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FLOOD AND TRADITIONAL ECONOMIC ACTIVITIES: WOMEN'S COPING STRATEGIES IN SELECTED COMMUNITIES IN RIVERS AND BAYELSA STATES, NIGERIA

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ABSTRACT

This study investigated the 2012 flood in Rivers and Bayelsa States and women's coping strategies in selected communities in both States. The aim is to examine the strategies that women adopted in coping with their traditional economic activities during the flood. Findings at the disposal of the study showed that the 2012 flood disaster affected them significantly which prompted development of their own coping strategies.

KEYWORDS: *Flood, Coping strategy, Economic activity*

1. INTRODUCTION

Flood disasters have become so frequent in recent times in most regions of the world, due largely to climate change and human activities and often times resulted in damages and loss of lives, properties and livelihoods, (Jeb and Aggarwal, 2008). In agreement with this view, Mumuni (2013) argues that the past four years, economic losses due to flood disasters in Nigeria has increased significantly. Long term data on natural disasters, suggest that floods and wind storm have been the most common natural disasters worldwide (Few, Ahern, Mathies, 2004). They submitted that flood tops the chart in frequency and intensity, as the most devastating natural disaster in the world causing damages and claiming lives.

Flood also affects agricultural productions and practices severely mostly in the areas that are suitable for agriculture and it affects yields negatively. This also affects food security and increases malnutrition in the countries that do not have adequate coping strategies (International Federal of Red Cross and Crescent Societies (IFRC),

2007). Researchers like Alani (2012) and Levine (2013) have drawn attention to the fact that natural disasters such as flood increase the vulnerability of groups and individuals especially in countries or communities where institutional management frameworks are weak or non-existent. Frequent floods and other disasters have also been identified as serious threats to sustainable livelihood especially among women (Akin, 2013).

The 2012 flood disaster came with severe damages to human and material resources. It was one of the worst flood disasters caused by heavy rainfall and the release of water from Lagdo Dam in northern Cameroon by the Cameroonian authorities. This led to the inundation of many communities around the river banks and beyond. Ayapere (2012), quipped that the observable effect of the recent flood was identified in the commercial sector, health sector, housing transportation, communication, power (electricity) and the educational systems. He added that the disaster affected both the public and private sector organizations. What Ayapere's study actually

exposed is the fact that the 2012 flood disaster affected both private and public sector organizations. Much as this is the case, during the peak of the flood people found it increasingly difficult to go about their occupations thereby creating livelihood problems in communities in the study area.

The point of interest derives from the fact that researchers have drawn attention that natural disasters such as flood tend to increase the vulnerability of groups and individuals. For instance, Alani (2012), states that communities that have very little social and economic capacities during flood and post-flood disasters are often more vulnerable in terms of the coping mechanisms because women, children and the aged are always the most vulnerable persons. Women are the back bone of development in rural and national economies as 80% of agricultural productions in Africa come from small farmers who are mostly rural women and constitute the largest percentage of the work force in agricultural sector (Saquina, 2013). There is thus an urgent need to investigate their response to natural disasters that affect their means of livelihood.

2. STATEMENT OF THE PROBLEM

Flooding is one of the environmental problems facing man in this century (Onwuka, Ikpeazu, Onuoha, 2015). Floods sometimes have devastating effects on human occupation. It is the most common natural disaster in Nigeria which frequently claims lives and destroys properties and peoples livelihoods. Onwuka et al (2015) argues that in some cases flooding damaged bridges and caused overflow of dams, while also submerging buildings and displacing people from their homes. It also affects farming and livestock greatly.

Many communities in Ahoada East and other parts of Rivers and Bayelsa states were inundated. The areas inundated are those places where people carry out their economic activities. This means that the people's occupations would be in danger since they derive their income from such occupations. It is therefore not a surprise people living in these areas encountered problems such as destruction of household properties, migration, and destruction of farm produce which leads to hunger because of food scarcity. Other problems encountered include overcrowding, spread of communicable and water-borne diseases, and attack by animals that were washed into their homes by the flood (Onwuka et al, 2015).

