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PERCEPTIBLE EFFECTS OF THE 2022 FLOODS ON AGRICULTURAL SUSTAINABILITY IN AGRARIAN COMMUNITIES OF ANAMBRA STATE, NIGERIA

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ABSTRACT

Floods have a significant impact on agricultural sustainability and food security, often leading to long-term consequences. To mitigate these effects, it is crucial to focus on disaster preparedness, early warning systems,

and the implementation of strategies that enhance agricultural resilience. This study aimed to examine the perceptible effects of the 2022 floods on agricultural sustainability in agrarian communities of Anambra State, Nigeria. A multi-stage sampling technique was used to collect data from 320 flood victims who were randomly selected for the survey. We found that most victims faced mobility difficulties (71.9%), challenges in accessing markets (54.7%), and damage to stored produce (70.4%), among other hardships. Furthermore, the effects of flooding on agricultural sustainability included crop damage (81.6%), reduced crop yields (71.1%), and the loss of agricultural inputs (68.1%). Additionally, statistical analysis revealed that sex and marital status were significant at the 10% probability level. Education level and cooperative membership were significant at the 5% probability level, while age and farm size were significant at the 1% probability level. A deeper understanding of these significant variables is essential, as such knowledge will help shape targeted interventions to alleviate the experiences of flood victims. However, to mitigate the adverse effects of flooding and safeguard the livelihoods of agrarian communities in Anambra State, the results highlight the urgent need for enhanced support systems like improved disaster preparedness, and resilient agricultural practices.

KEYWORDS: flood victims, agricultural sustainability, agrarian communities, riverine areas, Nigeria.

1. INTRODUCTION

Flooding remains a persistent environmental challenge in agrarian communities (Balgah et al., 2023), particularly those situated along riverbanks. In Anambra State, Nigeria, Local Government Areas (LGAs) such as Ogbaru, Anambra East and West, parts of Ayamelum, and Awka North experience severe seasonal flooding due to their proximity to the River Niger or other water bodies. This phenomenon significantly impacts economic opportunities, as documented by Okeke et al. (2023), who uncovered the loss of farmlands, displacement of households, and destruction of infrastructure. Previous studies (Adedapo et al., 2020) have established that flooding occurs when water exceeds the land's absorption capacity, leading to an overflow that damages agricultural productivity and rural livelihoods (Yiran & Stringer, 2016; Fiasorgbor et al., 2018). The devastating 2022 floods further exacerbated these vulnerabilities, prompting a critical assessment of their impact on agricultural sustainability. According to Hamdiyah (2020), agricultural sustainability requires conserving natural resources such as soil and water, as mismanagement and climate change contribute to long-term soil degradation. Similarly, Nduba et al. (2024) reported that flooding in Anambra West LGA during the 2022 disaster led to soil compaction, erosion, and nutrient loss, ultimately reducing crop yields and farmer income.

Beyond agricultural losses, flooding has a broader socioeconomic consequence, such as environmental destruction and economic hardships (Okoroh & Irebuisi, 2024; Mandal et al., 2023). Some empirical studies (Asiru et al., 2018; Udemezue et al., 2019; Atubiga & Donkor, 2022; Balgah, 2023) revealed that floods damage rural infrastructure, such as roads and storage facilities, disrupting market access and agricultural value chains. The financial strain on state governments to provide relief and rehabilitate affected communities further highlights the economic burden of flooding. As documented by Aborode et al. (2025), extreme flooding events often lead to outbreaks of waterborne diseases, displacement of families, and heightened food insecurity. The 2022 floods in Anambra State resulted in widespread displacement, compromising access to clean drinking water and essential services (Nduba et al., 2024). The World Health Organization (WHO, 2020) and Badamosi et al. (2023) have emphasized that flooding contaminates soil and water sources with pollutants, causing long-term health risks. Similarly, Adedapo et al. (2020) found that agrarian communities suffer extensive damages like farmland losses, reduced food production, and economic instability.

