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CULTURAL BARRIER TO WOMEN INVOLVEMENT IN GULLY EROSION DISASTER RISK REDUCTION IN ANAMBRA STATE, NIGERIA

Augustina U. Okonkwo[1], **Ifeoma F. Ikegbunam**[2]

[1,2] *Department of Environmental Management, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.*
Email: [1]auokonkwo@yahoo.com, [2]fi.ikegbunam@coou.edu.ng,

Abstract

Ecological problems are one of the many challenges bedeviling Nigeria. South Eastern Nigeria is beset by monumental gully erosion menace and coastal flooding. Over the years enormous efforts have been made in containing erosion and flooding; yet progress is tardy. Part of the problem lay in gender bias in policy formulation and implementation, yet women play pivotal roles in the economy of many households in Nigeria. These women are in direct contact with the environment and as such, they are most vulnerable to environmental problems, hazards, and risks. Culturally and economically, women are least resilient to deal with environmental and ecological hazards and disasters. This paper therefore seeks to investigate gender vulnerability to ecological disasters in Nigeria vis-à-vis National Framework for Disaster Risk Reduction: The methodology of study is multi stage sampling technique. The design of study is socio-economic survey design. Data was collected using focus group discussion with women groups in the selected communities in 4 Local Government Areas in Anambra State. In depth studies were undertaken with most vulnerable groups especially those living within gully margins and close to river banks and those whose livelihoods are land based. Key informant interview were also used. Data collected were analyzed using SPSS software. Results obtained showed that women were never consulted in gully erosion and remediation projects from conceptualizations, planning, and implementation stages even when many of them suffer bereavement, loss of economic base, properties, and the greatest exposure to these ecological disasters. This paper advocates for women involvement in ecological disaster risk reduction in Nigeria.
***Key words**: Disaster, Ecological Problems, Gully Erosion, Risk Reduction, Vulnerability*

INTRODUCTION

Streams of studies spanning over six decades of the present century on environmental and ecological disasters, emergencies, and catastrophes in Nigeria have shown conspicuous, but uncomfortable, silence on gender issues in vulnerability to hazard, disasters and risks; especially the status of women and their culturally determined access to economic and livelihood patterns, power and roles during disaster and post disaster periods. Literature on flooding, gully erosion, landslide and various forms of mass wasting especially on South Eastern Nigeria, which has attracted national and international concerns are well documented (Grove,1951; Ofomata,1965,

1973,1981,1985, 2001; Egboka, 1983; Egboka & Okpoko, 1984; Ogbukagu,1986; Muoghalu & Ikegbunam, 1991; Nwajide & Hoque, 2002; Akpokadjie, 2012, etc.).

Several attempts have been made to capture the economic impacts and the scale or magnitude of the impacts in terms of areal coverage and damage to infrastructure, yet impacts on women were not considered in any of such studies separately or as an important component of such studies.

Enarson, (2012) opined that wider issues and larger context of gender relations, disaster related inter-personal violence are conspicuously under examined whether against women and men, or boys and girls while post disaster sheltering temporal accommodation and permanent re-housing are built for 'occupants' not for women and men of different ages, class, social, cultural and tribal backgrounds.
Variability exists in typologies of vulnerability, as well as, in the spatial, temporal and cultural and/or tribal/ethnic dimensions of vulnerability. It should be noted that disasters take physical toll on women than men, the poor, than the rich; the socially, culturally, economically and politically marginalized than the influential. One conspicuous consequence of disaster is the decapitation of women and reduction of their share of productive activities in the formal and informal sectors through direct and indirect damages (Hannan, 2002). For instance statistics released by the International Union for the Conservation of Nature (IUCN) Fact Sheet (2009) show that some groups are more vulnerable than others in the context of damage, loss and suffering from differing degrees of exposure to hazards, disasters and risks. The IUCN Fact Sheet presents a chilling account of vulnerability of women to natural disaster. According to the Fact Sheet delivered by Neumayer and Plumper (2007) for 181 countries, there is variability in the number of deaths, displacement and economic loss suffered by men and women whenever disaster strikes.