Makela (2008), evaluated the impacts of adaptation of flooding by the fishermen in Lagos. She showed that while flood generally takes the case in view of past experiences, its diverse forms affect at least 20% of the Nigerian population. The regression showed the impact of the flooding on productivity

resulted in significant economic losses. On the other hand, Obot (2008) examined the challenges of climate change in Nigeria and focused on the impact of climate change on the coastal areas in Nigeria. His study showed that the sea level is anticipated to increase and that Lagos, Bayelsa, Port Harcourt, Warri and Calabar will face increase in sea level of 6m due to rising temperature.

Similarly, Bugaji (2013), studied the impact of the flood and recounted that over 2.3 million people were displaced from their homes while 363 people lost their lives in the floods. Furthermore, over 16 million people in 108 Local Government Areas were negatively affected directly or indirectly. In financial terms, the Centre for Human Security of the Olusegun Obasanjo's Presidential Library Foundation, conducted a study that estimated that the total losses from the flood amounted to 2.6 trillion Naira or \$16.9 billion (CHS, 2013).

However, the flood incidence which occurred in 2012 generated significant social, economic, health, policy and academic problems for Nigeria, with clear demonstration of the risk that natural disaster can pose to livelihood security. It occurs almost every year in all the states along the Niger River and its tributaries and frequently causing serious disasters. In districts under water, schools and markets are suspended for weeks at a time (Efe, 2010). Some researchers have been conducted on the impact of flooding and livelihood in selected communities in Rivers State. For example, Nwosu (2007), studied the livelihood strategies of internally displaced persons in some communities in Rivers State, while Dike, (2012); Chukwu-Okeah (2012); and Ayapere (2013), Ogbanga (2015), made significant academic efforts to report the impact of flood on the socio-economic conditions of affected communities in various parts of the country. However, very little is still known about how the 2012 flooding in Nigeria affected the ability of women to manage their various economic activities in Rivers and Bayelsa states. Here-in lies the motivation to examine the economic consequences of the flood disasters on traditional economic activities of women and their coping strategies to identified problems in selected communities in Rivers and Bayelsa States of Nigeria

The aim of this study is to document the specific coping strategies adopted by women with regard to their traditional economic activities during and after the 2012 flood disasters in the selected communities in the study area. Essentially, the specific objectives of the study are to: Examine the economic implications of the 2012 flood disaster on traditional economic activities of women in the selected communities in Rivers and Bayelsa States; examine the kind of external support that the women

received in their attempts to cope with the 2012 flood disaster in selected communities in Rivers and Bayelsa States; and to identify the kind of coping mechanisms adopted by women to manage their economic activities during the 2012 flood disaster in the selected communities in the study area.

This study is anchored on the **Entitlement Approach to Vulnerability by Sen**. This approach is credited to Sen (1981). Sen's entitlement approach to hunger and famine is very influential in vulnerability research of this kind. It is necessary to access the various channels that a household can use to obtain food. He calls those channels- entitlements. In normal years' entitlement to food and livelihood is gained through a combination of production, exchange of cash, goods, services sale of labour and assets including investment, stores and claims. This can be labelled the environments. Food can either come from a direct entitlement, when a household grows its own food, and indirect entitlement, when a household obtains food by using their income to purchase food, or as transfer entitlement when a household obtain food by charity and social networks.

The failure of food availability approach gave rise to the entitlement approach. Food availability does not ensure access by all. Inequality in access to resources will lead to unequal distribution of food and opportunities, and the purchasing power is of paramount importance that led to decline of this approach.

The entitlement approach is the work of Sen which summarizes the belief of the approach thus:

The entitlement approach to starvation and famine concentrates on the ability of people to command food through the legal means available in the society including the use of production possibility trade opportunities, entitlement vis-à-vis the state and the other methods of acquiring food. A person is starved either because he does not have the ability to command enough food or because he does not use the ability to avoid starvation (Sen, 1981:45).

