FOOD CULTURE AND ITS IMPLICATIONS ON FOOD SECURITY: AN INFERENTIAL SURVEY ON EKOWE COMMUNITY IN BAYELSA STATE, NIGERIA

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Abstract
This study aims to assess the impact of food culture on food security, focusing on the Ekowe community, a coastal region located along the River Nun in Bayelsa State, Nigeria. Being one of Nigeria's most severely affected communities during the ongoing floods, the Ekowe community is a critical food security research area. The study employs focus group discussions, personal interviews, and survey questionnaires for qualitative data collection. The questionnaire survey involves sixty respondents, of which fifty-six (56) responses are deemed appropriate, while descriptive statistics are used to analyze data. The results reveal plantain, cassava, sugar cane, cocoyam, rice, and beans as the major food categories prevalent in the study area.

Moreover, the study identifies food price instability, limited food supply in the market, poverty, family size, and ignorance of basic nutritional requirements as the major factors affecting the food culture of the Ekowe community. Poor food culture and food insecurity lead to malnutrition, undernourishment, ill health, hunger, susceptibility to diseases, crime, low self-esteem, and death. The majority (73.2%) of the respondents cannot afford to feed consistently three times daily for one month, indicating poverty and low purchasing power among people in the study area. Furthermore, 71.4% of the respondents do not consume a balanced diet daily, suggesting that a significant proportion of the population may be malnourished and suffer from nutritional inequality, which indicates food insecurity. The study finds that young people between the ages of 20 and 40 years, males, and people earning less than 35,000 Naira per month are the main respondents who consume less than three meals daily. The researchers

attempt to construct a food culture and security profile to illustrate the relationship between food culture and security. The study recommends improving local food production and nutritional awareness to enhance food culture and security.

Keywords: *Food culture, food security, food insecurity, food habit, nutritional culture.*

Introduction

Food security remains a pressing issue in global discourse despite being widely discussed in the literature. Food security refers to all individuals having unrestricted physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life (FAO, 2012). To achieve food security, individuals must have access to an adequate quantity and quality of food at all times, without any sense of deprivation (FAO, 2009; Weingartner, 2004).

Food security is closely interwoven with food culture, which refers to the collective lifestyle, habits, beliefs, rituals, values, and practices surrounding food production, procurement, and consumption (Paoli et al., 2019). Food culture influences food choices, demand, and consumption patterns and is shaped by various factors such as religion, traditions, customs, and social and economic status. People's lifestyles, practices, belief systems, values, family history, background, and lineage contribute to their unique nutritional identity (Paoli et al., 2019).

Food expresses people's identity, lifestyle, and values (Enriquez & Archila-Godinez, 2022). A poor food culture can have implications for people's identity and food security, and many countries continue to struggle with food security issues, with a significant proportion of their populations facing food scarcity, hunger, and nutritional deficiencies. For instance, a study by Petrikova et al. (2023) highlights the extent to which Nigeria has been affected by the "triple burden of malnutrition". Human food choices also play a crucial role in food security and give people a unique identity (Enriquez & Archila-Godinez, 2022). Food production systems and market forces regulate these choices, with farm size, the high price of foodstuffs, and farm income varying degrees of influence on food

security (Okpokiri et al., 2017). Promoting homestead farming in urban and rural areas has been suggested as a potential solution to these issues, with several studies highlighting the benefits of homestead agriculture, including improved household food security, nutritional status, and increased income (Nwibo et al., 2018). However, certain dimensions of food culture and food security are beyond individual control, such as natural disasters, the impact of climate change, government policies, international politics, and wartime or crises. This study aims to examine the influence of food culture on food insecurity in the coastal areas, with a particular focus on the Ekowe community. This coastal community is situated along the coast of the River Nun in Bayelsa State, Nigeria. The study's specific objectives include identifying the common foods available in the area, profiling individual feeding habits, evaluating awareness of the effects of poor food culture (and of food insecurity), constructing a relationship profile for food culture and food security, and identifying factors affecting food culture and food security in the area.

Concepts of Food Security

Based on the definition, there are four major dimensions on which the concept of food security can be better explained. These include food **availability**, economic and physical **access** to food, **utilization**, and **stability** over time (FAO, 2013). These basic dimensions are otherwise referred to as **pillars of food security** (Upton, 2019), as illustrated by the structural framework shown in Figure 1.

