



Coping Strategies Adopted by Food-Insecure Households in Ombada - Omdurman Sudan

Prepared By:

Amel Hassan Mohamedkheir
Assistant Professor
amel_hms@hotmail.com

&

Ahmed H. Eljack
Professor
ahmedheljack@gmail.com

Both in the School of Management Studies
Ahfad University for Women (AUW)
Omdurman, Sudan

Abstract

Food insecurity is a critical and persistent challenge in Sudan, particularly in urban areas affected by prolonged conflict, economic instability, and limited access to essential resources. Women often serve as primary managers of household survival, yet there is limited empirical evidence on how they navigate food scarcity in conflict-affected urban settings. This study investigates the coping mechanisms adopted by food-insecure households in Ombada, West Omdurman, with particular attention to the roles of women in sustaining household resilience and well-being. Employing a descriptive qualitative design, semi-structured interviews were conducted with 11 women employed as custodians at Ahfad University for Women. Data were analyzed thematically, combining deductive coding based on study objectives and inductive coding to capture emergent, context-specific practices. Findings reveal that households employ a range of proactive and reactive coping strategies, including informal income generation, meal adjustments, food stretching and preservation, reliance on affordable alternative food sources, and community-based support systems. Women were found to strategically manage household resources, balance social and cultural obligations, and protect savings for long-term needs, demonstrating agency, innovation, and resilience. These findings highlight both adaptive problem-solving capacities and structural constraints shaping household food security, providing insights for policymakers and practitioners to design interventions that strengthen resilience, address structural barriers, and improve livelihoods in conflict-affected urban contexts.

Keywords: Food insecurity, Coping strategies, Women, Household resilience.

Background of the Research

International recognition of food security can be traced back to the Universal Declaration of Human Rights in 1948, which identified the right to food as a core element of an adequate standard of living (UN, 1984). Food security encompasses four dimensions: availability, access, utilization, and stability (USAID, 1992). Adequate food availability and access are necessary conditions for household food security. Access is secured when all households and individuals have sufficient resources to obtain adequate, nutritious, and culturally acceptable foods. However, even when food is available, not all households can access it due to income inequalities and market limitations (Atuoye, 2015). Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Stability refers to the constancy of the other three dimensions i.e. the consistency availability, access, and utilization.

Food insecurity refers to a situation where individuals experience limited or uncertain physical, social, and economic access to safe, sufficient, and nutritious food to meet dietary preferences and maintain a healthy and active life (Keino et al., 2014). Coping strategies represent the actions households take within their resource constraints to maintain livelihoods during food insufficiency. Vulnerable households often develop defense mechanisms to survive in the absence of adequate food or economic resources. When faced with food shortages, households employ strategies to maintain access to sufficient food (Wood et al., 2009).

Globally, food insecurity remains a major challenge with far-reaching human impacts. According to the State of Food Security and Nutrition in the World 2024 report, an estimated 2.33 billion people, approximately 29% of the global population, experienced moderate or severe food insecurity, while over 864 million individuals (about 11%) faced severe food insecurity, characterized by running out of food or going without meals for an entire day or more at times. Additionally, approximately 733 million people (around 9% of the world's population, or one in eleven individuals) were undernourished, reflecting limited progress and persistent stagnation toward achieving Sustainable Development Goal 2 (Zero Hunger) by 2030 (FAO et al., 2024).

In Africa, the burden of hunger is especially acute, with one in five people (about 20.4%) facing hunger. It is substantially higher than regional rates elsewhere and an estimated over 1 billion people unable to afford a healthy diet in 2024. Despite some global gains reported for 2024 (with hunger prevalence at 8.2% of the global population), food insecurity persists at historically high levels in many vulnerable regions, driven by persistent conflict, climate shocks, economic instability, and inadequate humanitarian assistance. These trends underscore the deepening global food crisis and the urgent need for comprehensive action to address both immediate needs and structural drivers of food insecurity.

Sudan is currently experiencing the most severe food insecurity crisis in its recorded history, driven primarily by prolonged armed conflict that began in April 2023. Recent assessments indicate that more than 50% of the country's estimated population of 47.2 million people are facing acute food insecurity (Siddig & Vos, 2024). Both rural and urban populations are affected; according to the Integrated Food Security Phase Classification (IPC), food insecurity and malnutrition have reached critical levels nationwide as violence continues to escalate and expand geographically. Fourteen states are assessed to be at risk of famine, with the highest severity observed in parts of Khartoum, Al Jazirah, Greater Kordofan, and Greater Darfur. An estimated 25.6 million people are experiencing crisis or worse conditions (IPC Phase 3 or above) between June and September 2024, including approximately 755,000 individuals in catastrophic conditions (IPC Phase 5), primarily in North Darfur and Al Jazirah States. A further 8.5 million people are classified in emergency conditions (IPC Phase 4) across the country (IPC, 2024).

