

## Do The Food Culture and Practices of the Peoples Influence Food Security in Delta State, Nigeria?

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### Abstract

In any given society, the extract culture and cultural practices influence their food security directly as well as indirectly. This study evaluated the influence food culture and practices have on household food security of Urhobo, Ukwuani and Igbo ethnic groups in Delta State, Nigerian 2018-2019. A study sample population comprising of 136 Urhobo, 106 Ukwuani and 104 Igbos was interviewed, while structured questionnaire and focus group discussion were employed. The data were treated to statistical analysis with the use of descriptive statistics and logistic regression model. It was found that all the households consumed more of carbohydrate-based foods; men mostly made agricultural decisions and were responsible for land clearing preparation and ridging, while women do weed, processing and marketing. All the households were into subsistence farming, 93.75% were involved in the practice of mixed cropping 91.57% acquired land for farming through inheritance, 69.68% had family members as their labour force. The husbands had the control of household income (89.84%) and the preference for food sharing is in the favour of the men. The food culture and practices that had significant influence on food security of household included land acquisition methods (1.183;  $P \leq 0.05$ ); control of family income (1.071;  $P \leq 0.05$ ) and preference of household food distribution (0.944;  $P \leq 0.05$ ). It was concluded that culture was a factor that dominate with regards to the number of times meals are consumed daily, choices of food in the household, decision making in agriculture, cropping system, division of labour, land acquisition, control of household income, preference in household distribution of food and, therefore, food security of household. It is recommended that both sexes be encouraged to diversify their income generation sources and released more money for purchases of food. Both genders should be given access to productive resources to increase agricultural production for food securities. Farmers need to be given encouragement to produce and consumed enhance quality foods, among others.

**Keywords:** Food Culture; Cultural Practices; Households; Ethnic Groups; Food Security

### Introduction

Food security is an issue that is recurrent in the discourse of the economy of developing nations. It is of great importance because it is seriously linked with the survival of mankind. Food security is articulated by [13] as the physical and economic acquisition and utilization of adequate, safe and nutrient sufficient food to satisfy dietary requirement preferences for food by every person, at any time for a healthy and active life [35]. says that World Health Orga-

nization (WHO) conceptualized food security as being in existence when every person at every time possesses access to adequate, safe and nutritious food to sustain a healthy and active life. On the other hand, people who are not food secure consume inadequate and / or low-quality food [30]. A household is considered as being food secure when there is always food for them, all the members can access it, it is nutritionally sufficient in quantity and quality and variety, it is culturally accepted within the culture [13].

Availability of food, access to food utilization of food and protection of the means of food form the elements of food security. The availability of food for rural dwelling households portends the certainty of their access to adequate for food their own production activities or by procurement from their markets, if they have the means of purchase it. There is the assurance of access to food when every member of households (HHS) possesses sufficient resources to procure appropriate foods that are nutrient filled diets. Socio-cultural, political, economic and physical factors are the major determinants of access to food [8,20] suggest that nutritional results are ensured through utilization of food [15]. Explains that food supplies are stable when households (HHs) are not facing the risk of losing means to food as a result of adverse weather conditions, economic variable (like unemployment or soaring prices of food) or political instability.

Reflections from Millennium Development Goal (MDG) pertaining to extreme poverty and hunger eradication show that the challenge of food security is of a global dimension. Inclusive in this is reduction by half of the proportion of individuals who experience hunger between 1990 and 2015. Estimates by [15,17] show that 925 million people in various parts of the world were experiencing hunger and out of this figure, 907 million representing 98% were domiciled in developing countries. In the case of Nigeria, [1] point out that the food security situation showed slight improvement as the level of undernourishment was just 6% between 2006 and 2008 [15]. Reports that, there was decrease in the population and proportion of people who were undernourished, from 16.3 million in 1990 - 1992 to 9.4 million in 2006 - 2008. However, that food is available; it does not mean that food is accessible to every household [1]. The food culture and practices of an ethnic group, in the midst of other factors are majorly the determinants of availability of food and access to food [7,11]. Define culture as a people's way of life, which embraces the roles, uses, position and symbols of individuals, ideas, technologies, and objects like food and all other aspects of a society such as values, beliefs, norms, institutions, taboos, rituals, language and arts [2,7]. Opine that the food consumed by a people of a region is inertly embedded in their culture, since the interaction between persons, between the persons and land, and between land and food in prescribed by culture [7,18,38]. State that culture has impact on the security of food and nutrition through crop production distribution and utilization systems. Ethnicity also has linkage with food security due to the fact that the