Comparative analyses indicate that while the 2012 floods were among the most severe in terms of displacement (Onwuka & Onuoha, 2015), the economic toll of the 2022 floods was consequently higher (Chuks-Ezekwibe, 2024). According to Nura and Alison (2022), floods in Nigeria over the past two decades have claimed 1,763 lives and caused nearly $1 billion in property damage. Most agricultural communities near water bodies were affected by the 2022 floods, which resulted from excessive rainfall and river overflow (Nduba et al., 2024). Reports from Anambra West and Ogbaru LGAs noted extensive damage to roads, collapsed bridges, and multiple boat accidents, leading to over 80 fatalities (Nduba et al., 2024). Climate change has been identified as a key driver of these recurrent floods (Akukwe et al., 2020; Ani & Anyika, 2022), emphasizing the need for climate-resilient flood mitigation strategies. Ngcamu and Chari (2020); Anu et al. (2021); Connor et al. (2022); Echendu (2022), advocated for community-based disaster preparedness programs to mitigate future risks. This study seeks to evaluate the perceptible effects of the 2022 floods on agricultural sustainability and propose actionable recommendations to enhance resilience in Anambra State's agricultural sector.

Furthermore, a systematic assessment of the extent of losses experienced by flood victims will enable policymakers to design targeted interventions. Therefore, this study is structured to achieve the following objectives:

1. Examine the losses suffered by flood victims during the 2022 flooding event.
2. Ascertain the perceptible effects of frequent flood occurrences on agricultural sustainability.
3. Determine the relationship between the extent of losses experienced and the socioeconomic characteristics of flood victims.

2. LITERATURE REVIEW

Several studies have examined the impact of floods on agricultural livelihoods and adaptation strategies. Santosh (2021) found that factors such as gender, age, income source, farm size, and family size significantly influenced flood victims' adaptation strategies. Similarly, research by Nga, Duy, and Matthias (2019) in Vietnam's Northern Mountainous Regions noted the role of education level, farm size, and income in shaping farmers' responses to flash floods and landslides. These findings revealed the needs for targeted policies that enhance farmers' resilience by addressing socioeconomic determinants affecting adaptation strategies.

Floods pose severe threats to agricultural communities, leading to infrastructure destruction, displacement, and economic decline. Balgah et al. (2023) reported extensive damage to houses, roads, and bridges in Sub-Saharan Africa, alongside increased sickness and loss of economic activities. Additional studies by Bang et al. (2017) and Baba, Musah, and Abayomi (2013) found that floods cause farmland destruction, soil erosion, nutrient depletion, water pollution, and significant losses in food supply, property, and livestock. These studies highlight the extensive socio-economic consequences of floods, making disaster preparedness and mitigation efforts critical.

The agricultural sector suffers severe disruptions due to floods, affecting production, market access, and transportation. Amadi and Aleru (2019) found that floods negatively impact root crops, plant cultivars, harvest timing, and produce quality in Rivers State, Nigeria. Additionally, Baishakhy, Islam, and Kamruzzaman (2023) categorized flood-related challenges into farming, economic, and infrastructural problems, including a lack of submergence-tolerant crop varieties, credit access, labor shortages, and poor storage and transport facilities. These findings emphasize the urgent need for improved flood-resistant agricultural practices, financial support, and infrastructure development to mitigate flood impacts on food security and rural economies.

3. MATERIALS AND METHODS

This study was conducted in flood-prone areas of Anambra State, specifically the riverine areas of the State (Ogbaru, Anambra East and West, some part of Ayamelum and Awka North LGAs). Anambra State is situated between Delta State to the West, Imo State and Rivers State to the South, Enugu State to the East, and Kogi State to the North. Its geographical coordinates range from latitudes 5°32ˈ to 6°45ˈ N and longitudes 6°43ˈ to 7°22ˈ E. The state experiences an average annual temperature of 25.9°C and rainfall of 138mm (Johnson et al., 2021; Obianefo et al., 2022). According to the Nigerian Population Commission (NPC)'s current population for Anambra State is 5,953,500 people (NPC, 2022).

To arrive at the appropriate sample size for a descriptive survey, a multi-stage sampling technique was implemented in this study. The method involved the following stages:

Stage 1: Purposive selection of four Local Government Areas (LGAs) – two from each agricultural zone, namely Onitsha zone (Ogbaru and Ihiala) and Anambra zone (Anambra West and Anambra East). This selection was based on the high frequency of flood occurrences in these areas.

Stage 2: Random selection of four communities from each LGA, resulting in a total of sixteen (16) communities.

Stage 3: Random selection of four villages from each community, leading to a total of sixty-four (64) villages.