Despite these alarming figures, limited empirical research exists, creating a critical gap in understanding how families manage food scarcity during protracted crises. Most studies largely focus on macro-level indicators such as IPC phase classifications, displacement figures, and aggregate

consumption deficits. For instance, Kirui et al. (2024) documented a dramatic deterioration in household food security. The proportion of food-secure households dropped from approximately 49% pre-conflict to 10–20%. Vulnerable populations, including female-headed households and large families, were particularly impacted. There is little attention to household-level experiences. In particular, on how urban households—especially women—adapt to food insecurity in their daily lives. This lack of household-level evidence constrains a nuanced understanding of coping behaviors and limits the design of effective, context-sensitive interventions aimed at addressing food insecurity in conflict-affected urban settings.

Aim and Objectives

The aim of this study is to investigate the coping mechanisms adopted by food-insecure households in Ombada - West Omdurman, Sudan, with particular focus on the roles of women in sustaining household survival. Specific objectives:

- ✓ To identify and categorize the coping strategies employed by households.
- ✓ To analyze the distinction between proactive and reactive coping strategies, how households anticipate future food shortages how to respond to immediate scarcity.
- ✓ To explore the role of women in household resilience.
- ✓ To examine how socioeconomic factors influence coping strategies.

Significance of the Study

This study is significant both academically and practically. Academically, it contributes to the limited body of household-level research on food insecurity in urban settings in Sudan. By documenting coping strategies in detail, therefore, enriches the literature on food security and household adaptation under conditions of food shortage. From a policy perspective,

- ✓ the study generates context-specific evidence that can inform the design of effective and targeted interventions. By align assistance with existing coping capacities rather than inadvertently undermining them. The findings therefore support the development of interventions that strengthen household resilience rather than merely addressing short-term food deficits.
- ✓ the research challenges prevailing narratives that portray women solely as passive victims of crisis. Instead, it positions women as active agents of resilience by highlighting their strategic roles in managing food insecurity (income generation, financial planning, food allocation, and social obligation management)
- ✓ the study holds practical relevance for urban food security planning in Sudan.
- ✓ It generates context-specific insights that are applicable to other urban areas experiencing chronic food insecurity. The findings can inform future research agendas and support evidence-based policy and decision-making in Sudan.

Previous Studies

Research on women's roles within households, particularly in resource-constrained settings, consistently highlights their central contributions to family health, household economies, and community resilience. A study conducted in the Mbe District of Cameroon demonstrates that women play a pivotal role in maintaining household well-being by balancing caregiving responsibilities with income-generating activities such as small-scale farming, petty trade, and financial management (Aoudi Chance & Abdoul, 2024). Despite systemic barriers and persistent gender inequalities, women in Mbe employ adaptive strategies that draw on their skills, social networks, and knowledge of local resources to stabilize household nutrition, health, and income.

Similar patterns have been documented across sub-Saharan Africa, where women's labor remains undervalued and constrained by patriarchal norms (Bayeh, 2016; Giroud & Huaman, 2019). These studies emphasize that women's economic and caregiving roles are deeply interconnected. Women's capacity to plan, allocate scarce resources, and engage in multiple livelihood strategies significantly enhances household resilience to economic shocks, food shortages, and environmental stressors.

Evidence from other low-income and food-deficit countries further underscores the importance of understanding household-level coping strategies. In Mozambique, for instance, recurring natural disasters such as droughts and floods exacerbate food insecurity and household vulnerability. Studies in this context highlight the need to examine everyday coping strategies to inform effective policies aimed at reducing food insecurity and associated health outcomes (Devereux, 2016; Maxwell & Caldwell, 2008).

Urban contexts present distinct but comparable challenges. Masese and Muia (2016) examined food insecurity and household coping strategies in Mathare Valley, one of Nairobi's largest informal settlements. Using a mixed-methods cross-sectional design, the study found widespread food insecurity driven by low incomes, unemployment, and reliance on casual, low-paying jobs. Households employed multiple coping strategies, including purchasing cheaper foods, reducing portion sizes, skipping meals, borrowing food or money, and relying on food aid. These strategies were strongly gendered: women and girls were more likely to reduce their own food intake, rely on informal employment, or seek food aid to protect other household members, while men and boys often engaged in casual labor or risky activities. The study concluded that food insecurity in urban informal settlements is closely linked to structural economic marginalization and recommended community-based interventions focused on economic empowerment and sustainable livelihood opportunities.

Similarly, Gupta et al. (2015) investigated coping strategies among households in urban slums in Delhi, India. Using survey data from 446 households, the study found that families relied on a combination of strategies, including consuming less expensive foods, reducing meal frequency, borrowing food or money, purchasing food on credit, and drawing on food reserves or aid. More severe coping mechanisms included withdrawing children from school, sending children to work, temporary migration, and selling household assets. Women's participation in income-generating activities and involvement in self-help groups emerged as important positive coping strategies. The study emphasized that households strategically sequence coping mechanisms to minimize the negative impacts of food insecurity, highlighting the importance of understanding local coping dynamics for effective intervention design.