Gender relations in disaster expose most women in Nigeria to increased risk through poverty, physical challenges, political and economic emasculation, insecure homes, harmful widowhood practices, domestic violence, cultural barriers and gender stereotypes in roles, male dominance, non - participation and/or inclusion of women in decision making process even with external intervention in disaster reduction.

The disregard for consideration of women in disaster risk preparedness, emergency response, economic recovery and vulnerability management has created a knowledge gap. There is therefore an urgent need to integrate gender vulnerability into the cannons of disaster, risk, hazard and emergency management in Nigeria so as to bridge this gap on women and girls for a sustainable disaster preparedness, coping and resilience among women. It will be recalled that during the International Decade for Natural Disaster Reduction (1990-2000), women and children were identified as key to disaster prevention (UN, 1990), and achievement of the Millennium Development Goals, MDGs. MDG no 3 has as its target 'Promotion of Gender Equality and Empowerment of Women' (UN Millennium Project, 2005). According to UKAid (2012), women make up only 21% of non-agricultural paid labour force. The report also shows that each day 144 women die in child birth equivalent to one death every 10 minutes. The extent of gender inequality in Nigeria manifests in the level of access to education, income poverty level and employment status, and human rights abuses of women in the home and at work places; portends a cog in the wheel of achievement of developmental goals in Nigeria. Arising from the foregoing,

the aim of this paper is to present an empirical evidence of the spatial and temporal patterns of gender vulnerability to ecological disasters in Nigeria using gully erosion ravaged communities in Anambra State as a pivot of study. The objectives of this paper are:

a. To capture the specific roles and contributions of women of the affected communities in Anambra State to gully erosion disaster risk reduction, preparedness and recovery;
b. To suggest ways of reducing gender vulnerability to ecological disasters in Nigeria with a view to enhancing their resilience to ecological disasters.

This paper has five sections. The next section discusses the aetiology of vulnerability followed by the theoretical basis of study. The area of study and methodology of study comes next to that while findings of the study with policy implications wrap up the paper

Aetiology and Concept of Vulnerability

The etiology of vulnerability can be traced to the domain of health and medical sciences, but it has enjoyed wide usage with researchers from physical, social, economic and environmental and ecological backgrounds especially Human Geography and Human Ecology which have applied it in studies of social and ecological changes with success. In disaster, hazard and risk management studies, vulnerability has become a new arena of interest. Typologies of vulnerability include social vulnerability, cognitive vulnerability, and military vulnerability.

However increasing cases and episodes of environmental hazards, risks and disasters, have led to a convergence of interest on vulnerability from disparate disciplinary traditions all of which converge at the environmental arena. One justification for this convergence of interest is the understanding that human actions and social structures are superimposed on the natural and biophysical systems with a tendency for disrupting influences and impacts which confer both negative and positive outcomes.

The concept of vulnerability has been a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and marginality of both physical and social systems, and for guiding normative analysis of actions to enhance well-being through reduction of risk (Adger, 2006). Wisner, Blaikie, Cannon and Davis (2006) provided a working definition of vulnerability as 'the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard' it involves a combination of factors that determine the degree to which someone's life, livelihood, property and other assets are put at risk by a discrete and identifiable event or series of events in nature and in society.

The variables that underlie people's exposure to disaster and therefore, their vulnerability include the socio-economic structure of the prevailing environment and inherent inequalities in terms of wealth distribution, occupation, social status and distribution of rights, population characteristics, gender, and social and economic marginalization (Le Masson, Lim, Budimir & Podboj, 2016).
Vulnerability is therefore closely correlated with socio-economic status of the people living within the environment of the disaster to which they are exposed. It is driven by inadvertent or deliberate human actions that reinforce self-interest and the distribution of power in addition to interacting with physical and ecological systems. Vulnerability is often constituted by components of exposure and sensitivity to perturbations and external stressors, and the capacity to adapt. Vulnerability can be reasonably studied from spatial and temporal dimensions, cultural

and socio-economic milieu of a community or groups of people exposed to predisposing conditions within the framework of disaster risk and hazard studies

Theoretical Framework

A number of theories are germane to this work, however the feminist theory is considered most appropriate.

