

Research Article

Perception and Adaptation Strategies to Climate Change-Related Water Risks Among Residents of Afijio Local Government Area, Oyo State, Nigeria

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Abstract

This study was conducted to assess perception and adaptation strategies to climate change-related water risks among residents of Afijio Local Government Area (LGA), Oyo state, Nigeria. This is a cross-sectional study that utilized random sampling technique to select 230 respondents. Interview was conducted using a validated interviewer administered questionnaire. Data were analyzed using descriptive statistics and Chi-square test at $p=0.05$. Respondents' mean age was 37.0 ± 17.2 years, 57.8% were female while 72.6% had attained secondary education. Majority (73.5%) of the respondents agreed that changing rainfall patterns could increase flood risk, 72.6% agreed that climate change could cause irregular water supply during the dry season while 70.4% believed that communities in the area are vulnerable to water scarcity. The mean perception score was 10.1 ± 2.9 , 68.3% had negative perception about climate change-related water risks. Fifteen (15.0%) percent of the respondents reported that water scarcity had affected household health while 10.9% reported that children's schooling was affected due to poor hygiene-related challenges. Significantly, 52.0% of respondents who reported that climate change-related water risk affected children schooling had negative perception compared to 48.0% who had positive perception ($\chi^2=3.423$, $p\text{-value}=0.034$). The three major adaptation strategies to water scarcity mentioned by the respondents were digging of wells (21.7%), storage of rainwater (20.0%) and drilled boreholes (10.9%). Only 36.5% reported changing their farming practices in response to water challenges while 18.7% ever received any support to cope with climate-related water challenges. Respondents had negative perception and had experienced several impacts of climate change-related water risk. Very few respondents had ever received any support to cope with climate-related water challenges. There is need for a public health interventions focusing on more systematic support to transform awareness into broad resilience on climate change-related water risks at community level.

Keywords

Climate Change, Adaptation Strategies, Water Risks, Poor Hygiene

1. Introduction

Climate change has emerged as one of the most serious threats to water systems in the 21st Century across the world. Changes in rainfall patterns, rising temperatures and the

increasing frequency of extreme weather events are altering how water is distributed, accessed and used [1]. These changes have resulted in more frequent and severe floods,

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prolonged droughts, irregular rainfall seasons and declining water quality [2, 3]. Extreme rainfall and prolonged dry periods now occur more frequently, disrupting food production, public health and livelihoods [1, 4]. Globally, climate-related floods and droughts account for a large share of disaster losses and displacement [5]. The World Bank estimates that climate-related water shocks could force more than 216 million people into internal displacement by 2050 if effective adaptation measures are not implemented [6].

Economically, water-related climate disasters generate enormous losses. The International Disaster Database reports that the annual average of global direct economic losses from extreme events exceeded 210 billion USD between 2010 and 2023 [7], while the United Nations Office for Disaster Risk Reduction [8] notes a 151% increase in economic losses from extreme events between 1998 and 2017. Economic losses include infrastructure damage, such as roads, bridges, communication networks, and energy facilities [9-12], as well as disruption of communities and livelihoods, and loss of business activity and productivity [12, 13]. Africa is one of the most vulnerable regions to climate-related water stress. As one of the driest continents, Africa is characterized by water stress, uneven distribution, and rising demand, exacerbated by rapid population growth, urbanization, and climate change [14, 15]. Nearly 400 million people in sub-Saharan Africa lack access to clean water, and *across Africa, up to 250 million people could experience high water stress by 2030* [16, 17]. These pressures threaten food security, economic stability and health outcomes.