Collectively, these studies demonstrate that women's multifaceted roles in caregiving, income generation, financial management, and social coordination are critical to household resilience in both rural and urban contexts. However, despite growing evidence from other regions, there remains limited empirical research on household-level coping strategies in conflict-affected urban settings in Sudan. This study addresses this gap by examining how households in West Omdurman—particularly women—navigate chronic food insecurity under conditions of prolonged conflict and economic decline

Methods of the Study

This study aimed to generate an in-depth understanding of how households manage food scarcity by examining the coping mechanisms adopted by food-insecure households in Ombada, West Omdurman, Sudan. The locality of Umbada is located in the western part of the state of Khartoum and is bordered to the west by the state of North Kordofan and to the east and south by the locality of Omdurman and the White Nile state and to the north by the state of the River Nile and the northern state. The locality was formerly affiliated to Omdurman Governorate and was separated in the year 1994 after physically planning it in the late sixties.

The area of the locality constitutes the largest area among the localities of the state of Khartoum and is estimated at about (20,695) square kilometers. According to the last census in 2008, the population of the locality is estimated by 992,00 people. However, other statistics were conducted by some interested parties and confirmed that its residents exceed two and a half million people which is equivalent to one-third of the population of the seven localities of Khartoum state. It continuously absorb all the population movement such as migration and displacement from all the states of Sudan. Umbada includes the following Administrative divisions, these are:

- ✓ El Amir North, El Amir South, El Amir West and El Amir Middle.
- ✓ El Bugaa North, El Bugaa South, El Bugaa West, El Bugaa East and El Bugaa Middle.
- ✓ El Salam North, El Salam South, El Salam East, El Salam West, El Salam Middle, El Salam Market and New El Salam.
- ✓ Libya Market and Abu Zaid Market.
- ✓ Western countryside

A descriptive qualitative research design was employed, as such methods are particularly suited for capturing lived experiences, meanings, and adaptive behaviors that may be overlooked in quantitative assessments. As Yin (2004) highlights, qualitative research provides rich, contextualized descriptions that enable researchers to gain an in-depth understanding of participants' realities and social processes.

Data collection was conducted through semi-structured interviews with food-insecure households. The interview guide was designed to capture qualitative information on food consumption patterns, access to food, and coping strategies employed during periods of scarcity. This approach allowed participants to describe their experiences in their own words, providing insights into household decision-making, resource management, and survival strategies.

Sample size was determined based on the principles of data adequacy and theoretical saturation. Qualitative research does not prescribe a fixed number of participants; rather, the sample size is influenced by the scope of the study, the complexity of the research topic, data quality, and study design (Edwards, 2012; Morse, 2000). Data collection continued until no new themes or insights emerged, resulting in a final sample of 11 participants (Morrow, 2005; Levitt et al., 2017).

Sampling strategy involved purposive selection of households experiencing food insecurity, ensuring that participants were information-rich and capable of providing detailed accounts of coping practices. The study prioritized understanding the phenomenon of household coping mechanisms rather than producing statistically representative results. This strategy ensured that participants' direct experiences informed the study's analytical objectives and contributed to understanding of coping in urban Sudanese households.

Data collected from semi-structured interviews were analyzed using a thematic approach to identify patterns, relationships, and insights regarding household coping strategies. Data were systematically coded using both deductive and inductive approaches. Deductive coding drew on pre-established categories derived from the study objectives. Inductive coding allowed new themes to emerge directly from participants' narratives, capturing context-specific practices and experiences not anticipated in the initial framework.

Findings & Discussion

The participants in this study are women employed as custodians at Ahfad University for Women. Their work primarily involves cleaning and maintaining the university's facilities, including classrooms, offices, and common yard areas. This work is physically demanding and often requires early morning or late evening shifts.

The interviews were conducted during the participants' break times, usually in the yard or in an empty office, often accompanied by a cup of tea, coffee, or juice. At the beginning of each interview, participants were informed about the objective of data collection. Some participants expected to receive monetary compensation for their participation; however, they were clearly told that no financial reward would be given and that participation was entirely voluntary. Despite this, the women agreed to take

part in the study, possibly out of respect for the university and with the hope that their participation might help them access support or assistance in the future.

The reported ages of the participants ranged from 30 to 55 years. However, during the interviews, it was revealed that these figures were not entirely reliable. Some participants were unsure of their exact age and offered only approximate estimates, while others understated their age to appear younger. This uncertainty became particularly evident when participants discussed years of work experience or the ages of their children and other family members, highlighting the cultural sensitivities surrounding age. This behavior suggests that participants tailor their responses to align with community expectations, or in another terms, community expectations influence how they portray themselves.

Regarding education levels, the majority have limited formal education, meaning they did not complete primary education and attended school only up to the third or fourth year of basic education. Specifically, four participants are completely illiterate, having never attended formal schooling. Two attended traditional religious schools known as Khalwa, where they received basic religious instruction but not formal secular education. The remaining five completed some level of primary school but did not continue beyond that point. This limited educational background reflects the socioeconomic challenges faced by these women.

In terms of marital status, most of the women are married, while two are divorced and one is widowed. It is observed that marital status does little to lessen women's responsibilities. Even in married households, whether in polygynous arrangements or as a single wife, the presence or absence of a husband does not reduce their burden. Women must balance competing expectations from husbands and family members. Widowed and divorced women manage their households independently.

All participants reside in various neighborhoods of Ombada, a low-income area in West Omdurman where most residents face economic hardship. Their homes range from rented accommodations to family-owned houses and are often shared with extended family members or multiple households. These crowded living arrangements are common in such neighborhoods. Within these spaces, families balance collective responsibilities—such as preparing and sharing meals, caring for children and the elderly, and supporting one another in daily tasks. These patterns reflect adaptive strategies that enable families to survive and sustain themselves despite poverty and limited resources.