The Feminist Theory

Feminist theory was driven by the concern with women's subordination. It highlights gender relations and inequality as an important determinant of social life in terms of social interaction and social institutions as family, norms, customs, tradition, mores, distribution of power and wealth among others. Feminism emphasized that gendered patterns of inequalities are not natural but socially constructed.

The socio-cultural marginalization of women accounts for greater impacts and fatalities of natural disaster on women. For example, during the 1991 cyclone and flood disaster in Bangladesh, women's death rate was five times higher than men's because warning information was transmitted by men to men in public places and rarely to the rest of the family. In addition women were not allowed to leave the house without a male relative as such many perished as none came to take them to a safe place; and in Bengal, most women have never learned to swim and so have narrow chances of survival in flood (Röhr, 2006).

Feminist thought was re-echoed at the United Nations organized International Women's Conference in 1996 which, among others sought ways to ensure women's equal access to economic resources including land, credit, science and technology, vocational training, information, communication and markets. Also the Beijing Platform for Action adopted at the fourth United Nation's World conference on Women (United Nations, 1995), aimed at gender mainstreaming, called on the countries of the world to incorporate gender perspectives on all policies, strategies, including environmental management and natural disaster; ensure that implementation of projects and programmes are based on full understanding of the contributions, potentials and priorities and needs of women and men, and girls and boys; address issues concerning women among which are: the persistent and increasing poverty, inequality between men and women in sharing of power and decision making, stereotyping of women, gender inequalities in the management of natural resources. The Platform for Action recognized the impact of environmental disasters on women and called for greater investigation of the relevant gender perspectives on risks and disaster assessment and management especially impacts of disasters and associated emergencies on women. This captures the theoretical basis of this paper.

The Study Area

The macro study area is Nigeria while the study is situated on Anambra State. Nigeria is located in the West African Region and more appropriately located within the coordinates of latitudes 5^0N and 13^0N and Longitudes 8^0E and 14^0E of the Greenwich. Nigeria shares boundaries with the Republic of Cameroun to the East and TChad to the North East. Her Western and Northern

borders are shared with Benin and Niger Republics respectively. Southerly, Nigeria is washed by the Gulf of Guinea in an extensive continental shelf that houses most of Nigeria's hydro- carbon wealth (See figure 1)