environments in which people live and their ancestral roots have influence on food culture and practices with food and practices of food transmitted from one generation to another [7]. Going further, it is a known fact that access to food is capable of being influenced by the socio-cultural norms that regulate household food allocation and income [41].

There is paucity of research on cultural aspects of food security in Nigeria and Delta State in particular. According to [1,23,28], the few studies carried out in Nigeria relate largely to traditional food taboos and their implications for food and nutrition security. It is therefore worthwhile to conduct a study on food culture and practices in relation to household food security among the diverse ethnic groups in Delta State in order to have a guide when making efforts to ensure food security. Hence, this study examined the food culture and practices of the peoples of Delta State and ascertained the effects of food culture and practices on food security of the households in the State.

## Methods

Questionnaire and semi-structured interview were used to collect quantitative and qualitative data from the respondents, while employing a mixed method approach. The data examined in this paper were collected in June 2018 - March 2019 through the survey of households' food security in Delta State, Nigeria

## Study population and setting

Delta State of Nigeria has diverse ethnic groups such as Igbo, Ukwuani, Ika, Urhobo, Itsekiri and Ijaw. These ethnic groups earn their living through engagement in farming and fishing mainly. The study population is formed by three of these ethnic groups aforementioned. One village was purposively selected from each ethnic group based on language differentials and culture. This method was also used by [1].

## Quantitative data collection and analysis

In each selected village, a random sample of households was done. In Orhono Village (in Urhobo ethnic group) 136, Ogume village (in Ukwani Ethnic Group), 106 and Ejeme-Uno village (in Igbo ethnic group) 104 households were randomly selected and interviewed using a structured questionnaire. The dependents variable, food security was measured; thus, at first, the calories intake of the households was taken through request to the household member

who prepares food in the household and the report of the quantities of every food item eaten in the household in the past 24 hours was released, as earlier done by [1]. Secondly, adopting the method converted to grams and the calorie content was computed and estimated employing the food consumption tables that were available. At the third stage, the computation of the per capita calorie's intake was done by dividing the estimated total calories intake of the household by the number of adult equivalent (AE) in the household of applying consumption factors of age-sex classifications or categories, a method used by [13]. The food security line for Nigeria was placed at 2766kcal based on FAO criteria [34]. Resultantly, households who had their daily calorie supper per AE higher than 2766kcal were considered to be food secure and assigned the value of 1, while the households that had a calorie supply per AE lower than that were classified as food insecure households and assigned with a value of 0.

Explanatory variables such as cropping systems, land acquisition systems, type of labour use, household income controller and household food sharing preference were measured as discrete variables and were all identified to be main food culture and practices that have influence on food security of households in this research. The apriori expectation was that cropping systems, land acquisition method and type of labour used would have positive influence over food security.

Logit regression model was used because the dependent variable is discontinuous. The model was employed to make an estimation of the food security status of the rural households as a function of a group of food culture and practices. The model has been used severally for logistic dependent variables by [3; 27]. The Logit Regression model employed in determining the influence of food culture and practices over food security of households is presented thus.

$$Z = \ln \frac{P_I}{1 - P_I}$$

$$= I_n Y_a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$$

Where

Z = Probability of food security (food secure = 1; food insecure = 0)

bs = Coefficients of explanatory changes in Z causes by change in independent variables

X<sub>1</sub> = Cropping Systems

X<sub>2</sub> = Land Acquisition method

X<sub>3</sub> = Type of labour used

X<sub>4</sub> = Controller of household income

X<sub>5</sub> = Preference for household food sharing (husband/adult male = 1; wife, children = 0)

X<sub>6</sub> = Food taboo (observed= 1; not observed=0)

### Qualitative data collection and analysis

Separate focus group discussion (FGD) was done with 20 men and 20 women groups in each selected village to obtain information regarding the cultural content of food and gender involvement in agriculture.