Nigeria reflects these wider patterns. Southern Nigeria experiences increasingly intense rainfall and flooding, while the northern regions face longer droughts and declining water availability [18, 19]. Flooding and drought intensify water scarcity, degrade water quality, disrupt sanitation, and compel households to adapt through storage, treatment, conservation, and preparedness measures [1, 4]. For instance, the 2022 floods, which were among the worst in Nigeria's recent history, affected more than 1.4 million people, destroying over 400,000 hectares of farmland and damaging critical water and sanitation infrastructure across several states [17]. These losses had long term implications for household incomes, food security and access to safe water. Beyond physical damage, climate-related water risks have also increased public health burdens. For instance, a study found that cholera outbreaks peaked in August and were associated with rising temperatures and increased rainfall [20]. Similarly, studies have indicated higher cases of cholera outbreak during the rainy

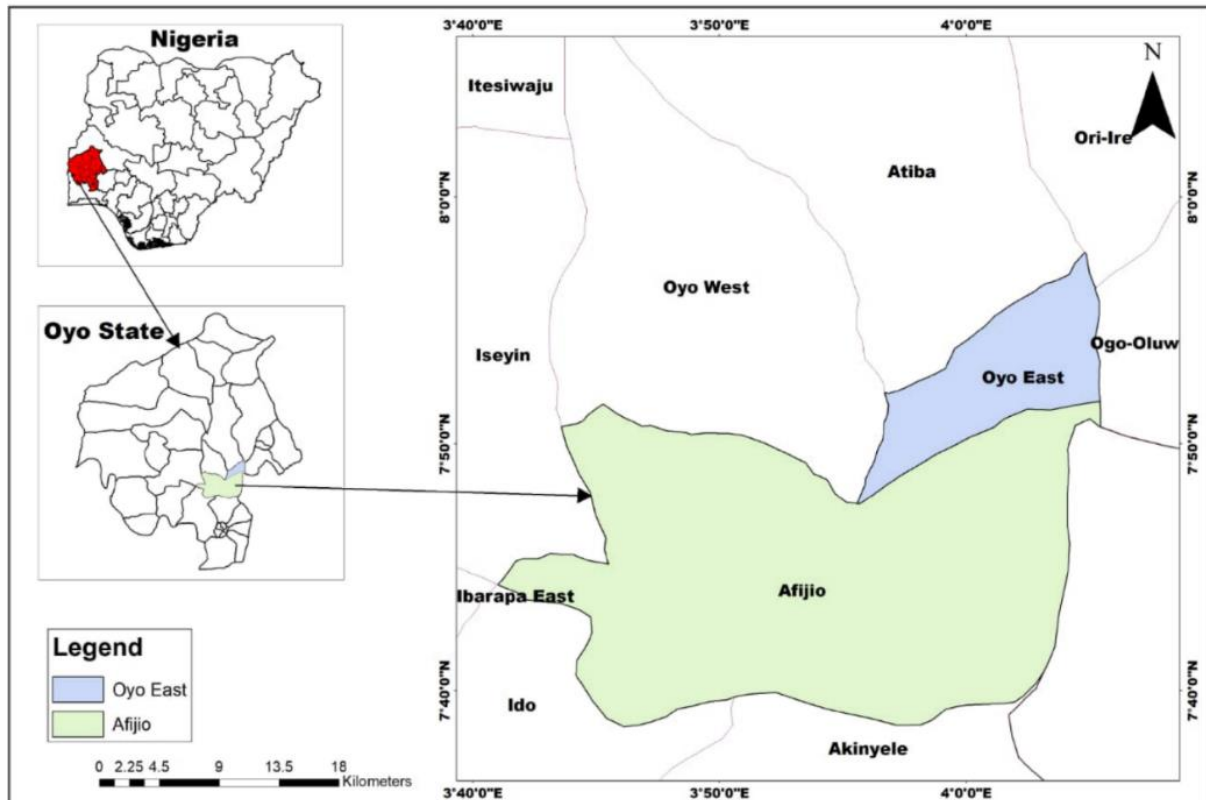
season [21, 22]. Households are often forced to spend scarce income on medical treatment or on purchasing water from private vendors, increasing the cost of living and deepening poverty.

