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ASSESSING THE NATURE AND MAGNITUDE OF RED CROSS INTERVENTIONS IN FLOOD DISASTER RECOVERY IN OZAHI COMMUNITY IN KOGI STATE

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Abstract

The study assessed the nature and magnitude of Red Cross interventions in flood disaster recovery in Ozahi community in Kogi state. The study made use of primary and secondary data. The primary source of data was gotten from structured questionnaire, focus group discussions, key informant interview while the secondary data was collected from Red Cross annual publications. Simple random sampling technique was adopted to select the households in Ozahi community where 400 copies of questionnaire determined by Taro Yamane sample size determination formula was administered. Data obtained from questionnaires, were presented in tables, frequency count, simple percentages and charts. The demographic and socio-economic characteristics of respondents reveal that heads of households are predominantly married men aged between 40-59 years. Majority (46.5%) of the residents have attained secondary school certificates which is partly responsible for their high (43%) involvement in primary production (fishing) and low-income level. Generally, there is a steady increase in level of preparedness as income level increases. The household's preparedness with high positive deviation above the mean include erection of planks for movement of people (4.24), use of sandbags/concrete embankments to abate flood and tyres for movement (4.15), Neighborhood meetings and cooperative societies (4.01), raising of public awareness (4.01) and community banks (3.89). Red Cross intervention in flood disaster management is basically geared towards capacity building for flood prevention and loss recovery. Although most of the respondents have benefitted from the Red Cross intervention programme, distribution of relief materials to flood victims such as, mattresses, lamps, house hold items and food items is the most prevalent Red Cross intervention for loss recovery in the study area as revealed by a relative importance index of 0.70. An F-value of 0.12 and a significance value of 0.912 at 0.05 level of significance indicates that there was no significant variation in strategies employed for flood management in the study area before Red Cross intervention. However, after Red Cross intervention, an F-value of 5.199 and a calculated value of 0.23 at 0.05 level of significance was recorded indicating that there was significant difference in strategies employed in the study area, The study therefore recommended planting trees, shrubs, and other plants that will reduce soil erosion and natural exposure of the earth surface to direct sunlight and improving household's resilience and recovery might include employment opportunity, access to credit facilities and provision of emergency tools such as first aid equipment in the community.

Keywords: Flood, Intervention, Ozahi, Recovery, Red Cross.

1. Introduction

A disaster is any event which disrupts the normal activities of human society and natural habitats. The most common form of which is flood. Floods are regarded as the most dangerous and harmful natural disaster in our contemporary time. The issues relating to hydrological hazards such as flood have increasingly been a major disturbing concern all over the world. These hydrological trends have been attributed to global warming and climate change occasioned by anthropogenic activities (Nigeria Hydrological Services Agency [NHSA], 2015).

Flood is the flow of water above the carrying capacity of a channel (Nwafor, 2006; Olajuyigbe, Rotowa and Durojaye, 2012). It refers to a general temporal condition of partial or total inundation of normally dry areas as a

result of the overflow of inland or tidal waters or from an unusual and rapid accumulation of runoff (Jeb and Aggarwal, 2008). The number of people at risk of flood disaster has been growing each year and the majorities are in developing countries with high poverty levels, making them more vulnerable to disasters (United Nations International Strategy for Disaster Reduction [UNISDR], 2004). However, communities and societies have specific ways of responding to floods, which has resulted in various ways of coping with the flood phenomenon. Cardona (2003) noted that individuals and communities are differently exposed and are vulnerable to floods because of socio-economic factors such as wealth, education, race, ethnicity, religion, gender, age, class, disability and health status. This is because flood vulnerability and adaptations are firmly related to the context of the natural environment and socio-economic factors of a specific area. The assessment of both vulnerability and adaptation are of great importance globally.

Humanitarian intervention in the context of humanitarian space refers to financial resources or relief materials given to disaster affected populations, intended to save lives, alleviate suffering and maintain human dignity during and after disaster events as well as prevention and recovery and to strengthen preparedness for future occurrences of such events (Coughlan *et al.,* 2014). Humanitarian intervention by Red Cross is governed by seven (7) key humanitarian principles called the code of conduct; humanity, impartiality, neutrality, independence**,** voluntary service, unity and universality, which are also affirmed in the UN General Assembly resolutions and enshrined in numerous humanitarian standards and guidelines.

The International Federation of Red Cross (IFRC) over the last two decades has been involved in numerous disaster recovery interventions globally (Gheorghe, 2005). The most significant of these were in Armenia, the Balkans, Mexico, Africa, Viet Nam among others. There have been also many smaller-scale programmes, as well as the provision of emergency and transitional shelters (International Federation of Red Cross [IFRC], 2015). Recovery operations in the Red Cross context means those programmes which go beyond the provision of immediate relief to assistance of those who have suffered the full impact of a disaster to rebuild their homes, lives and services and to strengthen their capacity to cope with future disasters (IFRC, 2015).

