resources (savings, credit facilities), human resources (labour, experience, skills, education and health), and social capital (Ellis 2000). The availability of resources and skills to utilize these properly is crucial in determining the dynamics of household level livelihood security. In considering the livelihood strategies of women in Eastern Obolo, aspects centering on resource access (Berry 1989; Blaikie 1989), livelihood diversification (Ellis 2000), vulnerability (Moser 1998) and entitlements (Sen 1981) are considered.

Rural livelihoods in polluted environments all over the world are complicated. The effects of pollution on livelihoods in fishing communities are multi-faceted and therefore, more complicated. Destruction of the natural resource, pollution of the land and water bodies, reduction in resource abundance, seasonal cycles of resource use, changes in access (Marschke and Berkes 2006), and socio-political exclusion create conditions that bring challenges for women in rural households, as do economic and policy drivers. The women engage themselves mostly in household subsistence activities and depend highly on the environment as the source of their household incomes.

The traditional division of labour gives women in Niger Delta fishing communities the responsibility of providing and managing natural energy sources required for the maintenance of the household, and environmental pollution poses a major challenge to achieving this, placing an extra burden on them. Pollution increases the women-hours she will devote to fetching clean drinkable water, gathering forest and water products, which are crucial for food supplement, and firewood for domestic use (Ononge 2002). It also compromises her ability to procure fish for sale, to earn an income.

Niger Delta women are also involved in polygamous marriages and each wife is expected to cater for the welfare of her children (Omorodion 2004; Udong et al. 2010). The extended family system also pervades the communities, compelling men who share incomes with their wives to distribute their incomes between the female-headed units within the polygamous unions, concubines and other extended family members like aged parents, brothers and sisters in school or pursuing training. Also, because the rural women are last on the list to be hired by the oil companies due to their lack of relevant qualifications, they suffer discrepant impoverishment, thereby deflating their gender status vis-à-vis men. The women are therefore struggling continuously against environmental pollution, lack of resources, seasonality and discrimination, which constitute stresses and shocks, in the process of ensuring sustainable livelihoods for their households.

Women tend to stick to their households' traditional livelihood strategies until they are forced to do otherwise. The decision to take a new strategy and diversify livelihood activities for the poor in rural communities therefore depends on many factors, including disasters such as oil spills, seasonality, and conflicts. Whether the diversification leads to the livelihood security of the household depends on its assets and the resources available to it (Marschke and Berkes 2006).

Several studies have been carried out in the Niger Delta, many of which have been on the physico-chemical aspects of the environment, the effects of oil exploration on the environment, and the causes of the conflict in the region. Most of the studies on women's activities in the region focus on their roles in the on-going conflicts, and their contributions towards the peace process. Very few studies have been carried out on the impact of environmental pollution on the livelihood strategies of women in the region. These include Gabriel (2004), Omorodion (2004) and Akiyode (2009) on gender and livelihood security in the Niger Delta, Ashton-Jones (1998), on the human ecosystems of the Niger Delta while Ononge (2002) studied the social impact of pollution on the region. Studies on gender and diversification of livelihood activities in response to shocks and stresses, and on whether the diversification of livelihood activities have helped sustain the livelihoods of women and their households in the Niger Delta have hardly been carried out. In studying the survival strategies of the women who live under conditions where there is almost complete destruction of the only resources which they have had access or claim to in the past- fish, water, and land, this study hopes to expose the plight of women in the Niger Delta, in the context of the ongoing environmental destruction perpetrated

by the oil conglomerates operating in the region. The study specifically explores the effects of environmental degradation caused by oil spills and gas flares on the livelihoods of the women in Eastern Obolo Local Government Area of Akwa Ibom State, a predominantly fishing area located between the Atlantic Ocean and the estuaries of Qua Iboe and Imo Rivers. The adaptation strategies used by the women are identified, taking cognizance of those critical for engendering livelihood security in households, in the absence of rehabilitation and safety net mechanisms.