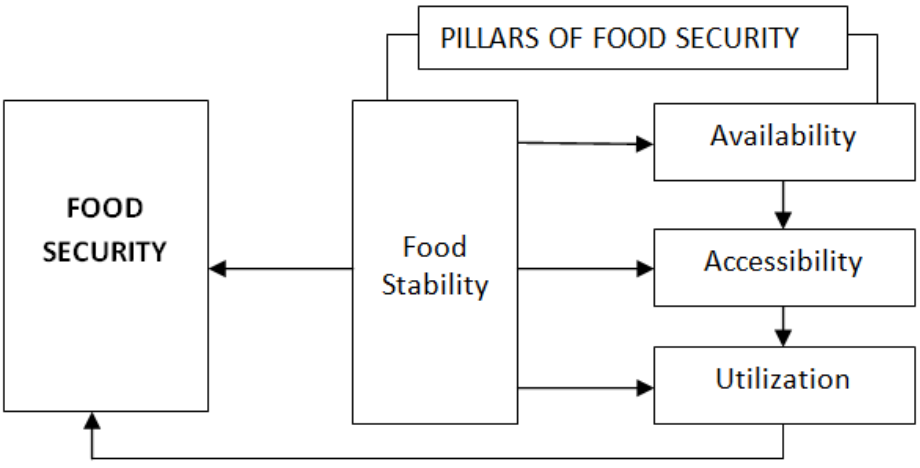

Figure 1. Illustration of Food Security Concept
Source: Adapted and modified from: Weingartner, 2004

Figure 1 presents a framework explaining the conceptual relationship between food security and the four major dimensions. Ensuring food security is a complex task involving multiple dimensions, each represented by specific indicators (FAO, 2013). More so, besides the conventional four dimensions of food security, scholars have made 'the case to formally update the definition of food security to include two additional dimensions proposed by the High-Level Panel of Experts on Food Security and Nutrition: which are agency and sustainability' (Clapp, 2022).

Food Availability: Food availability is a function of domestic production, food stock, import and food aid. Thus, to achieve food availability at the very basic level, the production dimension is an important factor, which involves the capacity of the individual or society to produce its food and the capacity of the production units to support adequate food production efficiently. These production units involve the various factors of production, the enabling environment, biodiversity, technology and policies, which all together significantly influence food production. Beyond production, food can be made available by importation, stocks and food aid (FAO (2013).

In reality, achieving food security for a large proportion of the population is a complex and seemingly unachievable task very shortly. This follows the complexity of achieving an efficient and sustainable food production system. Despite the efforts to improve food security globally and with increasing technological advancements, most countries, especially low-income countries, still need help with food crises and unsustainable food production systems (UNEP, 2012). On the other hand, as most countries strive to achieve increased food production, this effort seems counter-productive following unpredictably increasing trends and the rates of the human population. This threatens food demand and creates a competitive market scenario where people would rather compete over insufficient available food. Looking at food stock, global hikes in food prices, poor availability, and insufficient production are factors of low productivity (or low output) that affect the capacity of food stock by an individual or household (USAID, 2008).

To survive, at the very least, individuals adapt by resorting to having what is available even if they can afford much more if they were available. Thus, availability directly influences the food culture of an individual or household. Generally, nations resort to large-volume importations to attempt to close the gap of poor availability of food. Nigeria, for example, is a net importer of food aimed at meeting the shortfall of domestic food production. As noted by FAO (2023), 'Nigeria is a net importer of food with an annual import bill of USD 3 billion', and 'food security in Africa's most populous country is also challenged by rapid population growth'. To attain sustainability in food availability, nations must improve their food production by boosting agricultural capability at subsistent and commercial levels. As also highlighted by Pawlak and Kołodziejczak (2020), ensuring food security has become an issue of key importance to countries with different degrees of economic development, while the agricultural sector plays a strategic role in improving food availability.