Several flood studies have also been carried out in Nigeria. Some of these studies are assessed to put this study in proper perspective. Jeb (2014) analyzed flood risk in Kaduna Metropolis, Nigeria. The study considered economic/commercial activities, location of industries, infrastructures, population density and agriculture as factors to analyze vulnerability. The result revealed that about 52.82% of the study area fell within the low vulnerable zone, while 47.18% lie within the highly vulnerable zone. The study also revealed that population and urban growth process were major factors that have increased vulnerability to flooding. Nabegu (2014) assessed the vulnerability of households to flood in Kano state, Nigeria. The results indicated variations between the households in coping strength and vulnerability. The study therefore recommends the need to collect more baseline data on vulnerability to flood at the local level which will ease preparedness and management of flood disaster in the state.

Kogi State is one of the states in Nigeria that suffers recurrent flood events annually, the state was identified as the worst affected by the 2012 flood with most houses destroyed or damaged in the affected communities (IFRC, 2014). In Kogi State alone, it was reported that nine (9) out of the 21 Local Government Areas were worst hit namely; Ibaji, Lokoja, Bassa, Kogi, Idah, Omala, Ajaokuta, Ofu and Ankpa, with the worst affected being Ibaji that was completely

submerged, followed by Lokoja (National Environmental Management Agency [NEMA], 2012). The 2012 and 2022 flood covered major high ways causing many travelers to be stranded in Lokoja, the state capital for several days.

After the 2012 flood, the Red Cross Needs Assessment (RCNA) report identified twelve states including Kogi as the most affected by the flood and therefore provided emergency shelter assistance to these targeted states. However, it was only three communities in Kogi State: Ozahi in Kogi LGA, Mozum Ose in Bassa LGA and Odogwu in Ibaji LGA that enjoyed the pilot implementation of Red Cross and CRAterre (International Centre on Earthen Architecture) collaboration for early recovery shelter intervention that reconstructed and repaired damaged homes after the 2012 flood and replaced them with flood resistant and resilient buildings. The Red Cross selected 100 Households (30 in Ozahi, 40 in Mozum Ose and 30 in Odogwu) and provided intervention support of early recovery shelters.

Furthermore, the Red Cross worked with consultants from the CRAterre institute which specialises in earth construction techniques, incorporating modern building practices within these communities through training to ensure that their homes would be better able to resist floods in the future with the purpose of increasing people`s knowledge on building flood resilient houses. It also rendered other sectoral interventions such as, emergency shelter and Non-Food Items (NFIs), emergency health care, Water Sanitation and Hygiene (WASH), Disaster Risk Reduction (DRR) and preparedness (IFRC, 2014). The essence of these interventions is to build local capacities, meet life-saving needs, support community-level recovery and enhance community resilience for the future.

A review of previous studies showed that the researchers focused more on vulnerability, risk assessment, causative and preventive measures as well as post impact assessment of flood disaster. Other studies focused on assessment of relief materials provided to flood affected population, without organized post disaster recovery as implemented by Red Cross. More worrisome, is that since these interventions were made by the Red Cross, it is unknown how much these efforts have helped the communities in reducing their vulnerabilities and increasing their capacities to cope with flood disaster. Such an appraisal is important in order to know how much changes these interventions have brought to these communities. This is the focus of this research using Ozahi of Kogi State as the spatial focus. Therefore, the objectives of this study are to examine the capacity for flood management in the study area before Red Cross intervention and assess the nature and extent of Red Cross interventions in flood disaster management in the study area

2. Study Area

The study area is located between Latitudes 7°48'08"N to 7°48′13″N of the equator and Longitudes 6°44′00″E to 6°48′30″ East of the Greenwich Meridian (Figure 1). The climate in Ozahi community is characterized by two clearly marked seasons; wet (between April and October) and dry (between November and March). It is located within the humid tropical climatic region with rainfall being the single most important element for defining the climatic seasons. Average annual rainfall in is about 1,140mm, with the highest monthly rainfall occurring in September(210mm) and the lowest in December (less than 3mm). On an average the state enjoys a rainy season of about six months (Ojo, 2013). Average temperatures remain fairly consistent throughout the year, and this ranges from around 26°C in July to 32°C in March, with a pronounced dry season extending from November through to March. During this time, the climate is dominated by the dry north-eastern wind (Harmattan). The average temperature in Ozahi is 26.8°C. The relative humidity in the state is quite high and correlates with the rainfall. The state is drained by the Niger and Benue River and their tributaries. The flood plains of the Niger and Benue River

valleys in Ozahi community have the hydromorphic soils which contain a mixture of coarse alluvial and colluvial deposits (Areola, 2007). Farming and fishing are the mainstay of the economy of the people of Ozahi.

