

## **EFFECTS OF FLOODING ON HOUSEHOLDS' LIVELIHOODS ACTIVITIES IN KOGI LOCAL GOVERNMENT AREA OF KOGI STATE, NIGERIA.**

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### **ABSTRACT**

*The study examined the effects of flooding on the peoples' livelihood in Kogi local government area of Kogi State, Nigeria. Multistage sampling technique was employed for sample selection. From the six (6) flooded wards, twelve (12) communities were randomly selected, and fifteen (15) flood victims were randomly selected from each community, this gave a sample size of 180 flood victims. Structured questionnaire was used as the instrument for data collection. Data were analysed using frequency, percentage, mean scores, and standard deviation. The result indicates that, most of the respondents were male, making up 54.40 % of the entire respondents. On marital status, majority (55 %) of the respondents were also seen to be married while majority of the households in the study area has size of about 1 to 10 persons. Major livelihood activities of the respondents include crop production, trading, fishing, livestock production, transportation service and civil service respectively. However, loss of businesses, loss of properties, loss of farmland, hunger and starvation, displacement from natural domain, high incidence of poverty, malaria and other diseases, damages on road, loss of life and contamination of water were perceived as very severe effects of flooding on livelihood activities, while environmental pollution was perceived as severe effect on livelihood of the populace in the study area. The study therefore recommends that frequent workshop on climate change should be encouraged in helping the victims on several ways of mitigating the effects of flooding.*

**Keywords:** Livelihood activities, Household, Flooding, Mitigation and Climate change

### **INTRODUCTION**

World-wide people often have many factors to struggle with in their livelihood activities, among which are natural disasters. The occurrence of natural disasters has been increasing over the years, resulting in loss of life, loss of businesses, damage to property and destruction of the environment. The number of people at risk has been growing each year and most of them lives in developing countries with high poverty levels making them more vulnerable to disasters. (Living with- Risk 2006:6). The effects of natural disaster led to the disruption of the rural dweller livelihood activities causing a vicious circle of diminishing rural dweller's incomes and adding to the risk, damage and stress of disaster (Kolawole, 2011).

The rural dwellers are more prone to natural disasters because they tend to live in marginal areas and depend on high risk, low return livelihood systems such as rainy season agriculture also face many sources of vulnerability including little physical infrastructures (Egboka, 2004).

According to Egboka (2004) flooding is a natural process and can happen at any time in a wide variety of locations. It constitutes a temporary covering of land by water and presents a risk only when people, their property and/or environmental assets are present in the flood area (Adetunji and Oyeleye, 2013). Floods are part of people's lives in various regions of the world, recurring with varying magnitudes and frequencies to which people have adapted for centuries. These floods are generally expected and welcomed in many parts of the world, since they enrich the soil and provide both water and livelihoods (Brouwer *et al.*, 2007). Flood is described as an overflow of water that submerges land, low-lying villages and towns or an unusual condition affected by inflow of the tide (Sivakumar, 2006). Flooding may occur as an overflow of water from water bodies, such as a river or lake, sea or large natural water basins, it may also occur due to an accumulation of rainwater on saturated ground in an aerial flood, thereby submerging land areas (Sivakumar, 2006; Carey, 2005). Flood takes place when ponds, riverbeds, soil and vegetation cannot absorb all the water, making excess water run-off the land in volumes that cannot be carried within stream channels or retained in lakes, natural ponds or man-made reservoirs. Flooding can be exacerbated by increased amount of imperious surface or by natural hazards, with fire or deforestation which reduces the supply of vegetation that can absorb rainfall (Ayooso, 2012).

The causes of flood are very complex, and stem from different levels - from global and national, to individual farms and households (Commonwealth Secretariat, 1992). Recent demographic pressures have changed the way that people use land, water, and forests, and have contributed to a widespread deterioration in the condition and productivity of these resources. The usual universal cause of floods is heavy or excessively prolonged rainfall or even both, it can manifest along marine coasts from wind-driven storm surges and rain swollen streams associated with tropical typhoons and hurricanes; flooding can also occur on the shorelines of large inland lakes (Agbonkhese *et al.*, 2013). Human activities include industrialization, technology transformation, urbanization, deforestation, burning fossil and agricultural activities, and other natural factors such as solar radiation quality and quantity, astronomical position of the earth are notable causes of climate change.