Household and Family Dynamics

This study revealed that, in most cases, family structures are complex. Families often do not live together as a single unified household. Factors such as polygamy, prolonged male absence, or the death or migration of a husband can result in family members living apart. For instance, in polygynous households, husbands divide their time between multiple wives—or, in many cases, withdraw entirely from one household—leaving the other household incomplete and lacking cohesion. Male absence may result from separation, migration, or death, further undermining family unity. In some households, extended family members, such as grandparents or siblings, contribute to daily life, creating a more interconnected and interdependent household structure.

Therefore, as noted above, crowded living arrangements are widespread. These patterns are shaped first as a means to cope with economic hardship and navigate life's difficulties, and second by social factors such as maintaining ties with extended relatives, fulfilling cultural obligations, or seeking emotional support from different branches of the family. These dynamics led women to assume primary responsibility for household management. They bear both the financial and emotional burdens of maintaining the family. Even when men are present, their role is often symbolic or limited. Their ability to adapt and sustain family life in the absence of consistent male involvement underscores not only the gendered distribution of labor but also the central role that women play in maintaining household stability, continuity, and well-being.

Women's Informal Labor Role

The interviews demonstrated that women play a crucial role in sustaining their households. In addition to organizing daily tasks such as cooking, cleaning, and caring for children, they also contribute to household income through both formal and informal work. Their ability to manage these overlapping responsibilities challenges traditional gender roles and highlights women's economic agency.

Although all participants had formal employment as custodians at the university, their salaries were not sufficient to meet basic household needs such as food, school fees, and daily expenses. As a result, women engaged in multiple forms of small-scale income generation, both inside and outside the workplace.

The additional work undertaken by participants encompassed a variety of small-scale entrepreneurial activities, primarily involving the sale of food items. These included tea, nuts, Dardma (ice cream in a plastic tube), Baloza (a snack made from tabadi, peanut paste, and hot pepper), cucumber mixed with hot pepper and peanut paste, and other locally popular snacks. To generate income, participants would purchase these goods at low prices from nearby markets and transport them to locations where staff, students, or passersby could easily buy them. In many cases, they also prepared or repackaged the items themselves, enhancing their appeal and increasing their marketability.

Some participants also generated income by responding to specific requests from university staff, such as purchasing groceries, preparing traditional foods, and making kisra (a traditional flatbread) or fulfilling other household errands. One participant explained, "I go to the Libya grocery market near the transportation station early in the morning before coming to work. I buy fresh groceries and food items there for many of the staff who don't have time to go shopping after work." Another said, "I make Dakwa, which is Sudanese peanut paste, and prepare Ramadan items such as Hilomor, (traditional drink during Ramadan), dried okra powder, and dried onions upon the request of the staff. Many staff members do not have time to prepare these items themselves, so I prepare and sell them whenever they ask. I make sure the items are fresh and of good quality. I also follow any specific instructions they give me about how they want the items prepared or presented, so they are satisfied with the final product."

Beyond selling goods, women supplemented their earnings by offering services using traditional skills, producing Traditional Sudanese perfumes, applying henna for special occasions, and performing body cleansing with halawa (a sugar-based scrub). One participant noted, "Every two weeks, I go to the houses of two staff members after my work at the university and apply henna for them."

These narratives highlight several key points. First, they show women's capacity to tailor their labor to meet the specific preferences of clients. Second, the work underscores the combination of cultural knowledge, cooking skill, and attention to detail that these women deploy to maintain the value of their services. Third, it reflects the broader economic reality in which women's formal salaries are insufficient to cover household needs, necessitating supplementary, often informal, income-generating strategies. By engaging in these tasks, women not only secure additional financial resources but also exercise agency, autonomy, and entrepreneurial initiative within the constraints of their social and economic environment.

The interviews revealed that some participants invent creative strategies to generate additional income by collecting and selling discarded bottles. They gathered bottles from classrooms, the university yard, and surrounding areas, carefully sorting them before selling them to recycling centers or local scrap dealers. One participant explained, "I collect empty cola, water, and juice bottles from the classrooms I clean, the yard, and around the university. I sort them and sell them to a man with a donkey cart. It doesn't require extra physical effort, and it gives me some additional income while also helping reduce waste and keep the environment cleaner, since I do it during my normal cleaning routine"

This statement highlights the participant's efficiency in generating supplemental income. By integrating bottle collection into her existing daily responsibilities, she maximizes the economic value of tasks she already perform, without significantly increasing her physical burden. It also reflects a strategic and creative approach to problem-solving, in which women identify opportunities in their immediate environment to augment household income. Such strategies exemplify adaptive problem-solving and illustrate the ways women cope with financial instability while balancing the physical demands of their work.

Some participants also worked as domestic helpers for university staff on weekends, performing tasks such as cleaning, cooking, ironing, and washing. Through this work, they developed trust and strong relationships with the staff and their families, which often led to ongoing opportunities and mutual support. One participant said, "At the beginning, I only went to the house of one staff member. Over time, as requests came from other staff, I started bringing my daughter to help me with the work because they trust me. One day, my youngest daughter was sick, and the husband of one of my clients, who is a doctor, treated her and brought the medicine for her."

