COPING STRATEGIES EMPLOYED FOR FOOD SECURITY AMONG URBAN HOUSEHOLDS IN IBADAN METROPOLIS, OYO STATE, NIGERIA

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ABSTRACT
Food security is a critical issue faced by urban households due to various factors such as limited access to fresh and affordable food, rising food prices, and reliance on external food sources. It therefore becomes imperative to determine the coping strategies employed for food security among urban households in Ibadan Metropolis, Oyo State, Nigeria. A multistage sampling procedure was used to select 101 respondents for the study and data collected through questionnaires were analysed using both descriptive such as frequency and percentage and inferential statistics such as Pearson Product Moment Correlation (PPMC). Results show that the respondents' mean age was 32±10 years; while 69.3% were female; with 57.4% and 49.5% practicing Islamic religion and married, respectively. Mean household size was 5±3 persons; majority of the respondents (72.3%) had tertiary education; 26.7% engaged in trading; majority of the respondents (54.5%) were not engaged in secondary occupation, and majority earn a mean monthly income of N95, 000±50,000. The more than half of the respondents (54.5%) had low levels of household food security. The findings shows that the most severe constraint faced by the majority of respondents was inflation, specifically the high cost of food and groceries, with a mean score of 1.15, ranking it first. This was followed by seasonal or unforeseen food shortages, which had a mean score of 0.92 and was ranked second. A reduction in annual income emerged as the third major constraint, with a mean score of 0.86. Lastly, conflict and insecurity were identified as the fourth most significant challenge, with a mean score of 0.70.The majority of respondents employed rationing money between food and other necessities (0.97) as coping strategies. Constraints faced by urban households in ensuring food security correlated with coping strategies employed by households in the study area (($r=0.505$, $p=0.001$)). The study concludes that rationing money between food and other necessities was the most used coping strategies in ensuring food security in the study area. It is therefore recommended that households adopt basic budgeting and financial literacy training tailored to low-income and rural populations.
Keywords: Coping Strategies, Food Security, Urban Households, Ibadan Metropolis.

INTRODUCTION

Food security is achieved when all individuals, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs for an active and healthy life (Sumsion *et al*., 2023). The Food and Agriculture Organisation (FAO, 2024) echoes this in its report *The State of Food Insecurity in the World*, emphasising consistent access to adequate quantity and quality of food. Despite global efforts, food insecurity remains a pressing issue, particularly in sub-Saharan Africa. The World Food Programme (2022) estimates that over 828 million people go to bed hungry each night, with 278 million of them residing in Africa—equivalent to about 20% of the continent's population. The World Bank (2022) also highlights that approximately one in five Africans experience daily hunger, with about 140 million facing acute food insecurity, making Africa's food insecurity rate twice the global average.

In Nigeria, urban centers like Ibadan, a major metropolitan hub in the southwest, are not spared from the growing food insecurity crisis. Despite its strategic location, commercial vibrancy, and population strength, Ibadan grapples with challenges such as high food prices, infrastructural deficits, widespread poverty, and the far-reaching effects of climate change. The increasing rural-to-urban migration also puts additional pressure on the city's already strained food system. Nationally, over 53 million Nigerians—about 30% of the population—are estimated to be food insecure (Oni *et al*., 2022), and 70% of the population live below the poverty line. This situation marks a sharp contrast to pre-oil boom Nigeria, when the country was largely food self-sufficient (Fawole and Ozkan, 2018). Over the years, food-insecure households in Nigeria have risen steeply, from 18% in 1986 to over 40% by 2005 (Oni *et al*., 2022), reflecting a deepening crisis.

A number of structural issues contribute to this worsening situation. These include poor access to agricultural credit, land scarcity, declining soil productivity, limited off-farm income opportunities, and inadequate food storage and processing infrastructure (Abhulimen *et al*., 2021). In cities like Ibadan, where many households depend entirely on markets for food, these problems are intensified. Urban households are particularly vulnerable to fluctuations in food prices and supply disruptions. Nigeria currently ranks 103rd out of 121 countries on the Global Hunger Index (2022), with a score of 27.3, indicating a serious level of hunger. The COVID-19 pandemic further compounded the problem, pushing millions more into severe food insecurity (Omotayo *et al*., 2022). In these settings, food insecurity often leads to poor nutrition, compromised health, and weakened human capital, especially in low-income urban communities.