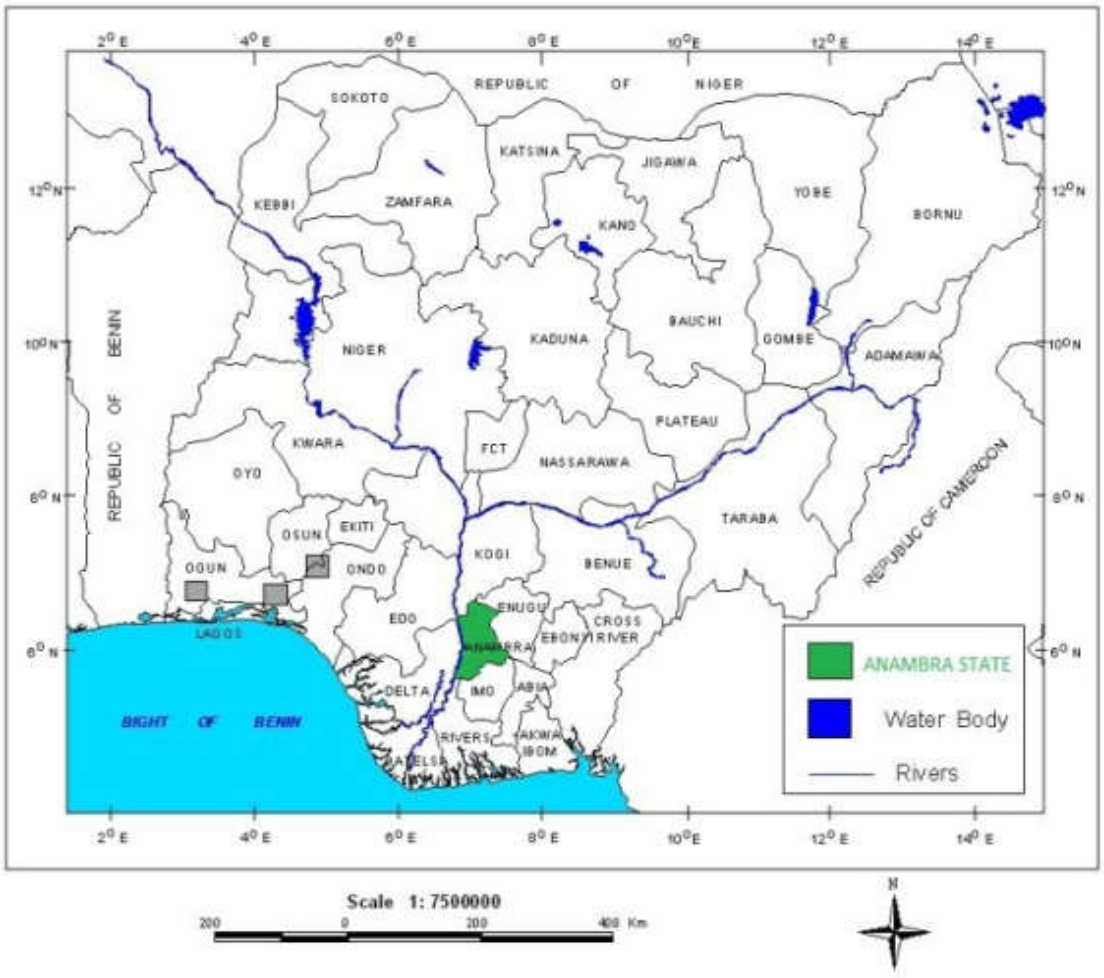

Figure 1: Map of Nigeria showing the Relative Position of Anambra State

Source: (Remote Sensing and GIS Laboratory, Department of Environmental Management, COOU, 2016)