Stage 4: Random sampling of five flood victims from each village, yielding a sample size of three hundred and twenty (320) respondents.

The data collection process took place from 9th September to 8th October 2022 during the peak of flood events. The structured questionnaire for the data collection was coded in Kobo-collect kit to ensure accuracy and transparency. The research assistants were recruited and trained on the use of the software to ensure smooth operation of the process.

Evidence of the flood occurrence taken during the data collection.

Flood in Ossomala in Ogbaru LGA

Flood at Umueze Anam in Anambra West LGA

Flood at Otuocha in Anambra East LGA

Francis Xmai in his house during the flood. [PHOTO CREDIT: Kosi Bosah]

Beta regression Model:

This study adopted a Beta regression model due to the proportionality of the dependent or response variable (level or severity of loss suffered by the flood victims). These severity of losses were captured in percentage and later converted to a proportion that is bounded between 0 and 1.

y_i = (loss percentage)/100

The reason was that proportional outcome violates the key assumptions of ordinary least square regression, thus; modelling with beta regression obeys the unit interval of the response variable.

The Beta regression analysis is a form of regression analysis that is used when the response variable is bounded by 0 and 1 and can be assumed to follow a beta distribution (Zeileis, and Croissant, 2010). It is suitable for modelling rates, proportions, and fractional data, such as the level or severity of loss suffered by the flood victims. The Beta model can be expressed as follows:

$Y_i \sim \text{Beta}(\mu_i, \phi)$

where Y_i is the severity of loss suffered for the i^{th} observation, μ_i is the mean parameter, and ϕ is the precision parameter estimated simultaneously with the other parameters.

In Prasetyo et al. (2020), the default link is the logit function specified as:

$\text{logit}(\mu_i) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_9 X_9$

Where:
β_0 is the intercept,
β_1, β_2, and β_8 are the coefficients associated with sex, age, marital status, household size, level of education, farm size, farming experience, and income are the values of the corresponding independent variables for the i^{th} observation. B_9 is associated with the coefficient of the precision variability in loss severity.

The selection of these explanatory variables was guided by the social vulnerability perspective reported by Isia et al. (2023), that anchored their study on the Sustainable Livelihoods Framework (SLF) theory that was credited to Robert Chambers and Gordon Conway (1992). From the theory, Isia et al. (2023) noted that households with stronger human capital (proxied as level of education, and experience), financial capital (proxied as income), and natural capital (proxied as farm size) are considered sustainable to cope with and recover from stresses and shocks. Here; flood translates into very different loss levels depending on asset base and livelihood dependence.

SLF explained that disaster losses are unevenly distributed across households due to differences in demographic structure and socio-economic resources (FAO, 2017). Sex and age were included in the model because physical capacity, mobility, and labour constraints shapes exposure and sensitivity during flood events (Isia et al., 2023; Ndue et al., 2023); level of education was included as a proxy for risk awareness and ability to interpret warnings and adopt protective decisions (Okunola & Olawuni, 2022; Odunsi (2022); income was included to capture financial buffer and capacity to protect assets through insurance and recover quickly (Okunola & Olawuni, 2022; Lawanson et al., 2023). Household size and marital status reflect household dependency structure and availability of labour, Efiong et al. (2025) noted that these can intensify welfare loss when shocks occur. Farm size captured livelihood exposure and the scale of natural capital at risk (FAO (2017), while farming experience reflects accumulated skills and hazard learning that can reduce damage through better timing and farm management (Ndue et al., 2023). However, these choice variables were widely adopted in previous studies on flood vulnerability and resilience strategies. This justification provides empirical basis for selection of the independent variables in explaining variation in the severity of losses suffered by flood victims in agrarian communities of Anambra State.

4. RESULTS AND DISCUSSIONS

4.1. The Losses Suffered by the Flood Victims

The occurrence of floods brings about numerous challenges that have a devastating impact on the livelihoods of the affected individuals. The losses experienced by the respondents are outlined in Table 1. It is important to note that multiple responses were recorded, revealing various aspects of the flood's impact on the victims. According to the survey results, 66.6% of the respondents were unable to harvest some parts of their farmland or produce, which aligned with the findings of Amadi and Aleru (2019) who highlighted that floods often lead to premature harvesting of farm produce. Furthermore, 63.2% of the respondents were unable to harvest any part of their farms due to the flood's impact.

Table 1: The losses suffered by the flood victims.