Households with adequate endowment portfolios are relatively secured, than the households with less endowment in terms of food stress. Coping strategies form an additional set or entitlement that is derived from endowments (land, labour, livestock and other resources).

The entitlement model is dynamic, and potential in providing the exchange of any part of what is owned (for money or kind) with food and other basic needs (Sen, 1981). Livelihood is defined as the way in which a household combines and utilizes its various forms of entitlement to maintain

its members on a daily basis. Vulnerable livelihoods are then considered vulnerable to extreme weather, illness, disease, loss of land, loss of earnings, and adverse treatment in the socio-political system. When such households are unable to cope with difficulties of this kind, they may be reduced to starvation. Some have to starve if his entitlement set does not include any commodity bundle with enough food. A person is reduced to starvation if some change either in endowments (e.g. alienation of land, loss of land, or loss of labour power due to ill health), or in his exchange entitlement mapping (fall of wages, rise in food prices loss of employment, drop in the price of goods he/she produces and sells, makes it no longer possible for him to acquire any commodity bundle with enough food (Sen, 1995).

For many, the only substantial asset that they may have owned is their ability to work i.e. labour power. If a person or household fails to secure employment, then that means of acquiring food (through getting job, earning an income and buying food with that income) fails. If, in addition, the laws of the land do not provide any social security arrangement, e.g. unemployment insurance, the person will fail to secure the means of subsistence (Sen, 1995). The entitlement school of thought argues that crop failure due to natural disaster often result to high food prices because of shortage in supply.

Therefore the poor and those who are negatively affected by the disaster become victims, thereby reducing their purchasing power (Yifu, 2000). Nevertheless, the entitlement approach which focuses on both ownership and exchange, offers a useful framework for summarizing the impact of flood or drought on different livelihoods groups (Chen, 1991) hence, the adoption of this approach.

3. STUDY AREA

The study area covered Ukaki, Zarama-Epie and Igbogene in Yenegoa Local Government Council of Bayelsa State. Edoha, Okporowo and Oshika in Ahoada East and Okaki, Odawu and Isua in Ahoada West Local Government Councils of Rivers State. The Selected communities in Rivers and Bayelsa States are located in Ahoada East and Ahoada West and Yenegoa Local Government Councils, in the Niger Delta of Nigeria.

4. RESEARCH METHODS

This study adopted the cross sectional survey design. Cross sectional survey design involves the use of multiple survey methods. The total population of women in Ahoada East, Ahoada West and Yenegoa Local Government Areas (LGAs) in Rivers and Bayelsa States respectively is **372,228**. The sample size for this study is 400 and this was determined using the Taro Yamane formula thus $n = \frac{N}{1+N(e)^2}$.

Table1: Sample Size Determination		
Taro Yamane	Ahoada East, Ahoada West and Yenegoa LGAs	Sample
$n = \frac{N}{1 + N(e)^2}$	N= 372,228	732
	(e) ² = .05x.05 =0.0025	
	0.0025x372,228 =930.57	
	1+930.57 = 931.57	
	∴ n =372,228 ÷ 931.57 =400	

The study adopted the multi-stage sampling technique. First the three (3) LGAs directly affected by the 2012 flood were selected. The purposive sampling technique was adopted to select the communities that were directly affected by the 2012 flood disaster in these LGAs. However, to select the 400 respondents (women), the systematic random sampling method was adopted. In doing this, the first

household in each affected community was randomly selected and thereafter every 10th household was included in the study until the determined sample size was reached. Where there was no woman in a household, that household automatically fell out of the sampling frame and another household was chosen until the required sample was reached.