2. Methodology

The study was carried out within the Niger Delta Region of Nigeria in Eastern Obolo Local Government Area of Akwa Ibom State which lies in latitude 4° 30' North and longitude 7° 35' East, southern Nigeria. Parts of it are also on the Atlantic coastline. It lies principally between the tropical rainforest zone, the estuaries of Imo and Qua Iboe Rivers, and the Atlantic Ocean. It therefore comprises mangrove forests, a few upland communities, islands, several coastal permanent and semi-permanent fishing communities. It has a population of about 60,543 people (NPC, 2007), 49 percent of whom are women. It is inhabited by two major ethnic groups, the Ibibios and the Andoni and the Local Government Area is predominantly rural and riverine as shares borders with Onna, Ibeno, Mkpato Enin and Ikot Abasi Local Government Areas (Ajana, 1996).

There are two major seasons which affect livelihood activities in the communities: the rainy season from May to October, and dry season from November to April. About 10 years ago the traditional occupation of most of the population was in fisheries and fisheries-related activities, involving over 80 percent of the population either directly or indirectly. However, with the wanton destruction of the environment by oil companies such as Shell, Mobil and Chevron, occasioned by several oil spillages and gas flares on farmlands and its territorial waters over the last 30 years, there have been losses of livelihoods in the fisheries sector, leading to diversification into other livelihood activities by women in the communities.

Women from four fishing communities, Atabrikang, Amadaka, Okoroete 1 and Okoroete 2 were selected using the simple random sampling method. Households were identified and systematic random sampling was used to select one hundred and eighty households. In male-headed households the wives of the household heads or the de facto heads were interviewed, while women who headed their households were also interviewed. An interview schedule was used to collect primary data and the analysis was done using frequency counts, simple percentages and qualitative analysis.

3. Results And Discussion

"These days, it is like a curse in the creeks of the Niger Delta. Fishes don't grow, not even crabs or shrimps...we can't feed our children and to worsen the situation we can't sleep because of that light,"

A fisher folk in the Niger Delta, pointing at the flame of a gas flare across from his mud and thatch-roof home (This Day Newspaper, Feb 6, 2006).

Sustainable livelihood is not static and is affected by both internal and external dynamics. For it to be sustainable, a livelihood strategy requires the capability to respond to challenges and to continuously renew and develop adaptation strategies. It is in this framework of adaptability to challenges posed by environmental constraints that studies on the livelihood strategies of the women in Eastern Obolo were conducted. The results are presented in the order of the concepts as follows: (1) Demographic characteristics; (2) Impact of environmental pollution; (3) Adaptation strategies; (4) Strategies that are important for livelihood sustenance; (5) Rights to sustainable livelihoods.

3.1. Demographic Characteristics

Selected personal characteristics of the respondents are presented in Table 1. The results show that about 75.56% of the women are below 50 years of age while only 5.56% are above the active productive age of 60 years, depicting that most of the women in the community are economically active. Those married constituted 78.33 percent of the respondents while the single and widowed constituted about 21.67 percent. This indicates that most of the households (78.33%) are male-headed while about 21.67 percent are female-headed. The percentage of female-headed households is higher than the average for Akwa Ibom State (17%), and lower than the ND region (24%). Results of the interviews show that in a lot of households, there are married women who are de facto heads, where husbands have migrated, looking for better opportunities in the wake of the disaster caused by regular oil spills or husbands living with other wives (Moser 1993). The patriarchal nature of the culture socializes women to claim men as heads of their households even when they are „visiting husbands“ and the woman takes care of herself and children. The community is predominantly Christian, which accounts for the low percentage of divorced women (3.33%). However, in the Ibibio and Andoni culture many of the women who have literally been abandoned by their husbands are considered still married to them as long as he has not divorced her officially. This also explains the low percentage of divorced women.