S n.	Losses suffered by victims	Frequency	Percentages
1	I was unable to harvest some parts of the farmland	213	66.6
2	I did not harvest any part of the farm	202	63.2
3	The produce was damaged in a store	225	70.4
4	Because of the glut, produce was sold at giveaway prices	221	69.1
5	I was sick during the flood period	162	50.6
6	There was no access to portable water	160	50.0
7	I was unable to afford quality drinking water	167	52.2
8	I slept in open ground with my family	163	50.9
9	We cooked in open ground or space	280	87.5
10	Mobility was difficult	230	71.9
11	Difficulty in getting to the market	175	54.7
12	Children were unable to access the school facility	168	52.5
13	There was a steady increase in the price of foodstuff	175	54.7
14	There was an excessive mosquito bite	200	62.5
15	We suffered a building collapse in our community	137	42.8
16	There was a loss of family member	165	51.6
17	A family member was bitten by snake or another dangerous animal	164	51.3

Source: Field Survey, 2022.

Additionally, 70.4% of the victims reported that the flood had damaged the produce stored in their storage facilities. The study also found that 69.1% of the victims had to sell their produce at giveaway prices due to market gluts caused by the flood, indicating the negative economic consequences faced by the flood victims. Furthermore, during the flood period, 50.6% of the respondents experienced illness, highlighting the potential health risks associated with flooding. Moreover, 50.0% of the respondents had difficulty accessing portable water, while 52.2% reported being unable to afford quality drinking water due to the increased prices during the flood period. These findings are consistent with the report by Balgah et al. (2023), which observed a 57.5% increase in sickness among individuals living in coastal areas during flood events.

During the flood, a significant proportion (50.9%) of the victims had to sleep in open spaces with their families, while 87.5% had to cook their food in open ground or spaces. Mobility was difficult for 71.9% of the respondents during the flood, hindering their ability to move around. Additionally, 54.7% reported difficulties in accessing the market, which aligned with the findings of Amadi and Aleru (2019) who highlighted transportation challenges for farm produce during flooding. The study also revealed that 52.5% of the victims noted that their children were unable to access school facilities during the flood period. Furthermore, 54.7% reported a steady increase in the price of food items, exacerbating the economic challenges faced by the flood victims. Excessive mosquito bites were experienced by 62.5% of the respondents, indicating the potential health risks associated with flooding. The havoc caused by flooding was evident, with 42.8% of the victims reporting building collapses in their communities. This finding supports the assertion made by Ebuzoeme (2015) that flooding leads to various adverse effects, including damage to buildings. Furthermore, 51.6% of the respondents reported a loss of family members, and 51.3% reported incidents of snake bites among their family members. These findings are in agreement with Anu et al. (2021), who stated that floods disrupt various aspects of life and can have severe consequences.

4.2. *Perceived Effect of the 2022 Floods on Agricultural Sustainability*

The immediate impact of flood havoc on agricultural sustainability is substantial, causing significant destruction. Table 2 presents the perceived effects of the flood on the agricultural sector as reported by the respondents. Multiple responses were recorded, revealing the following findings. The study found that 81.6% of the respondents reported crop damage, while 71.1% reported a reduction in crop yield as the immediate effects of the flood on agricultural sustainability. This decline in yield can be attributed to crop destruction, decreased photosynthesis, and soil degradation, which aligned with the findings of Adedapo et al. (2020) who emphasized the significant reduction in crop yield due to floods. Furthermore, 59.3% of the respondents reported soil erosion, highlighting the detrimental impact of flooding on the soil. Additionally, 61.6% reported the contamination of water bodies during floods. This aligned with the reports by Baba et al. (2013) and WHO (2023) that emphasize the pollution of water bodies as a result of flooding. The study also revealed that 68.0% of the victims experienced a loss of livestock, and 59.7% reported the disruption of farming activities as an immediate effect of the flood in the area. These findings are in line with Anu et al. (2021), who suggested that floods disrupt farming activities, leading to a decrease in food production and income.