This illustrates that engaging in informal labor provided women not only with supplementary income to stretch limited household resources but also with networks of trust and support that helped them cope with daily hardships. This dual strategy highlights both the economic challenges families face and the adaptive strategies women employ to sustain their households. It also demonstrates women's agency and resilience, as they balance multiple roles and income streams to ensure family survival and well-being.

Income Generation as Collective Responsibility

The interviews revealed, in many households that adult children also contribute financially. For instance, in one case, the oldest son, despite holding a university degree, works as a daily laborer at Sea Scouts, earning a modest wage. In another case, a 23-year-old daughter, employed at Ahfad University where her mother also works, contributes a portion of her salary to household expenses. While these contributions are often small, they reflect a sense of responsibility and solidarity, helping to alleviate immediate economic pressures and share the burden of sustaining the household. At the same time, they highlight broader challenges of underemployment and casual work.

Although several sons and daughters of the participants hold university degrees, their employment outcomes remain very limited. In two cases, the educated children were either working in positions far below their qualifications or were unable to secure formal employment at all. As a result, they frequently contributed to the household through low-paid service jobs or informal vending activities. This pattern reflects broader constraints in economic participation, where higher educational attainment does not necessarily translate into improved labor-market opportunities. It also highlights the mismatch between qualifications and available employment, leaving many young adults underemployed and relying on precarious forms of work to support the household.

The interviews also revealed that not only adult children contribute to household expenses; older family members also participate. In one case, the grandmother actively supported the household by preparing and selling food in the local market. This can be interpreted as evidence that economic responsibility is shared across generations. It further suggests that income-generating activities extend beyond the nuclear family and are distributed among various members according to their capabilities and available opportunities.

Economic hardship is universal across all cases. Families rarely rely on a single source of income; instead, they combine informal work, small trades, and contributions from multiple household members to meet basic needs. This reliance on multiple small and informal income sources reflects families' adaptability but also leaves them highly vulnerable to economic shocks. Income sources are often

unstable, and any delay or shortfall can quickly lead to hardship, creating cycles of food insecurity and indebtedness where even minor disruptions have significant consequences for household well-being.

Food Management Coping Mechanisms

The interviews clearly indicated that all families face significant financial constraints, which severely limit their ability to access regular, adequate, and preferred food. In this context, regular food refers to the provision of three meals per day; adequate food means that each individual receives enough to eat so that no one remains hungry after a meal; and preferred food refers to the ability to select and consume foods they enjoy, rather than relying solely on the cheapest or most readily available options. These findings reveal that none of the households in the study were able to achieve this standard. Most families (7 cases) depended on a single main hot meal in the evening, while breakfast was often limited to tea with no milk, and lunch was frequently skipped entirely. This pattern of reduced meals not only reflects financial limitations but also has broader implications on health and nutrition.

In situations when food is very limited, family members often prioritize children and elderly members, allowing them to eat first. The remaining food is then shared among other household members. In some cases, adults may even choose to go without food themselves to ensure that children and the elderly are able to eat. This act of self-sacrifice reflects strong sense of responsibility and care that guides family decisions during difficult times. Similarly, wives often wait until their husbands have eaten before serving themselves, a practice that reflects long-standing cultural norms and household hierarchies. This behavior reflects that women prioritize the well-being of other family members even when resources are limited.

Therefore prioritizing children and elderly relatives, reducing adult portions or going without food, and wives waiting until their husbands have eaten before serving themselves can be viewed as consumption-based and careful strategies for managing scarce food. Seeing that hunger is not an isolated occurrence but rather a recurring and normalized aspect of daily life.

In addition, having a refrigerator is a key logistical coping mechanism to manage scarcity. As these refrigerators enable families to store food for several days, minimizing the need for daily shopping and cooking, which in turn saves both time and fuel. Families that own refrigerators (in two observed cases) often adopt routines such as cooking every two to three days to conserve energy, reduce physical strain, and maximize efficiency. In three other cases, families share refrigerators with neighbors, demonstrating a communal approach that spreads resources and risk across households. In contrast, families without refrigerators (five cases) are compelled to cook daily, a practice that increases labor demands, fuel consumption, and the overall cost of maintaining meals. Moreover, it was noted that some women who have access to a refrigerator use it to prepare and store Dardma (ice cream sold in small tubes) for sale, providing an additional source of income and further illustrating the practical and economic benefits of this appliance in resource-constrained settings.

A common strategy reported by all participants is the deliberate stretching of limited ingredients to make meals last as long as possible. It involves increasing the proportion of inexpensive staples, reducing the amount of costly ingredients such as meat or oil, and adding affordable flavorings—such as Maggi cubes—to enhance taste and creatively modifying dishes to appear more substantial. Through these efforts, women aim to ensure that every family member receives enough food to feel full, even when overall quantities are insufficient. Such practices reflect both the pressures of chronic scarcity and the central role that women play in managing household food security. One participant explained: “I buy a small quarter kilo of meat, and I divide it into three meals for three days. I mix it with maggi (bouillon cubes) and dakwa (peanut paste) so it can feed the whole family as well as have good taste.”