***Food Accessibility*:** Food cannot be accessed when and where it is unavailable. Thus, food accessibility is a function of availability. In order to improve the accessibility of food, it is imperative to expand the scope of local and regional food systems by paying heed to the focused development of technical infrastructure in processing and distribution (Bloom & Hinrichs, 2011). The accessibility of food is a complex issue that is subject to various intervening factors. These factors include the purchasing power of the buyer, the affordability of the food product, the prevailing market forces, the state of infrastructure, and the equitable distribution of resources. Economic, social, and political factors also play a key role in determining food accessibility. As noted by Kneafsey et al. (2013), addressing food accessibility requires a multifaceted approach that considers these various factors.

The majority of the population cannot access the required proportion of food because of poor purchasing power and poverty. Food prices in the market also directly influence the quantity of food an individual can buy. For most developing nations such as Nigeria, where the majority of the population is poor, living far below the poverty line, it is obvious that access to food is significantly very low and remains almost impossible for a large proportion of the population.

According to the 2023 report by the United Nations, global food insecurity is deeply intertwined with extreme poverty. As such, addressing the issues surrounding food production and accessibility may be a crucial step towards alleviating poverty-related problems. *Food utilization*: Food is useful when it has been used, utilized or consumed, and it is impossible to use a product that is not accessible. Thus, food utilization is directly linked to accessibility. This intervening interdependence of these pillars further explains the complexity of the food security concept. In rational terms, the food security perspective of food utilization should involve not only using or consuming food but also having it in the right proportion and nutritional value (FAO. (2013). On the other hand, the amount of food an individual consumes is a function of many factors ranging from being able to access available food, his food culture, taste, and food choice to purchasing the food in the right proportion needed.

Food Stabilization: Food security largely depends on the availability, accessibility, and utilization of food resources. According to the Food and Agriculture Organization (FAO, 2013), food security is achieved when there is stability in the availability of food over time and its sustainability. Accessing and satisfactorily utilizing available food resources is crucial in ensuring food security. Thus, the food stability perspective of food security is achieved when there is a sustainable situation, where an individual or household 'consistently and sustainably' has access to 'nutritious' food and can satisfactorily utilize the food in the right quantity and nutritional balance.

Methodology

Study Area

This study was conducted in the Ekowe Community, a coastal area along the River Nun's bank in the Southern Ijaw Local Government Area of Bayelsa State, Nigeria. The selection of this study area was made purposefully, taking into account logistical convenience for data collection. The area in question was deemed significant for the study as it represents one of the coastal regions vulnerable to annual flooding. This topic holds a broader interest for the current research. The community was one of the worst hit communities during the 2022 flood in Nigeria. The map of Ekowe Community is shown in Figure 2.

Figure 2. Map showing Ekowe Community
Source: Adapted and modified from: nona.net (2023)

Population and Sample size

The study was focused on people living in the coastal areas of Bayelsa State. It involved a sample size of fifty-six (56) people randomly selected and interviewed using semi-structured survey questionnaires.

Data Collection and Analysis

The study was designed to allow for survey questionnaires, focus group discussions and personal interviews for data collection. Questionnaires were administered to sixty randomly selected contacts, of which fifty-six (56) responses were adjudged suitable for analysis. One focus group and several personal interviews were conducted involving selected individuals, including farmers, fishers and business people. Descriptive statistics such as percentages and Likert scale measurements were used to analyse data, while tables, word clouds (wordle graphics) and constructed frameworks were used to present results and illustrations. Data collection was carried out between October and December 2023.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents based on daily feeding habit

Table I Distribution of Socio-economic characteristics of the respondents based on daily feeding habit, n=56.