To cope with food insecurity, many urban households in Ibadan resort to a mix of behavioral and cognitive strategies (Lazarus and Folkman, 2019). These include rationing food, skipping meals, consuming less-preferred foods, and stretching limited income across multiple needs. Some engage in informal work to supplement their income, while others make psychological adjustments to endure hunger. Although these strategies may offer temporary relief, they carry long-term implications for nutrition, child development, and overall well-being (Thomas *et al*., 2019). Maxwell and Caldwell (2018) caution that while coping mechanisms may mask the depth of food insecurity, they are not sustainable substitutes for structural solutions. Against this backdrop, the present study sought to explore the nature and extent of food insecurity in Ibadan by describing the socio-economic characteristics of respondents, identifying the constraints they face, assessing household food security levels, and documenting the coping strategies they employ. The study also tested the hypothesis that there is no significant relationship between the constraints faced by urban households and the coping strategies they adopt to manage food insecurity.

METHODOLOGY

The study was conducted in Ibadan, Oyo State, Nigeria. Ibadan, the capital city of Oyo State, is the third most populous city in Nigeria after Lagos and Kano, and it holds the distinction of being the largest in terms of landmass. Geographically, the city lies approximately at longitude 3°55′00″ East and latitude 7°23′47″ North, about 128 kilometres northeast of Lagos. Ibadan falls within the tropical wet and dry climatic zone, experiencing a lengthy wet season, stable temperatures averaging 26.46 °C, and relative humidity of 74.55% (Jagtab and Alabi 1997a). The city comprises eleven local government areas (LGAs), with five designated as urban: Ibadan North, Ibadan Northeast, Ibadan Northwest, Ibadan Southeast, and Ibadan Southwest. The study focused on the urban LGAs, where the estimated population of the metropolitan area is around 4,144,130 in the year 2025 (World Population Review, 2025). The study population consisted of all heads of urban households—particularly mothers—residing in the Ibadan metropolis.

A multi-stage sampling procedure was adopted to select respondents. In the first stage, two out of the five urban LGAs—Ibadan North and Ibadan Southwest—were randomly selected, representing 40% of the LGAs. The second stage involved the random selection of one ward from each selected LGA, yielding Ward 11 in Ibadan North and Ward 08 in Ibadan Southwest. These wards comprised a total of 1,010 households, from which 10% (101 households) were randomly selected. All selected household heads (mothers) were surveyed using a structured questionnaire designed to address the study objectives. To ensure the validity of the instrument, it was subjected to face and content validation by academic experts from the Department of Agricultural Extension and Rural Development at the University of Ibadan. The reliability of the instrument was confirmed using the split-half method, resulting in a reliability coefficient of 0.80. Data analysis was conducted using SPSS, applying both descriptive statistics (frequency, mean, standard deviation, percentages) and inferential statistics such as Pearson's Product Moment Correlation (PPMC).

The dependent variable for the study was the coping strategies adopted by households to manage food insecurity. Respondents were asked to identify strategies they had used in the past 30 days when food was insufficient or when there was no money to purchase food. These strategies included borrowing food or money, eating with relatives, skipping meals, purchasing on credit, reducing meal portions or quality, consuming less-preferred food, and not eating for an entire day. Following Kyaw (2009), an index of coping strategies was calculated based on the frequency and diversity of strategies used. Each strategy was weighted by its frequency of use per month: households that never used any strategy were scored 0; those that used strategies 1–2 times were scored 1 (low index); and those using strategies 3–4 times or more were scored 2 (high index). This classification enabled the categorization of households into two groups—those with low coping strategy index (used strategies occasionally) and those with high coping strategy index (used strategies frequently), indicating extreme food insecurity.

RESULTS AND DISCUSSION

Socioeconomic characteristics

The socio-economic characteristics of respondents as presented in Table 1 show that the majority (45.5%) were aged 40–49 years, followed by 28.7% aged 30–39, 18.8% aged 20–29, and 6.9% aged 50 and above, with a mean age of 32±10 years, indicating a predominantly youthful population in their active years, consistent with Victoria and Benjamin (2012). Most respondents (69.3%) were female, aligning with Olajide *et al*. (2016) who noted the greater involvement of women in food-related responsibilities. The household size averaged 5±3 persons, with most households (55.4%) having 4–6 members, a size that could support family labour but also increase food demand, in line with Ifeoma and Agwu (2018). Regarding education, a significant majority (72.3%) had tertiary education, suggesting a high literacy level that may positively influence food security coping strategies, as supported by Tashikalma *et al*.