Climate change is making weather less predictable, especially in developing countries like Nigeria where facilities to predict and manage weather conditions are not adequate (Gormerly, 2007). The unpredictability of rainfall in recent times has caused untold hardship during the raining season (Greg, 2013).

In the last quarter of 2022 to be specific, there have been incidences of heavy flooding in various parts of Nigeria that held the lives of the rural people on ransom and their asset, income, production activities, transport and health were automatically exposed to negative impacts. Such negative impact on human life should not be overemphasized, according to Ajibade, *et al.*, (2015) floods contributed one third of all deaths and one third of loss of livelihood which include crop failure, loss of businesses and loss of houses and causing fatalities.

Flood menace has become a perpetual occurrence in Kogi state due to its geographical location at the confluence of the country's major rivers (River Niger- River Benue), Kogi state seriously experience flood disaster in this year (2022) and incidence is beyond description and it attracted humanitarian support from NEMA, Red Cross and many among others. The flood affected five (5) local government which include Kogi (Koton Karfe), Lokoja, Bassa, Ajaokuta and Ibaji L.G.A of the State. In Kogi State, it is reported that up to 300,000 persons have been displaced, 30 persons were reported death, destroyed thousands of hectares of farmlands and livestock and fishery farm were chartered away, especially area like Kogi local government. (NEMA 2022). Despite the economic damages and other negative effects caused by flood, it has been observed that there is no current study done on the effects of flooding on livelihood in the study area.

Thus, the research seeks to assess the effect of flooding on the livelihood of peoples in Kogi Local Government, Kogi state, Nigeria. The specific objectives are to:

- i. describe the socio-economic characteristics of flood Victim in the affected Wards of Kogi Local Government Area of Kogi State
- ii. find out the livelihood activities of the affected Wards in Kogi Local Government Area of Kogi State.
- iii. assess the effects of flooding on livelihood activities in the affected Wards of Kogi Local Government Area of Kogi State.

## **METHODOLOGY**

### **Area of Study**

The study area for this research was Kogi Local Government area of Kogi State. The Local Government Area is located on latitude 8.1046°N and longitude 6.7976°E and in the northern part of the Nigeria between Lokoja and Abuja. The local government has boundary with Niger State, Nasarawa State and FCT, and it has estimated population of 155,400 (**NPC 2021 Projected**) people which is predominantly occupied by Egbura Koto ethnic groups. They are majorly farmers, fishermen and traders. It has three zones namely zone A, zone B and zone C.

### **Sampling Technique**

The target population for this study were all the flood victims in the local government. Multistage sampling techniques was used for this study. For this study Zones A and B were purposively selected due to their location and regular flood occurrence. In the second stage, six wards (Ukwo, Odaki, Koton Karfe Southeast, Akpasu, Irenodu and Grinya) were randomly selected from the two Zones.

In the third stage, two communities from each ward were randomly selected. This gave total of twelve (12) communities. In stage four, fifteen (15) flood victims were selected from each community using simple random techniques, this amount to a total sample size of 180 respondents.

### **Method of Data Collection**

Primary data was used for the study. The data were obtained with a structured questionnaire using interview schedule; the questionnaire was used to collect information on the socioeconomic characteristics and livelihood of flood victims.

### **Analytical Technique**

The different tools used in analysing the collected data includes descriptive analysis, standard deviation, simple percentage using SPSS.

To determine the effects of flooding on flood victims, the respondents were asked to indicate the extent of the effects on their livelihood using descriptive statistics. Their responses were categorized into very severe, severe, and not severe.

## **RESULTS AND DISCUSSION**

### **Socioeconomic Characteristics of the Flood Victims**

The socioeconomics characteristics of the flood victims are as presented in Table 1.