Out of the 45 percent of the women that have some education only about 15 percent attended secondary school while 30 percent attended primary school. About an average of 55 percent of the women are illiterate, without any formal education. This is much higher than the national average (31% in 2009). This is probably explained by the fact that there have been no infrastructural facilities provided in the region despite over fifty years of oil exploratory activities.

About 50 percent of the women had between 4 and 6 children while about 31 percent had 7 to 9 children. In the absence of electricity and other infrastructural facilities child rearing becomes one of the major occupations. Also the high infant mortality rate (120 per thousand births) in the region makes the women have more children than necessary, because with the state of health facilities and the high rate of poverty, they do not know how many will eventually survive.

Over 85 percent of the respondents earned less than N10,000 (\$65) in a month, while the remaining 15 percent earned more than that. This is probably due to the destruction of their main source of livelihood, water and land, which has ensured limited sources

of income and low level of economic activities and productivity. On an income of about \$65, trying to sustain the livelihoods of at least 5 people in the household is an uphill task.

Item	Variables	Frequency	Percentage
1	Age		
	20 – 29	19	10.56
	30 – 39	52	28.89
	40 – 49	65	36.11
	50 – 59	34	18.89
	60 and above	10	5.55
2	Marital Status		
	Single	12	6.67
	Married	141	78.33
	widowed	27	15.00
3	Educational Level		
	Informal	99	55.00
	Primary	54	30.00
	Secondary	22	12.22
	Tertiary	5	2.78
4.	Household Size		
	1 – 3	24	13.33
	4 – 6	91	50.56
	7 – 9	56	31.11
	10 and above	9	5.00
5.	Estimated Monthly Income		
	N5, 000 and below	81	45.00
	N5, 001 – N10, 000	73	40.56
	N10, 001 – N15, 000	15	8.33
	N15, 001 – N20, 000	7	3.89
	N20, 001 and above	4	2.22

Table 1: Personal Characteristics Of Respondent
Source: Field Survey, 2010

3.2. The Impact Of Environmental Pollution On The Niger Delta Communities Sampled

The number of registered oil spillages is increasing ... Depending on the area, oil pollution could cause adverse impacts on people (water quality), vegetation (smothering mangrove trees, crops, shore vegetation), and fauna (fish, shellfish, and soil fauna). This is demonstrated in several Post Impact studies on the recent or old spills sites. The 25 year old "Mystery Spill" of the trunk line in the Ejama Ebubu, caused during the civil war is a wellknown, but not sufficiently studied yet- example. (SPDC handbook of 1993)

Environmental pollution in the Niger Delta is caused mainly by oil spills and gas flares (Ashton-Jones 1998). Sources of oil spills include:

- Oil blowout from wellheads as a result of poor maintenance ordamage. The chances of blowouts are fairly high because Nigerian oil is naturally contained under pressure. Pollution from blowouts is made worse if the area around the wellhead is not properly sealed. Blowouts may also occur during drilling.
- Oil spillage from pipelines and flowlines as a result of poor maintenance or damage.
- Oil spillage at flow-stations during separation from water.

Oil spills have been known to have serious consequences on the local environment and population. For the Nigerian oil, which is volatile and light, nature can recover from a single spill after about ten years (Van Gelder and Moerkamp 1996). However, in the Niger Delta several spills occur every year, without any conscious effort of the companies at cleaning up and the rehabilitation of the environment, and the people affected by the spills. Nature is therefore not given any chance to recover and there is thus total destruction of the resources. To the fisher folk who see fish in their rivers decimated by oil spills, the devastation is total because they know they have lost their sole source of livelihood and income. The same goes for the farmers whose farms are ruined by oil pollution and gas flares. The environmental challenges listed in Table 2, among others, all combine to create disastrous conditions in the communities in the Niger Delta, including the four communities in Eastern Obolo, resulting in loss of livelihoods for women in the communities, uncontrolled birth, birth defects, diseases, and poverty. The associated gas flared during the process of drilling for oil also has deleterious effects on the environment and the people living in the communities. These, as also listed in Table 2 include heat, noise, soot, smoke, acid rain, and loss of biodiversity as the heat scorches all the plants within a certain distance, greenhouse-gas emissions, chronic health and environmental problems.