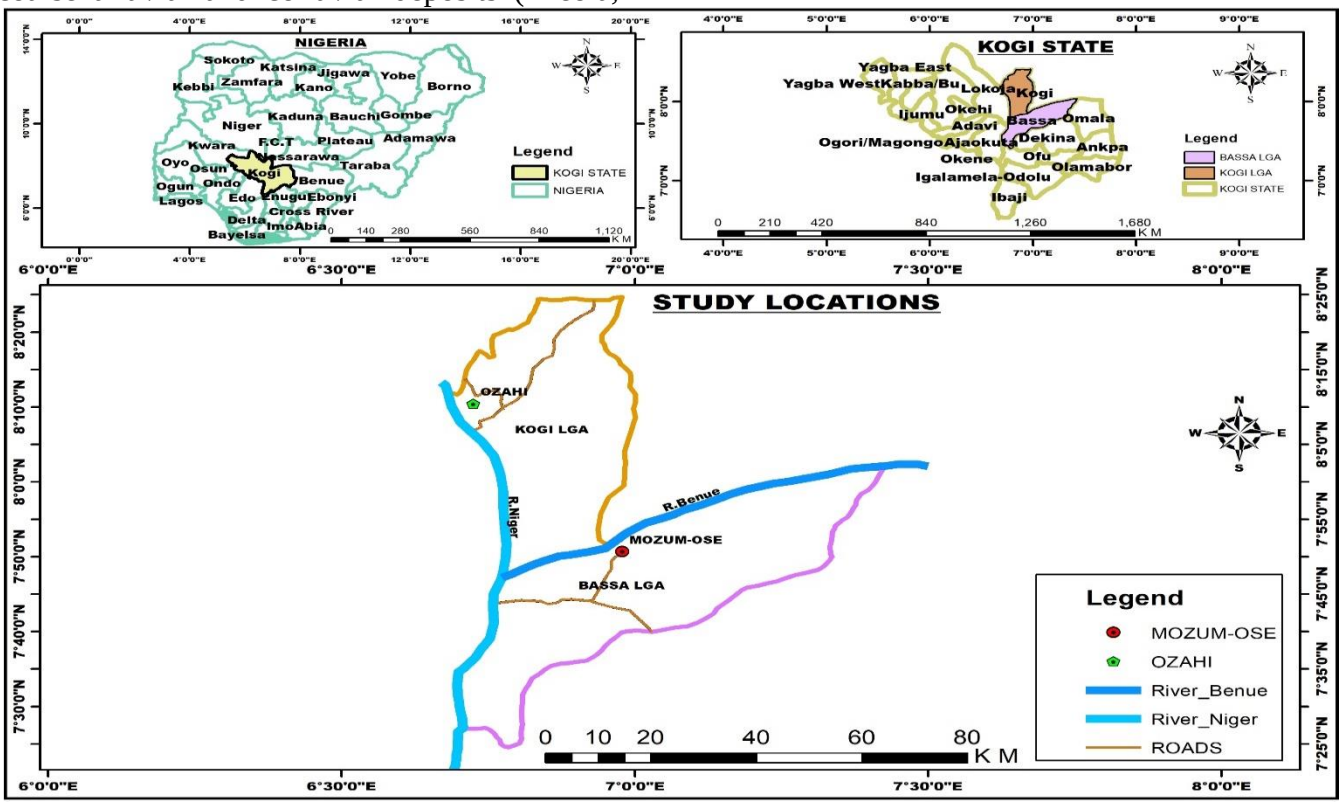

Figure 1: Map of Ozahi Community.
Source: Adapted from the Administrative Map of Kogi State, 2023

3. Materials and Methods

The data used for this study includes, socio-demographic data of households, data on intervention offered by Red Cross and data on household strategies for flood disaster mitigation. Primary and secondary data was used for this study. The primary source of data was gotten from structured questionnaire, Focus Group Discussions (FGD), key informant interview and direct field observations. Key Informant Interviews (KII) of Red Cross staff at Headquarters, Kogi Branch office and Kogi SEMA key staff. The FGD was composed of four groups and eight sessions (two session each). The secondary data was collected from Red Cross annual publications, academic thesis, ministry of land, housing and urban development, the internet and other related material obtained from it. The sample frame for this study is the population of households in Ozahi in Kogi State. Ozahi community in Kogi LGA has a population of 980 people (NPC, 2006, IFRC, 2012). In order to ensure fair representation, a total of five officials each were interviewed from NEMA, SEMA and Red Cross headquarter and Red Cross Kogi branch (20 Copies). The sample size of the study was gotten using Taro Yamane sample size determination formula to arrive at 400 respondents.

Multi stage sampling technique was adopted. Firstly, purposive sampling technique was adopted to select the households that are beneficiaries of the pilot implementation of Red Cross and CRAterre collaboration for Early Recovery Shelter Intervention. Then, simple random sampling technique was adopted to select the exact household where the questionnaires will be administered. Ozahi community with a population of 980 people

(400 copies). Finally, systematic sampling technique was employed to select respondents by picking each household at an interval of 2 houses. This ensured a good spatial spread across the study area.

4. Data Analysis

Data obtained from questionnaires was presented in tables, frequency count, simple percentages, charts. Likert scale and cumulative mean was employed. Responses from KII and FGD was analyzed using theme and content analysis to retrieve all valid response that supports or negates other instruments of data collection. Assessment of the magnitude of Red Cross interventions in flood disaster management in the study area was conducted using Analysis of Variance (ANOVA).

5. Results and Discussions

5.1 Demographic Characteristics of Respondents

The demographic characteristics of the respondents include the sex, age and marital status of the respondents. Table 1 revealed that most of the respondents are male. The sex distribution shows that men are more (81.3%) when compared with their female counterparts (18.7%). This is because the nature of the research targets household heads which in most cases are headed by men especially in the Muslim and Christian communities in northern Nigeria.