S/No.	Local government area (LGAs)	Female census population	Percentage representation (%)	Sample proportion
1.	Ahoada East	80,857	21.75	87
2.	Ahoada West	121,326	32.50	130
3.	Yenegoa	170,045	45.75	183
	Total	372,228	100	400

5. RESULTS AND DISCUSSIONS

Data were obtained from the field through administered questionnaire. A total of 400 questionnaires were distributed to respondents within Ahoada East, Ahoada West and Yenegoa LGAs of Rivers and Bayelsa states out of which 368

were duly completed and returned which represents 92% response rate.

Objective 1:Influence of 2012 flood disaster on the traditional economic activities of women in the selected communities in Bayelsa and Rivers States.

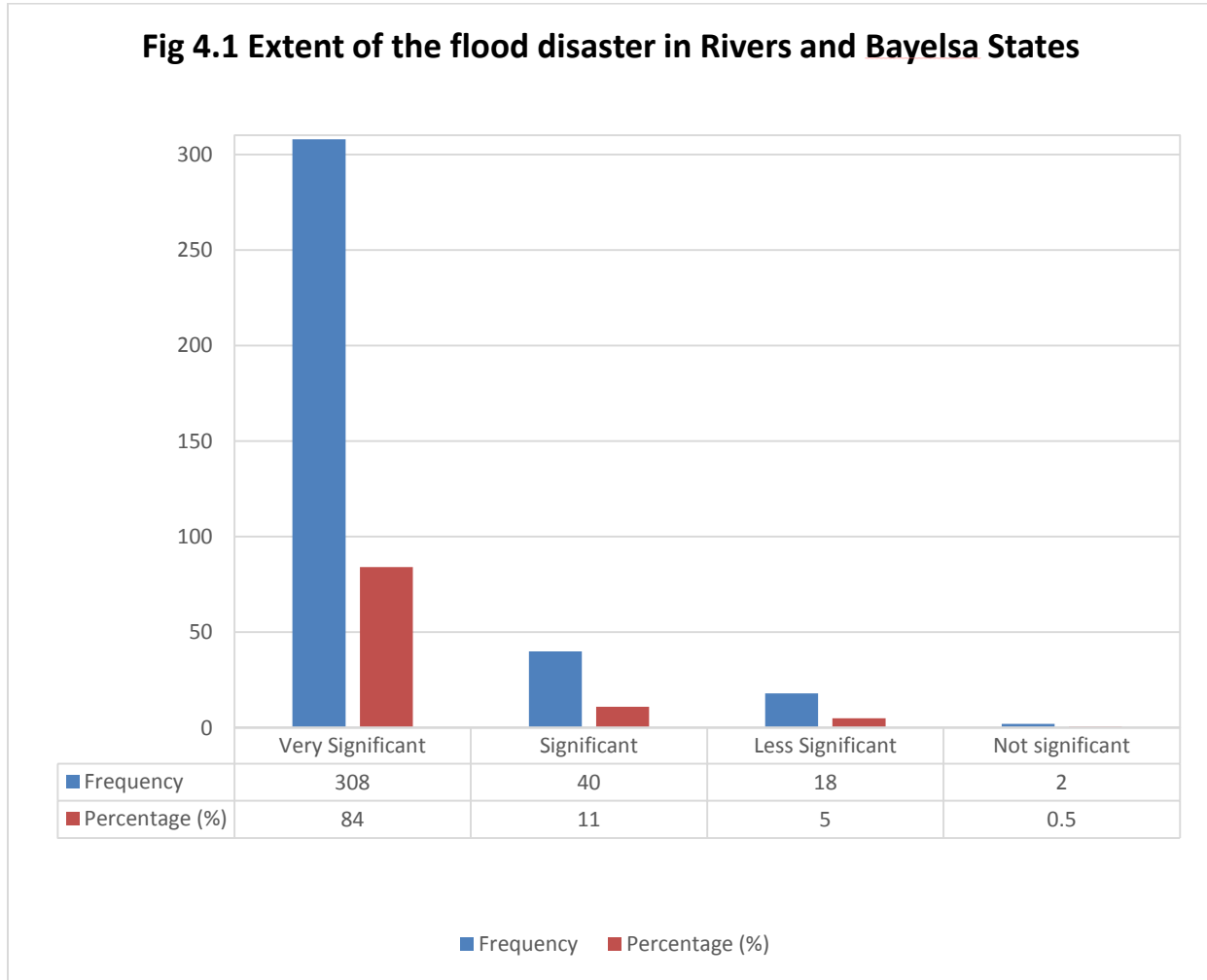


Fig 1. Showed that the influence of the 2012 flood disaster on the traditional economic activities of women in Bayelsa and Rivers States was very significant. It follows that flooding as a natural disaster is common in the area of their business / trading / farming / fishing and crafting. Majority of the respondents also agreed that flood usually take long, most times even weeks to recede. It also follows that respondents disagreed that despite predictions

and forecasts, there is hardly anything anyone can do to control the floods.