Variable	Average daily Feeding Frequency, n=56				
	Once	2-times	3-times	More than 3 times	Total (%)
GENDER					
Male	4(7.1)	17(30.4)	3(5.4)	0	24(42.9)
Female	2(3.6)	21(37.5)	8(14.3)	1(1.8)	32(57.1)
OCCUPATION					
Student	1(1.8)	7(12.5)	2(3.6)	0	10(17.9)
Civil servant	0	4(7.1)	2(3.6)	0	6(10.7)
Farmer	1(1.8)	6(10.7)	1(1.8)	0	8(14.3)
Fisherman	0	4(7.1)	1(1.8)	0	5(8.9)
Self employed	1(1.8)	4(7.1)	2(3.6)	0	7(12.5)
Business	0	6(10.7)	3(5.4)	1(1.8)	10(17.9)
No occupation	3(5.4)	7(12.5)	0	0	10(17.9)
AGE in Years					
18 – 20	0	2(3.6)	3(5.4)	1(1.8)	6(10.7)
21 – 40	3(5.4)	15(26.8)	3(5.4)	0	21(37.5)
41 – 60	3(5.4)	16(28.6)	3(5.4)	0	22(39.3)
60 and above	0	5(8.9)	2(3.6)	0	7(12.5)
Monthly Income (in Naira)					
No Income	4(7.1)	7(12.5)	2(3.6)	0	13(23.2)
Less than 35 Nara	1(1.8)	21(37.5)	2(3.6)	0	24(42.9)
35 – 50 Naira	1(1.8)	6(10.7)	3(5.4)	1(1.8)	11(19.6)
51 – 70 Naira	0	4(7.1)	3(5.4)	0	7(12.5)
Above 70 Naira	0	0	1(1.8)	0	1(1.8)

Source: Field Survey, October - December, 2023.
Note: Figures in parenthesis represent percentage (%) of the respondents. 'Fisherman' is used to represent both male and female fishers.

Table 1 shows the distribution of Socioeconomic characteristics of the respondents (n=56) with their daily feeding habits (or feeding frequency). The result shows that on average, the majority, 44(78.5%) of the respondents, eat less than three (3) times daily, less than the supposedly 'conventionally popular' feeding habit of three times daily. Of

this percentage, 67.8% feed only two (2) times daily, while 10.7% eat only once daily on average. The result suggests a significant deviation from what could be considered healthy daily eating habits. Assuming this large proportion of people are not under any nutritional therapy that limits their eating habits or restricts the number of eating times, then, going by the viewpoint of the supposedly conventional daily eating routine, the result suggests a reality and strong incidence of food insecurity among the respondents, and perhaps by extension, a large majority of the population in the area. To further expand this views, besides not identifying what component of the food diet they eat daily, in addition to the obvious reduction in the frequency of daily feeding habits, which needs to improve, it is also possible to assume that the respondents may not have been consistently consuming balanced diets daily, which can be confirmed using the food culture checklist in Table 2. Another interesting observation that requires keen attention is that of the larger percentage (14.3%) of female respondents than the male (5.4%) who eat, on average, three (3) times daily.

Despite the slim difference, the result suggests that the female population eats more times daily than males. The result also shows that comparatively, a lower percentage of farmers and fishermen than others eat up to three times daily. Also, more people (66.2%) within the age bracket of 21 and 60 eat less than three times daily. Of this percentage, as much as 35.8% are within the age bracket of 18 and 40 years, suggesting a considerable percentage of young people in the area are food insecure.
Regarding income regimes, 58.9% of the respondents with a monthly income of less than 35 Naira eat less than three times daily. The results in Table 1 suggest that many people in the area may need more food security regarding daily feeding habits. If further substantiated, these inferences would have significant implications for nutritional research and related studies.

Common food in the study area

To have an idea of the type of food crops and food items common in the study area, information on food and delicacies were gathered from personal interviews and focus group discussion. List of food items mentioned are presented in a word cloud (or wordle graphic) in Figure 3.

*[1]Inibehe George Ukpong and [2]Mirabel Inibehe George

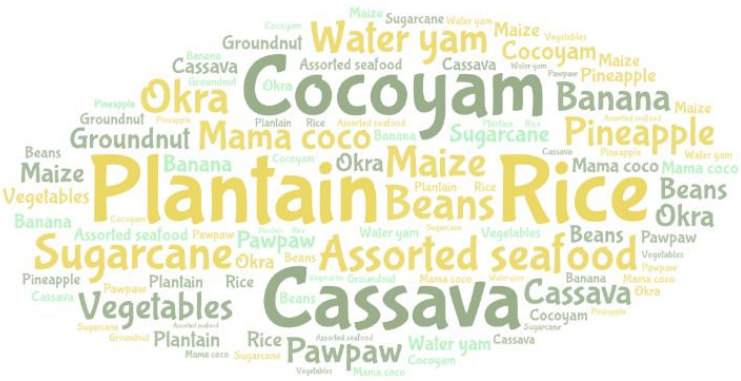

Figure 3. Common food available in the study area
Source: Field survey, October-December, 2023.