Environmental challenges caused by oil pollution and gas flares	Causes
Destruction of fishing grounds	Oil spills, as flares
Depletion of the fisheries resource	Oil spills, gas flares
Land degradation	Oil spills
Air pollution (soot, heat, etc.)	Gas flares
Biodiversity loss	Oil spills and gas flares
Water pollution with oil, salts, chemicals and sewage	Oil spills
Soil pollution	Oil spills
Resource depletion and wastage	Gas flaring
Deforestation	Oil spills and gas flares
Chronic health problems (Eyes, lungs)	Gas flares
Acid rain	Gas flares
Greenhouse-gas emissions	Gas flares
Other environmental problems	Gas flares and oil spills

Table 2: Selected Impacts Of Oil Spills And Gas Flares On Communities In The Niger Delta
Source: Ogbuigwe (1999)

3.3.Livelihood Activities Of Women In The Four Selected Eastern Obolo Communities

Prior to the disasters occasioned by oil pollution and the destruction of the environment, over 85 per cent of the women were involved in the processing and marketing of fish, crayfish and other fishery-related products. Others who were not involved in the fish processing and selling business farmed, picked periwinkle from the beaches, were involved in petty trading, processed cassava and palm oil for sale, wove baskets, mended nets and gathered non-timber forest products for sale (Ogbuigwe 1999; Ashton-Jones 1998). During the era of incessant spills of oil and gas flaring the livelihood activities listed in Table 3 represent the livelihood activities involved in by the women. Overall, the women do not seem to have any major livelihood activity. Compared to the past twenty five years when over 85 percent of the women in Eastern Obolo were involved, only about 42.78 percent of the women are currently involved in the processing and selling of fish. This is also a far cry from the reports of over 80 per cent from other coastal fishing communities such as Ibaka, where the effects of oil spillages are presently minimally felt (Udong et al. 2010). This is probably explained by the fact that the fish population has been depleted because of spills, while the flares have also raised water temperatures and driven most fish species offshore, reducing the catch. Also, to catch the fish these days, the fishermen have to drive their outboard engines for long distances into the high seas, and many of them who cannot afford the cost have abandoned the occupation. This has reduced fish supply to the women processors and traders. The cost of the fish is also a cause for concern because many of the women complain of low working capital and non-availability of credit facilities where money could be obtained to trade in fish or any other commodity. The next serious activity, gathering of non-fish aquatic products such as periwinkles from the beach attracts only about 23 per cent of the women sampled. It is worthy to note that this activity is normally indulged in by the poorest women in the communities because it is very tedious, depends on the tide, and the periwinkles attract very low prices and are not easy to handle.

Petty trading was indulged in by only 11.67 per cent of the women. This low percentage could probably be accounted for by the fact that in a depressed economy such as those in Eastern Obolo where cash is scarce, trading would be an occupation of the very last resort because there is no money in circulation for people to purchase what they need. Farming does not produce results where the soils and farmlands are all polluted hence the 4.44 percent of the women involved must be travelling long distances to find arable land, which will make the efforts unprofitable. From the results it is quite obvious that the women do not have any major income-generating activities, apart from the about 43 percent who are still involved in fish processing and the fish trade, some of which are operating at a subsistence level.