## Results

### Cultural context of food and gender participation in agriculture cultural context of food

During the FGD it was revealed among the three major ethnic groups that survival is the primary aim of eating food and it is in their customs and tradition to consume 3 meals daily. Among the Urhobos, the foods consumed on regular basis were yam; plantain; cassava-based foods (garri and starch), cocoyam and beans. Among the Ukwuanis, cassava-based food - fufu and garri; yam and plantain were regularly consumed; and among the Igbos, cassava-based products (garri and fufu) and yam were eaten regularly. During special events such as marriages and burials starch, garri, yam and coconut rice is served by the Urhobos. During their traditional festivals starch, yam and plantain are served by them. Among the Ukwuani people, cassava-based food (fufu), pounded yam and rice are served during special occasions like marriage and burial ceremonies. While among the Igbo, cassava-based food (fufu), rice and yam (pounded yam) are served during marriage and burial ceremonies. During festivals, the Ukwuani and Igbo people serve yam and pounded yam. The food is eaten mostly with soup of various types cooked with plenty of fish and/or meat. Most soups are prepared with oil, except the pepper soup eaten with yam and plantain by the various ethnic groups preferably for breakfast.

### Traditional gender participation in agriculture

The participants in the men and women groups responded that the men, who are as usual the household heads decide on farming

activities to embark on - the fields to use, the type of crop to be planted and by who and the household members to carry out the various other activities.

It was further revealed that among the three ethnic groups that the men are responsible for clearing, tillage, ridge and mound construction and planting of plantain and yam. Tree crops planting is also the responsibility of the men. However, the women plant the other crops such as cassava, cocoyam, maize, vegetables, beans and potato among the Urhobo people. Among the Ukwuani people, both men and women plant, cassava, yam, maize, beans, vegetables and spices, but men plant tree crops. Igbo women plant the food crops, while the men plant the tree crops.

Weeding of the farm, fertilizer application and pest control are done by women among the three ethnic groups. Harvesting of food crops is done by the women too. The men of the three ethnic groups harvest three crops mainly because women are not allowed by culture and tradition to climb. Storage of every farm produce is done by both men and women except the storage of yam that is done by men among the three ethnic groups. The processing of harvested food crops is the responsibility of the women, while the processing the produce from tree crops such as oil palm fruits is done by both the men and the women actively participating cooperatively in all the three ethnic groups.

The sale of every produce is the responsibility of women in Urhobo ethnic group. In Ukwuani ethnic group both men and women are responsible for sales of produce, while only the Igbo women are given that responsibility traditionally to do the sales of the farm produce.

**Households’ food culture and practices**

The information on household’s food, culture and practices are summarily presented in table 1.

**Cropping system**

Most (Urhobo = 93.61%, Ukwuani = 91.41%, Igbo = 96.24%) of the households are into the practice of mixed cropping. Overall, 93.75% of the farming households in Delta State practice mixed cropping. This outcome is congruent with that of [1].

Findings indicate that most (91.57%) of the farming households of the three ethnic groups acquired land by inheritance, however, 8.43% farmed on plots of land purchased by them.

**Type of labour used**

In the study area, three categories of labour are used in Agricultural practices among the ethnic groups. These are family labour, hired labour and cooperation exchange labour. Out of these three types of labour, family labour was the major source of farm labour among the three ethnic groups considered in this study. Most households (69.68%) relied on family labour for farm operations, while hired labour were used by 26.14% of the households and cooperation exchange labour accounts for 4.19%.