Despite the growing severity of these impacts, people's perception of, and response to climate-related water risks remain insufficiently understood. Many water supply projects remain incomplete or poorly maintained, and investment in climate resilient water infrastructure remains inadequate. The failure of water projects can have severe consequences for local communities, contributing to water scarcity, poor health outcomes, and persistent poverty [23, 24]. Moreover, there are communities in Nigeria already living with the realities of changing rainfall, flooding and periods of water scarcity, yet there is limited evidence on how residents interpret these risks or the steps they take in response. Without such evidence-based interpretation, strategies introduced by policymakers and development agencies may remain detached from everyday realities, making them less effective or sustainable. Therefore, this study was designed to assess perception and adaptation strategies to climate change-related water risks among residents of Afijio Local Government Area of Oyo state, Nigeria.

2. Methodology

2.1. Study Area

This study was conducted in Afijio Local Government Area (LGA) as shown in [Figure 1](#). The LGA is situated in the western part of Oyo State with its administrative headquarters at Jobele, located at Latitude: 7.85 °North and Longitude: 4.03 ° East. The local government covers a land area of about 722 km². The population of Afijio was about 134,000 [25] with estimates rising to approximately 152,193 in the year 2010 and about 188,900 in the year 2022 [26]. The local government is bordered by Oyo East and Atiba to the east, Iseyin to the north, Akinyele to the south and Lagelu to the south-east. Its soils are largely tropical ferruginous soils which support the cultivation of food and cash crops. Surface water is provided by rivers such as Oba and Awon, which influence both agricultural production and household water supply. Major towns within the LGA include Ilora, Fiditi, Aawe, Iware, and Jobele. The local economy is supported by agriculture, small-scale trading, and artisan activities.



Source: Oyelami et al. [27]

Figure 1. Map of Afijio Local Government Area.

2.2. Study Design and Population

The study employed cross-sectional design which utilized quantitative method for data collection. Interviews were conducted among adult residents of Afijio Local Government Area who had lived there for at least two years prior to the study, and gave informed consent.

2.3. Sample Size Estimation

The sample size was determined using Cochran's formula [28]. This is widely recognized for calculating sample sizes in large populations. The formula is expressed as:

$$n_0 = \frac{Z^2 p(1-p)}{e^2}$$

where:

n_0 represents the estimated minimum sample size,

Z is the standard normal deviation (1.96 for a 95% confidence level),

$p = 11\%$ ((0.11) perceptions of changes in water availability in the context of climate change [29]).

e refers to the margin of error, set at 0.05.

$$n_0 = \frac{(1.96)^2 \times 0.11 \times (1-0.11)}{0.05^2}$$

$$n_0 = \frac{0.37609264}{0.0025} = 150.437$$

An additional 50 percent (75) was added to 150 to compensate for possible non-responses and to provide more precise estimates of residents' perceptions of climate-related water risks, now making the estimated minimum sample size of 225.

2.4. Sampling Methods and Data Collection Instrument

A 3-stage random sampling technique was used to select wards, houses and 230 respondents within Afijio Local Government Area. In stage one, five political wards were randomly selected by balloting from the 10 wards in the LGA. From the selected wards in stage one, five communities were randomly selected from the list of communities in each ward. In the selected communities in stage two, households were selected starting with the spinning of a bottle, a random walk was used to select every consenting household to participate in the study. In a household with more than one eligible adults, one eligible respondent who gave informed consent (and who can provide the needed information) was interviewed. A validated semi-structured interviewer-administered questionnaire was used to collect data on respondents' sociodemographic characteristics, perceptions of climate change-related water risks, experiences on the impact of water