In addition, a significant proportion (59.9%) of the respondents noted that floods cause damage to infrastructure, which aligned with the findings of Balgah et al. (2023) who reported 70.0% damage to infrastructure due to flooding. This indicates the destructive nature of floods on physical structures and facilities. Furthermore, 68.1% of the respondents stated that one of the immediate effects of the flood is the loss or waste of farm inputs. This corresponds to the findings of Baishakhy et al. (2023), who emphasized that floods can wash away or damage essential agricultural inputs such as seeds, fertilizers, pesticides, and equipment. As a result, farmers face additional financial burdens and inadequate access to necessary inputs. Moreover, 60.8% of the flood victims reported an increase in the incidence of pests and diseases. Floods create favourable conditions for pests and diseases to thrive, leading to higher occurrences and damage to crops and livestock. This finding supports the understanding that floods contribute to the proliferation of pests and diseases, impacting agricultural productivity. Lastly, 58.9% of the respondents expressed the belief that floods have long-term impacts on the agricultural system as a whole. The shock and damages caused by floods may take a considerable amount of time to recover from, affecting the overall stability and functioning of the agricultural sector.

Table 2: Perceived effect of 2022 flood on Agricultural Sustainability.

Perceived effect on agricultural sustainability	Frequency	Percentage (%)
Crop damage	261	81.6
Yield reduction	227	71.1
Soil erosion	190	59.3
Contaminations	197	61.6
Loss of livestock	218	68.0
Disruption of farming activity	191	59.7
Damage of infrastructure	192	59.9
Loss of agricultural input	218	68.1
Increased Pest and Disease Incidence	194	60.8

Long-term Impacts on Agricultural Systems	189	58.9

Source: Field Survey, 2022.

4.3 Determinants of the Level or Severity of Loss Suffered by the Flood Victims

The determinants of the level of severity of loss suffered by the flood victims in the study area were analyzed with a beta regression model using a logit link function for a robust standard error. The socioeconomic profiles of flood victims play a crucial role in determining how they cope with the losses incurred during the event of flood, as depicted in Table 3. The table includes diagnostic tools used to assess the goodness of fit and accuracy of the analysis to provide supportive answers for the study's hypotheses. The Wald Chi-square test value of 191.67*** was statistically significant at a 1% level of probability, indicating that at least one of the predicting variables influences the victims' response to flood loss. Again, the Chi-square probability of 0.000 indicates a good fit model to explain the interactions.

The coefficient of sex (β = 0.031, z = 1.87*) was positive and significant at a 10% level of probability; this implied that an increase in the number of male farmers in the study will increase the severity of loss suffered by 3.1%. This suggests that male farmers tend to suffer more loss. Equally, male farmers may have more exposure and risk to flooding due to their roles and responsibilities in the agricultural sector. They may also have more assets and investments at stake, which could increase their potential losses. This finding aligned with Santosh (2021) who reported that sex is a determinant of the adaptation strategies of flood victims.

The coefficient of age (β = 0.003, z = 3.36***) was positive and significant at a 1% level of probability; this implied that a unit increase in the age of the farmers will increase the level of loss suffered by 0.3%. Older farmers may have less adaptive capacity and resilience to cope with the impacts of flooding, such as physical damage, crop loss, and income reduction. They may also have less access to information, technology, and resources that could help them mitigate or recover from the disaster. Again, older victims may rely on their prior knowledge and experience to cope with floods, rather than seeking new alternatives as the situation arises. This is in agreement with Agbo (2012) who asserts that performance has an inverse relationship with the age of flood victims, and that older people experienced reduced physical capacity to protect assets, slower evacuation, or stronger dependence on vulnerable livelihood assets.

Table 3: Determinants of the level or severity of loss suffered by the flood victims.

	Robust		
Level of losses	**Coefficient**	**Std. Err.**	**Z-test**
Sex	0.031	0.017	1.87*
Age	0.003	0.001	3.63***
Marital status	-0.020	0.012	-1.68*
household size	0.008	0.007	1.08NS
Level of education	0.014	0.005	2.50**
Farm size	-0.021	0.003	-6.54***
Farming experience	-0.001	0.002	-0.67NS
Income	0.000	0.000	1.63NS
Constants	0.333	0.043	7.76
Scale:			
Cooperative membership	2.463	1.048	2.35**
Constants	3.647	0.913	4.00
Diagnostic tools			
Wald chi2(9)	191.67***		
Log pseudolikelihood	557.396		
Prob > chi2	0.000		
Obs.	320		

Source: Field Survey, 2022. Significant @ 10% (*), 5% (**), and 1% (***).