Most (Urhobo = 95.11%; Ukwuani = 94.70%; Igbo = 79.71%) households stated.

Food culture/ Practices	Urhobo (n = 136)	Ukwuani (n = 106)	Ejeme-Uno (n = 104)	Pooled (n = 346)
Cropping Systems				
Mixed Cropping	93.61	91.41	96.24	93.75
Mono Cropping	6.39	8.59	3.76	6.25
Land Acquisition System				
Inheritance	96.52	91.98	86.21	91.57
Purchase	3.48	8.02	13.79	8.43
Labour Use				
Family	69.42	73.36	66.25	69.68
Hired	26.05	21.31	31.05	26.14
Cooperative Exchange	4.53	5.33	2.70	4.19
Control over family income				
Husband	95.11	94.70	79.71	89.84
Wife	4.89	5.30	20.29	10.16
Preference in food sharing				
Husband/ Adult male	92.03	42.46	84.42	72.07
Women/ children	7.97	57.54	15.58	27.03
Food Taboo				
Observed	85.61	96.50	87.72	89.94
Not observed	14.39	3.30	12.28	10.06

**Table 1:** Percentage distribution of food culture and practices among ethnic groups in Delta State, Nigeria.

**Control over household income**

That the husbands had the control of the household income vested on them. This is confirmed by the pooled result which shows that 89.84% of the households’ income was controlled by the husbands.

**Preference in household food sharing pattern**

Among the Urhobos and the Igbo most of the Households serve the husbands/adult males first while distributing food (Urhobo = 92.03%; Igbo = 84.42%), while most (57.54%) of the households in Ukwani ethnic group serve the women and children first. Among the Urhobos few households (7.97%) serve women and children first. Similarly, among the Igbos, like among the Urhobos, few household 15.58% serve women and children first.

**Food taboo**

Food taboo is highly observed among the three ethnic groups studied (89.94%). Most of the households used for this study agreed that there is food taboo which they compulsorily observe or adhere to. Various foods, mostly of animal source are forbidden by the people as revealed by most of the respondents.

**Food culture and practice influencing household food security**

Table 2 indicates that three of the five variables of food culture and practice capture in the logistic regression model were significant in the explanation of the variations in the food security status of the households in the Delta State, Nigeria. These variables include land acquisition method (1.18:  $P \leq 0.05$ ); control of household income (1.07:  $P \leq 0.05$ ) and preference of household food sharing (0.94:  $P \leq 0.05$ ) and food taboo (0.24:  $p \leq 0.05$ ). Land acquisition method was positive and significant at 5% level which indicates that land acquisition by inheritance increases the probability of household food security. Control of household income was positive and significant at 5% level. This implies that control of household income by husbands increase the likelihood of food security of the households. Preference of household food sharing was positive and significant at 5% level. This is indicative of the fact that offering priority or preferential treatment to husbands/adult males in the household food sharing increases the likelihood of food security of the households.

Food taboo influenced food security significantly at 5% level. However, the coefficient bore a negative sign. This implies that an

increased rate of observance of food taboo has the likelihood of reducing food security and vice versa.

Food cultural and Practices	$\beta$	S. E	Wald	Df	Sig	Exp ( $\beta$ )
Constant	32.75	7.785.62	0.000	1	0.908	000
Cropping System ( $X_1$ )	-1.30	0.97	2.34	1	0.246	0.388
Type of Labour used ( $X_2$ )	2.63	0.305	73.09	1	0.111	12.57
Land of Acquisition system ( $X_3$ )	1.18*	0.75	4.618*	1	0.024	0.227
Control of Household Income ( $X_4$ )	1.07	0.59	4.930*	1	0.039	0.449
Preference of Household Food Sharing ( $X_5$ )	0.94*	0.48	5.119*	1	0.036	2.413
Food taboo ( $X_6$ )	-0.24*	0.54	4.703	1	0.016	2.235

**Table 2:** Logit estimation of the influence of food culture and practices on household food security in Delta State, Nigeria.