scarcity, flooding and changes in water quality, and adaptation strategies. Perceptions about Climate Change-related Water Risks refers to the beliefs respondents have regarding the Climate Change-related Water Risks. The perception was assessed using 15-items on Likert-scale (from "Strongly Agree" to "Strongly Disagree"). Some of the items include "Changes in rainfall patterns could increase the risk of flooding in my area", "The water I use for household purposes is often affected by flooding"; "Water-related problems pose a serious threat to people's health"; "Climate-related water risks can be reduced through collective community action", etc. Thereafter, points were assigned to each of the items, perception score was computed and categorized as negative attitude (scores <8) and positive attitudes (scores ≥8), respectively. The questionnaire was designed in English Language based on the literature review and later reviewed by experts in the field of environmental health and climate change adaptation to confirm that it covered all relevant aspects of the study. Moreover, the questionnaire was translated to Yoruba Language (Local language) and back translated to English to maintain meaning and avoid bias from language differences. Questions that reduced the clarity of the instrument were revised before the commencement of field work. Thereafter, a pretest was conducted among 20 residents of Atiba Local Government Area with similar socio-environmental characteristics. The internal consistency of the instrument was assessed using Cronbach Alpha, which produced a coefficient of 0.741.

2.5. Data Collection Method

The data were collected over a period of two weeks during which the questionnaire was administered to eligible participant who had earlier given informed consent. Interviews were carried out by four (4) Research Assistants (RAs) who were university graduates and acquainted with survey. The RAs were sufficiently proficient in both Yoruba Language and English Language to ensure that respondents fully understood the questions. They (RAs) were recruited and trained on efficient questionnaire administration to respondents. Data collection took place in a conducive location, devoid of distraction. Each session lasted between 25 and 30 minutes. Participation only proceeded after informed consent had been obtained. Efforts were made to ensure that other eligible respondents did not influence one another in their responses and all questionnaire items were carefully reviewed to confirm completeness.

2.6. Data Analysis

Completed questionnaire copies were reviewed daily for accuracy and completeness during field work, and were then assigned serial numbers. Responses were coded, while data entry and analyses were performed using the Statistical Package for Social Sciences (SPSS) version 27. Prior to

analysis, the dataset was examined for errors, discrepancies and missing values, which were addressed to ensure data integrity. Questionnaires with substantial missing responses were excluded, while isolated missing values were retained and excluded from the analysis only for the variables concerned. No values were imputed, ensuring that the analysis was based solely on observed responses. Descriptive statistics such as percentages, frequencies and averages were used to summarize socio-demographic information and perceptions. Chi-square tests was used to explore associations between sociodemographic characteristics and perception category. Level of significance was set at $p=0.05$.

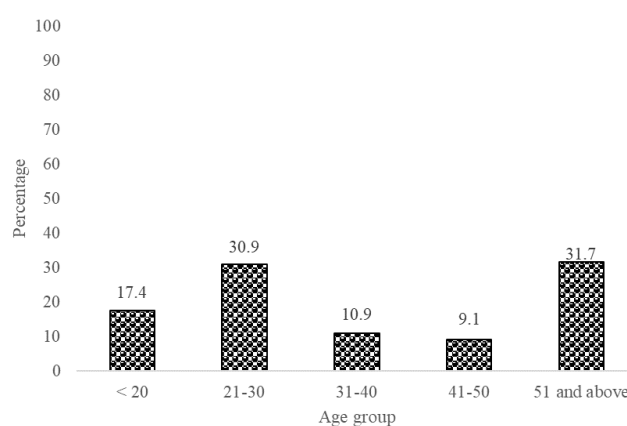
2.7. Ethical Considerations

Ethical approval was obtained from the UI/UCH Ethical Committee, with committee-assigned number UI/EC/25/01157 before the commencement of data collection. Participation was voluntary while informed consent was obtained from the respondents. There was no form of coercion, respondents were ensured of confidentiality of all the information collected.

3. Results

3.1. Socio-demographic Characteristics

More than half (57.8%) of the respondents were female, 48.3% were married while 72.6% had attained secondary education as presented in Table 1. The three major primary occupations of the respondents were farming (33.5%), trading (31.7%) and artisanship (19.6%). More than half (52.6%) of the respondents had been residing in the LGA for more than 5 years prior to the study while 77.4% had household size of about five people. Respondents' mean age was 37.0 ± 17.2 years while 31.7% were above 51 years as depicted in Figure 2.