Many of the women are however carrying out fishing in the creeks, gathering non-fish aquatic products such as periwinkles at the beach, processing of fish and non-fish aquatic products, petty trading, and gathering non-timber forest products as minor activities. This means that most of the activities in these communities are being operated at subsistence levels by the women, meaning that they are barely surviving. With the collapse of their fishery, their high level of illiteracy and only fishery-related skills, they are unable to find alternative occupations either in the public service or as hired labour in the oil companies, where men are preferred. The level of women's involvement in other livelihood activities (0.06% - 11.67%) shows that opportunities for livelihood sustenance have declined drastically and are practically non-existent in the communities. With the very low level of economic activities, the women and their households are barely surviving, and this expresses the urgency with which safety net mechanisms need to be put in place by the concerned local, state and national governments, the oil prospecting companies, aid agencies and national NGOs as a poverty alleviation strategy in the communities.

Activities	Major activity	Minor activity
Fishing	0.50	45.00
Gathering non-fish aquatic products	23.33	73.89
Processing of fish/non-fish aquatic products	42.78	82.22
Crop farming	4.44	34.44
Livestock rearing	0.06	24.44
Petty Trading	11.67	52.78
Hired Labour	1.11	6.11
Civil Service	2.78	2.78
Restaurants operations/food vending	2.22	3.33
Hair dressing	1.11	4.44
Gathering non timber forest products	-	47.78
Others	5.56	5.56

Table 3: Livelihood activities currently engaged in by the respondents

Source: Field Survey, 2010

3.4.Challenges To Livelihood Activities

Apart from the safety net mechanism, the members of the communities could be assisted to get back on their feet. While discussing the major challenges to successful income generating livelihood activities in the communities, the women came up with the list presented in Table 4. According to the results, the major challenges to livelihood activities of women in the area are water pollution (57.22%), poor processing/storage equipment (56.67%), inadequate capital/credit facilities (37.22%), and high cost of processing/storage equipment (36.11). Water pollution results in low productivity of the waters, and therefore low fish catches, less quantities of fish to process and sell, reduced income, increased poverty and high level of vulnerability. Also, water pollution translates into lack of potable water, increasing the cost in time and money of procuring safe water for drinking and other household activities for the women.

The lack of, or insufficient working capital is a major challenge to a successful income-generating activity. The situation is made worse by the lack of credit facilities in the communities. With the advent of micro-finance banks in many rural communities in Nigeria, it was expected that some of the fishing communities would benefit from their services. However, the remote locations of these communities, the lack of infrastructural facilities, and the volatile nature of the Niger Delta have deterred the financial institutions from opening branches in its rural communities. Sexual discrimination has also ensured that where present, the banks do not loan to women either due to their inability to fulfill the stringent conditions, or because field officers, like extension officers, address men only. Women have thus not benefited. This has had a negative effect on economic activities in the region, especially for the women.

The smoking of fish is still being carried out using old and outdated equipment and for those who are able to obtain fish for smoking this poses a major problem. The old equipment are inefficient, ineffective and consume a lot of firewood, which means that a lot more money is spent on the firewood and more time is spent on the fish processing than is necessary. Also, with deforestation caused by the gas flares and oil spills, firewood is scarce and expensive, increasing the cost of smoking the fish and reducing the profit margins. Replacing the old processing equipment with new, more efficient equipment such as the Chorkor smoker also has cost implications which the women are not able to bear because of low working capital and the unavailability of credit facilities in the communities.

The other challenges such as poor transportation network, poor marketing structure, lack of modern inputs, and the other challenges point to the under-development and total lack of infrastructural facilities in the communities, as well as the devastating effects of oil spills and gas flares.

All these challenges to the livelihood activities of the women in the study area have implications for sustainable livelihood, livelihood security and the survival of these communities. These challenges reduce livelihood outcomes causing a short-fall in their ability to meet the household's livelihood needs. To cope with this short-fall, the environment, the stock of natural capital is further exploited. Continued exploitation of the environment leads to its degradation, collapse and inability to sustain productive activities and livelihoods.