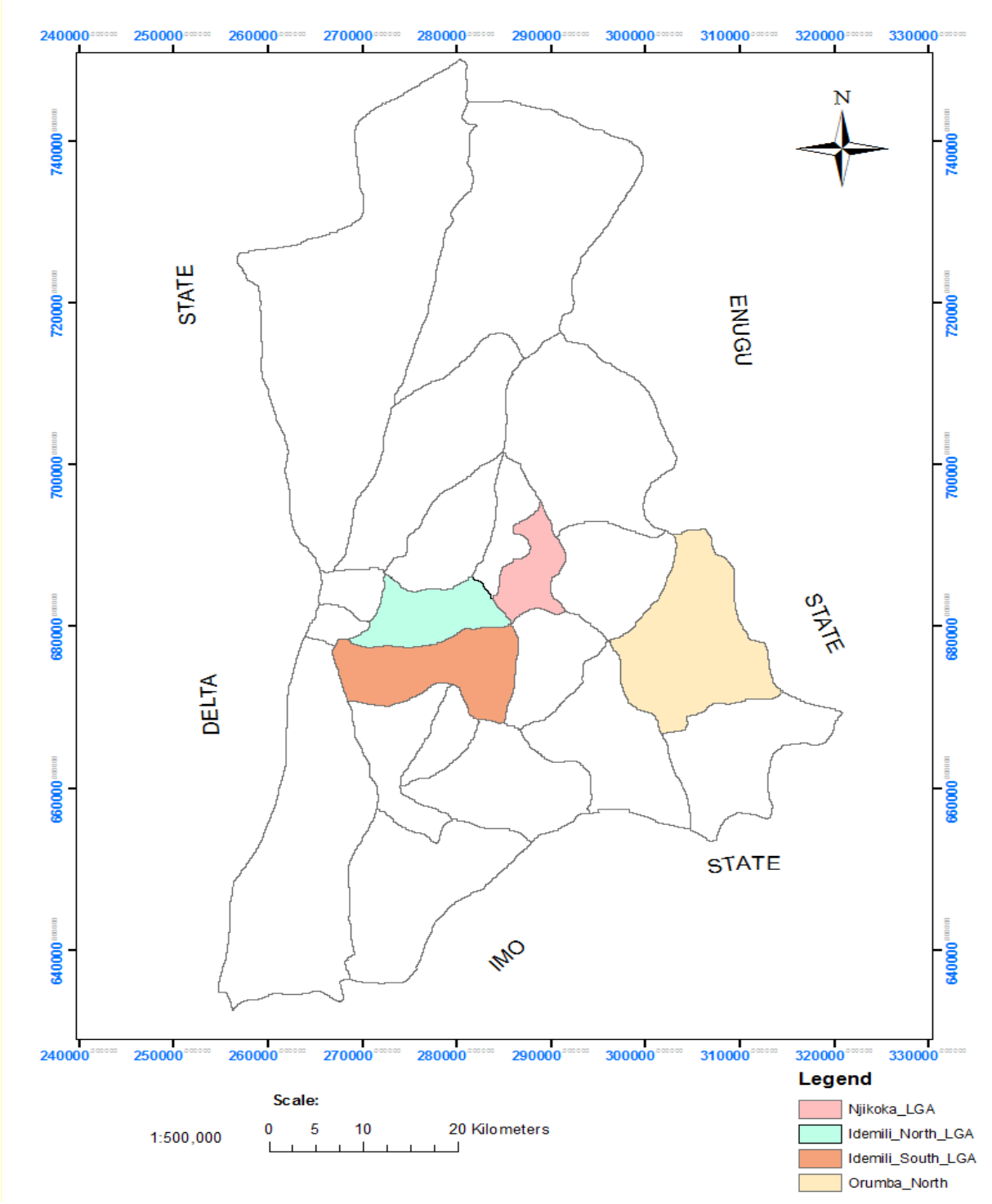

Figure 2: Map of Anambra Showing the Local Government Areas Studied

Source: (Remote Sensing and GIS Laboratory, Department of Environmental Management, COOU, 2016)

Anambra State is located within the South East Geopolitical zone of Nigeria. Created on August 27TH 1991, the state has a population of 4,865, 600 composed of 2,113,984 males and 2,059,844 females with a density of 992.1persons per square kilometer on a land mass of over 4,120 sq. km. (UN-Habitat, 2009); NPC, 2006) Anambra State is located within the coordinates of Latitudes 6^0 48'N and $5^0$40'N, and Longitudes $6^0$35'E and $7^0$21'E of the Greenwich Meridian. It is bounded in the North by Kogi State and to the South by Imo State. Her western and north western borders are shared with Delta and Edo States respectively, while her Eastern and south eastern and extreme south western boundaries are shared with Enugu, Abia and Rivers States respectively.

Ethnically, Anambra State is inhabited by Ibos with small percentage of people from different tribes in Nigeria. Igbo language and English are official languages of communication. Anambra State has three planning areas namely; Onitsha, Nnewi and Awka, which account for 71.56% of the population or 2.99 million people (UN-Habitat, 2009)

The underlying geological formation and lithological composition are Bende-Ameki Formation, Odukpani/Ogwashi/Asaba Formation, Imo/Ezeaku Shales and the Benin Formations respectively (Orajiaka, 1975; Egboka & Okpoko, 1984). The Bende-Ameki Formation is composed of Nanka sand, which are characteristically loose, and coarse grained, porous, friable, loose and dominantly weakly consolidated sandstone to other components, with low resistivity/poor tensile strength and is easily susceptible to erosion. Most of the gully erosion endemic areas of Anambra State are straddled by the Bende Ameki formation. Anambra State lies within the greater part of the central and western sections of the Anambra Basin, which consists of a band of sedimentary rocks of about 6,000 meters thick formed during the Santonian Tectonism in the Cretaceous period.