**Discussion**

Since the various ethnic groups studied consumed mainly carbohydrates, which always make the bulk of their diets, they eat these carbohydrates with soups that are mostly oil based cooked with fish and/or meat, their food is of moderate quality. However, the bulk of the carbohydrates are capable of having health implications consequently as time go on [40]. suggest that when a diet has a very high content of carbohydrates, the fragile blood sugar level balance of the body may be upset and the consequences are energy fluctuations and feeling of irritation and tiredness [22]. points out that weight gain, diabetes, obesity and other diseases related to diet may arise as in result of very high level of carbohydrates consumption. Male household heads usually dominate in household agricultural decision making. This is as a result of the patriarchal nature of the societies studied and power relations apart from male friendly access to resources. The situation is like this in spite of the contribution of women to agriculture [17]. points out that women offer about 70% of agricultural labour, 50% of livestock and other

animals' production and related activities and 60% involvement in food processing activities [25]. found that women are poorly involved in agricultural decision making. This implies exclusion from decision-making. The exclusion of women from decision-making in the household will most likely have negative implications for household food security [1].

There is little difference in the traditional gender division of agricultural tasks among the ethnic groups studied. This little difference is in processing and marketing of produce. While women take responsibility for marketing and processing of arable crops among the Urhobos and Igbos, the Ukwuani men and women are involved in both activities. The heavy tasks of land clearing, tilling and ridge and mound construction are the responsibilities of men among the three ethnic groups, while the women are engaged in lighter tasks such as planting, weeding, crop processing and sales of farm produce. Increased access by men and women to factors of production is thus a determinant or a correlate of increased agricultural productivity of farming households leading to food security.

The practice of mixed cropping that is popular in the study area is capable of positively influencing food security by serving as security against infestation of pests and diseases, and natural impromptu climate related occurrence. Higher yields accrue to small-holder farmers from mixed cropping [1]. It offers farming communities opportunities to a variety of farm products that have multiple utility values and crop alternatives for consumption immediately and for storage for a long period of time [6]. Traditionally in mixed cropping system, a range of crop species grow simultaneously on the same plot, complementing each other through the utilization of resources in diverse ways, farm labour, which is usually scarce is adequately used, weeds and pests are adequately controlled, erosion is checked, crops are harvested sequentially and aversion of total loss of crops. Taking cognizance of this, as subsistence farmers, mixed cropping system which is the dominant practice needs to be encouraged among farming households as research and extension activities need to place their focuses on development and promotion of relevant technologies, such as improved inputs that are known to enhance productivity in mixed cropping system of farming. While considering the various methods of land acquisition, land acquisition by inheritance was very common and popular among the various tribes studied in Delta State. This result is in consonance with that of [1,9] in their various studies in North

Central Nigeria and Nigeria respectively. However, it should not be forgotten that traditional land ownership system which includes inheritance, does not give room for large scale farm investment. It restricts the release of land as suggested by [12] to intending investors, especially in the rural communities of Nigeria. Considering the fact that the livelihoods of most of the inhabitants of the state have connections with land and natural resources prospecting and exploitation. Ability to acquire land and empowerment by government, through provision of needed inputs and good incentives will enhance agricultural production and productivity thereby promoting food security and development that is sustainable in the state. However, possession of land through inheritance has linkage with households' food security relatively as there is no need for the household to spend money hiring land. Instead, such money is saved and spent on farm inputs other food needs of the family.