Item	Challenges	Minor Constraint%	Major Constraint%
1	High cost of fishing equipment	(11.11)	(13.89)
2	Processing capability	(9.44)	(17.22)
3	Old processing and storage equipment	(14.44)	(56.67)
4	High cost of processing and Storage equipment	(17.22)	(36.11)
5	Deforestation	(15.56)	(6.67)
6	Insufficient land	(6.25)	(1.11)
7	Marketing structure	(28.33)	(26.11)
8	Poor/obsolete farm tools	(4.44)	(1.67)
9	Inferior cultivar/breeds of agricultural input	(6.11)	(3.89)
10	Poor soil structure/fertility	(20.00)	(4.44)
11	Inadequate capital/credit facilities	(27.78)	(37.22)
12	Lack of extension services	(6.11)	(2.22)
13	Poor transportation facilities	(27.78)	(21.67)

Table 4: Challenges to the livelihood activities of women in Eastern Obolo communities.

Source: Field Survey, 2008

3.5.Human Rights Issues

Several instruments and conventions exist to protect the interest of people with fisheries-based livelihoods. These include the Civil society proposals in relation to livelihood, the UNCLOS, UNFSA, CBD, FAO-CCRF provisions related to livelihood, the ILO instruments of relevance to fisheries-based livelihoods and the World Trade Organisation instruments on fisheries-based livelihoods (Mathew 2010).

3.5.1.Civil Society Proclamations

At the Bangkok Civil Society consultations on protecting the livelihoods of fishing communities held in Thailand in 2010 the recommendations to governments and other stakeholders included their commitment to:

- Guarantee access rights of small-scale and indigenous fishing communities to territories, lands and waters on which they have traditionally depended for their life and livelihood
- Recognize, promote and protect the diversified livelihood base of fishing communities
- Seek the free, prior and informed consent of small-scale fishing communities and indigenous peoples before undertaking activities that may affect their lives and livelihoods
- Provide support to capacity-building of fishing and indigenous communities to participate in governance of coastal and fisheries resources
- Protect access of women of fishing communities to fish resources for processing, trading and food, particularly through protecting the diversified and decentralized nature of small-scale and indigenous fisheries
- Ensure that trade promotes human development, and that it leads to equitable distribution of benefits to fishing communities
- Guarantee the rights of all categories of workers in fisheries, including self-employed workers and workers in the informal sector, both men and women, to social security and safe and decent working conditions
- Implement the International Labour Organization (ILO) Work in Fishing Convention 2007, and extend its provisions to include inland and shore-based fishers
- Protect access of women of fishing communities to fish resources for processing, trading and food, particularly through protecting the diversified and decentralized nature of small-scale and indigenous fisheries
- Guarantee the rights of fishing communities to basic services such as safe drinking water, education, sanitation, health and HIV/AIDS prevention and treatment services
- Protect cultural identities, dignity and traditional rights of fishing communities and indigenous peoples
- Integrate an understanding of gender that shapes fisheries policies at various levels towards sustaining life and livelihoods in fishing communities
- Guarantee the rights of all categories of workers in fisheries, including self-employed workers and workers in the informal sector, both men and women, to social security and safe and decent working conditions
- Implement the International Labour Organization (ILO) Work in Fishing Convention 2007, and extend its provisions to include inland and shore-based fishers
- Implement obligations under the Universal Declaration of Human Rights (UDHR) and human rights legislation, including the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), the Convention on the Rights of the Child, and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

3.5.2. International Conventions

3.5.2.1. The FAO Conventions

Those related to fishers and fish workers include:

- Economic needs of coastal fishing communities (UNCLOS Article 61, UNFSA Article 11)
- Economic and social development and poverty eradication; sustainable use of biodiversity for meeting food, health and other needs (CBD)
- Protect the rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood (Article 6.18 CCRF)
- Due recognition to the traditional practices, needs and interests of indigenous people and local communities who are highly dependent on fisheries for their livelihood (Article 7.6.6 of CCRF)

3.5.2.2. The ILO Conventions

Those of Relevance to Fisheries include:

The Social Security (Minimum Standards) Convention, 1952 (C. 102); and Indigenous and Tribal Peoples' Convention, 1989 (C.169) (Mathew 2010).