Table 1: Demographic Characteristics of Respondents

Sex	**Frequency**	**Percentage**
Male	325	81.3
Female	75	18.7
Total	400	100.0
Marital status		
Married	272	68.0
Single	30	7.5
Separated	11	2.7
Divorced	32	8.0
Widow/Widower	55	13.8
Total	400	100.0
Age (Years)		
20-29	33	8.3
30-39	114	28.5
40-49	119	29.8
50-59	81	20.2
60 and above	53	13.2
Total	400	100.0
Educational Status		
No formal education	46	11.5
Primary school	68	17.0
Secondary school	186	46.5
Tertiary	100	25.0
Total	400	100.0

Source: Authors Survey, 2023

The marital status of respondents revealed that 68% are married, 13.8% are widows or widowers, while 8% and 7.5% accounted for those that are divorced and single respectively.

The result on the marital status shows that most of the household heads involved in the study are married. The higher number of married respondents is because most people in Northern Nigeria marry at younger ages when compared with their southern counterparts. This assertion is confirmed by the finding of Benjamin and Okwoche (2011) where the researchers opined that most regions in Northern Nigeria have higher population which is a product of early marriage.

It was also revealed that 29.8% of the respondents were of the age ranges of 40-59 years, followed by those of age range of 30-39 years (28.5%) while the least were those of 20-29 years with 8.3% of the respondents in the study area. This is an indication that most household heads in the study area are old. The advantage of having these age group is that most respondents will probably have adequate knowledge of the subject matter. According to Amin (1994) and Ali (2004), age is one of the factors that affects the ability of people to independently and efficiently provide solutions to problems.

Furthermore, it was observed that 46.5% of the respondents have secondary school certificates, 25% have tertiary education, 17% have attained first school certificate while 11.5% have no formal education. From the distribution here, it implies that the population used in this study are quite literate and should be able to respond well and provide the study with adequate information. This finding is supported by Odeleye and Oyekanmin (2013) who stated that educational level is very important as it increases an individual's ability to obtain, analyze and interpret information and use their resources efficiently.

5.2 Socio-Economic Characteristics of Respondents

The socio-economic characteristics of the respondents include the occupation and income of respondents. Table 2 revealed that 43% of the respondents are fishermen, 25.7% are farmers, 20.5% are civil servants, while 10.8% engage in other activities like trading, artisans, service provision etc. The higher number of fishermen and farmers is closely related to the educational level of residents of the study area. Therefore, since most respondents have secondary education as their highest qualification and considering the rurality of the study area, fishing and farming occupation is not unexpected. This also means that most of the residents of Ozahi communities depend on the river and land for their livelihood. Therefore, flood will have great impact on their sources of livelihood.

Income is a major determinant of standard of living. As revealed by Table 3, it can be clearly seen that 51% of the respondents earn ₦21000 - ₦40000 monthly, 36.7% earn ₦41000 - ₦60000, 9.8% earn ₦61000 and above while 2.5% earn less than ₦20000. The level of income of the respondents is sometimes dependent on educational level. Therefore, considering their education level and the fact that most of the respondents are primary producers the low level of income is expected.

Table 2: Socio-Economic Characteristics of Respondents

Occupation	Frequency	Percentage
Farmers	103	25.7
Civil Service	82	20.5
Fishing	172	43.0
Trading	14	3.5
Others	29	7.3
Total	400	100.0
Monthly Income		
Less than ₦20000	10	2.5
₦21000 - ₦40000	204	51.0
₦41000 - ₦60000	147	36.7
₦61000 - ₦80000	32	8.0
₦80000 and above	07	1.8
Total	400	100.0

Source: Authors Survey, 2023

Although, most of the respondents earn above the minimum wage of ₦30000, however, considering the current economic realities, this income level is quite low. This result is in consonance with Ali (2004) who reported that fishing, farming, marketing, petty trading, transportation and hand crafts are some of the informal sectors whose return is considered very low.

5.3 Capacity for Flood Management in the Study Area before Red Cross intervention

5.3.1 Capacity Building of Residents in the Study area to Flood before Red Cross Intervention

Capacity building for overall flood management process involves individuals and local communities. In the study area, the role played by individuals cannot be overemphasized. Table 3 shows that most (66.25%) of the households use approximately 0-2 hours per month to build capacity on flood preparedness and loss prevention, 18.75% use 2-4 hours while 15% commit 5 hours and above in capacity building for flood preparedness.

The implication of this result is that most of the households do not adequately prepare for flood. Possible reasons for this could either be the lackadaisical and non-chalant attitude to flood preparedness and management by households or the ignorance of the implications of their actions or inactions. Furthermore, Table 3 revealed that 91.25% of the households do not have insurance plan against flood disaster while 8.75% have a plan. An insurance plan is important in flood preparedness and management framework as it prevents, reduce or recover losses from flood (IFRC, 2012).

Table 3: Capacity Building for Households in the Study Area

Time Spent in Building Capacity for Flood	Frequency	Percentage
0-2 hours	265	66.25
2-4 hours	75	18.75
5-7 hours	51	12.75
8hours and above	09	2.25
Total	400	100.0
Household Insurance Plan against Flood		
Yes	35	8.75
No	365	91.25
Total	400	100.0
Reasons for Non-Insurance against Flood		
Not located in the floodplain	47	12.88
Premium too high	86	23.56
Not worth it	195	53.44
Not familiar with it/don't know about it	20	5.48
Not necessary	10	2.74
Never considered it	07	1.90
Total	365	100.0

Source: Authors Survey, 2023

Although most (53.44%) of the respondents opined that an insurance plan is not worth it because the premium is too high (23.56%), there is an increasing need for insurance plan against flood in the study area because of the susceptibility of most households to flood disasters.