The crucial position of family labour in farm operations and the dearth of mechanization in agricultural production activities mean that family labour availability is a requirement for farm size expansion by farming households. Apart from that, the employment of family labour is a reflection of the subsistence quality obtainable in the State. Labour is known to be a very important asset for subsistent farming households in rural areas. This is because access to needed labour for agricultural production has direct influence on the rate of household farm income, translating to food security. However, [24] found that while using family labour, unregulated child labour is committed. Regulation of child farm labour by household heads means restricting the children to operations that are not dangerous or may pose to be harmful to them. Contrastingly it is suggested by [20] that use of children as farm labour encourages transmission of technical and social farming knowledge and skills from one generation to another and as well inculcating into the children, how to make livelihood and become independent in the future as well as children's security food. The men having control over the household income confirms the report given by United Nations stating that less amount of money is expended on food in area where men are the ones controlling household income [37]. However, it is at variance with that of [29] who found that enhancements in household heads' income lead to increased rate of spending on food. As revealed in series of studies, enhancement in sphere of income of women contributed to several positive child benefits. This implies that it is correlated with expenditure on goods that most likely are beautiful to children. For instance [35],

found a linkage between mother's control of household income and improvements in health status of children in Brazil, and [10] found its linkage with improved spending on health, nutrients and shelter in rural settlements of [19]. concluded that income share of wife had an encouraging influencing on food budget allocation in Cote d' Ivoire [15]. reported that better level of immediate benefits accrues from women-controlled income, for nutritional welfare of the family than income controlled by men. All of the afore cited examples imply that cultures allocate responsibilities for the various household management areas to men and women, hence these social arrangements that are gender guided make contributions to money usage in the household. These differences in impacts created by male controlled and female controlled income is capable of producing significant implications for designing and evaluating income-related project and / or policies meant to improve food security. Based on this, it is posed as a suggestion have those further studies be carried out on implications of male versus female controlled income for food consumption of family members and their nutritional status in the state for confirmation before any reasonable amount of resources are expended on this matter by policy makers. In most parts of Delta State, Nigeria, it is the tradition to serve the husband first while serving food. In this study, it is discovered that giving preferential treatment to the husband/adult's males during household food sharing enhance the likelihood of food security of the households. This is attributable to the fact that since males do the heavy works in the farm, they require more food so that they can produce more for household consumption; it may deprive some of the household members of adequate amount of food, thereby becoming a threat to their nutritional welfare. The result of this affirms the findings of [5,33,39] who found that inequalities in the distribution of food within households in many countries are favourable to men than women, in the midst of other factors. In Bangladesh, husbands and children eat before women eat [30]. Be that as it may, the priority given to household heads during eating might lead to a situation where mothers and the children have or receive a smaller share of the households' food relative to their nutritional requirements [4], in the midst of having enough food in the household. This therefore calls for creation of awareness among all household members and fathers in particular, about the gains of proper nutritional consumption for the well-being and productive capability of all the members of all families nutritionally.

Food taboos that imply forbidding of certain foods reduce food security. This means that such foods cannot be consumed as substitutes or as main food by the people. Even if there is hunger, the people will not eat such foods. For example, in many communities in Delta State, consumption of snail meat is a taboo. They regard their consumption as taboos either because they see them as their deities or to prevent the neutralization of the various traditional charms they have incised into their bodies. Another example of food taboo is the consumption of guinea fowl in some communities. These taboos reduce the number and quantity of foods that are available for human consumption.

### Conclusion

Conclusively, culture is a factor that dominates in the number of time major meals are consumed daily, food choices made in household, decision-making related to Agriculture, control of household income, priority given in household distribution of food and therefore food security. Food culture and practices that significantly had influence on household food security were method of land acquisition, control of the income of the household, preference given when sharing food in the household and food taboos.

Decision-making in agriculture is mostly considered as a task meant for a male, but capacities of women should be developed by training them to employ their power of bargaining to lobby for their participation. Farmers need to be given encouragement so that they can increase their production level and consumer food of enhanced quality. They should also be given encouragement to diversify in order to achieve improved nutrition and food security, household food should be shared fairly so that the nutritional needs of all the members of the household is catered for. Farmers of both sexes should be given encouragement for diversification of sources of income to create more money that can be accessed for purchases of food. It is also recommended that male and female farmers need to be given opportunity to productive resources to achieve enhance agricultural production and eventually, food security.

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## Statement of Conflicting Interests

There is no conflicting interest

## Finding

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