The recommendations are:

- Recognize the livelihood-related provisions of UNCLOS, UNFSA, CBD, CCRF to strengthen the social pillar of sustainable development
- Ratify all ILO labour conventions of relevance to fishing communities, including the Work in Fishing Convention, 2007
- Mainstream human rights elements into fisheries for a people-centred and socially responsible community.
- Promotional Framework for Occupational Safety and Health Convention, 2006 (C.187);
- Social Security (Minimum Standards) Convention, 1952 (C. 102); and Indigenous and Tribal Peoples' Convention, 1989 (C.169)

4. Conclusion And Recommendation

From the results and discussion, it is obvious that the bond between sustainable livelihoods and the environment is inseparable. Appreciation of the effects of the challenges to livelihood activities on the environment and agriculture is the basis for informed intervention. It is recommended that efforts be made to control environmental pollution caused by oil exploration and exploitation activities. Infrastructural facilities such as good roads, potable water and sanitation facilities, health centres, electricity, transportation facilities, extension services and a processing and marketing infrastructure should be put in place in order to improve the livelihood portfolios of women in the area and make them sustainable. There is also the urgent need for concerted efforts to be made to clean up the accumulated oil spills and stop the gas flares. Safety net measures are also urgently required, in order to rehabilitate the communities and give them a sense of belonging. The women remaining in the communities and acting as *de jure* household heads, with no visible means of livelihood need special rehabilitation, to enable them sustain their households and secure their livelihoods. Most importantly, in line with the CSO recommendations and the various international conventions, many of which the government is signatory to, but without any efforts at their domestication, it is recommended that the government and all its partners in the oil and gas industry should:

- Recognize and adopt the 2008 ASEAN Civil Society recommendations and apply them in the Niger Delta.
- Recognize the livelihood-related provisions of UNCLOS, UNFSA, CBD, CCRF to strengthen the social pillar of sustainable development.
- Ratify all ILO labour conventions of relevance to fishing communities, including the Work in Fishing Convention, 2007
- Mainstream human rights elements into fisheries for a people-centred and socially responsible Niger Delta Community.

5. References

1. Akiyode, O. O. (2009) Gender, Sustainable Peace, and Development in the Niger Delta Region of Nigeria. *Journal of Sustainable Development in Africa*. Clarion University of Pennsylvania, Clarion, Pennsylvania, Vol. 11, No. 2, 2009
2. Alderman, H. and C. H. Paxson, (1992) Do the Poor Insure? A Synthesis of the Literature on Risk and Consumption in Developing Countries. World Bank Policy Research Working Paper, WPS 1008.
3. AKS- Akwa Ibom State of Nigeria (2005) The Report of Socio-Economic Study of Akwa Ibom State, Ministry of Economic Development, Akwa Ibom State, Nigeria.
4. Ashton-Jones, N. (1998) *The Human Ecosystems of the Niger Delta: An ERA Handbook*. Krafts Book Ltd., Ibadan, Nigeria. Pp. 224.
5. Barret, C. B., T. Reardon and P. Webb (2001) Nonfarm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics, and Policy Implications, *Food Policy*, Vol. 26 (4) Pages 315-331.
6. Cinner, J. E. and Ö. Bodin (2010) Livelihood Diversification in Tropical Coastal Communities: A Network-Based Approach to Analyzing Livelihood Landscapes. *PlosONE*.
7. Davies, S. (1996) *Adaptable Livelihoods: Coping with Food Insecurity in the Malian Sahel*, New York, London, Mcmillan Press.
8. Ellis, F. (2000). *Rural Livelihoods and Diversity in Developing Countries*. Oxford: Oxford University Press.