5.3.2 Effectiveness of Household's Preparedness for Flood

Flood preparedness plan for households is about putting in place a set of appropriate arrangements in advance for an effective response to floods. This is sometimes neglected as there is a tendency to rely more on what the government and NGOs can do while neglecting self-help options. Thus, flood risk preparedness are measures that reduce the vulnerability of households to flood. Likert scale was used to ascertain the effectiveness level of households on preparedness to flood disaster. The level of effectiveness of household preparedness for flood disaster within the study area is explained in Table 4 using the Likert's scale. The highest mean ($\bar{X}$) is 4.24, while the least is 2.74. The average mean is 3.68. The range of Effectiveness of Households Preparedness for Flood Index (EHPFI) variable is 1.5.

Table 4: Effectiveness of Household Preparedness

	Ratings					EHPWV	EHPWV/Total Respondents (X)	Mean ($\bar{X}$)	X - $\bar{x}$	(X - $\bar{X}$)^2
Indicators of Preparedness	**5**	**4**	**3**	**2**	**1**					
Raising of Public Awareness	214	82	31	40	33	1604	4.01	3.68	0.33	0.109
Neighborhood Meetings and Cooperative Societies	187	47	156	07	03	1608	4.01	3.68	0.33	0.109
Provision of Drainage System	45	63	108	111	73	1096	2.74	3.68	-0.94	0.884
Water, Sanitation and Health Care Planning	21	35	208	92	44	1097	2.74	3.68	-0.94	0.884
Community Banks	148	152	41	24	35	1554	3.89	3.68	0.21	0.044
Use of Sandbags/Concrete Embankments to abate flood and Tyres for Movement	241	71	21	41	26	1660	4.15	3.68	0.47	0.221
Erection of Planks for Movement of People	264	42	44	25	25	1695	4.24	3.68	0.56	0.314
Total							**25.78**			**2.565**

EHPWV = Effectiveness Households Preparedness Weighted Value

Mean ($\bar{X}$) = ($\sum$= $\frac{\text{EHPWV}}{Total\ Respondents}$) ÷ Number of Indicators

Source: Authors Survey, 2023

The household's preparedness with high positive deviation above the mean include erection of planks for movement of people (4.24), use of sandbags/concrete embankments to abate flood and tyres for movement (4.15), Neighborhood meetings and cooperative societies (4.01), raising of public awareness (4.01) and community banks (3.89). The finding indicates that some households in the community lacked confidence to rely on cooperative solutions or to depend on government for defensive strategies and actions. Another finding was that the households most preferred option of flood disaster preparedness is erection of planks for movement of people and use of sandbags/concrete embankments to abate flood and use of tyres for movement. This was based on respondent's perception that the impacts were severe and that preparing movement routes and raising building embankment heights was reliable because prior to the flood disaster they had been informed that there would be heavy down pour and it might affect them.

This suggests that in reality, the households appreciated the fact that sea level will rise once there is heavy downpour. The effectiveness of household preparedness is useful in minimizing the impacts of flood disasters. Majority of the respondents claimed that erection of planks for movement of people and use of sandbags/concrete embankments to abate flood and tyres for movement was very much effective or effective. Nevertheless, a few respondents mentioned that they had less effectiveness in their level of preparedness by providing pipe outlets and water, sanitation and health care planning.

5.4 Nature and Magnitude of Red Cross Intervention in Flood Disaster Management in the Study Area

5.4.1Nature of Red Cross Intervention in Flood Disaster Management in the Study Area

Red Cross intervention in flood disaster management is basically geared towards capacity building for flood prevention and loss recovery.

5.4.2 Red Cross flood Intervention (Flood Prevention)

This intervention can be at individual, institutional or systemic levels. Individual capacity depends on the availability of knowledge and skills, as well as the performance of human resources. The capacity question focuses on all aspects of the emergency management system at national and local levels, and also includes an assessment of the political, cultural, social, economic and environmental factors which influence vulnerability to disasters. At the institutional level, intervention focuses on overall organizational performance and management capacities. The systemic level focuses on the creation of enabling environment, such as the overall policy, economic, regulatory, and accountability frameworks within which organizations and individuals operate.

In order to determine the level of compliance to Red Cross intervention for flood prevention, respondents were asked to identify measures they practice from a list of ten (10) likely actions (each respondent picked more than one choice). From Table 5, the household responses show that 67.75% of the households never practice these flood disaster risk reduction measures, 26.2% always practiced while 5.8% sometimes practice, thereby affirming that flood disaster reduction is not a common practice in the study area.