(2015). Primary occupation data showed 26.7% were traders, 25.7% students, 14.9% artisans, and smaller proportions in civil service, self-employment, and teaching, while 54.5% had no secondary occupation; among those who did, trading (12.9%) and student status (10.9%) were common. Monthly income revealed that 47.5% earned less than ₦50,000, with an average income of ₦95,000±₦50,000, indicating a relatively high-income bracket among respondents, supporting Ogedegbe's (2016) assertion that income level can enhance the adoption of food security strategies.

Table 1: Distribution of respondents based on Socio-economic characteristics (n=101)

Variables	Frequency	Percentage	Mean	SD
Age			28	10
20-29	19	18.8		
30-39	29	28.7		
40-49	46	45.5		
50 and above	7	6.9		
Sex				
Male	31	30.7		
Female	70	69.3		
Household size			5	3
1-3	35	34.7		
4-6	56	55.4		
7-9	7	6.9		
Above 9	3	3.0		
Level of education				
Secondary education	28	27.7		
Tertiary education	73	72.3		
Primary occupation				
Trading	27	26.7		
Students	26	25.7		
Civil servant	12	11.9		
Self-employed	12	11.9		
Teaching	9	8.9		
Artisans	15	14.9		
Secondary occupation				
None	55	54.5		
Trading	13	12.9		
Students	11	10.9		
Self-employed	8	7.9		
Teaching	3	3.0		
Artisans	11	10.8		
Monthly income			49,000	45,000
Less than 50,000	48	47.5		
50,000-100,000	22	21.8		
100,001-150,000	16	15.8		
150,001-200,000	7	6.9		
Above 200,000	9	7.9		

Source: Field Survey 2023

Level of household food security among urban households in the study area

Table 2a reveals a significant level of food insecurity among urban households in the study area over the past four weeks. A considerable proportion of respondents (43.6%) reported that they *rarely* ate smaller meals (1–2 times) than they felt they needed due to insufficient food availability. Similarly, 42.6% indicated that they had to eat fewer meals in a day because there was not enough food to go around, reflecting the pressure households face in managing limited food resources. Furthermore, 39.6% stated that they were compelled to eat foods they did not desire due to a lack of resources to obtain their preferred options, while another 39.6% had to consume whatever food was available in their homes for the same reason. Additionally, 37.0% reported eating a limited variety of food, a common symptom of food insecurity, which often leads to poor dietary diversity and nutritional deficiencies. Alarmingly, 36.6% of the respondents expressed concerns that their household might not have enough food, while an equal proportion stated they were unable to eat their preferred types of food due to financial constraints. These indicators underscore the multidimensional nature of food insecurity, encompassing not only food quantity but also quality, variety, and emotional stress related to food access.

Table 2b further categorizes the level of household food security, showing that the majority of respondents (54.5%) fall into the *low food security* category, while only 45.5% were classified as having *high food security*. This distribution reflects a worrying trend in urban food systems, particularly in metropolitan areas like Ibadan, where rapid urbanization, fluctuating income levels, and rising food prices exacerbate vulnerability to food insecurity. The dominance of low food security among respondents indicates that many households struggle to maintain consistent access to sufficient and nutritious food, often resorting to negative coping strategies such as skipping meals, reducing food variety, or consuming less-desirable foods. These findings align with those of Danmaigoro, Yahaya, and Maikasuwa (2020), who also observed that a significant proportion of urban households in their study exhibited low levels of food security, suggesting that food insecurity is not only persistent but also widespread in urban Nigeria.

This situation is indicative of broader structural issues, including economic instability, insufficient household income, limited access to food markets, and inadequate social protection systems. The results also highlight the urgent need for targeted interventions and policies to address urban food insecurity through strategies such as urban agriculture promotion, food price stabilization, improved livelihood opportunities, and enhanced social safety nets. Importantly, food security is not merely about availability but also about accessibility, affordability, and nutritional adequacy, all of which appear to be compromised for a significant number of households in the study area. Hence, addressing food insecurity in Ibadan and similar urban settings requires a multidimensional and inclusive approach that takes into account both economic and social determinants of food access.