9. Gabriel, A. O. I. (2004). Women in Niger Delta: Environmental Issues and Challenges in the Third Millennium [www.jsd-africa.com] (Accessed on 22nd February, 2012).
10. Marschke, Melissa J. and Fikret Berkes (2006) Exploring Strategies that Build Livelihood Resilience: A Case from Cambodia. *Ecology and Society* 11(1):42 [URL: <http://www.ecologyandsociety.org/vol11/iss1/art42/>]
11. (Accessed on 2nd February, 2012).
12. Mathew, S. (2010) Protecting Livelihoods of Fishing Communities. Report of the International Collective in Support of Fishworkers" (ICSF) Regional Technical Consultation on Adaptation to a Changing Environment.
13. November 3, 2010, Bangkok, Thailand.
14. Millennium Ecosystem Assessment (MEA). (2005). Multi-Scale Assessments: Findings of the Sub-Global Assessments Working Group. Volume 4. Island Press, Chicago, Illinois, USA.
15. Moser, C. O. N. (1993) Gender Planning and Development: Theory, Practice and Training. London and New York: Routledge.
16. NDRDMP (2006). Niger Delta Regional Developmental Master Plan. Niger Delta Development Commission, Federal Republic of Nigeria.
17. Niehof, A. and L. Price (2001) Rural Livelihood Systems: A Conceptual Framework. Wageningen-UPWARD Series on Rural Livelihoods No. 1. Wageningen: Household and Consumer Studies, Wageningen University.
18. NPC (2007) Nigerian Population Commission Report.
19. Ogbuigwe, Akpezi (1999) Offended (Legal Issues in the Niger Delta Struggle): A Collection of Essays. ANPEZ, Centre for Environment and Development, Port Harcourt, Nigeria.
20. Omoridon, F. I. (2004). "The Impact of Petroleum Refinery on the Economic Livelihoods of Women of the Niger Delta Region of Nigeria" JENDA: A Journal of Culture and African Women Studies.
21. Ononge, O. F. (2002). Social Impact of Pollution. A Paper Presented at the Annual Conference of Association of General and Private Medical Practitioners on March 2002 at Hotel Presidential, Port Harcourt, CASS Newsletter, Volume 9, Nos. 1 and 2, Pp. 6.
22. Reardon, T. (1997) Using Evidence of Household Income Diversification to Inform Study of the Rural Nonfarm Labor Market in Africa. *World Development*, Vol. 25 (5), pp. 735–748.
23. Reardon, T., K. Stamoulis, A. Balisacan, M. E. Cruz, J. Berdegue, and B. Banks (1998) Rural Nonfarm Income in Developing Countries. Special Chapter in "The State of Food and Agriculture" 1998. FAO, Rome.
24. Redclift, M. (1990) The Role of Agriculture in Sustainable Development. In: P. Lowe, T. Marsden and S. Whatmore (Eds.), *Technological Change and the Rural Environment*. London: David Fulton Publishers Ltd.
25. Scoones, I. 1998. Sustainable Rural Livelihoods: A Framework For Analysis. Institute of Development Studies (IDS), Brighton, UK. IDS Working Paper 72.
26. SPDC (1993) Shell Petroleum Development Corporation Handbook of 1993
27. This Day Newspaper, Feb 6, 2006
28. Tietz, U., S. Siar, S. M. Upare and M. A. Upare (2007) Livelihood and Micro-Enterprise Development Opportunities for Women in Coastal Fishing Communities in India: Case Studies of Orissa and Maharashtra. FAO Fisheries Circular No. 1021, FAO, ROME. 69 pp.
29. Udong, E., A. Niehof and A. van Tilburg (2010) The Livelihood Strategies of Women Fish Traders in Adapting to Cultural and Institutional Constraints in Ibaka, Nigeria. MAST Vol 6(2).
30. Van Gelder and Moerkamp (1996) Greenpeace Discussion Paper. The Netherlands