**Table 1: Demographic Characteristics of the Pupils**

<b>Demographic Profile</b>	<b>No. of Respondents/frequency</b>	<b>% Distribution</b>	<b>Mean</b>
Gender			
Male	98	54.40	
Female	82	45.60	
Total	180	100	
Marital Status			
Single	35	19.40	
Married	99	55.00	
Divorced/separated	40	22.20	
Widow	6	3.30	
Total	180	100	
Respondents Age (years)			
20-30	15	8.30	
31-40	55	30.60	
41-50	90	50.60	40.5
51-60	15	8.30	
60 & above	5	2.80	
Total	180	100	
Household Size			
1-5	85	47.20	
6-10	40	22.20	
11-15	29	16.10	
16-20	17	9.40	
21 & above	9	5.00	
Total	180	100	

**Source: Field Survey, 2022.**

From Table 1. The result indicates that out of 180 respondents, 98 were male while 82 were female with 54.40% and 45.60% respectively. Most of the respondents were male, making up 54.40% of the entire respondents. This implies that more male was engaged in livelihood activities in order to earn more income to cater for their family and they are more affected by the flood more than the female in the communities.

On marital status, 35 respondents were single, 99 were married, 40 divorced/separated, and 6 were widow with 19.40%, 55.00%, 22.20% and 3.30% respectively. Majority were married (55 %), this implies that there is severe effect of flooding on married individuals in the communities on like loss of properties, death of children, disease infestation and poverty. This also implies that they get support from their family members in their livelihood activities thereby reducing their cost of labour depending on their household size. More so, the findings also revealed that more children might have been affected by flood effects such as air-borne diseases. This agreed with the findings of Adetunji and Oyeleye (2013) that, family labour helps in reducing cost of labour and expenses.

According to this finding, the age of respondent between 20-30years were 15, 31-40years were 55, 41-50years were 90, 51-60 years were 15 and 60 & above were 5 with 8.30%, 30.60%, 50.60%, 8.30% and 2.80% respectively. Most of the respondents fall within the age range of 31 - 50 years. This shows that most of the respondents are in their productive age and this could increase their stigma for engaging in different livelihood activities which result results to being mostly affected during flood compared to people above 60years whose physical strength for farming activities or other stressful job has greatly reduced.

On household size, it was revealed that respondents with 1-5 household size were 85, 6-10 household size were 40 respondent, 11-15 household size were 29 respondent, 16-20 household size were 19 respondents, and 20 & above household size were 9 respondents with 47.20%, 22.20%, 16.10%, 9.40% and 5.00% respectively. This revealed that majority of the households in the study area has size of about 1 to 10 members on the average, which revealed that larger household size helps in farming activities, and it also reduce cost of labour because there will be no need for hired labour. It also been observed that the larger household are more prone to contact air-borne diseases. The distribution of the respondents according to the livelihood activities was presented above.

### **Livelihood Activities of Flood Victims**

The distribution of the respondents according to the livelihood activities is presented in Table 2. Out of 180 respondents from the study area, 40 respondents were into crop production with 22.20%, 22 respondents were into trading (buying and selling) with 12.20%, and 15 respondents were into livestock production with 8.30%. This implies that Farming activities, trading, fishing, and civil services are generally the major occupation that the respondents were engaged in, most of the respondents were also involved with one income generating activity or the other such as transport service, livestock production and others respectively.

The effect of flooding on farmlands, fishponds and business centres will be very severe in the study area as is the main source of income for the dwellers, which is in accord with Ajibade, *et al.*, (2015) in his findings that flood contributes to loss of livelihood.

**Table 2: Livelihood Activities of Flood Victims in the Study Area**

Major Livelihood Activities	No. of Respondents/frequency	% Distribution
Crop Production	40	22.20
Trading	22	12.20
Livestock production	15	8.30
Transportation service	10	5.60
Fishing	34	18.90
Charcoal	8	4.40
Horticultural production	3	1.70
Manufacturing	3	1.70
Wage labour	8	4.40
Civil service	32	17.80
Others	5	2.80

Source: Field Survey 2022.