Table 2a: Distribution Respondents' based on the household's food security in the study area (n=101)

Questions	Always	Sometimes	Rarely	Never	Mean
In the past 4 weeks (30 days), how often do you worry that your household would not have enough food	2.0	30.7	36.6	30.7	1.03
In the past 4 weeks (30 days), how often were you or any household member not able to eat the kinds of food you preferred because of a lack of resources	5.0	32.7	36.6	25.7	1.16
In the past 4 weeks (30 days), how often did you or any household member have to eat a limited variety of foods due to a lack of resources	4.0	35.6	37.0	22.8	1.30
In the past 4 weeks (30 days), how often did you or any household member have to eat some food that you really did not want to eat because of a lack of resources to obtain other types of food	1.0	29.7	39.6	29.7	1.01
In the past 4 weeks (30 days), how often did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food	2.0	18.8	3.6	35.6	0.87
In the past 4 weeks (30 days), how often did you or any household member have to eat fewer meals in a day because there was not enough food	3.0	20.8	42.6	33.7	0.93
In the past 4 weeks (30 days), how often was there ever no food to eat of any kind in your house because of lack of resources to get food	2.0	4.0	39.6	54.5	0.53
In the past 4 weeks (30 days), how often did you or any household member go to sleep at night because there was not enough food	1.0	6.9	26.7	65.3	0.43
In the past 4 weeks (30 days), how often did you or any household member for a whole day and night without eating anything because there was not enough food	1.0	5.9	13.9	79.2	0.28

Source: Field Survey 2023

Table 2b: Categorization of the level of household food security among urban households in the study area (n=101)

Level of household food security	Frequency	Percentage	Minimum	Maximum	Mean	SD
Low (0-7.4)	55	54.5	0	22	7.5	3.2
High (7.5-22)	46	45.5				
Total	101	100.0				

Source: Field Survey, 2023

Constraints faced by households in ensuring food security in the study area

Table 3 highlights the major constraints undermining food security among urban households in the study area, with inflation—particularly the rising cost of food and groceries—emerging as the most severe challenge($\bar{x}$ = 1.15). This underscores the impact of Nigeria's persistent economic instability, where inflation has significantly reduced household purchasing power, limiting access to sufficient and nutritious food. Seasonal and unforeseen food shortages followed closely ($\bar{x}$ = 0.92), reflecting the consequences of climate variability, poor storage infrastructure, and inefficient supply chains that disrupt food availability and fuel price volatility in urban markets. A reduction in annual household income ($\bar{x}$ = 0.86) ranked third, pointing to the financial vulnerability of family's dependent on unstable or low-wage jobs—a trend consistent with widespread underemployment across the country. Conflict and insecurity ($\bar{x}$ = 0.70) also presented a considerable barrier, highlighting how social unrest indirectly affects food access through disrupted supply routes and heightened market uncertainty. On the other hand, less impactful constraints included the death of a breadwinner ($\bar{x}$ = 0.43) and cultural restrictions like food taboos ($\bar{x}$ = 0.38), which, though still relevant, affected fewer respondents and appeared more situational than systemic. Overall, the findings reflect a complex web of economic, environmental, and social factors influencing food security in urban Nigeria, reinforcing the urgent need for multidimensional policy interventions—including inflation control, income stabilization, improved food systems, and stronger social safety nets—to enhance household resilience and ensure long-term food access.

Table 3: Constraints faced by Respondents in ensuring food security in the study area (n=101)

Constraints	Severe	Mild	Not a constraint	Mean
Inflation (high cost of food and groceries)	31 (30.7)	55 (54.5)	15 (14.9)	1.15
Reduction in annual income	19 (18.8)	49 (48.5)	33 (32.7)	0.86
Seasonal/unforeseen food shortages	16 (15.8)	61 (60.4)	24 (23.8)	0.92
Culture (food taboo, etc.)	4 (4.0)	23 (22.8)	74 (73.3)	0.30
Unemployment	19 (18.8)	29 (28.7)	53 (52.5)	0.66
Storage facilities	13 (12.9)	40 (39.6)	48 (47.5)	0.65
Conflict/insecurity	15 (14.9)	41 (40.6)	45 (44.6)	0.70
Death of breadwinner	13 (12.9)	18 (17.8)	70 (69.3)	0.43