Mean = 37.0 ± 17.2 years

Figure 2. Age Category.

Table 1. Socio-demographic Characteristics.

Characteristics	Frequency	%
Gender		
Male	97	42.2
Female	133	57.8
Marital status		
Single	106	46.1
Married	111	48.3
Widowed	11	4.8
Divorced or separated	2	0.9
Highest Educational Level Attained		
No Formal Education	5	2.2
Primary	30	13.0
Secondary Education	167	72.6
Tertiary Education	28	12.2
Primary Occupation		
Civil Service	35	15.2
Artisanship	45	19.6
Farming	77	33.5
Trading	73	31.7
Residence Period at the Community		
1-5years	109	47.4
>5years	121	52.6
Household Size		
1-5people	178	77.4

Characteristics	Frequency	%
>5people	52	22.6

3.2. Perceptions About Climate Change-related Water Risks

Table 2 summarises respondents' perceptions about climate change-related water risks. Majority (73.5%) of the respondents agreed that changing rainfall patterns could increase flood risk, 53.9% agreed that flooding and erosion became more frequent while 67.8% agreed that their community is vulnerable to the risk of erosion into water sources. Several (48.3%) of the respondents agreed that drinking water sources are exposed to pollution, 72.6% agreed that climate change could cause irregular water supply during the dry season while 70.4% believed that communities in the area are vulnerable to water scarcity.

Majority (66.6%) agreed that heavy rainfall now causes more damage to properties than in the past, 43.5% agreed that household water is often affected by flooding while 40% disagreed. Majority (73.5%) agreed that water-related problems threaten health, 70.5% agreed that flooding threatens livelihoods while 71.3% agreed that poor waste disposal worsens flooding. Majority (64.3%) agreed that people understand these risks, 81.3% agreed on collective action as the solution, 73.5% agreed that access to accurate climate information helps people prepare better for water-related risks while 77.8% agreed that education on climate change can reduce water-related problems in their community. The mean perception score was 10.1 ± 2.9 while 68.3% had negative perception about climate change-related water risks (Figure 3).

Table 2. Perceptions about Climate Change-related Water Risks.

Statement	A (%)	NAND (%)	D (%)
Changes in rainfall patterns could increase the risk of flooding in my area	169 (73.5)	19 (8.3)	42 (18.3)
Flooding has become more frequent in my community in recent years	124 (53.9)	25 (10.9)	81 (35.2)
My community is vulnerable to the risk of erosion into water sources	156 (67.8)	28 (12.2)	46 (20.0)
Drinking water sources in my area are vulnerable to water pollution	111 (48.3)	28 (12.2)	91 (39.6)
Climate change could lead to an irregular water supply during the dry season	167 (72.6)	31 (13.5)	32 (13.9)
Most communities in my area are vulnerable to water scarcity during the dry season	162 (70.4)	38 (16.5)	30 (13.0)
Heavy rainfall now causes more damage to properties than in the past	153 (66.5)	29 (12.6)	48 (20.9)
The water I use for household purposes is often affected by flooding	100 (43.5)	38 (16.5)	92 (40.0)
Water-related problems pose a serious threat to people's health	169 (73.5)	32 (13.9)	29 (12.6)
Flooding poses a serious threat to people's livelihoods	162 (70.5)	31 (13.5)	37 (16.1)

Statement	A (%)	NAND (%)	D (%)
Human activities such as improper waste disposal worsen the impact of flooding in my area	164 (71.3)	31 (13.5)	35 (15.2)
Community members understand the causes and impacts of climate-related water risks	148 (64.3)	38 (16.5)	44 (19.1)
Climate-related water risks can be reduced through collective community action	187 (81.3)	23 (10.0)	20 (8.7)
Access to accurate climate information helps people prepare better for water-related risks.	169 (73.5)	32 (13.9)	29 (12.6)
Education on climate change can reduce water-related problems in my community	179 (77.8)	24 (10.4)	27 (11.7)