### Effects of Flooding on People's Livelihood

Figures in table 3 indicate the various perceived effect of flood by the farmers in the study area. The effects were categorized as very severe = 3, severe = 2 and not severe = 1. The effects were later ranked in the descending order of their sequence. Loss of businesses and loss of properties were found to be the higher weighted mean score 3.96 and 3.87. This implies that loss of businesses and loss of property were perceived as very severe effects of flooding in the study area, this also shows that very many people's parts away with their source of livelihood such as farm produce, trade, transportation means and employment which could led them into committing societal crimes e.g., stealing. Since the respective standard deviations were less than 1, this implies that the responses of the flood victim on these variables did not vary much from their mean. This above results therefore agreed with the findings of Ezemonye *et al.* (2011) and Udemezue *et al.* (2019) which they believed that loss of businesses, properties and hunger were the major impact of flooding on the flood victims.

Table 3: Effects of Flooding on the Peoples' Livelihood

Variables (n=180)	Mean	Standard Deviation (SD)
Loss of businesses	3.96	0.668
Loss of farms	3.73	0.609
Loss of properties	3.87	0.655
Hunger and Starvation	3.70	0.652
Displacement from natural domain	3.60	0.756
High incidence of poverty	3.54	0.724
Cause malaria & other diseases	3.50	0.640
Damages roads	3.35	0.620
Loss of life	3.01	0.830
Contamination of water	3.00	0.732
Causes environmental pollution	2.78	0.780

Source: Field Survey 2022.

Loss of farmland, hunger and starvation were perceived to be average weighted mean score 3.73 and 3.70. This implies that Loss of farmland, hunger and starvation were perceived as severe effects of flooding. This also shows the rate at which hunger, and starvation loomed the peoples of Kogi local government. The standard deviations (0.609, 0.652) were less than 1, this implies that the responses of the flood victim on these variables did not vary much from their mean. However, the finding is also in line with Ajibade, *et al.* (2015) who saw loss of farmland as one of the impacts of flooding on small scale rice grower, farmers in Kwara state, Nigeria.

Contamination of water and environment pollution were ranked as the lowest weighted mean score (2.78, 3.00) and they were perceived as the less severe effects of flooding. This implies that all the sources of water in the study area were contaminated and high incidence of environmental pollution which could led to increase in incidence of water-borne diseases. This contaminated water and high incidence of environmental pollution experienced in the study area could be because of improper maintenance of environment and poor usage of natural resources. While the standard deviation (0.732, 0.780) was less than 1, this implies that the responses of the flood victim on these variables did not vary much from their mean. This study agreed with the findings of Adelekan on the vulnerability of poor urban coastal communities to flooding in Lagos, Nigeria, which revealed that: shortage of potable water, poor harvest, scarcity of food, low-quality nutrition, increased incidence of water-borne diseases, and disruptions of social and economic life of the people were indirect impacts of flooding.

From the discussion above, major effects of flooding were analysed and ranked very severe, severe, and not severe. Most of the highlighted effects of flooding on livelihood activities listed above shows that flooding has negative impacts on the livelihood activities of the populace of Kogi local Government Area of Kogi state. This menace has led off most majority of the respondent on their livelihood, chatted away properties, and increases high incidence of air-borne diseases, displace them from their natural environment and make them vulnerable in the society. More so, the value of standard deviation was less than one in all the variables which implies that, the reactions of the flood victims on these variables used were not much differ from the mean. Therefore, this finding can have a stake in policy formulation.

### **CONCLUSION AND RECOMMENDATIONS**

Based on the findings the study concludes that, loss of businesses, loss of farms, loss of properties, hunger and starvation, displacement from natural domain, high incidence of poverty, ill health status of the flood victims, loss of life and causing damages on roads, contamination of drinking water were perceived as very severe effects of flooding on livelihood of flood victims. While environmental pollution was perceived as severe effect to the flood victims in the study area. The study therefore recommends that:

- i. Frequent workshop on climate change should be encourage in helping the victims on several ways of mitigating the effects.
- ii. Policy and protection should be put in place in case of adverse and unforeseen issues or circumstances.
- iii. Finally, Government on the other way should put a compensation measure to aids the victims of climate change and also provide basic medical facilities at all levels in the affected areas to combat ill health status issues in the areas.

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