Figure 3 shows a list of common food items in the study area. The result indicates the most prominent plantain, rice, cocoyam, cassava, sugarcane, beans, vegetables, etc. This is indicative that the area has a rich food regime with a multifarious collection of food items and delicacies. To achieve a healthy nutritional balance or diet and food security, these items must be sustainably available, accessible, adequately prepared and consumed in the right quantity (or proportion), quality and nutritional combinations. To further emphasize, these food items are usually complemented with assorted seafood and hunted wildlife delicacies.

Awareness of the effects of poor food culture

The respondents were asked to mention what they know or observe to be the effects of poor food culture (which suggests food insecurity). This was to ascertain the respondents' awareness of the implications of not attaining food security concerning poor food culture. The result is presented as a word cloud in Figure 4.

Figure 4 Effects of poor food culture. Multiple responses recorded.
Source: Field Survey, October- December, 2023.

As shown in Figure 4, the result indicates hunger, undernourishment, malnutrition, ill health, crime, vulnerability to diseases, poor social lifestyle, low self-esteem, dissatisfaction and death as some of the effects of bad food culture and food insecurity. Besides the seemingly common effects, the prominent emphasis on *poor social lifestyle*, *dissatisfaction and low self-esteem* begs for a keen discourse on the psychological significance of poor food culture, suggesting that food insecurity could affect a person's self-esteem, mental and psychological consciousness, social lifestyle and interpersonal relationship of individuals in the society. This, indeed, reveals the latent prestige attached to good food culture, healthy living, and, indeed, food security. In other words, the result reveals that besides promoting healthy living, a good food culture and attaining food security would convey a sense of self-esteem and prestige in an individual or household.

To further explain the relationship between food culture and food security, we attempted a relationship profile construct for food culture and food security. This illustration simplifies the conceptual and implicative relationship between food culture and food security to reiterate the implications of food culture on food security. Beyond food combinations, poverty, culture and time factors, an individual needs to change his/her feeding pattern mindset. Such a 'psychological revolution' would go a long way towards reshaping food culture (or feeding culture) and improving food security. The profile is represented in Figure 5.

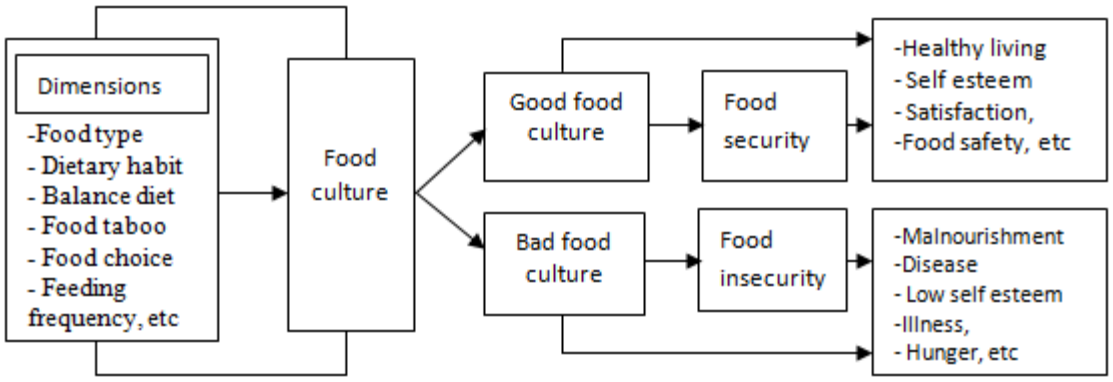

Figure 5. Illustration of the relationship profile for food culture and food security
Source: Authors' framework, October-December, 2023.

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Factors influencing Food Culture

To further explain food culture as it affects food security, the respondents were asked to identify possible factors affecting their food culture in the area. The results were robust and interwoven, hence grouped into broader and common themes, as shown in the word cloud presented in Figure 6.

Figure 6. Factors affecting Food Culture. Multiple responses recorded.
Source: Field Survey, October-December, 2023.

Figure 6 presents responses to factors affecting people's food culture in the study area. These factors otherwise suggest possible reasons that contribute to people being unable to feed at least three times daily in the area. As indicated in the word cloud, the most prominent factors are poverty, food price instability, ignorance of basic nutritional requirements, individual taste discretion, health issues or health condition of the individual, family size, food scarcity in the market (food market supply), food taboo, time factor and perception of food waste, as well as natural disaster.