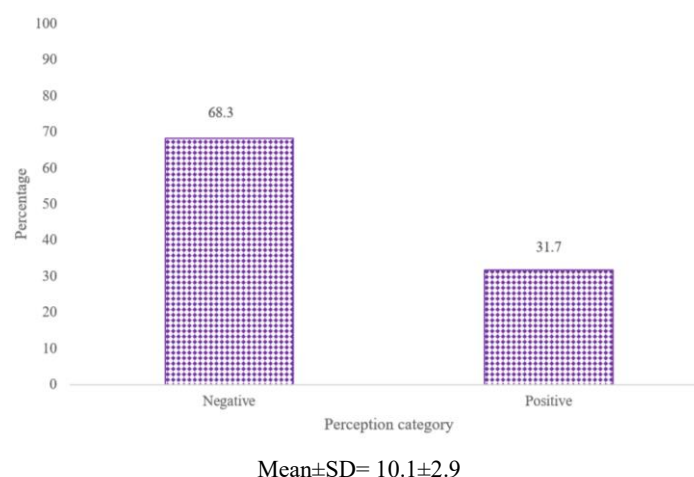


Figure 3. Category of Respondents' Perceptions about Climate Change-related Water Risks.

3.3. Experiences About Impact of Climate Change-related Water Risk

Table 3 shows that many respondents had experienced losses due to flooding and water scarcity. About forty-eight (48.3%) of the respondents reported damage to farmland, 43.0% reported damage to property while 41.7% experienced losses of livestock as a result of flooding. More than half (57.4%) of the respondents reported that they had experienced crop losses due to water scarcity, 47.4% stated that they had experienced income reduction while 43.9% said they had experienced livestock losses. Fifteen (15.0%) percent of the respondents reported that water scarcity had affected household health, with poor water quality being the most common problem (9.5%). Almost eleven percent (10.9%) of the respondents stated that water-related challenges had affected their children's schooling, mainly due to poor attendance (3.9%) and hygiene-related challenges (3.8%).

Table 3. Water-related Impacts and Experiences.

Experiences about the impact	Frequency	%
Ever experienced damage to any of the following due to flooding		

Experiences about the impact	Frequency	%
Property	99	43.0
Farmland	111	48.3
Livestock	96	41.7
Stored food	82	35.7
Building	3	1.3
Ever experienced any of the following losses due to water scarcity		
Income	109	47.4
Crops	131	57.0
Livestock	98	42.6
Water scarcity has affected the health of your household	34	15.0
Some water scarcity effect on your households' health		
Typhoid	2	0.9
Lack of quality water	22	9.5
Inflation	1	0.4
Water-borne disease	4	1.7
Erosion in well water	1	0.4

Experiences about the impact	Frequency	%
Drinking polluted/bad water	1	0.4
Drying of flower	1	0.4
Agricultural produce are affected	2	0.8
Skin infection	1	0.4
Water-related challenges have affected children's schooling in your household	25	10.9
Water scarcity effects on your children's schooling		
Poor attendance	9	3.9
Poor hygiene	9	3.8
Lateness to school	5	2.2
Risk of crossing bridge	3	1.3
Destruction of roads and school properties	4	1.7

3.4. Adaptive Strategies

Table 4 shows that 42.2% of the respondents reported taking some form of action to reduce the impact of climate-related water problems in their neighborhood. The three major actions taken to reduce the impact of climate-related water problems were digging of wells (21.7%), storage of rainwater (20%) and drilling of boreholes (10.9%). Only 36.5% reported changing their farming practices in response to water challenges while 18.7% said they had ever received support to cope with climate-related water challenge. The major sources of support reported were government (10%) and individuals (9.6%). More than half (53.5%) of the respondents suggested that community should strengthen their drainage systems in order to reduce vulnerability to climate change water-related risks.