The interviews highlight the use of affordable alternative food sources as one of the key strategies in facing persistent food scarcity. One of these sources is the meat extracted from cow or sheep skins as

substitute for regular meat, as it is considered a byproduct and therefore sold at a much lower price. Purchasing this type of meat allows households to stretch their limited resources and provide meals for the entire family. Although inexpensive, it still provides essential proteins and small amounts of fat. A participant reported: “ I buy meat from cow or sheep skins at the Libya Market. It is very cheap, but it still tastes like regular meat, so it works well as a substitute. This helps me feed my family every day without spending too much money. Even though it is not the usual meat, it is filling and provides the nutrients we need, so it is very useful for households like ours.”

Another affordable alternative food source is purchasing vegetables that are partially spoiled or past their prime at lower prices from the market. They carefully remove any spoiled parts and use the remaining portions in cooking, allowing them to stretch limited resources while still preparing nutritious meals for their families. One participant explained, “Before sunset at Libya Market, grocery traders gather the vegetables that have not sold or are starting to spoil and sell huge amount at very low prices because they cannot store them for the next day. I buy from this group, taking advantage of the low prices.” By purchasing discounted vegetables that might otherwise go to waste, households are able to maximize their limited budgets, reduce food waste, and maintain regular meals despite economic constraints.

These two strategies reflect the resilience of women and their ability to think creatively and skillfully to solve problems, ensuring that meals include both protein and vegetables to maintain a balanced diet. At the same time, they pay attention to taste ensuring that even meals prepared from low-cost or limited ingredients remain acceptable and enjoyable for family members. At the same time, they demonstrate how local markets adapt to the realities of low-income consumers, offering products that might otherwise go to waste and creating opportunities for families to access essential food items at lower costs.

The interviews reveal that preservation strategies emerge as a key coping mechanism employed by the majority of participants. This longstanding approach allows households to store essential ingredients during times of abundance and use them during periods of scarcity. Many participants reported purchasing vegetables and beans, such as onions, tomatoes, and okra, when they are abundant and affordable, then drying and storing them for periods when prices rise. This practice enables households to maintain a steady supply of essential ingredients throughout the year and buffer against fluctuations in market availability and cost. By employing these preservation strategies, families demonstrate careful planning, resourcefulness, and practical adaptation to cope with ongoing food insecurity.

Community Support Coping Mechanisms

Across all cases, community-based support systems—particularly relationships with neighbours, relatives, and local retailers—emerged as a crucial component of household coping strategies. In some households, women relied heavily on local shopkeepers, purchasing food items on credit and, in more severe situations, borrowing small amounts of cash to meet immediate needs. Typically, these loans were repaid without interest, and shopkeepers often treated such customers as loyal, seeking to maintain good relationships. In some cases, this support was also influenced by religious or social norms that encourage helping those in need. These arrangements allowed families to manage temporary shortages without going without meals, highlighting the importance of trust and social obligation in local economic relationships. Conversely, some households deliberately avoided buying on credit, reflecting a cautious approach to debt and a preference for managing daily consumption strictly within available resources.

In situations of acute scarcity, families extended collective meal practices beyond their own households, sharing meals across different household units or with neighbours. Typically, men ate together, while women and children shared meals separately, a practice that was particularly common on weekends. This arrangement reflects a flexible and adaptive strategy that leveraged both intra- and inter-household

support networks. Social norms shaped the organization of these communal meals, reinforcing culturally established patterns of interaction while ensuring more equitable access to limited food resources. Such practices not only mitigated the impact of scarcity but also strengthened social cohesion, mutual support, and solidarity within the community. By coordinating consumption in this way, households were able to manage limited resources effectively while maintaining important social and cultural ties.

Savings Practices

Despite widespread financial hardship, rotating savings groups (*sandug* or *sarfa*) were used consistently across households. These are informal community-based financial arrangements in which members contribute a fixed amount of money regularly, and each member takes turns receiving the pooled funds. This practice reflects the importance of saving to these women and reinforces the proverb, “white money for black days,” highlighting their ability to think strategically. It demonstrates how they view savings as a crucial mechanism for financial planning, security, and managing future household needs.

However, these savings were strategically protected and rarely used to purchase food. Women deliberately reserved these funds for long-term or high-cost needs that could enhance household stability or generate future benefits. Typical uses included buying furniture, paying school fees or university tuition, improving household assets, or investing in items that could serve as sources of income. This careful allocation demonstrates women’s foresight and strategic thinking, as they prioritized investments that would provide lasting value over short-term consumption. By treating these savings as untouchable resources, women maintained a financial buffer to manage unforeseen expenses or emergencies, ensuring that households could withstand economic shocks without compromising essential long-term goals.

For instance, in one case, a woman used her savings exclusively for medical treatment, prioritizing the family’s health needs over immediate consumption. In other households, women directed *sandug* contributions toward improving housing conditions, purchasing durable goods such as furniture or kitchen equipment, or investing in assets that could generate income, such as sewing machines or livestock. Some women used savings to pay school fees or university tuition for their children, ensuring continued access to education, while others set aside funds for large ceremonial events, like weddings or religious occasions, that would have significant social and familial importance.