Anambra State is well drained. Some of the major rivers are the Niger, Anambra, Mamu, Idemili, Nkisi, Orashi, Idemili and Oyi Rivers. Three soil groups found in Anambra State are Young Soils derived from recent deposits, Ferrumginous Tropical Soils, and Ferralitic soils. Climatically, Anambra State lies within the equatorial rain forest climatic belt of Nigeria; characterized by aggressively high maximum temperatures of about 35^{o}C, high relative humidity and heavy precipitation of long duration and high intensity, with an annual range of 1500mm to 2032 mm. Two main seasons exist in the study area. The dry season, which is experienced from October to March; and the rainy season runs from April to October.

Topographically, Anambra State has two main landform regions: a high land region of moderate relief which traverses much of the state, and the low plains to the West, North and East of the higher lands. Vegetation types falls within the lowland rain forest region, but human activity has converted all but small remnant patches into derived savannah. Common trees found in some watersheds and basins include; oil palm, Africana bread fruit, Bitter vine, Iroko, Bamboo, oil bean, among numerous species of grasses and shrubs.

MATERIALS AND METHODS

Sampling Design and Procedure

This study adopted socio-economic survey design.

The methodology of study is purposive sampling technique. Anambra state accounts for 4,000 of the 5,700 gully erosion sites in Nigeria (Government of Anambra State and NEWMAP,2011). Anambra State was chosen for this study in consideration that it has over 2000 active gullies and so many incipient ones among all the states in South-Eastern Nigeria. Anambra State was subdivided into drainage basins using purposive sampling technique. The drainage basins are the Niger-Anambra, Mamu, Idemili/Nkisi, and Orashi drainage basins. The largest is the Niger/Anambra system followed by the Mamu system and Idemili and Orashi River systems respectively. Four Local Government Areas (LGAs) located within three drainage basins in which ecological disaster of gully erosion and landslide are endemic were selected using stratified sampling technique. These are Njikoka, Orumba North, Idemili North and Idemili South Local Government Areas respectively. The next stage was identification of communities ravaged by gully erosion in the selected LGAs. One community from each of the LGAs was chosen at random. These are Amaenye, Isiakpuenu, Amorji, and Ekwulu communities. Gully erosion sites that cut across habitable areas and which pose grave danger to lives, livelihoods and properties formed the focus of attention.

Data Collection and Instrumentation

Field trip to the four communities ravaged by gully erosion and landslide was undertaken with a view to identifying the affected population and arrange for group discussion visits. Data was collected using focus group discussion for three days each with women groups in the selected communities in the 4 Local Government Areas in Anambra State. In- depth studies were undertaken with most vulnerable groups especially those living within gully margins and close to river banks and those whose livelihoods are land based. Key informant interviews were conducted on selected members of the community. Data gathering covered the socio-economic status of the interviewees, the losses they have suffered in the past due to gully erosion, remediation they have received, and their involvement or otherwise at the family, village and community level disaster preparedness, recovery, response and mitigation meetings. What specific roles they played during disaster and post disaster reconstruction efforts; and culturally imposed restrictions which hindered their participation/consultation with intervention givers. A total of 70 women affected by gully erosion and landslide were sampled. Data collected were analyzed using SPSS software.

Data Presentation and Discussion of Findings

Age distribution of the respondents

The age ranges of the respondents in the four communities under investigation are presented in Table 1.

Table 1: Age Distribution of Respondents

Community	Age Range							
	25-35yrs	36-45 yrs	46-55yrs	56-65yrs	66-75yrs	76-85yrs	85> Years	Freq
Amaenye	3	1	2	6	2	1	0	15
Ekwulu	1	2	3	4	3	5	1	19
Amorji	0	1	4	2	6	5	3	21
Isiakpuenu	2	0	4	3	3	2	1	15
Frequency	6	4	13	15	14	13	5	70
Percentage	8.57%	5.71%	18.57%	21.43%	20%	18.57%	7.14%	100%

Source: Field work, 2017

Table 1 shows that the ages of the respondents affected by gully erosion disaster in the four communities under investigation ranges between 25years to 85years and above.