Comparison between reported experiences about impact of climate change-related water risk, adaptive measures and perception category is presented in Table 5. It was found that there is no significant association between ever experienced damage to livestock and perception category about climate change-related water risk. Significantly, 52.9% of respondents who reported that climate change-related water risk affected health of the households had negative perception compared to 47.1% who had positive perception. Significantly, 52.0% of respondents who reported that climate change-related water risk affected children schooling had negative perception

compared to 48.0% who had positive perception. Moreover, ever changed farming practices due to climate change-related water risk did not significantly associate with perceptions category. Similarly, there is no significant association between ever received support to cope with climate-related water challenges and perception category. However, 50.5% of respondents who reported that they had ever taken action to reduce the impact of flooding in neighborhood had positive perception compared to 35.8% who had negative perception.

Table 4. Adaptive Strategies.

Characteristics	Frequency	%
Ever taken action to reduce the impact of climate-related water problems in your neighborhood	97	42.2
Steps taken to deal with water scarcity		
Storage of rainwater	46	20.0
Digging of wells	50	21.7
Drilling of boreholes	25	10.9
Rationing of water use	16	7.0
Reliance on water vendors	13	5.7
Ever changed farming practices due to water challenges	84	36.5
Ever received support to cope with climate-related water challenges	43	18.7
Source of the support		
Government	23	10.0
Individuals	22	9.6
Community groups	17	7.4
Faith-based organisation	9	3.9
Non-government Organisations (NGOs)	9	3.9
Things community should do to reduce vulnerability to climate change water-related risks		
Strengthen community drainage systems	123	53.5
Encourage water conservation practices	44	19.1
Form cooperative groups for support	36	15.7

Table 5. Comparison between Reported Experiences about Impact of Climate Change-related Water Risk, Adaptive Measures and Perception Category.

Variables	Perception category		Total (%)	2 (p-value)
	Negative (%)	Positive (%)		
Ever experienced damage to livestock				
Yes	63 (65.6)	33 (34.4)	96 (100)	0.528 (0.467)
No	94 (70.1)	40 (29.9)	134 (100)	
Water scarcity affects the health of my household				
Yes	18 (52.9)	16 (47.1)	34 (100)	4.322 (0.038)
No	139 (70.9)	57 (29.1)	196 (100)	
Climate-related water risk ever affected children schooling				
Yes	13 (52.0)	12 (48.0)	25 (100)	3.423 (0.034)
No	144 (70.2)	61 (29.8)	205 (100)	
Ever taken action to reduce the impact of flooding in neighborhood				
Yes	60 (65.9)	31 (34.1)	91 (100)	0.376 (0.540)
No	97 (69.8)	42 (30.2)	139 (100)	
Ever changed farming practices due to water risk				
Yes	60 (71.4)	24 (28.6)	84 (100)	0.613 (0.434)
No	97 (66.4)	47 (33.6)	146 (100)	
Ever received support to cope with climate-related water challenges				
Yes	33 (76.7)	10 (23.3)	43 (100)	1.757 (0.188)
No	124 (66.3)	63 (33.7)	187 (100)	

4. Discussion

This study was conducted to assess perception and adaptive measures to climate change-related water risks among residents of Afijio Local Government Area (LGA) of Oyo State. The study reported high proportion of women among respondents. Existing literature documents that women frequently experience greater vulnerability to climate impacts, due to social roles and access to resources [30]. In Nigeria, disrupted water supplies increase burdens on women and girls who collect water, intensifying their vulnerability [31]. Large percentage of the respondents had completed secondary education. This profile likely shaped risk perceptions and capacities. Higher levels of education may strengthen individuals' understanding of climate-related and water challenges by improving access to information and enhancing awareness of environmental risks [32, 33].