Source: Field Survey, 2023

Coping strategies employed by households for food security in the study area

Table 4a presents a variety of coping strategies adopted by households in the study area to navigate food insecurity, revealing the difficult compromises families often make to sustain access to food. The most frequently employed strategy was rationing money between food and other basic needs ($\bar{x}$ = 0.97), reflecting the intense financial pressure on households to balance limited resources across essentials like healthcare, housing, and education. This was followed by reducing the quality ($\bar{x}$ = 0.78) and quantity ($\bar{x}$ = 0.77) of food consumed and turning to less-preferred food options ($\bar{x}$ = 0.73), indicating that dietary compromises are a common short-term response to financial stress. However, more severe measures such as borrowing money for food ($\bar{x}$ = 0.26), buying on credit ($\bar{x}$ = 0.26), or skipping meals for an entire day ($\bar{x}$ =0.25) were less frequently used, possibly due to the stigma, social discomfort, or risks associated with such actions. Table 4b further shows that 53.5% of respondents fell into the low-level coping strategy category, while 46.5% utilised high-level strategies, suggesting that although a majority have not yet resorted to extreme measures, a significant portion are engaging in behaviors that could undermine their long-term health and resilience. These findings align with Oluwaseun (2015), who observed that many urban households rely on market-based food purchases and lack sustainable coping mechanisms. Altogether, the data underscores the urgent need for policy interventions such as targeted food aid, livelihood support, and community-based nutrition programs to prevent further deterioration in food security among vulnerable urban populations.

Table 4a: Coping strategies employed by households in the study area (n=101)

Coping strategies	Never	Occasionally	Always	Mean
Eating meals at the homes of friends or relatives	54.5	45.5	-	0.45
Borrowing money for food from friends or relatives	69.3	29.7	1.0	0.31
Purchasing food on credit	75.2	22.8	2.0	0.26
Skipping meals	42.6	51.5	5.9	0.63
Rationing money between food and other necessities	19.8	63.4	16.8	0.97
Reducing the quality of food prepared and consumed in your household	30.7	60.4	8.9	0.78
Reducing the quantity of food prepared and consumed in your household	30.7	61.4	7.9	0.77
Not eating for a whole day	80.2	13.9	5.9	0.25
Consumption of less-preferred food	4.0	65.3	30.7	0.73
Reduction of food served to children	63.4	31.7	5.0	0.41

Source: Field Survey, 2023

Table 4b: Categorization of coping strategies employed by households in ensuring food security the study area (n=101)

Level of coping strategies Employed	Frequency	Percentage	Minimum	Maximum	Mean	SD
Low (0-5.5)	54	53.5	0	16	5.6	3.3
High (5.6-16)	47	46.5				
Total	101	100.0				

Source: Field Survey, 2023

Pearson correlation results between constraints faced by urban households and coping strategies employed by households in the study area

Table 5 shows that a significant relationship exists between constraints faced by urban households (r=0.505, p=0.001) and the coping strategies employed for food security in the study area. This implies that the more the respondents faced severe constraints in ensuring food security, the less they tend to utilise the coping strategies in the study area

Table 5: Pearson correlation results between constraints faced by urban households in ensuring food security and coping strategies employed by households (n=101)

Variables	r value	p value
Constraints faced/coping strategies	0.505	0.001

Source: Field Survey, 2023

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that rationing money between food and other necessities was the most used coping strategies in ensuring food security in the study area. Majority of the respondents had low level of household food security. They were faced with constraints such as inflation (high cost of food and groceries), seasonal/unforeseen food shortages, reduction in annual income and conflict/insecurity. The constraints faced influenced the coping strategies employed for food security in the study area.

Based on the findings of this study, the following recommendations:

1. Government and development agencies should introduce food subsidy schemes or price control mechanisms, especially on staple foods, to cushion the effect of inflation and make essential food items more affordable for vulnerable urban households.
2. Government and relevant stakeholders should organise programs that support household income stability, such as conditional cash transfers, skills development, and access to credit for small businesses, particularly for women-headed households, to reduce reliance on negative coping strategies.
3. The government through extension services should promote backyard gardening, urban farming, and community-based food production can lessen the impact of seasonal shortages and lessen household reliance on erratic food markets.

4. Government and relevant stakeholders should invest in strategic food reserves and improve market infrastructure to ensure food availability during unforeseen shortages or periods of conflict and insecurity.
5. In order to combat food insecurity, peace building initiatives and conflict-sensitive policies are needed to safeguard food supply chains, particularly in regions that are prone to crises, while also setting up early warning and response mechanisms for households that are at danger.

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