In a larger context, the availability of food in the market is contingent upon the domestic production of food and the volume of food imports aimed at supplementing it. The limited supply of food in the market is, therefore, largely dependent on these two factors. Under this theme, the respondents indicated transportation constraints that largely affect the community's access to food and food supply. The high cost of transportation and irregular transportation systems in the area continuously result in high costs and a limited supply of food items. This directly affects the people's food culture and food security in the area. Unlike most other coastal areas, the Ekowe community is only accessible

via water routes, mainly through the River Nun. Respondents also emphasized that there are periods when there could be scarcity and total unavailability of certain food items, including fish and vegetables. This calls for strategies to improve local production in the area.

It is worth noting that the area is facing issues related to production due to limited arable land. This is because most of the available lands in the region have been affected either by swamp encroachment or yearly flooding. This further confirms the constraints on food security caused by environmental changes and natural disasters. The result also indicates ignorance of nutritional combination or poor knowledge of balanced diet components, which calls for nutritional awareness campaigns by nutrition/food experts and through social/religious platforms. The taste issue can be conceptualized by the fact that different individuals have different taste regimes, affecting their choice and demand for food. In the case of health issues, people with special health conditions would select their food choices irrespective of the nutritional components. Time is also a factor, though it could be considered insignificant in this case, as it is obvious that most people, due to their nature of jobs or engagements, could unavoidably skip meals or avoid a particular type of food they feel could take time to prepare or eat. As simple as the issue of time factor could sound, it is a fact that people develop health issues such as ulcers following inappropriate and inconsistent feeding patterns.

The case of food taboo has to do with superstitious belief. However, most people and cultures condescend to avoid certain foods because of superstitious or cultural taboos that restrict their consumption.

The result also suggests that individuals (or households) with a large family size may be incapable of purchasing enough food in terms of quantity and quality, which would significantly impact the food security status of each individual in the family. In other words, besides affecting the quantity and quality of food shared by each individual, it would also affect the eating habits of people in the household. This indicates ineffective food usage and a 'bad food culture', which could negatively affect people's health and food security profile.

The price of food in the market, particularly price instability, directly affects people's purchasing power. Purchasing *power refers to 'how much you can buy with your money'*. Thus, from an economic perspective, it is expected that as prices of food increase, money can buy less of food, and as prices drop, money can buy more of the food '(ceteris paribus).

As a matter of fact, with most of the respondents indicating 'poverty and high cost of food in the market', among major constraining factors to food culture, it suggests, very strongly, that the majority of the people in the area may be unable to afford the right food they need daily. As indicated in Table 1 above, the majority (66.1%) of the respondents fall within an income range below the national average (or minimum wage), suggesting possible evidence of poverty and dominance of comparatively low-income people in the area.

Also, limited food supply in the market directly affects the amount of food available to potential buyers in the area. This suggests that even if an individual were to have the purchasing power to buy food, there could be a more consistent supply in the market, which could limit what the person would buy in terms of quantity and quality.

Table 2. Summarised Food Culture Check List

S/N	Debriefing Statement	Levels of Agreement, n=56				
		Strongly agreed	Agreed	Indifferent	Disagreed	Strongly disagreed
1	I cannot afford feeding consistently three times a day for one month.	33(58.9)	8(14.3)	3(5.4)	7(12.5)	5(8.9)
3	I eat balanced diet everyday	7(12.5)	5(8.9)	4(7.1)	11(19.6)	29(51.8)
4	I care more about balance diet than price and affordability of food items while buying food in the market.	9(16.1)	4(7.1)	3(5.4)	9(16.1)	31(55.4)

Source: Field Survey, October-December, 2023

Note: Figures in parenthesis are percentage (%) proportion of the of the respondents.

Table 2 summarises the food culture checklist based on debriefing statements that corroborate the focus group and interview responses.

By levels of agreement, the result shows that the majority (73.2%) of the respondents failed to disagree with the statement that they '*cannot afford to feed consistently three times daily for one month*'. This indicates that most respondents do not have the resources or financial capability to buy as much food as they need or would want to buy. This further corroborates the poor purchasing power and poverty incidence in the study area, which calls for the need to boost local food production and enhance the people's economic activities and sources of livelihood.