The major occupation of the women affected by gully erosion were investigated and the results presented on Table 2 below

Table 2: Major Occupation of Respondents

community	Farmer	Petty trader	Paid Employment	Self Employed	Unemployed/ Dependent	Freelance Labourer	Total
Amorji	5	7	1	5	3	0	21
Ekwulu	3	6	1	5	3	1	19
Amaenye	3	4	0	3	5	0	15
Isiakpuenu	4	4	1	2	1	3	15
Frequency	15	21	3	15	12	4	70
Percentage	21.43%	30%	4.29%	21.43%	17.14%	5.71%	100%

Source: Field work, 2017

Table 2 shows that 21.43% of the respondents are farmers, 30% are petty traders, 4.29% are in paid employment in the public and private sectors; 21.43% are self - employed as seamstress, hair dressers, and dealers on tailoring materials and caterers. 17.14% are old and complete housewives, while 5.71% are freelance labourers that engage in all manner of menial jobs to eke out a living**.**

The highest level of education attained by the respondents were investigated and the result is presented on Table 3

Table 3: Highest level of education attained

Community	No education	Primary education	Secondary School	Post-Secondary School/Vocational	Diploma/ Degree	Total
Amorji	3	7	6	4	1	21
Ekwulu	3	9	4	0	3	19
Amaenye	4	5	4	2	0	15
Isiakpuenu	1	8	3	2	1	15
Frequency	11	29	17	8	5	70
Percentage	100%	100%	100%	100%	100%	100%

Source: Field work, 2017

Table 3 above shows that 15.71% of all the respondents had no education, 41. 43% had primary education, 24.29% attained school certificate, 11. 42% had the benefit of post-secondary school and/or vocational education in skill acquisition, while 7.14% has diploma and degree holders.

The mean daily, monthly and annual incomes levels of the respondents were investigated and the result presented on Table 4

Table 4: Income level of respondents in Naira (#)

Community	Mean Daily income	Mean Monthly income	Mean Annual Income
Amorji	1,500-2,100	34,400	78,279
Ekwulu	1,800-3,000	24,335	325,000
Amaenye	3,000-4,300	78,920	631,115
Isiakpuenu	2,300-3,000	56,432	550,687
Total	8,600 – 12,400	194,085	458,346,007

Source: Field work, 2017

Table 4 shows mean daily, monthly and annual income profile of the respondents. Average daily income ranges between #2,150 - #3,100, while mean monthly and annual incomes were #48,521.75kobo and #36,270.25 kobo respectively.

Data were generated on the average family size of the women affected by gully erosion disaster and their present status in marriage with a view to identifying those that are widowed, which condition intensifies vulnerability within the cultural setting. The result is shown on Table 5.

Table 5: Family size and number of widows among the respondents

Community	Average Family size	Percentage	No of Respondents	No of Widows	Percentage
Amorji	9	42.86%	23	9	39.13%
Ekwulu	7	36.84%	18	4	21.05%
Amaenye	7	46.67%	17	6	35.29%
Isiakpuenu	6	40%	12	6	40%
Total			70	25	35.71%

Source: Field work, 2017

Table 5 shows the family size of the respondents and number of widows among them. Available from the table is that average family size is 9, 7, 7 and 6 in Amorji, Ekwulu, Amaenye and Isiakpuene respectively. The table also shows that 35.71% of the respondents are widows, a condition that intensifies their vulnerability.

Attempts were made to find out the level of involvement and/or participation of women in disaster management at the community and household levels. Data gathered is shown on table 6 below.