Table 5: Level of Compliance to Red Cross Flood Disaster Risk Reduction Strategies

Flood Disaster Risk Reduction Measures	Never Practiced	Sometimes Practiced	Always Practiced	Total
Have a separate savings account for flood emergency/disaster	345 (86.25%)	30 (7.5%)	25 (6.25%)	400 (100%)
Have a family flood disaster plan	135 (33.75%)	47 (11.75%)	218 (54.5%)	400 (100%)
Plan of where household is to meet if flood disaster occurred and you are not together	318 (79.5%)	10 (2.5%)	72 (18%)	400 (100%)
Plan of how to search for missing household members	387 (96.75%)	07 (1.75%)	06 (1.5%)	400 (100%)
Members of your household know each other's phone numbers off heart	78 (19.5%)	19 (4.75%)	303 (75.75%)	400 (100%)
Raised the foundation of the house above flood level	81 (20.25%)	46 (11.5%)	273 (68.25%)	400 (100%)
Have taught the little children to call emergency number	338 (84.5%)	12 (3%)	50 (12.5%)	400 (100%)
Insured the house against flood disaster?	369 (92.25%)	20 (5%)	11 (2.75%)	400 (100%)
Regularly conduct a house hazard hunt to familiarize the household	342 (85.5%)	33 (8.25%)	25 (6.25%)	400 (100%)
Provision of medical kit for disaster emergencies	317 (79.25%)	08 (2%)	75 (18.75%)	400 (100%)
Total Frequency	2710	232	1058	4000
Relative Percentage	67.75%	5.8%	26.2%	100%

Source: Authors Survey, 2023

A careful assessment of Table 5 also reveals that most respondents have the following as their major flood prevention strategy; members of their household know each other's phone numbers off heart, they raised the foundations of their houses and have flood disaster plan as attested by 75.75%, 68.25% and 54.5% respectively. Furthermore, the least practiced strategy is planning of how to search for missing household members in the event of a flood disaster, insuring their houses against flood disaster and having a separate savings account for flood emergency/disaster as confirmed by 96.75%, 92.25% and 86.25% of the respondents respectively that never practice these strategies.

This result corroborates the work of Ezemonye and Emeribe (2014) where the researchers observed that 94% of the households in Benin City do not have flood disaster risk reduction strategy. However, in comparison with the study area, there is a higher compliance with flood disaster strategies with 26.1% always practicing and 5.62% sometimes practicing strategies to reduce flood risks.

5.4.3 Red Cross flood Intervention (Loss Recovery)

Capacity building for loss recovery guidelines have been developed by Red Cross to assess capacity building needs for project implementation, and to monitor and evaluate effectiveness of programmes for loss recovery. These guidelines generally recommend identification of main targets of capacity building in each level of the framework. However, once emergency needs have been met

following a disaster and the initial crisis is over, people affected and the communities that support them are still in a state of heightened vulnerability. The Red Cross from international to national level, may have been weakened by the disaster. It is in these situations that post-emergency rehabilitation programmes should be considered. A staff at the Red Cross Headquarters in Abuja who have covered the area under study for some years said:

"The Red Cross intervention policy in Ozahi community covers assistance activities, targeted to disaster affected communities, in the post-emergency phase of disaster response (as described in the Emergency Response Policy of the Red Cross) which are designed to reduce immediate vulnerability to disaster or to address the root causes of those vulnerabilities. It also covers actions taken specifically to rebuild and strengthen the capacity of the disaster affected communities. The policy recognizes the primary responsibility of government, at the national and local level, to directly engage resources in disaster rehabilitation and the auxiliary role of Red Cross in complementing such actions".

This assertion was subjected to confirmation by respondents in the study area. Figure 2 revealed that most respondents in the study area are aware and have benefitted from the Red Cross intervention programme as attested by 92.60%. In all community-based disaster prevention and recovery programmes, such as those being implemented by the Red Cross, the participation of community members is encouraged. This not only gives them the opportunity to have their voices heard but also builds their confidence in contributing to the reduction of their vulnerability and reinforcing their coping capacities. A self-reliant spirit can be fostered in communities through awareness-raising and mobilization campaigns, leading to people taking tangible actions to reduce risk.

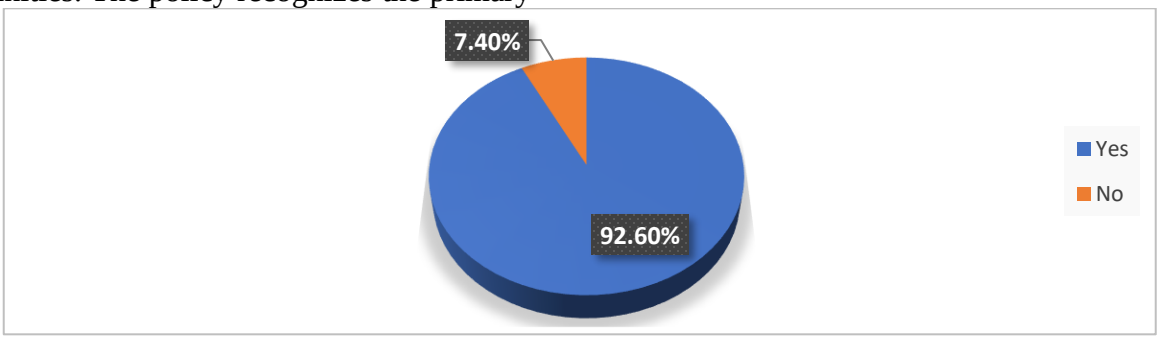

Figure 2: Community Involvement with Red cross
Source: Authors Survey, 2023

Furthermore, Table 6 shows that distribution of relief materials to flood victims such as, mattresses, lamps, house hold items and food items is the most prevalent Red Cross intervention for loss recovery in the study area as revealed by a relative importance index of 0.70. This is closely followed by reconstruction of destroyed or damaged houses and establishment of a system for dissemination of flood forecasts and early warnings with a relative importance index of 0.68 and 0.62 respectively.