Objective 2. External support that the women received in their attempt to cope with the 2012 flood disaster in selected communities in Rivers and Bayelsa States.

Fig 4.2 . External Support gotten by women in Rivers and Bayelsa states

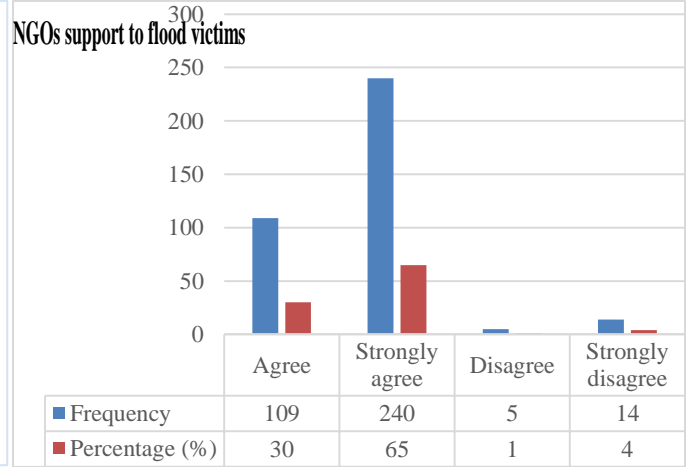
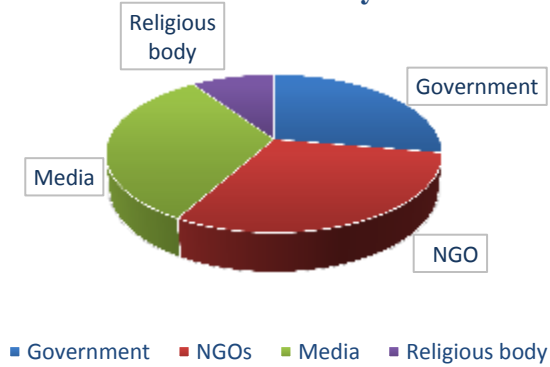


Fig 2 showed that the support received revolved around government, Non Governmental Organizations (NGOs) and the media. Some of the respondents disagreed that government is always ready to offer financial support to flood victims. However, some other respondents agreed that alternative accommodations and camps were provided for flood victims. It was also found that awareness about the predicament of flood victims are usually publicized by social media and news agencies. Respondents strongly agreed that families and friends are readily available and supportive in times of flooding and disaster even though

they also disagreed that funds are made available to flood victims as a means of helping them secure other means of livelihood.

Data, fig .3 showed that some respondents strongly agreed that Women got social / financial support from NGOs during the 2012 flood event, even as they are usually on ground to assist and enable flood victims

Objective 3.Coping mechanisms adopted by women to manage their economic activities during the 2012 flood disaster in selected communities in Rivers and Bayelsa States.