Table 6: Participation in disaster management and decision making

Community	Household participation	Women involvement				
		Yes	No	%	Undecided	%
Amorji	Yes	-	20	28.57%	3	4.29%
Ekwulu	Yes	-	18	25.71%	-	
Amaenye	Yes	-	15	21.43%	2	2.86%
Isiakpuenu	Yes	-	12	17.14%	-	

Source: Field work, 2017

Table 6 shows the responses of women to participation in disaster management decisions at the household and community levels. Evident from the table is that all the respondents affirmed that women were involved in disaster management decisions and discussions at the household level only. At the community level, their households were involved, but women did not participate. Their husbands or male child or both were involved. This is attested to by 28.57%, 25.71%, 21.43% and 17.14% respectively in Amorji, Ekwulu, Amaenye and Isiakpuenu Communities.

DISCUSSION OF FINDINGS

This study discovered that cultural barriers were major impedance to effective participation of women in disaster management decision making. Focused group discussion and in-depth studies discovered that culture prevented women from participation in decision making that involve the presence of men. Where a good number of the affected women are widows, these widows were represented by their eldest male child irrespective of his age and maturity. At the end these women are alienated from participating in decision on issues that gravely affects them and end up remaining in vulnerability longer than they ought to. Many of the women interviewed lost from physical assets, livelihoods, economic trees, household properties, domestic pets; and some are living precariously in the disaster zones with no hope of relocating yet the bulk of family lands and their husbands landed properties were denied them. The worst oppressive experience is where the community receives intervention measures and the site recovered. Because gully erosion has wiped out landmarks showing boundaries of individual plots, the redistribution cheats these widows out of their late husband's plots especially if he has larger portions than the rest of his brothers. In the entire communities understudy, women do not participate in land matters and do not have any status/right to land. They live on acquire right of their husbands which is transferable only to their male children. Their vulnerability is even compounded by obnoxious and oppressive widowhood practices, which denies these women every right whatsoever over their husband's belongings! In all the communities under study, land is held in trust by the community through kinship and kindred arrangements and no woman is a member of any kindred! And any discussion and decisions on land matters are held either at the kindred or village levels and then to the wider community and involves men only.

The impacts of disasters on women have been the focus of several studies. Heavy fatalities among women were linked to economic and social rights and immanent inequalities. The differential impacts of disaster on women are an issue that cuts across the entire spectrum of social, economic, and environmental aspects of disaster response and post disaster recovery efforts.

Peterson (2007) quoted by IUCN (2009) stated that women, boys and girls are 14 times more likely than men to die during a disaster. And 90% of the 140,000 deaths from cyclone in Bangladesh were women (O'keefe, Westgate and Wisner 1976). More women die from heat wave in Europe, while in France, most of the death occurred among the elderly women (Pirard, Vandentorren, Paschal, M'Le Terre, Cassandou & Ledrams, 2005). In the hurricane Katrina induced emergency in New Orleans, USA, most of the victims were Afro American women with their children (Gault, Hartman, Jones-DeWeever, Werschkue, & Williams, 2006). And in Sri-Lanka, during Tsunami more men and boys survived because they could swim and climb trees which they had been taught while women were culturally not taught to swim or climb trees (Oxfam, 2005).

POLICY IMPLICATIONS AND CONCLUSION

The Nigerian National Framework for Disaster Risk Reduction is studded with a number of provisions for reducing gender vulnerability with particular reference to women and children, yet implementation is yet to take off. Cultural restrictions which entrench inequality and other forms of chauvinistic tendencies are the greatest challenges to reducing gender vulnerability to ecological disasters in Nigeria. The worst intensifier of vulnerability is widowhood condition in which the women not only lose physical assets of their spouses, but also face various forms of social and psychological trauma and alienation. This paper advocates the view that women ought to be involved in policies and decisions affecting them especially gully erosion disaster risk reduction at the family and community levels. Cultural restriction on women participating alongside men is in urgent need of reform so as to stop further emasculation of women and give them a voice. It is only when women are involved that efforts at reducing vulnerability would yield any tangible result.

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