Table 6: Red Cross Intervention in the Study Area

S/No	Indicators	Ratings					Total	Total Likert Analysis	Relative Importance Index
		5	4	3	2	1			
1	Distribution of Relief materials to Flood Victims such as, mattresses, lamps, house hold items and food	41	254	19	27	59	400	1391	0.70
2	Reconstruction of destroyed or damaged houses (CRAterre Institute)	96	32	211	56	5	400	1358	0.68
3	Establishment of a System for Dissemination of Flood Forecasts and Early Warnings	30	214	23	23	110	400	1231	0.62
4	Conditional Cash Transfer	19	41	304	18	18	400	1225	0.61
5	Building Local Capacities to Control Flood	51	61	144	49	95	400	1124	0.56
6	Cleaning of the Drainage Basin by Red Cross Officials	25	41	3	102	229	400	731	0.37
7	Evacuation Planning and Temporary Shelter Management	35	29	6	20	310	400	659	0.33
8	Public Awareness/Education	8	14	21	142	215	400	658	0.33
9	Training and Re-training of Volunteers	20	15	21	33	311	400	600	0.30
10	Water, Sanitation and Hygiene (WASH) and Emergency Health care	9	11	23	17	340	400	532	0.27

Source: Authors Survey, 2023

The least observed Red Cross intervention is training and re-training of volunteers and emergency health care/sanitation and hygiene with a relative importance index of 0.30 and 0.27 respectively. The implication of this result is that most households expect Red Cross to distribute relief materials to flood victims and reconstruct destroyed and damaged houses after a flood disaster. This is a huge contrast with what was obtainable in the study area before the coming of Red Cross where the households resulted to self-help by erecting planks for movement of people and usage of sandbags/concrete embankments to abate flood and tyres for movement. However, with the intervention of Red Cross most households rely on handouts, relief materials and reconstruction of damaged residences while downplaying training of volunteers, self-help and environmental health strategies.

This result corroborates the work of Olowu (2010) where the researcher opined that in many developing countries, humanitarian efforts are misconstrued by the targeted vulnerable as they are either collected by the wrong beneficiaries or some beneficiaries neglect simple disaster risk reduction/capacity building strategy because of the benefits they accrue from the humanitarian organizations. Conversely, another intervention highlighted by respondents is the reconstruction of destroyed or damaged houses by the CRAterre Institute as an intervention framework of the Red Cross. An official of the Red Cross had this to say:

"Ozahi is one of the three communities in Kogi State identified by the Red Cross Needs Assessment (RCNA) after the 2012 flood. Some households in Ozahi housing the most vulnerable received conditional cash transfer of ₦20,000 and their houses were either reconstructed or repaired".

An official of the Red Cross outlined the major strategies for loss prevention and recovery in the study area after the 2012 flood framework. These strategies have spanned a period of eight years. The first three were within one year while others were more long term oriented. They are;

i. Immediate relocation of affected persons to temporary shelter belts and provision of relief materials to cushion the effects of the disaster. The State government and Red Cross immediately moved affected persons to temporary shelter. The Government College was used in Ozahi.
ii. Collaboration with the Kogi State government to repair destroyed infrastructures especially electricity poles and communication lines. This was most evident in Ozahi.
iii. Red Cross and CRAterre (International Centre on Earthen Architecture) collaborated to reconstruct or repair damaged houses of the most vulnerable. A total of 30 households were selected in Ozahi.
iv. Regular training and re-training of volunteers for free on building techniques to build flood resistant houses. Also, public education of residents on the need to avoid delineated flood plains.
v. To protect livelihood, Red Cross has continually informed the people particularly farmers on the need to adopt measures to prevent re-occurrence of the flood disaster. This has been followed up with handouts to farmers and fishermen, training on modernized farming technique and provision of improved seeds.

On the other hand, Figure 3 assessed the perception of respondents as relating to the impact of Red Cross intervention programme in the study area. Majority of the respondents reported that the intervention was very good and good as attested by 51.85% and 19.75% respectively while 17.90% and 10.49% of the respondents reported satisfactory and unsatisfactory respectively.