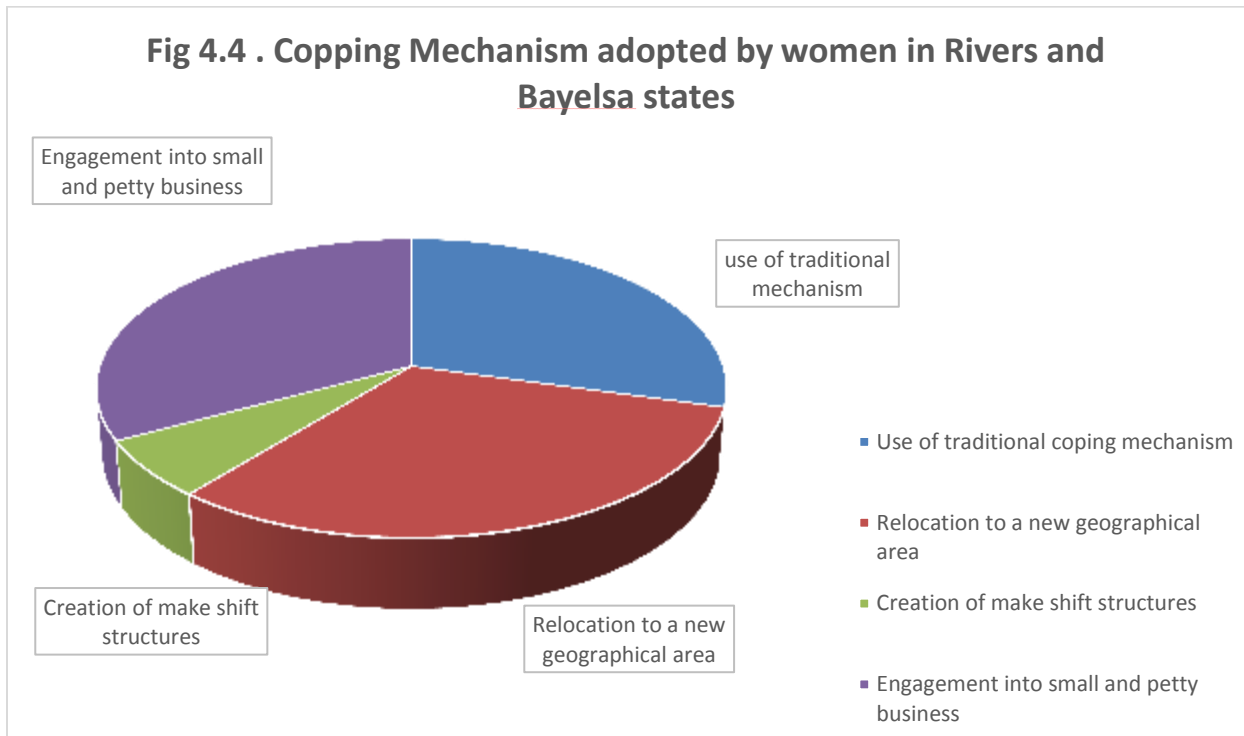


Fig 4. Showed that majority of the respondents engaged in small and petty businesses. Respondents also made use of traditional coping mechanisms. For example, relocation to a new geographical area was one of the coping mechanisms adopted by respondents during the flood incidence. Majority of the respondents also agreed that alternatives were readily available in terms of business relocation at times of flooding. For instance, squatting with relatives and friends is one such mechanism.

Respondents agreed that make shift structures are usually adopted as a means for sales and market continuity in the new location. They also agreed that alternative economic activities were developed as a result of the loss of business to the 2012 flood event, Even as they also agreed that money was often sourced from friends and family as capital for takeoff of new economic activities. Some respondents disagreed that there is always the tendency to remain in the new residence even after the flood, just as other respondents disagreed that their current business location is as a result of the past flooding incidence.