The result also shows that the majority (71.4%) of the respondents do not *'eat a balanced diet every day'*, suggesting that a large proportion of the population in the area may be malnourished and having to deal with a 'nutritional crisis' as a result of nutritional imbalance (or nutritional inequality); which is indicative of incidence of food insecurity.The result also shows that a comparatively lesser but notable percentage (23.2%) of the respondents agreed to the statement that they '*care more about balanced diet than price and affordability of food items while buying food in the market'*. In comparison, a 'significantly' large majority (71.5%) of the respondents failed to agree with the statement, indicating that they probably 'care more about food price and affordability of food items while buying food in the market'. This further confirms the importance of food prices on food culture and strongly corroborates the emphasis on price instability as one of the major factors influencing food culture and food security in the area.

Comparing the high percentage (32.1%) of the respondents indicating their consciousness for a balanced diet with the high percentage (73.2%) of responses indicating an inability to afford or buy enough food to feed three times daily, the result strongly suggests the possible widespread incidence of poverty and low purchasing power among a large proportion of the population in the study area, while also reiterating the influence of poverty and low income on the food culture of the people. As a matter of fact, despite evidence of people's awareness and consciousness of the need for a balanced diet and the effects of poor food culture, poverty is also evident in the poor purchasing power of the people, poses a critical constraint to achieving the desired food culture and indeed, food security in the area.

Conclusion and Recommendations

The research took a descriptive overview of the influence of food culture on food security in coastal communities, focusing on the Ekowe community in Bayelsa State. Among the study's interesting findings is the confirmation that the people of the Ekowe community have a rich food culture that needs to be adequately harnessed to achieve food security in the area. From the perspective of food availability, this study recommends improving agricultural extension services to the coastal areas to help the people (especially farmers) improve their food production (or farming) systems significantly. Also, there is a need for the people to have unrestricted access to improved inputs; this would help increase agricultural production and equally sustain it while reducing the high dependency on external markets for food.

An improved food production system would help people experiencing poverty and low-income people in the area access enough food for their households while sustaining a good food culture (or habit). More so, improved production would promote the availability of more affordable locally-produced food in the local market. It is imperative to prioritize research that focuses on improving and restoring soil quality in the area. This is particularly relevant given that much of the land requires clarification or improvement to facilitate cultivation. The outcomes of this research will be instrumental in developing effective strategies to enhance soil health and productivity, thereby contributing to the region's sustainable development. Again, this study cannot precisely characterize the degree of food insecurity but strongly indicates the incidence of poor food culture in the area.

Furthermore, the study's findings also suggest evidence that various intervening factors, including poverty, influence people's food culture and food security. As also indicated in the socioeconomic profiles of the respondents, it is indicative that following the high incidence of poverty and low-income levels in the area, many individuals and households would find it difficult to feed themselves, indicating a clear incidence of food insecurity, especially among individuals that are unemployed and those generally engaged in agriculture (farming) and fishing.

Finally, given the implication of these results, there is a need for improved and reliably available transportation systems, including road access and mass boat transit services, in the coastal areas along the River Nun. This would help improve food access and availability of affordable food in the markets in the area while improving economic activities and the well-being of the people. There is also the need to employ the services of nutritional experts to help boost people's awareness of food security and nutrition concepts.

The study also suggests that a considerable percentage of young people in the area are food insecure and, of course, probably poor, hence the need for job creation, employment opportunities and encouragement for more young people to engage in agriculture. To further substantiate our inferences on poverty incidence in the area, further studies are recommended to categorize the socioeconomic profiles of the people further.

This study is, however, limited by a small sample size and statistical limitations, as only descriptive statistics were used to analyze data. In other words, the study needs a more robust and representative data profile concerning the overall population size of the area; hence, it falls short of making generalized recommendations. However, the results suggest, to a large degree, evidence of a worrisome incidence of food insecurity conditioned on people's poor food culture. Also, the study's findings will encourage further research and the use of more robust and diverse statistical analyses in a broader study on the subject matter.
In addition to the findings, this study provides a reference background on the relationship between food culture and food security, thus helping to close the gap of the paucity of data and literature on the subject matter.

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