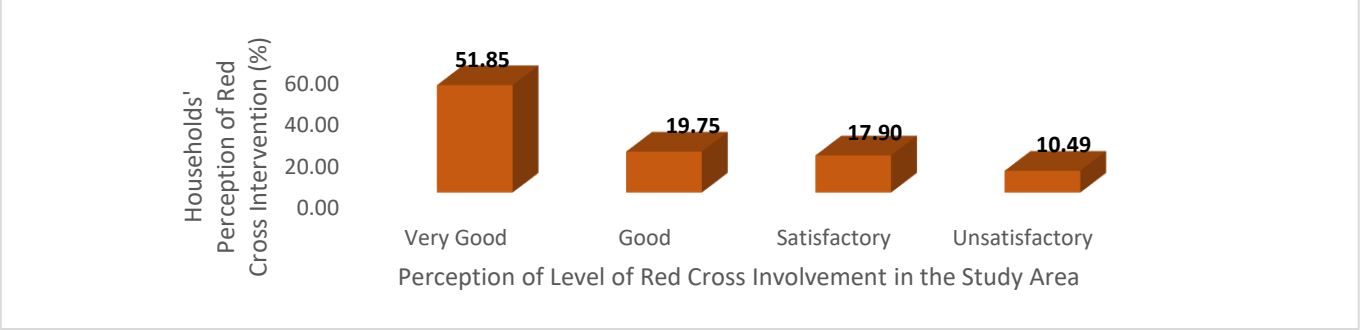

Figure 3: Households Perception of Level of Red Cross Intervention

Source: Authors Survey, 2023

Generally, the perceptual assessment of respondents indicates that Ozahi community adjudge the intervention of Red Cross as good. Therefore, they participate actively and are beneficiaries of the programme. This result agrees with the work of Kolawole *et al.*, (2011) where the researchers opined that most humanitarian intervention are easily accepted by local communities because of the benefits attached to them such as food items, non-food items and cash handouts.

This indicates that most respondents agree that Red Cross and other environmental management bodies coordinate and effectively prepare households against flood. A response analysis from FGD (Team C) revealed thus;

"The importance of Red Cross society in this community cannot be over-emphasized, they constantly contribute their own quota in disaster management and loss recovery by providing victims with humanitarian assistance and training through volunteers"

In most cases, the devastation caused by flood especially on households is usually a reflection of their lack of strategies to adequately prepare, reduce the risk or prevent losses where necessary. Therefore, non-preparedness, poor and low budgetary allocation for flood disaster prevention in areas prone to flood make them experience greatly the impacts of flood disaster. No country is immune to flooding but the impacts are heightened by lack of capacity and preparedness. Hazards cannot be prevented from occurring especially natural hazards such as flooding but the vulnerability associated with flood disaster can be mitigated by flood disaster reduction strategy.

5.5 Magnitude of Red Cross Intervention to Flood Disaster Management in the Study Area

A comparative assessment was conducted to ascertain the magnitude of Red Cross intervention in the study area. Household strategies for flood management before Red Cross intervention was tested against various interventions proffered by Red Cross in the study area using Analysis of Variance (ANOVA). The result is presented in Table 7. From Table 7 it can be deduced that before Red Cross intervention, the F-value of 0.12 and a significance value of 0.912 at 0.05 level of significance indicates that there was no significant variation in strategies employed for flood management in the study area. This is because the calculated significance value is above the threshold significance of 0.05.

However, after Red Cross intervention, an F-value of 5.199 and a calculated value of 0.23 at 0.05 level of significance was recorded. Since the calculated p-value is less than the benchmark significance of 0.05, it can be concluded that there is significant difference in strategies employed by the community under study since the intervention of Red Cross.

Table 7: ANOVA Result for Magnitude of Red Cross Intervention in the Study Area

		Sum of Squares	df	Mean Square	F	Sig.
Before Red Cross Intervention	Between Groups	.031	1	.031	.012	.912
	Within Groups	2056.438	399	2.577		
	Total	2056.469	399			
After Red Cross Intervention	Between Groups	12.251	1	12.251	5.199	.023
	Within Groups	1880.297	399	2.356		
	Total	1892.549	399			

Source: Author's Analysis, 2023

The implication of this result is there exist a significant difference in flood management strategies since the intervention of Red Cross. This means that Ozahi have imbibed Red Cross intervention strategies which have greatly led to significant changes in their flood management strategies. It is also worthy of note that these significant change in flood management strategy can be positive or negative.

This result corroborates the work of Oludare, *et al.,* (2012) where the researchers noted that for any flood management project to be successful, there must be a significant change from traditional management techniques which exacerbates impacts. However, the result contradicts the work of Obeta (2014) where the researcher opined that central to any flood disaster management framework, the capacity building of the households is the most important as every policy framework either mitigate or exacerbate their losses.

6. Conclusion

The study on flood disaster recovery intervention by the Red Cross in Ozahi community of Kogi State revealed that household most preferred option of flood disaster preparedness is erection of planks for movement of people and use of sandbags/concrete embankments to abate flood and use of tyres for movement. Red Cross intervention in flood disaster management in the study area was basically geared towards flood prevention and loss recovery. A comparative assessment of household preparedness revealed that most households expect Red Cross to distribute relief materials to flood victims and reconstruct destroyed and damaged houses after a flood disaster. This is a huge contrast with what was obtainable in the study area before the coming of Red Cross where the households resulted to self-help by erecting planks for movement of people and usage of sandbags/concrete embankments to abate flood and tyres for movement.

7. Recommendations

In response to flood disaster, households in study area must imbibe the habit of planting trees, shrubs, and other plants that will reduce soil erosion and natural exposure of the earth surface to direct sunlight and heavy down pour in order to increase its water-retaining capacity. Also improving household's resilience and recovery might include employment opportunity and access to credit facilities. As a matter of urgency, government should embark on a comprehensive cadastral survey of all lands prone to flood using the Geographical Information System (GIS) approach.

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