This pattern reflects women’s strategic planning and foresight in managing household resources. Food was primarily addressed through daily, short-term coping strategies, while savings were deliberately reserved for future investments, essential expenditures, or income-generating opportunities. By prioritizing long-term needs and investments over immediate consumption, women demonstrated careful planning, resourcefulness, and the ability to manage scarce resources effectively.

Anxiety and Food

Interviews showed that women experience significant anxiety about feeding not only their families but also guests. This reveals two contrasting findings. On one hand, social norms such as hospitality and social cohesion continue to be upheld even during periods of hardship. On the other hand, these expectations intensify the pressure on women, who must manage scarce resources while still meeting social obligations.

Some of these women also expressed considerable concern about their children’s satisfaction and nutritional needs, recognizing that limited resources often prevented them from providing preferred or culturally valued foods. This challenge was particularly pronounced when children expressed dissatisfaction with meals, frequently protesting the types of food offered, and in some cases, refusing to eat altogether. Such reactions not only created emotional stress for mothers but also added complexity to daily food management, as women had to balance the need to stretch limited ingredients

with the desire to maintain children's appetite and nutrition. These situations often required women to exercise creativity and adaptability, modifying recipes, supplementing meals with inexpensive alternatives, or preparing additional small portions to satisfy children's preferences without compromising overall household food availability.

The tension between economic constraints and children's expectations underscores the dual burden women face: ensuring household food security while also managing the social and emotional well-being of their families. Women react to this pressure by relying on informal support networks such as neighbors, extended family members and close friends. These networks provide emotional reassurance which help them to reduce feelings of isolation and reinforces a sense of shared struggle. It create space where women can openly discuss their worries, exchange advice, or simply feel understood. It also encourage meaningful practices like sharing leftover food, lending essential ingredients, or stepping in to help with meal preparation. This allows women to fulfill hospitality norms without bearing the full weight alone.

Discussion of Findings

The study identified a range of coping mechanisms adopted by households in response to economic hardship and food insecurity. These mechanisms included crowded living arrangements, engagement in small-scale informal income-generating activities, intergenerational sharing of economic responsibility, meal skipping, and the prioritization of children and elderly household members during food allocation. Additional strategies involved access to and use of refrigeration, deliberate stretching of limited food ingredients, reliance on affordable alternative food sources, food preservation practices, and the sharing of meals across household units or with neighbours.

These coping mechanisms can be broadly categorized into three interrelated groups. The first category comprises income-generating strategies through informal labour activities. The second encompasses food management and consumption strategies aimed at maximizing limited food resources. The third consists of community-based support mechanisms, including food sharing and mutual assistance. Importantly, households rarely relied on a single strategy; instead, these coping mechanisms were often employed simultaneously and in combination.

From a management perspective, these coping strategies can be further classified as proactive and reactive responses. Proactive coping mechanisms refer to anticipatory actions undertaken to mitigate potential future food shortages (Maxwell & Caldwell, 2008; Devereux, 2016). In contrast, reactive coping strategies comprise short-term responses adopted once food shortages have already materialized (Maxwell & Caldwell, 2008).

Women's engagement in informal labour—including the sale of food items, fulfilling specific requests from neighbours, providing services based on traditional skills, and adopting innovative income-generating activities such as collecting and selling discarded bottles or working as domestic helpers for university staff on weekends—emerged as a key proactive strategy for enhancing household food security. These activities illustrate women's capacity to extend their economic roles beyond formal employment and to strategically diversify income sources in anticipation of, and as a buffer against, potential financial shortfalls.

This finding is consistent with previous research indicating that women in resource-constrained settings frequently rely on informal and adaptive livelihood strategies as proactive coping mechanisms, drawing on their skills, social networks, and creativity to stabilize household income and food access (Maxwell & Caldwell, 2008; Devereux, 2016). Moreover, existing studies suggest that such strategies not only address immediate household needs but also contribute to longer-term resilience by enabling women to plan, save, and manage scarce resources more effectively, thereby strengthening households' capacity to withstand future shocks (Ellis, 2000; Chant & Sweetman, 2012).

Food-management strategies reflected a dynamic combination of reactive and proactive coping mechanisms through which households navigated chronic food insecurity. Reactive strategies primarily involved short-term consumption adjustments aimed at immediate survival. These included reducing daily meals to a single main dish, skipping lunch, and prioritizing children and elderly household members during food allocation—often at the expense of women’s own consumption. Households also stretched limited ingredients by increasing reliance on inexpensive staples, using flavour enhancers, and purchasing low-cost substitutes such as meat extracted from animal skins or vegetables sold at reduced prices due to imminent spoilage. These practices may compromise dietary quality and nutritional adequacy over time.