5. CONCLUSION AND RECOMMENDATIONS

The findings of the study are in this section summarized into three key-findings based on the research questions as follows:

- i. The study found that the 2012 disaster significantly affected women in several communities of Rivers and Bayelsa states. These effects were manifest in the loss of property, frustration, displacement, loss of income and observed insecurity.
- ii. The study revealed that the women adopted three major strategies in coping with the disaster of flooding. These strategies include relocation to new geographical areas of business and farming, strategic change in economic activities and also the adoption or arrangement of makeshift/temporary structures in continuing with their businesses in the affected areas.
- iii. The study also brought to the fore that women were significantly supported by various local and international organizations; government and other interested social groups including the media. The study further revealed that these agencies and the government, through their funding, presence and contributions to the affairs and well-being of the affected or displaced persons significantly alleviated the hardship and insecurity of the affected persons. It also came out strongly that the

awareness and publicity of the events as facilitated by the media also drew the attention and concern of the international community and other global social groups.

Flooding and women's economic activities: The study revealed that there is a significant relationship between 2012 flood and women's economic activities. This implies that during time of flood, the traditional economic activities of women are negatively affected and disrupted. The findings showed that during such periods, properties were lost; there was high level of frustration, income was also lost and there was a very high level of insecurity. This observation is in line with the assertions of Fapohunda (2013), who stated that during occasions of flooding, livelihoods are lost and properties are destroyed. It also reiterates Batru's (2012) finding that most jobs and businesses are lost as a result of flooding. In other words, disasters immobilize transactions, movements, and other social related activities and further devastates machineries, equipment, and products. As a result of flooding most homes, farms and agricultural activities (poultry, fish farming, piggery etc.) are violently disrupted with most of the animals drowning or lost to the flood.

Flooding and the coping strategies of women: The study provided substantial evidence the relations between flooding and development of coping strategies by women. During occasions of flooding, women found it imperative to adopt various coping strategies in order to sustain livelihood and to continue in their trades or businesses. The relationship between the variables (flooding and women's coping strategies) revealed a strong consequential tie in which coping strategies are considered as unavoidable and a necessity during periods of flooding. This observation corroborates that of Enarson (2001), who observed that during flood events, most women lose their jobs and occupations but however, such events usually lead to the restructuring of roles and occupations as most women have to source for other jobs and most often end up remaining in their new jobs or locations. Consequently, the study found that women are most often forced to change occupations and means of livelihood as a result of the devastating nature of the floods.

Social support and women's coping with the challenges of the flood:

Facts at the disposal of the study revealed that social support (comprising of the publicity afforded by the media, support from the government and various NGO's) significantly contributed to the effectiveness of the women in coping with the challenges of the flood. The study showed that women were more inclined to adjust and adapt to the changes as a result

of the flood disaster due to the assistance and help afforded them by various government related agencies, corporate bodies, international organizations, the media and various NGO's. The findings implied that most of the strategies adopted by the women are only made possible as a result of the availability of the funds and support from families, relatives, the government, international agencies and various social groups. These groups contributed and lent their support towards the wellbeing and welfare of the women affected. This observation corroborates that of Nwosu (2007), who observed that women's coping strategies depended immensely on their social networks and the extent to which they were able to utilize the opportunities presented by the presence of various social groups. Based on the findings and conclusions reached in this study, the following suggestion have been proffered

1. **Development of crisis strategies and policies:** There is urgent need for the development of crises strategies and policies which would focus on the timeliness and prompt evacuation of individuals from flood prone areas before any actual flood incidence based on the accuracy of information.
2. **Placement of security networks and personals:** The strategic placement of security networks and personnel during crises situations such as flooding so to protect properties and goods from miscreants and other unscrupulous human elements who may want to take advantage of the situation to steal, maim or create further damage or loss is desirable.
3. **Availability of emergency centers/camps:** The availability of flood or displaced persons centers or camps, schools and health care centers, located strategically on high land areas less prone to flooding where individuals affected by flood can easily relocate to and be attended to so as to avoid all the confusion and frustration that normally follows outcomes of flooding and the displacement of individuals is very necessary.

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