The coefficient of marital status (β = -0.020, z = -1.68*) was negative and statistically significant at a 10% level of significance; this implied that an increase in the number of unmarried victims will increase the level of loss suffered by 2.0%. Unmarried farmers may have less social support and assistance from their spouses and relatives during and after the flood. They may also face more difficulties in accessing credit, insurance, and other forms of risk management. This result also aligned with Santosh (2021) who noted that married people tend to adjust faster to flood adaptation strategies due to joint decision making.

The coefficient of level of education (β = 0.014, z = 2.50**) was positive and significant at a 5% level of probability; the implication is that a unit increase in the number of years the victims spend to acquire formal education will increase the level of loss suffered by 1.4%. This finding is not in line with the prior expectation that educated farmers tend to cope more with flash flood risk. More educated farmers may have more knowledge and skills to deal with the challenges and uncertainties of farming, especially under changing climatic conditions (Nga et al., 2019). They may also have more confidence and trust in their abilities and decisions, but due to more education, they may migrate to other areas for more paying jobs which make them pay less attention to happenings in their locality. This situation can also exist when better educated people own more assets or higher valued investments such that when floods event occurs, the value lost is higher even when awareness is better. This result is in agreement with Matthias (2019) who found that education plays a significant role in shaping farmers' adaptation strategies in response to flash flood events.

The coefficient of farm size (β = -0.021, z = -6.54***) was negative and significant at a 1% level of significance, this implied that as farm size increases by a unit, the level of loss suffered will reduce by 2.1%. The farmland will become insurable. Smaller farms may be more vulnerable to flooding because they have less land to diversify their production and income sources, and less buffer to absorb the shocks. They may also face more difficulties in obtaining credit, insurance, and other forms of risk management. This result corroborates with Nga et al. (2019) who submitted that farm size influenced the adaption strategies of Vietnam farmers to flash floods.

The precision part of the model examined the factors that influenced the variability of losses, and not only on the average severity. The positive and significant (β = 2.463, z = 2.35**) cooperative membership indicates that members experience more consistent and less scattered loss outcomes at the 5% level of probability. This suggests that cooperative participation enhanced information sharing, mutual support, and coordinated responses to flood risks via extension service delivery, leading to more predictable loss patterns among members. This justified why flood losses tend to be more consistent to each other and less random (the higher the significant value the less dispersed the loss severity)

Thus, these findings suggest that the level of loss suffered by flood victims in Anambra State is not only determined by the physical exposure and intensity of the flood, but also by the socioeconomic characteristics and conditions of the farmers. Therefore, policies and interventions that aim to reduce the impact of flooding on agriculture should take into account the heterogeneity and vulnerability of the farming population, and address the specific needs and challenges of different groups, especially the male, older, married, more educated, and small-scale farmers. Again, members of agricultural cooperatives need to be properly educated and well-trained by the extension officers.

5. CONCLUSION AND RECOMMENDATION

The 2022 flood in Anambra State uncovered the depth of vulnerability among agrarian community members, and what the flood event implied for agricultural sustainability in Nigeria. It was observed that most of the flood victims experienced substantial production and welfare losses. A high proportion of farmers were unable to harvest crops, suffered some form produce damage in storage, and most of their produce were sold output at giveaway prices due to glut caused by serious mobility and market access constraints within the period. To show that the flood event affected both livelihoods and social wellbeing, many community people reported health risks, unsafe living conditions, and disruptions to children's schooling. The respondents equally perceived a severe effects agricultural sustainability in Anambra State. They reported crop damage, yield reduction, and livestock loss among other severity losses. These severity outcomes revealed that flood impacts extend to longer term threats on farm productivity and food security.

Moreso, the beta regression findings highlighted that socioeconomic and farm characteristics shaped the level of losses suffered. It was found that age, sex, and education were associated with higher proportional losses, while marital status and farm size reduced loss severity. Also, cooperative membership reduced variability in losses, this uncovered the stabilizing role of social organization or participation.

Based on the aforementioned, two priority policy implications emerged. Firstly; there is a need to strengthen farmer cooperatives or community-based institutions to improve preparedness, information sharing, and coordinated responses to flood risk. Secondly, there is a need to provide targeted support for vulnerable groups (older people, and people with disability – PwDs) to reduce disproportionate losses. These measures will enhance food sustainability in Anambra State, and Nigeria at large.

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