In contrast, proactive food-management strategies were oriented toward anticipating and mitigating future food shortages. Access to refrigeration—whether privately owned or shared—enabled households to cook in larger quantities every few days, thereby conserving fuel and reducing daily food expenditures. Refrigeration also supported livelihood diversification, as some women used it to prepare and store dardma (ice cream tubes) for sale, linking food management directly to income generation. Food preservation emerged as another key proactive strategy, with households drying vegetables such as okra, onions, and tomatoes during periods of seasonal abundance and lower prices. Similarly, purchasing food in bulk when prices were affordable allowed families to buffer against market volatility and intermittent scarcity. These strategies enhance households’ anticipatory and absorptive capacities, key dimensions of resilience, by reducing exposure to future shocks and limiting reliance on more harmful coping responses.

These patterns are consistent with empirical findings across diverse contexts—including rural Niger, South Africa, Ethiopia, Mozambique, and Australia—which demonstrate that households progressively adopt coping strategies in response to the severity and persistence of food insecurity (Maxwell & Caldwell, 2008; Devereux, 2016; Ellis, 2000; Chant & Sweetman, 2012; Mbhenyane et al., 2025). Coping strategy indices further show that households typically begin with less severe measures, such as shifting to cheaper or less preferred foods, before resorting to more extreme actions such as meal skipping or dietary restriction. This progression highlights how families continuously recalibrate food consumption and resource management in response to prolonged scarcity.

Women’s capacity for strategic planning is evident across multiple domains of household management. Women’s use of sanduq or sarfa reflects deliberate and forward-looking financial planning. Despite severe economic constraints, women consistently distinguished between immediate coping needs and longer-term household priorities. Savings were intentionally shielded from daily consumption pressures—particularly food expenditures—and allocated to high-impact uses such as healthcare, education, housing improvements, and investment in income-generating assets. Similar to findings by Devereux (2016) and Maxwell and Caldwell (2008), the women in this study distinguished between immediate coping and longer-term resilience-building, using savings not merely as emergency reserves but as strategic tools for future stability. These practices underscore women’s central role in managing household vulnerability and planning for shocks.

The findings further indicate that households frequently rely on multiple, overlapping income sources to cope with economic instability. Participants combined wage labour with informal trading by selling nuts, sweets, and other items to university students during her working hours. She also generated income through collecting and selling discarded bottles from cafeterias, neighbourhoods, streets, and markets to recycling centres or scrap dealers. Although the returns from these activities were modest, they contributed to meeting immediate household needs such as food and daily necessities. Research has repeatedly shown that households facing unstable labour markets and limited formal employment opportunities depend on combinations of wage labour, petty trade, and informal activities to smooth income and reduce risk (Ellis, 2000; Maxwell & Caldwell, 2008).

Women's concerns about feeding both household members and guests reveal an additional dimension of strategic decision-making under scarcity. While social expectations of hospitality and children's food preferences intensify emotional and practical pressures, women respond through calculated strategies aimed at balancing competing demands. Their prioritization of children's satisfaction and nutritional needs reflects forward-looking planning, grounded in an awareness of the long-term physical and emotional consequences of food deprivation. Previous studies indicate that women often bear the moral and emotional burden of ensuring both nutritional adequacy and social respectability, even in contexts of extreme scarcity (Maxwell & Caldwell, 2008; Devereux, 2016). Similar to findings in other settings, women in this study prioritized children's dietary satisfaction and emotional well-being, recognizing the long-term consequences of inadequate nutrition and social exclusion. These practices align with feminist analyses that highlight women's unpaid care work and social management as central, yet often overlooked, components of household resilience (Chant & Sweetman, 2012).

Overall, the findings of this study reinforce and extend existing literature by illustrating how women's everyday practices—savings protection, income diversification, and careful management of care and social obligations—operate as interconnected strategies for building household resilience. Consistent with prior research, these strategies demonstrate that women are not passive recipients of hardship but active managers of scarcity, employing foresight, adaptability, and strategic planning to sustain household survival and future security under prolonged economic uncertainty.

Recommendations

Based on the findings of this study, the following section outlines targeted policy interventions and areas for future research. These recommendations aim to improve livelihoods and enhance food security, with particular attention to gendered dimensions and social norms.

Policy Recommendations

- ✓ Governments and higher education institutions should develop targeted programs to improve the alignment between curricula and labor market needs.
- ✓ Implement programs addressing structural and gendered barriers in employment, such as wage gaps, limited access to formal jobs, and social norms restricting women's work.
- ✓ Develop interventions that ensure access to safe, nutritious, and affordable food, particularly for households experiencing chronic food insecurity.
- ✓ Integrate mental health support for women who experience food-related anxiety and stress, including access to counseling and community support networks.
- ✓ Encourage programs that build social capital and resilience, helping households manage stress without compromising nutrition or safety.

Future Research Suggestions

- ✓ Examine why educated young adults—particularly women—remain underemployed or confined to informal, low-paid work despite their qualifications.
- ✓ Study the nutritional, health, and safety implications of low-cost food substitution and stretching strategies, including consuming partially spoiled produce, dried seasonal foods, or unconventional protein sources.
- ✓ Assess how these coping strategies affect long-term dietary quality, food safety, and household health outcomes under chronic food insecurity.
- ✓ Explore how food-related anxiety affects women's strategic decision-making, emotional well-being, and reliance on social networks.

- ✓ Examine the role of social norms—such as expectations around hospitality and motherhood—in shaping coping strategies, mental health outcomes, and household food practices over time.

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