Data from this study revealed that large percentage of the participants agreed that extreme weather could increase flood and drought threats, and that these posed health and livelihood

dangers. This agrees with climate science, in a report that climate change is intensifying the hydrological cycle and raising flood/drought risks worldwide [2, 3]. High proportion of respondents linked variability to higher flood risk and drought-driven scarcity. This suggests an understanding of climate impacts, consistent with the view that even communities with limited formal training can perceive environmental change [34]. This study also documented that large percentage of the respondents agreed that flooding could cause disease risk and agreed that water problems jeopardize health. This is in line with a study conducted by [35] in Borno state, Nigeria which reported that flooding creates breeding grounds for cholera, malaria and other water-borne illnesses. Large percentage of participants agreed that seasonal rainfall variability makes supply irregular. This echoes IPCC assessments that Africa faces more intense droughts and floods [2, 3], driving greater risk of water scarcity.

Findings from this study revealed that high percentage of respondents mentioned high incidence of crop losses due to water scarcity. This is in consonance with a study conducted by [36] which reported similar levels of agricultural loss. The study attributed these losses to irregular rainfall and prolonged

dry spells. The findings of this study therefore align with broader regional evidence that climate change-related water stress threatens food security and rural incomes. Flood-related property and farmland damage further reflects the exposure of households to extreme rainfall events. Several studies have documented comparable impacts following flood events, including infrastructure damage and increased disease risk [11, 15, 22]. However, rural households often respond by changing farming practices, digging wells and storing water, but these measures are usually limited by poverty and weak institutional support [37].

The major adaptive strategies documented in this study were digging drainage channels, raising house foundations to resist floods, digging private wells and collecting rainwater to cope with dry spells. These findings are consistent with other Nigerian contexts [38–40]. The study also found that changes in farming practices could be an adaptive strategy. This aligns with farmer adaptations observed elsewhere, such as switching to drought-resistant crops or altered planting times [41]. The study found that only 18.7% received any support and most solutions came from households themselves. This suggests an adaptive capacity dependent on personal resources. This study found that institutional and external support for adaptation was notably weak. Only one in five respondents had any assistance, mostly from government or individuals; NGO and community support were minimal. The low percentage of respondents who reported receiving external support indicates that formal and community-based assistance mechanisms had limited coverage among the study participants. This institutional gap not only forces communities to self-rely but also means that coping measures remain uncoordinated. This finding implies that while participants recognize and respond to climate-driven water risks, their efforts are largely homegrown and small-scale. This situation is characteristic of many rural communities in Nigeria, where weak institutional support means that climate change adaptation depends largely on local awareness, indigenous knowledge, and community-driven initiatives [42–44]. Strengthening formal support networks would likely enhance the effectiveness of existing community strategies. Nevertheless, some missing data were unavoidable because of respondents' unwillingness or incapacity to respond to specific questions, despite efforts to reduce missing responses. In addition to potentially introducing response bias if respondents with missing data differed systematically from those who gave complete answers, this could have decreased the effective sample size for some analyzes. The results should therefore be interpreted cautiously, especially for variables with comparatively higher levels of missing data.

5. Conclusion

This study found that respondents were predominantly female and highly educated. Large proportion agreed that altered rainfall and flooding have increased water scarcity,

property damage and health threats. Nearly half of the respondents reported direct losses (to crops, livestock or income) due to drought or floods. In response, many households employed coping measures such as drainage digging, rainwater collection and modified farming. The study reported that respondents perceived climate change water risk clearly and had begun to adapt through locally led initiatives. Yet, the scale of these actions is constrained by limited resources and weak institutional engagement. While respondents clearly endorsed community action and education as solutions, the findings suggest that more systematic support is needed to transform awareness into broad resilience. There is need for a public health interventions focusing on more systematic support to transform awareness into broad resilience on climate change-related water risks at community level.

Abbreviations

LGA	Local Government Area
NGOs	Non-governmental Organizations
IPCC	Intergovernmental Panel on Climate Change

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Author Contributions

Rereloluwa John Bamidele: Conceptualization, Investigation, Methodology, Project administration, Resources, Validation, Visualization, Writing – original draft

Taiwo Abel Awolumat: Investigation, Resources, Software, Visualization, Writing – original draft

Mumuni Adejumo: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Software, Supervision, Validation, Visualization, Resources. Writing – review & editing

Conflicts of Interest

The authors declare no competing interests.

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